

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/  
Couverture de couleur

Coloured pages/  
Pages de couleur

Covers damaged/  
Couverture endommagée

Pages damaged/  
Pages endommagées

Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées

Cover title missing/  
Le titre de couverture manque

Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées

Coloured maps/  
Cartes géographiques en couleur

Pages detached/  
Pages détachées

Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/  
Transparence

Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur

Quality of print varies/  
Qualité inégale de l'impression

Bound with other material/  
Relié avec d'autres documents

Continuous pagination/  
Pagination continue

Tight binding may cause shadows or distortion along interior margin/  
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/  
Comprend un (des) index

Title on header taken from:/  
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/  
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/  
Page de titre de la livraison

Caption of issue/  
Titre de départ de la livraison

Masthead/  
Générique (périodiques) de la livraison

Additional comments:/  
Commentaires supplémentaires:

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Journal of Fabrics

THE JOURNAL OF THE  
Textile Trades of Canada.

Vol. XVII.

TORONTO AND MONTREAL, APRIL, 1900.

No. 4.

The United Alkali Company, Limited, of England.



Caustic Soda, 60°, 70°, 74°, 76°, 77°. Soda Ash, all strengths,  
SAL. SODA. PURE ALKALI, 58°.

WILSON, PATERSON & CO., Montreal, Sole Agents.

Importers of Sulphate of Alumina, Hypo Sulphite of Soda, Bichromate of Soda, Silicate of Soda, Caustic Potash, Crystal Carbonate, Borax, Coconut Oil, Palm Oil, Castor Oil, Cotton Seed Oil, Rosin Oil, ROSIN. All Chemicals used by Soap, Paper, Woolen, and Cotton Manufacturers.

NEW YORK OFFICE, - 133, 135, 137 FRONT STREET

McARTHUR, CORNEILLE  
& CO.

Importers and  
Manufacturers of

**OILS** . . . . .  
**CHEMICALS**  
and **DYE**  
**STUFFS**

310 to 316 St. Paul St.  
MONTREAL . . . . .

**DOMINION DYEWOOD  
& CHEMICAL CO. TORONTO**  
MANUFACTURERS

**JACK & ROBERTSON,**

7 St. Helen St., Montreal.

Dyewoods, Chemicals, Alizarines

SOLE CANADIAN AGENTS FOR

The Society of Chemical Industry in Bâle.

**ANILINE COLORS.**

New York and Boston Dyewood Co.

MANUFACTURERS OF

**DYEWOOD Extracts**

Importers of INDIGO AND ANILINE COLORS.

SELLING AGENT IN CANADA:

A. W. LEITCH, 16 Hughson St. South, Hamilton, Ont.

**ANILINE DYES** }  
**LOGWOOD** } Extracts  
**SUMAC** }  
**INDIGO** }

HEMOLIN BLACK, MORIN YELLOW

**WM. J. MATHESON & CO., Limited**  
423-425 St. Paul Street, MONTREAL

Main Office: 182-184 Front Street, New York.

Branches: Boston, Philadelphia, Providence.

Works: Long Island City, Port of New York

**W. T. BENSON & CO. MONTREAL**

Sole Agents in Canada for

The British Dyewood and Chemical Company, Limited

JOHN DAWSON & CO. } Glasgow Branches.

W. R. SCOTT & CO. }

Manufacturers of Dyewoods and Extracts.

Wm. Blythe & Co., Church, England,

Manufacturers of all CALICO PRINTERS' SUPPLIES, Chloride and Sulphate of Zinc, Glauber's and Epsom Salts, Arseniates, &c.

St. Denis Dyestuff and Chemical Co., Paris, France,

Manufacturers of ANILINE COLORS, Aniline Oil and Salt, Cudbears, Cachou de Laval, Archil Extracts, Thlocatechine, &c.

**Bellhouse, Dillon & Co.**

SOLE AGENTS IN CANADA FOR

THE WEST INDIES CHEMICAL WORKS, LIMITED,  
Spanish Town, Jamaica, W. I.

TRADE MARK



ALLIGATOR BRAND

Write for samples and prices.

**PURE EXTRACTS  
LOGWOOD**

FOR COTTON, WOOL AND SILK

Toronto Office—30 Wellington Street East.

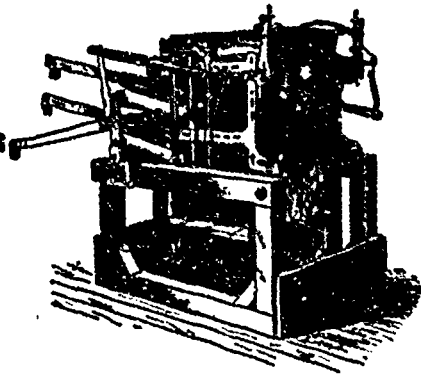
30 St. Francois Xavier St., Montreal

New York Office, 20 Cedar Street.

USE THE  
**"Halton"**  
**Jacquard**

**BEST MACHINE ON THE MARKET**

Single Lifts  
 Double Lifts  
 Rise and Falls  
 Double Cylinders  
 Cross Borders  
 Brussels



"1304" Fine Index  
 Double Lift.

The only  
 Rollable  
 Fine  
 Index  
 Machine.

**Thomas Halton's Sons**

Alleghany Avenue and C. Street, - PHILADELPHIA

**ANILINES**  
**ALIZARINES**

**DOMINION DYEWOOD & CHEMICAL CO.**  
 TORONTO

Direct Importers. Sole Agents in Canada for  
 Messrs. The **FARBENFABRIKEN Vormalis FRIEDR. BAYER**  
 & CO, Elberfeld, Germany.

**A. R. Clarke & Co.**

LIMITED

MANUFACTURERS OF

Mochos, Kid, Suedes, Reindeer,  
 Buckskin, Chrome Asbestos  
 Tan Gloves and Mitts.

Chrome Asbestos and  
 Indian Tan Moccasins.

Office and Works:  
 199 to 209 Eastern Ave. **TORONTO**

W. H. PARKER

J. H. PARKER

**New Toronto Wool Stock Co.**

Manufacturers of

**CARDED and GARNETTED WASTE**

The Garnetting of Wool and Cotton Waste | Office and Works,  
 a specialty. Wool Stocks in every shade. | **NEW TORONTO, Ont.**

**THE BOER WAR,**

Its Causes, and its Interest to Canadians

with general information and statistics of the South African Col-  
 onies and States. 40 pages. Price 10 cents. Seventh edition.  
 Address

**BIGGAR, SAMUEL & CO., TORONTO or MONTREAL.**

**ROBT. S. FRASER**



Late Canada Garnett Co,  
 MANUFACTURERS OF  
 Garnetted Wastes  
 and Shoddles

Waste Openers  
 and Pullers

Office 17 Lemolne Street  
 Works, Canal Bank, near  
 Seigneur St., Montreal

*The Canadian Journal of Fabrics*

Is the only effective medium for reaching the Textile Trades of Canada.

**WHY ?**

**Because** it is the only journal in Canada exclusively devoted to the interests of manufacturers in the  
 Textile and kindred trades.

**Because** it is the only paper reaching to any extent both the owners of the mills and the leading oper-  
 atives, such as the superintendents, boss weavers, spinners, dyers, etc.

**Because** it reaches more than once in the year every textile mill in Canada, whether subscribers or not.  
 If you are not convinced by these reasons, others can be given on addressing the publishers.

**BIGGAR, SAMUEL & CO., MONTREAL AND TORONTO.**

**INDIGO**

**EDWARD BOWER & CO.**  
 LONDON & MANCHESTER

**INDIGO**

Representatives in Canada:

**ANDREWS, BELL & CO.,**  
 30 HOSPITAL STREET,  
 MONTREAL

# CANADIAN JOURNAL OF Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVII.

TORONTO AND MONTREAL, APRIL, 1900

No. 4.

## Canadian Journal of Fabrics

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

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

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

E. B. BIGGAR { BIGGAR, SAMUEL & CO. } R. R. SAMUEL  
PUBLISHERS

PHILADELPHIA AGENT. H. E. BURNETTE, Cor. Fourth and Locust Sts.

BOSTON AGENT. F. F. GRAN'1, 5 Gayland St., Roxbury.

Toronto Telephone, 1392 | Montreal Telephone, 2589

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

BIGGAR, SAMUEL & CO., Publishers.

### CONTENTS OF THIS NUMBER

	PAGE		PAGE
Among Mills .....	112	Newspaper Postage .....	97
Chemicals and Dyestuffs .....	117	Plan Weaving .....	116
Cloth, A Combined .....	116	Pen, The Post Fountain .....	104
Cotton Mill, The old st in Ontario .....	98	South Africa, Its People and Trade .....	100
Decolorizing Fabrics and Materials .....	114	Taxiff Reduction .....	130
Emery Wheel Grinder .....	111	Textile Design .....	106
Fant, A Few Styles of Hurricane .....	110	Textile Imports from Great Britain .....	113
Fabric Items .....	110	Textile Publications .....	117
Foreign Textile Centres .....	104	Wool Market, The .....	110
Garnet Machinery Improved .....	111	Wool Salcs, The London .....	104
Gas Heated Irons .....	108	Wool Supply, Argentina's contribu- tion to the World's .....	108
Khaki Dyeing .....	102	Woolen Mills Ltd., The Imperial .....	104
Literary Notes .....	113		
Modern Flax Spinning .....	98		

### AN UNJUST LAW.

It is comforting to know that there is in Canada at least one daily paper, which, while being Liberal in politics is not afraid to condemn the Dominion Government as strongly as any opponent does when that Government goes wrong. That paper is the Montreal Witness, and all who hope for decency in politics will wish the Witness an ever-increasing growth in power in a country that is being cursed by partisanship. This is what our contemporary has to say of some of the acts of Dominion Ministers. "The Honorable the Minister of Marine has added himself to the number of Canadian politicians who trample on statesmanship [referring to

the handing over of the administration of the St. Lawrence channel to a ring of pilots]. The Postmaster-General did it when he showed unjust favoritism towards the country papers, practically exempting them from the postage which he imposed on the press generally, that is, on all dailies and weeklies published in cities. The reason he did this unfair thing was because every country weekly has a member of Parliament attached to it, and he did not dare to carry out his scheme in their case. It was a mere politician's reason, and condemns him as a statesman. The Minister of Militia showed his colors when he snubbed the women who were demanding that he should carry out the regulation forbidding the sale of liquor on camp grounds. He knew that liquor had been openly sold at one of the camps. If he did not, he certainly had no right not to know, for it was openly done."

Again, touching on the P. M.-General's iniquitous newspaper law, the Witness says. "During the first three months of last year newspaper postage at a quarter of a cent a pound yielded the country ten thousand dollars. During the first two months of this year, at half a cent a pound, it yielded seventeen thousand dollars. This tax is a great wrong. Not that it is wrong to collect postage on newspapers transmitted through the mails. Quite the reverse, we never could see why newspapers should be carried at public expense. Where the iniquity and cruelty come in is in the wilful partiality with which this charge is exacted. While metropolitan newspapers are made to pay it, local ones are exempted, not because they have any special claim, but because each of them is the property of or the henchman of a separate member of Parliament. These exemptions would be bad enough if they only meant loss of revenue to the Government. If it is right to make newspapers pay their own way, it is wrong not to make them all do it. But a law which gives privileges in a partial way wrongs those who are excluded from them."

Before Mr. Mulock framed his act, this Journal, with a few others, advocated a postage rate on newspapers, but we never dreamed that he could be so unfair as to make one class of publishers pay the whole tax and let another class escape altogether. For a man who started his public career with such good promise and

showed such an appearance of moral courage in several of his first acts, it is pitiful to see such a cowardly groveling before what he regards as the power of the country press. And yet time has proved in this case the truth of the proverb that cowards gain no respect from those before whom they show craven fear. We would ask Mr. Mulock to point out one solitary friend from among such of the local publishers whose friendship has any value, whom he has gained by this unjust discrimination, or to point to a single opposition paper whose attacks have been a whit the less virulent because of the law by which the said paper has been a gainer to the paltry extent of \$5 or \$10 a year. But granting that he could show such results, what words could describe the iniquity of a law which in intention or effect prostitutes a section of the press by favors to which it is not entitled in equity, and which it cannot accept without a loss of dignity and self-respect. Mr. Mulock has aimed a harder blow at the moral character of the country press than any postmaster general in the history of Canada.

#### THE OLDEST ONTARIO COTTON MILL.

There has been a general impression that the oldest cotton mill in Ontario was the Dundas Cotton Mill, now dismantled, but as mentioned last year, the pioneer mill for the province was established at Thorold in 1847, or three years after the first cotton mill built in the province of Quebec, at Sherbrooke. We have to thank John H. Thompson, author of the "History of Thorold," for some interesting unpublished particulars relating to this mill. James Munro, of Thorold, is the only man still living who was actively connected with the mill, and to Mrs. Munro we are indebted for a sample of the cloth produced in its first year, being a clipping from a web of cloth set apart in 1848 to celebrate her wedding. Two years ago this piece of cloth became a very interesting relic through the celebration of Mr. and Mrs. Munro's golden wedding. Mr. Munro was one of the promoters, and also was secretary-treasurer and selling agent of the Thorold cotton mill, which made "factory cotton" (that is plain gray cotton), and cotton batting. It operated 15 to 20 looms, but the number of spindles is not on record. The machinery was purchased in the United States. The company was an unlimited liability one, and among the principal shareholders, besides Mr. Munro, were Samuel Street (afterwards killed in the memorable Desjardins canal accident at Hamilton); Jacob Keefer, who was president of the company; John Batten, John Brown and the Rev. T. T. Fuller, afterwards the first Bishop of Niagara, all of whom are now dead. Bishop Fuller was a large investor and a heavy loser. All who invested in the venture lost money, for although the products of the mill were readily sold, the concern suffered through lack of skilled operatives and lack of experience and capital. The whole output of the mill

was taken one year by the dry goods firm of Kerr, Brown & Co., Hamilton. Mr. Munro went to Hamilton to make the deal, and was introduced by Donald McInnes (now Senator McInnes), to the Merchants' Bank, where the company's notes were discounted. After running two years the company failed, each shareholder losing what money he had put in, and the business was then taken up by two men from the Southern States, named Nutley and Willard. These Southerners, who were brothers-in-law, ran it for two or three years, when they got into trouble with the Government by forging an order by which a quantity of raw cotton was got out of bond without payment. They also defrauded private individuals, and were obliged in consequence to quit the country, and the mill remained closed till about 1864, when the building was destroyed by fire. So far as is known the machinery was destroyed with the building. This mill stood on the ground now occupied by the Davey pump mill, on the old Welland canal.

#### MODERN FLAX SPINNING.

BY H. R. CARTER.

(Continued from last issue).

In a preparing room the machinery is divided into systems, each comprising one or two spread boards, three or four drawing frames, and one roving frame. With these machines the flax is transformed from sorter's bunches, or machine room tipples, into a loosely twisted slubbing, or rove, weighing from 10 to 400 yards per oz., and wound upon large bobbins ready to be reduced in size still further, and twisted hard into yarn weighing from 5 to 300 leas per lb. The spread board consists in a table 2 to 4 feet broad, and say 6 feet long, over the surface of which four, six or eight endless leathers or straps are carried by means of rollers at either end. The pieces of flax are taken by girls called "spreaders," subdivided as far as possible, and spread in continuous lines upon the traversing leathers or straps. The distance from point to point of the pieces should not be more than three inches if possible, but much depends upon the skill and diligence of the spreader, the number of leathers which she has to keep covered, and the speed and draft of the board. The surface speed of these straps is usually from 14 to 25 inches per minute. On a coarse board a girl can spread up to 150 inches per minute (say six straps at 25 inches per minute). For particular work, such as prime warps, 64 inches per minute or four leathers at 16 inches per minute will be found fast enough. The leathers deliver the hand-formed sliver through the feed rollers into the gill box, which is rectangular in form, and contains fallers upon which gills are fixed. The fallers are thin but deep bars extending parallel with the feed rollers and resting at the ends upon top and bottom slides, the ends themselves being formed to work in the square threads of

revolving screws, by means of which those upon the top slide are moved forward from the feed rollers and those upon the bottom slide in the opposite direction. The screw gill box was the invention of Wesley, who took the idea from a German clock, which, in a manner similar to the forward movement of the fallers, marched past a company of miniature soldiers at the time of striking the hour. Its invention has done much to improve the process, as the old chain and rotary gills were very imperfect. It has been found impossible by any other means to get the pins of the gills to penetrate and leave the sliver as directly and as near the feed and drawing rollers as is accomplished by the screw gill.

In the roving frame the top screws are sometimes as finely pitched as 1-5 inch. The bottom screws are coarser, since they are only employed to conduct the fallers back again to the feed rollers, where they are raised by a tappet into the top screw, and on to the top slide where they conduct the sliver forward to the boss roller, and are then knocked down by another tappet into the bottom screw and on to the bottom slide, there to repeat the motion. Spring or weighted guides are provided at each end of the slides to regulate the rise and fall of the bars front and back. The back end of the top slide is shaped to work in a groove in the faller end to assist in keeping them in correct position. The guard or guide at the front works in the same groove with the same object. In the spreadboard the fallers are much stronger and heavier than in the finer frames. Their motion is slow, on account of the long drafts being seldom more than 25 inches per minute. In consequence of the wear and tear in the fallers and slides, entailed by the fall of such heavy bars, the spread board is usually provided with levers, actuated from the screw, which receive the faller as it leaves the top slide and deposit it upon the lower.

In drawing and roving frames consisting of more than one "head" or gill boxes, the screws are so set in relation to each other that in no head do the fallers rise or fall at the same moment, thus equalizing the load on the back shaft. In practice the ordinary screws and fallers cannot be run at a speed of more than 200 per minute, owing to the fallers jamming and sticking front or back, through wear of the slides, etc. This fact is sometimes inconvenient if you wish for a given "turn-off" on short drafts or are short of preparing machinery. Attempts have been made with more or less success to overcome this difficulty by using double-threaded screws, which raise and let fall two fallers each revolution, and this can be successfully accomplished when combined with guards pivoted back and front, and locked together by a rod underneath the tappets set so that rise and fall is alternate, and the guards adjusted so that when the front is open the back is closed and vice versa. In a spread board the slides are usually inclined from back to front, to give the necessary height for a can at the front and a convenient height of table at the back. In

the older machines the front end of the screws work in steel plates which are subject to wear, the working surfaces being difficult to lubricate. The newer plan of partially surrounding the body of the screw with a cast-iron block is much more satisfactory and durable. The fallers are of wrought-iron with steel ends, the brass stocks of the gills being riveted on. The liability of the brass gill stock to become detached, and the weakening effect of the rivet passing right through the faller, so often leading to jams and broken fallers, has led to various attempts to dispense with gill stocks by inserting longer gill pins directly in the faller itself. This method no doubt gives a firm gill, but it is difficult of construction and repair, since the faller bar is often more than 1 inch in depth, rendering the drilling of such fine holes difficult in the extreme. Repairs can also be effected with the minimum loss of time when the gills are detachable, since they may be prepared beforehand, and only require riveting on. When working, short fibres are prone to remain in the gill, in a short time forming a lap round the bar which must be cleared periodically. Brushes have been tried to clean the gill during the passage of the faller along the bottom slide, but have not met with much favor. When the fallers rise close to the feed rollers the pins of the gills penetrate the flax, which is conducted forward by them to the boss or drawing roller. This roller has a surface speed 7 to 30 times that of the feed or retaining rollers. The flax is in consequence drawn through the gills leading to a still further subdivision of the fibres. The gills govern the supply of fibre to the drawing rollers, and prevent it being "gulped" or drawn away irregularly, forming thick and thin places in the sliver. In order that the gills may do their work effectively they must "pin" the sliver properly—that is to say, the fibre must not ride over the top of the pins, but must be completely below the surface. The flax must be tight in the gill, in order that it may resist and be pinned by the rising gill. To keep the sliver tight the faller is given a small "lead" or greater surface speed than that of the feed roller. The "lead" of the faller is usually from 2 to 5 per cent.

The following example, taken from a first drawing frame, shows the method of finding the "lead of faller". Feed roller wheel 76 teeth gearing into a stud pinion of 27 teeth, compounded with a stud wheel of 75 teeth driving the back shaft by means of a pinion of 20 teeth. Upon the back shaft a bevel pinion of 32 teeth drives another of 20 teeth on the screw. The pitch of screw

$$\frac{76 \times 75 \times 32 \times 1}{27 \times 20 \times 20 \times 3}$$

being 1-3 inch, the fallers move forward

$$5.63 \text{ inches for each revolution of the feed roller.}$$

The feed roller, being  $1\frac{3}{4}$  inches in diameter, it delivers to the fallers  $1.75 \times 3.1416 = 5.49$  inches in the same time. The faller, therefore, has a lead of  $5.63 - 5.49 = .14$  inches for each revolution of the feed roller, or a gain of  $2\frac{1}{2}$  per cent. To assist in obtaining the thorough pin-

ning of the sliver, the position of the feed roller may be so arranged that its delivery surface is slightly below the top of gill stock and root of pin. In front, however, the nip of the drawing roller must be above the top of the gill stock, lest the latter be cut by the fibre being drawn over it. The fibres being drawn through the gill and a conductor slightly narrower than the gill, they are rendered quite parallel and formed into a sliver of uniform width. Each of the four, six or eight slivers issuing from the drawing rollers of a spread board is passed through a separate slot and a doubling plate, and all out again through another slot, the tension being maintained by means of a pair of delivery rollers, having a slight lead, which deposit the sliver in a can. If the doubling plate be properly slotted—i.e., at an angle of 45 deg. to the boss roller—and the correct tension maintained, each of the layers composing the compound sliver will ride evenly one on top of the other, and a perfect sliver be produced. If the doubling plate be defective or the tension of one or all of the slivers be unequal, a bad result will be obtained. The secret of successful preparing lies in looking after details such as this.

(To be continued).

**TARIFF REDUCTION.**

In presenting the Budget, the Minister of Finance made an elaborate statement, showing the smaller amount of revenue collected under the present tariff on the various textile imports than would have been collected under the Foster tariff:

Articles.	Present tariff.	Old tariff.
Collars of all kinds .....	\$ 18,268	\$ 33,346
Laundry blueing .....	4,143	5,227
Soap, common or laundry .....	28,223	36,094
Gloves and mitts of all kinds .....	229,853	253,347
India rubber and waterproof clothing....	45,647	53,460
Hats, caps and bonnets .....	381,468	435,557
Woolens—		
Blankets .....	11,582	15,906
Cassimeres .....	35,284	42,786
Cloths .....	388,156	467,565
Coatings .....	144,961	182,747
Overcoatings .....	2,452	3,006
Tweeds .....	141,936	171,324
Flannels .....	18,337	21,501
Knitted goods—knitted underwear.....	65,456	74,230
Shawls .....	18,737	19,682
Shirts .....	10,689	12,349
Socks and stockings .....	177,723	265,762
Undershirts and drawers .....	22,563	25,411
All fabrics and manufactures, n.e.s.....	971,037	1,022,005
Clothing, ready made and wearing apparel	313,052	351,491
Hosiery .....	5,714	7,233
Carpet, tapestry .....	127,451	143,130
Carpets, 2-ply and 3-ply .....	6,280	7,856
Cottons—		
White or bleached fabrics .....	105,735	122,217
Fabrics, printed, dyed or colored .....	901,035	940,266
Handkerchiefs .....	44,093	48,147

Shirts costing more than \$3 per dozen .....	8,079	10,945
Shirts, other .....		
Sewing thread on spools .....	59,395	71,004
Clothing .....	105,996	109,285
Socks and stockings .....	25,362	34,417
Towels .....	7,777	8,303
Velvets, velveteens and plush fabrics .....	53,036	66,987

The Minister also made a statement which illustrates the increases in the importations from Great Britain as a result of the preferential tariff:

Woolens—		
1899.....	\$7,686,366	
1897.....	5,576,859	
Increase.....	\$2,109,507	
Cottons—		
1899.....	\$3,906,676	
1897.....	2,693,114	
Increase.....	\$1,213,562	
Flax, Hemp and Jute Manufactures—		
1899.....	\$1,610,210	
1897.....	1,158,809	
Increase.....	\$ 451,401	
Silks—		
1899.....	\$2,062,428	
1897.....	1,396,015	
Increase.....	\$ 666,413	

**SOUTH AFRICA, ITS PEOPLE AND TRADE.**

(Concluded from last issue).

**MISCELLANEOUS FACTS RELATING TO SOUTH AFRICA.**

The following miscellaneous information, relating to South Africa, will be of interest to the reader in studying the present conditions:

Mr. Garrett, a well-informed Capetown journalist, estimates the white population as follows, distinguishing the Dutch from the British in the same table:

	Dutch.	British.	Total White
Cape Colony and Bechuanaland.....	265,200	194,800	460,000
Basutoland .....	300	350	650
Orange Free State .....	78,100	15,600	93,700
Natal and Zululand.....	6,500	45,500	52,000
Transvaal .....	80,000	123,650	203,650
Rhodesia .....	1,500	8,500	10,000
Total .....	431,600	388,400	820,000

John Noble's "Handbook of the Cape and South Africa for 1893" gave the area and white and colored population of South Africa, as follows:

	Area sq. miles.	White population.	Colored population
Cape .....	221,311	376,987	1,150,237
Natal .....	20,461	42,759	512,817
Pondoland .....	3,869	100	200,000
Zululand .....	8,900	548	145,336
Amatongaland .....	5,300	.....	80,000



Basutoland .....	10,293	578	218,324
British Bechuanaland .....	60,777	5,284	55,122
Bechuanaland Protectorate ....	386,200	500	110,000
Brit. Mashonaland (Rhodesia) ..	150,000	2,500	250,000
Orange Free State .....	48,326	77,716	129,787
Transvaal .....	113,642	160,000*	649,560
Swaziland .....	8,000	500	63,000
	1,037,079	667,472	3,564,183

For the trade tables which follow, the writer is indebted to the "British and South African Export Gazette," an ably conducted paper, published in London in the interest of South African commerce.

The aggregate trade, both imports and exports, of South Africa in the past five years, amounted to about £220,000,000 sterling. This includes an approximate calculation of the 1898 figures. Of this total, the imports of oversea goods represented a sum equal to £108,855,340, and these were imported into South Africa through its several ports in the following proportions:

Ports of Cape Colony .....	£ 77,623,922
Ports of Natal .....	21,348,222
Ports of Delagoa Bay .....	9,883,196

Quinquennial total.....£108,855,340

Of this handsome total Great Britain's share in the export of purely British and Irish goods and manufactures was represented by £62,801,203, and that of the British possessions by £5,799,783, or together £68,600,986, the balance, in round numbers, of £31,000,000, being the contribution of all other countries. The progressive yearly accretions by which these totals have been reached are shown by the following tabulations:

GREAT BRITAIN'S QUINQUENNIAL SHARE OF SOUTH AFRICAN TRADE.

1894 .....	£ 8,766,828
1895 .....	11,167,995
1896 .....	14,798,430
1897 .....	14,648,162
1898 (approximate) .....	13,419,848

Quinquennial total.....£62,801,223

QUINQUENNIAL SHARE OF BRITISH POSSESSIONS.

1894 .....	£ 605,561
1895 .....	997,558
1896 .....	1,261,504
1897 .....	1,235,160
1898 (approximate) .....	1,700,000

Quinquennial total .....

QUINQUENNIAL SHARE OF FIVE PRINCIPAL FOREIGN COUNTRIES.

1894 .....	£ 1,414,565
1895 .....	2,188,247
1896 .....	4,432,428
1897 .....	4,593,366
1898 (approximate) .....	5,500,000

Quinquennial total.....£18,028,606

The relatively large proportion of a little over one-third of the total trade of South Africa which falls to foreign countries is explained by the fact of the heavy imports in recent years of grain, foodstuffs, and live and dead meat, necessitated by the drought and rinderpest and the devastations of locusts, which have afflicted her agricultural and herding industries for several

\* A white population of 300,000 was generally credited to the Transvaal up to the time of the recent troubles, of which from 70,000 to 90,000 was accorded to Johannesburg.

years past. The extent of this huge oversea buying of British and foreign goods would manifestly be impossible unless South Africa possessed purchasing "media" for their acquisition. These are furnished her by her rich and practically inexhaustible stores of native gold, diamonds and other minerals, wool and other raw products.

The imports into the Cape Colony amounted approximately to £16,845,955 at the end of 1898, having made an average advance of over £5,000,000 since 1894—in fact, if compared with the figures for 1897, an actual advance of £7,000,000. In the same quinquennium Natal's imports showed progress from £2,316,596 to approximately £5,127,887, or an enhancement at the handsome rate of 121 per cent. This was even more than the relative progress of either the South African Republic or the Cape Colony, the latter gaining only 49 per cent., and the former 61 per cent. on the earliest year. It is noteworthy that the former's total—£54,332,227—is nearly exactly half of the aggregate of South African imports, and shows the over-weighting factor the Republic forms in the commercial expansion of the sub-continent. The appended comparison of the percentages of progress of the trade of the past quinquennium of India, Canada, Australia and the colonies of the Cape Colony, Natal, and Rhodesia, and the South African Republic is given by The Gazette:

QUINQUENNIAL PROGRESS OF OTHER BRITISH POSSESSIONS AS COMPARED WITH SOUTH AFRICA.

	Rate of Quinquennial Progress.
South Africa—	
Natal .....	121.0 per cent.
Rhodesia .....	94.0 per cent.
South African Republic .....	61.0 per cent.
Cape Colony .....	49.0 per cent.
Other British Possessions—	
Australia, Tasmania, New Zealand, Fiji..	40.0 per cent.
Dominion of Canada .....	8.0 per cent.
India (including Burmah, Straits Settlements, and Ceylon) .....	0.2 per cent.
Average for South Africa .....	71.0 per cent.
Average for other British Possessions....	16.0 per cent.

The ratio of progress in imports alone of South Africa compared with those of our chief colonies and dependencies—India, Australia and Canada—is not less instructive. As against a total for South Africa of £108,000,000, Canada has only an import volume of £26,000,000\* to show, and Australia of £97,000,000; while the vast continent of India only surpasses South Africa by her £157,000,000 of imports in the five years.

W. Bleloch, in a paper recently read before the Geological Society of South Africa, confirms the theory first propounded by Dr. F. G. Becker, of the United States Geological Survey, that the Witwatersrand gold-bearing rocks are due to the formation of a series of sub-shore deposits banked up by ocean currents and waves against a sloping shore. At first sight this is only of interest to geologists and mining experts. If, however, it should be confirmed by subsequent tests, it will have far-reaching effects upon the Rand gold mining industry, and equally upon commerce. For instance, payable reefs should exist under the major

\*NOTE.—The author has to thank Mr. George Hague, General Manager of the Merchants Bank of Canada, for calling attention to a mistake in the above figures by which the S. A. Gazette has done a great injustice. Mr Hague says, "In that admirable little pamphlet—I hope you have sold thousands of them), there is a curious mistake about the imports of Canada. These imports are given as £26,000,000 for five years, whereas the actual imports for one year only—the last of the quinquennial period—amounts to that sum. The total for the five years is over \$320,000,000, or £107,000,000, and the rate of increase is not 8 per cent. but 37 per cent. The Transvaal imports include the prodigious sums spent in cannon, rifles and other war material.



portion of Johannesburg itself, whilst the Main Reef series would be found underlying the overlaps of more recent beds from Vlakkfontein to Venterspost, thereby opening up an enormous area of country for mining purposes, and extending the life of the Rand as a gold producing centre far beyond the 100 or more years already predicted for it by the world's leading experts. It is estimated by Frederick H. Hatch, in the "Engineering Magazine," of New York, that within the next five years the number of stamps in the gold mining district of the Witwatersrand will be increased to over 12,000. The average duty of a stamp here is 1,500 tons per year, or a total of 18,000,000 tons, which, at the present grade of 9 to 10 dwts. of fine gold, or 40s. per ton, would give £36,000,000 sterling per annum.

The coal deposits of the Transvaal are estimated at 235,000,000,000 tons, or 37,000,000,000 tons over those of the coal beds of Great Britain.

Since the first edition of this pamphlet was issued, the writer has received a copy of a New York publication, giving a summary history of the Transvaal. The compiler of this history, which is evidently derived from Boer sources, says that "in 1881 the suffrage in the Transvaal was open to anyone who had lived in the republic two years but when the British part of the population, which had been voting and holding offices, refused to take part in the defensive war against the Kafirs, on the plea that they were British subjects, and so could not be drafted into service, the Boers, who then far out-numbered the foreigners, passed a law making a renunciation of all other sovereigns a pre-requisite to citizenship in the Transvaal."

This statement of the case, which contains as many inaccuracies as could possibly be crowded into a single sentence, is another illustration of the way in which the Boer authorities have tried to make black appear white to the uninformed outside world. Without going into all the misconceptions in this statement, it will be sufficient to point out that when the Boers undertook their most unjust and unprovoked war against the Swazis, an independent tribe dwelling beyond the Transvaal boundary, they proceeded to commandeer British subjects and other Outlanders. The British subjects in particular stoutly objected; "No," they said, "as long as we are denied the rights of citizenship, we shall refuse to fight the battles of the Transvaal. Give us the burgher's rights, and we shall gladly fulfil the burgher's duties; but while we are denied the franchise, we are not going out to fight under the status of galley-slaves." This was the only attitude that a self-respecting man could take, yet the Boer Government actually forced a number of British subjects to go to the front and serve without compensation, and the outrage would have been carried to greater lengths if the British Agent had not made an emphatic protest in the name of the Imperial Government. In the face of these facts, the Boer Gov-

ernment has tried to twist this question completely round and to make it appear that the franchise was afterwards refused because British subjects would not fight for the Republic; whereas, it was just because they were denied the burgher rights that they declined to do military service, especially in a war undertaken to despoil an unoffending tribe.

While most of the habitable areas of North and Central Africa are not favorable to Anglo-Saxon colonization, but are only capable of government on the plan of British government in India and Egypt, almost every region of South Africa possesses a climate in which European settlers thrive, as the experience of British and Dutch for over a hundred years has amply shown. There are several varieties of climate in South Africa, but generally speaking, their nearest parallel on the American continent is to be found in Northern and Southern California and Colorado. Along the coast of Natal and the eastern coast of the Cape we have all the sub-tropical products, such as bananas, pineapples, oranges, tea, coffee, cotton, etc., while in the midland regions of Natal and the Cape we find some of these products, with peaches, pears and many of the fruits and grains of the temperate zone; and again, on the plateaus and plains of Upper Natal, the elevated lands of the Cape, the Free State and the Transvaal, we find the fruits, vegetables and grains of England or Canada. Again, in the lowlands of the Transvaal and neighboring states we have a warmer climate, and some tropical products, like the middle and lower districts of the Cape and Natal. Being in the southern hemisphere South Africa has its summer when Canada has its winter, and instead of spending Christmas round the fireside the Natalians and Cape Colonists celebrate that season by picnics and outdoor festivities. Although two or three crops of vegetables and of some kinds of grain can be raised in a year, and vegetation never ceases, except in prolonged droughts, there are properly only two seasons in most parts of South Africa—the rainy and the dry

#### KHAKI DYEING.\*

Great interest attaches at the present moment to khaki, for the British-Boer war in South Africa has brought into prominence the fact that the British army, that is so resplendent in its uniforms of scarlet and blue in times of peace, must be clothed on active service in a uniform of a duller color that is known as khaki. Moreover, the British public, from patriotic motives, show signs of making the khaki into a fashionable shade during the coming season, and so the dyer will be called upon to dye it on all sorts of materials—cotton, wool, silk, etc. There is really nothing particularly novel about khaki; the Indian army has for years, particularly when engaged in those petty tribal wars, which have been rather numerous, been clothed in a cotton cloth uniform dyed of a dust brown color to which the Hindoos have given the name of khaki, a Hindustani word, meaning earthy. The advantage of khaki lies in the fact that being nearly the color of earth, men dressed in it become invisible at some distance, and therefore do not present such easy shots for a marksman, as if dressed in the brilliant red of an ordinary soldier's uniform.

The true khaki color has the advantage of being fast to rubbing, fast to light, fast to washing and soaping—in fact, for all ordinary wear and tear it is one of the fastest colors extant. The only thing it is not fast against is acid, but if well dyed it is fairly fast to acids. How the Hindoo originally dyed a khaki we cannot say, for we have never seen any account of his method of dyeing it.

\*Reprinted from the Dyer and Calico Printer.

[Steeping the cotton cloth in a bath of fresh cow dung. This primitive method, which, of course, is not true dyeing, was practised by our own soldiers, each man "dyeing" his own twills before the Afghan expeditions].

It will not be without interest if we first of all give a notice of the few processes which have been patented for the production of khaki. Some of the patents are not now in force, and one or two are not very practicable.

Gatty's first process consists in preparing a bath with five gallons of chrome alum liquor at 10 deg. Tw. and one gallon of copperas solution containing 1½ lb. per gallon. The cotton is steeped in this until it is properly impregnated, then it is wrung or squeezed and passed through a bath of soda at 4 deg. Tw., heated to 150 deg. F. This produces an olive shade of khaki; if a brown shade is required the quantity of iron is doubled. In this method of dyeing khaki, the color is due to the formation of the oxides of chrome and iron on the fiber, and these being quite insoluble the resulting khaki color is quite fast to washing, soaping, etc.

Gatty subsequently patented another process which consists in passing the cotton into a bath of 1 lb. potassium bichromate, and 4 oz. sodium acetate per gallon; these quantities may be increased if necessary. After squeezing, the cotton is passed into a chamber and there subjected to the action of sulphur dioxide, which decomposes the bichromate and causes the deposition of green oxide of chromium on the fiber, the fixation being completed by passing the cloth through a bath of caustic soda lye at 4 deg. Tw. This dyes a green shade by adding acetate of iron or copperas to the bichromate bath.

Barnes & Gartside's process consists in treating the cotton successively with first a bath of sumac, second a mixture of nitrate of iron and chromium acetate, third a boiling solution of bichromate of potash, and, lastly, a boiling solution of carbonate of soda, steaming after the last operation.

Mitchell's process consists in preparing a bath from 2 lb. myrabolans or divi divi, 2 oz. sulphate of zinc or copper, 2 oz. of catechu, 20 grains of ferro sulphate, and six gallons of water; these proportions may be varied according to the shade which is required. The cotton is soaked for two hours in this, then a liquor made from six gallons boiling water and 6 oz. bichromate of potash, is added to fix and develop the color.

Thorpe & Reid make use of a bath of acetates of chrome and iron, to which they add a little alizarine blue, the goods being steamed, and then fixed in a bath of soda.

The remarks given above regarding the various processes that have been patented will serve to give dyers some idea of the method of dyeing khaki. We may, however, supplement these with details of methods by which this desirable color may be dyed on to fabrics of various kinds.

**Dyeing Cotton in Khaki.**—Besides the processes outlined above, the following may be employed:

1. A bath is made of two gallons of acetate of chrome at 8 deg. Tw., and one gallon acetate of iron at 8 deg. Tw., and in this bath the cotton is immersed in the case of yarns, or slowly passed through in the case of cloths using jigs or continuous dyeing machines. The surplus liquor is squeezed out. This bath is not exhausted, and may be replenished by adding strong acetate liquors at, say, 12 deg. or 16 deg. Tw., to keep the working strength up to 8 deg. Tw. The cloths are now run through boiling lime or boiling soda baths such as are used in dyeing iron buffs, after which they are washed well and dried. By varying the proportions between the two acetates the shade of the khaki dyed by this process may be varied from a brownish shade to a greenish shade. With careful working this method gives good results.

2. A bath is made from two gallons acetate of chrome 32 deg. Tw., 5 lb. copperas, and sufficient water to make the

strength 8 deg. Tw. The cotton is worked in this as before; then the color is developed in the lime or soda bath, as before.

3. Prepare a liquor from 5 lb. cutch and 3 lb. fustic, making it stand at 5 deg. Tw. Heat this up to about 100 deg. F., work the cotton on it for three quarters to one hour, then add ½ lb. bichromate of potash, and 2 oz. copperas, and work for half an hour longer.

Khaki shades may also be dyed by using the direct colors, and we here give several methods for its production:

1. Prepare a dyebath for 100 lb. cotton goods with 5 lb. Katigen Yellow Brown GG, 5 lb. Cross Dye Drab, 6 lb. sulphide of sodium, 5 lb. soda, and 50 lb. common salt. Work the goods in this bath at just under the boil for one hour, then wring out. It is best to hang them in the air for an hour to age them, but if this is not thought necessary, they are passed straight on to a fixing bath, which is made from 2 lb. bichromate of potash, 2 lb. sulphate of copper, and 3 lb. acetic acid. This is used at about 170 deg. F., and the goods are kept in it for about half an hour to fully develop and fix the color, after which they are taken out, rinsed and dried.

2. The dyebath is made with 5 lb. Titan Orange, 3 oz. Titan Navy R, and 20 lb. common salt. Work at the boil for an hour; use as little water as possible.

3. Make the dyebath with ½ lb. Brilliant Orange G, 1½ oz. Columbia Black FB, and 20 lb. Glauber's salt. Work at the boil for one hour.

4. The dyebath is made with 1½ lb. Diamine Orange G, ¼ lb. Diamine Catechine G, 2½ oz. Diamine Brown 3G, and 20 lb. Glauber's salt. Work at the boil for one hour.

We need not multiply recipes to too great an extent, although that could easily be done; the above will perhaps suffice. It should be remarked, however, that while the direct dyes have the advantage of being easier to apply they are not by any means so fast to washing and light as the original khaki dyed with the chrome and iron methods.

**Half-Wool.**—These may be dyed with acetates of chrome and iron, or by cutch and bichromate of potash, or by using the direct methods given above for cotton. The following also may be used:

1. Make a dyebath with 2½ oz. Diaminogene extra, ½ lb. Diamine Orange B, 2 lb. Diamine Fast Yellow B, ½ lb. Orange ENZ, 1½ lb. Indian Yellow G, 1½ oz. Naphthylamine Black 6B, and 20 lb. Glauber's salt.

2. Make a dyebath with 2 lb. Diamine Brown 3G, 1 lb. Diamine Fast Yellow B, 5 oz. Diamine Brown B, and 20 lb. Glauber's salt.

3. A dyebath is made with 3 oz. Zambesi Black D, ½ lb. Mandarin G, extra, 2 oz. Coreumipe, extra, ½ lb. Mikado Orange 4RO and 20 lb. Glauber's salt.

**Wool.**—This fiber can be dyed with cutch and fustic, fixing and developing the shade with bichromate of potash after the following recipe:

1. Prepare a bath with 10 lb. cutch and 2 lb. fustic, treat the wool in this bath for four hours at about 180 deg. F., then add 1 lb. bichromate of potash; work for half an hour at the boil, then lift, wash, and dry.

2. Prepare a bath with 1 lb. Anthracene Yellow C, 1½ oz. Anthracene Acid Black LW, 3 oz. Anthracene Acid Brown R, 10 lb. Glauber's salt, and 5 lb. acetic acid. Work at the boil for one hour, then add 1 lb. bichromate of potash. Work half an hour longer at the boil, then lift, wash, and dry.

3. Prepare a bath with 2 oz. Indigo Blue N, ½ lb. Indian Yellow G, ½ lb. Orange ENZ, 10 lb. Glauber's salt, and 3 lb. sulphuric acid. Work at the boil for an hour.

These recipes will perhaps suffice. At all events they will show the lines on which to work.

The following tests are applied by the Government authorities.

ties to khaki dyed cloths. They are first boiled in a weak bath of carbonate of soda for twenty minutes. This test determines whether the color will stand washing and soaping. The next test is to treat them for half an hour in a cold solution of peroxide of hydrogen, in which the color should not change. If the color will stand this test it is considered to be fast to light and air.

### THE POST FOUNTAIN PEN.

The "Post" fountain pen is a most useful and durable article, which has received the warmest praise from a great many busy people. The readers of the Canadian Journal of Fabrics can obtain these pens at a most advantageous rate, by consulting the premium offer made elsewhere in our advertising columns.

### THE IMPERIAL WOOLEN MILLS, LIMITED.

Some time ago we mentioned the formation of the Imperial Woolen Co., Ltd., which proposed to run the woolen mills at Streetsville, Ont., which had been closed for about eight years. Since then a great deal has happened, but little has been produced in the mill. Fred. A. Clarry was manager.

There are now stranded in Streetsville a number of textile workers who have been brought there to receive employment in the mill. They have all had a certain amount of work, and some of them have had some pay, but there is a large sum owing them. These employees include a superintendent, brought from Massachusetts with his family, a boss finisher and dyer, a boss weaver, a boss spinner, a boss carder, and some hands. Some of these skilled workers are idle, others are at day labor to keep themselves from starving. We have here confined ourselves to the statement of a few facts, as they exist to-day. In order not to prejudice the reader, we have refrained from referring to those earlier events in Mr. Clarry's career which have been discussed and set forth in earlier volumes of this paper.

It is to be hoped the shareholders of the company will at once end a state of affairs which has deprived deserving men of their means of livelihood.

The management of the mill seems to have been in Mr. Clarry's hands, though the directors deny responsibility for his acts, as for instance, when he bought \$5,500 worth of machinery from the A. R. Williams Machinery Co., Ltd., Toronto, contrary to the express resolution of the company's shareholders, as shown in the minutes of a company meeting. Payment of this amount has been refused, though it would seem that the company had itself weakened its position by allowing this machinery to be brought into the mill.

### THE LONDON WOOL SALES.

The second series this year of the London colonial raw wool sales, which commenced on March the 6th, was brought to a conclusion March 24th, instead of March 27th, as originally intended. During the progress of these auctions, the catalogues comprised the following quantities, viz.: About 39,712 bales New South Wales, 30,278 Victoria, 155 Tasmania, 66,832 New Zealand, 21,007 Queensland, 6,290 South Australia, 11,524 West Australia, 4,388 Cape of Good Hope, together making a total of 181,086 bales, of which about 15 per cent. has been brought in. The attendance of buyers was maintained throughout the series with good competition. All branches of the trade contested the purchasing, and there was a very fair demand from the United States. Some considerable parcels of greasy Australasian merino wools in light condition were taken for

shipment to that country. The sales developed a decline in values of wool amounting to an average on all kinds, except those taken for American trade, of about 15 per cent. Wools for American account apparently declined about  $7\frac{1}{2}$  to 10 per cent. Early in the sales buying was quite active, but slackened considerably later. Total offerings were 174,000 bales, of which 10,000 come to America, 81,000 go to the home trade, 59,000 to the Continent, and 24,000 were withdrawn.

The third series of sales for the year is fixed to commence on May 8th, but in view of the large quantity which is being carried forward the list of arrivals of wool to be offered is to close on the day when 250,000 bales shall have come to hand, instead of 300,000 bales, the limit originally fixed.

## Foreign Textile Centres

MANCHESTER.—There has been a very considerable amount of business done in the home trade houses recently in the shape of sorting up parcels for the Easter trade, which will shortly be upon us. Drapers generally expect to have a busy time this week end, and should the weather be anything like favorable they ought to realize their expectations. A fair general business has also been done, but there is some falling off in many departments from the great activity of late, which can only reasonably be expected after the amount of goods delivered during March. Business in the cloth market has been of small volume. The offers submitted to manufacturers are usually too low for them to see their way to accept, consequently nothing great is done. Manufacturers are not concerned much, however, as they are well under contract, though not to the extent generally supposed. A small trade is done in necessary lines for the Eastern markets. Demand for the home trade cloths continues to be in evidence, and the town trade houses are taking in their goods freely. In miscellaneous cloths the trade done is not large. Spinners are becoming more anxious to secure business, which has led them to concede a trifle in prices where firm offers were obtainable, but even then they have failed to book any great quantity. Buyers are in no mood to go in for more than they absolutely require, and only order what they cannot reasonably do without, says The Warehouseman and Draper. Manufacturers are well supplied with wools, having bought freely of late, consequently there is less doing in the wool branch, where prices show no tendency to ease off. The short-time movement in weaving circles throughout Lancashire does not appear to meet with universal approbation. Many manufacturers are at present unable to entertain the proposal, having their work cut out for some considerable time ahead. Numerous additions are being made to the already large number of mills engaged in the spinning trade in Lancashire. It is estimated that the new mills in course of erection will contain over two millions of spindles, and preparatory machinery in proportion. The prospectus of the British Cotton and Wool Dyers' Association, which has been anticipated with considerable interest in commercial circles, will be issued early next week. The Bradford Dyers' Association will take a portion of the share capital, which will be in £1 shares, and there will also be an issue of 4 per cent. debentures.

LEEDS.—As the Easter holidays got nearer, the clothing factories in Leeds were more busy with special orders which were wanted out before that time, but the rush is not as great as it would have been had Easter fallen earlier, or the weather been more spring-like. The improved trade in all the manufacturing centres is having a good effect on the number of orders coming in from the country, but remittances have hardly come to hand as well as expected.

**BRADFORD**—The tone of the wool market here is still somewhat flat, the merino branch being the weakest, but this quietness may be largely attributed to the great weakness which the Continental wool markets have recently shown, and which is occasioned more on account of temporary financial pressure than anything else. The stocks of merino wools and tops on this market are not by any means large, and for some time past there has not been sufficient wool of this class coming here to keep the woolcombers nearly in full employment. The shortage which has been gradually increasing in the production of the finest classes of pure merino wool in Australia is indisputable, and from the statements of Sir Rupert Clark, who was in Halifax last week, there is not likely to be much improvement in the supply for some time to come, so that there seems to be a distinct probability of a recovery in the tone of this department of the wool market before long. No doubt there has been recently evidence of a return to fashionable favor of materials made from wools of a coarser fibre than the pure merinos, but there is still a large consumption of merino wool fabrics which will receive some impetus from the lower prices which are now being quoted for merino wools. There is distinctly more life in the cross-bred wool section of the market than in fine merino wools, and the coarser kinds of these wools are quite firm at recent quotations. These cheaper classes of colonial cross-bred wools are now probably within 10 per cent. of the lowest prices recently touched, and although the prices of the worsted yarns made from them have not fallen at all proportionately, the cost of these, when the additional cost of dyeing is taken into account, is practically the same as the cost of cotton, and, of course, an all wool fabric possesses many advantages over one composed of a mixture of cotton and wool. The above fact would seem to indicate that there is likely to be a very large increase in the use of cross bred wool yarns in place of cotton yarns, both for men's wear fabrics and for dress goods, so that even when the very large supply of cross-bred colonial wools is taken into account, lower prices are not to be expected, and there may be a hardening of prices. There is no falling off in the demand for bright lustre yarns, either in the home trade or on export account, and these yarns are being increasingly used for the production of lining fabrics as well as for dress goods. There has recently been a good demand for lustre wools on American account, and I understand that some of the manufacturing concerns in that country are now able to dye and finish lustre wool goods with a very considerable amount of success. As might be expected from the fact that mohair goods are now very fashionable, the demand for the best mohair yarns is still very large, and the prices of both raw mohair and alpaca are very firm at the highest point recently touched. In spite of the unusually late and cold spring, there is a very large business being done, both in the home and shipping trade, in plain and figured mohair dress fabrics, and I hear that the leading makers of those goods could get good repeat orders if delivery could be promised in at all reasonable time. For the autumn season's trade fabrics of heavier weight, and finished in such a manner that they are less cold to the touch than smart-faced coating goods, are in good demand. Bradford fancy dress fabrics have again sold well on the Continent for next winter, in spite of the very heavy duties levied on them, and some of the new effects in mercerised fancy dress goods seem to have defied competition. The March Consular returns of the exports from the Bradford district are encouraging, because there is some increase in the amounts of the exports of both stuff goods and worsted coatings, although the greater part of the increase in the returns is in machinery and wool, which do not bring any great amount of grist to the Bradford mills.

**HALIFAX**—The following is the Chamber of Commerce trade report for March: Wool—The market has been flat and disap-

pointing all through the month, with prices slipping away. This has been most marked in merino sorts, but all classes of wool have been exceedingly sickly. **Woolens**—We cannot report any change in the woolen branch of business, and prices keep firm. **Worsted Yarn**—*Spinners are still being fairly well employed, but chiefly on old contracts.* Prices for some yarns are again less firm, owing to the decided fall in values at the London sales, which have just closed. **Pieces**—Manufacturers keep employed on old orders, but, except in special fabrics, not many new orders in quantity are being given. **Spun Silks**—During the month there has been a sharp fall in prices, especially in Canton and Shanghai materials. **Spinners** have been well employed. **Cotton**—*During the month bundle yarns have moved very slowly, buyers having apparently less faith in the continuance of extreme prices.* Fustians and ready-made clothing houses continue well supplied with orders at improving rates. **Dyeing**—The dyeing trade during the past month has been exceptionally quiet. The outlook is slightly better, but not so encouraging as could be desired.

**ROCHDALE**—At the flannel market recently, merchants continued to place orders, chiefly for next season's trade, and they were rather in excess of the usual size. The business for earlier consumption is now on a smaller scale. Manufacturers are disappointed with the price of wool suitable for the manufacture of flannel at the London sales, the value not having eased in sympathy with some of the other sorts, which is owing to the keenness of competition for these particular kinds of wool.

**KIDDERMINSTER**—The tone of the carpet trade continues very healthy. Many of the manufacturers are obliged to resort to overtime to keep pace with the demands made by retailers. This remark applies to all branches of the trade. Wools are steady in demand. Prices are somewhat irregular, but on the whole firm at late quotations. Spinners are receiving numerous applications for deliveries, and the jute and cotton trades are working at high pressure.

**NOTTINGHAM**—There is no quotable change in prices of yarns suitable for this market. The higher kinds of fine yarns are moving in good quantities, the heavier qualities and Egyptians are, however, most in request. Orders are carefully placed, and here and there concessions are obtained from the highest point. The market is less favorable to sellers of cashmere and merino yarns. Brown nets remain as heretofore. The large fire at Long Eaton has destroyed some valuable lace machinery which was well engaged. Workpeople, manufacturers, and shippers will be put to much inconvenience and loss.

**LEICESTER**—Elastic web fabrics, cords, braids and beltings are in good demand for home and Colonial markets. Hosiery maintains its active condition, and the demand is more than equal to the production in all the leading departments. Cardigan jackets, jerseys, body belts, hose and half-hose are in strong request, and there is also a large enquiry for cashmere hose in khaki color. Yarn is active, and spinners occupy so strong a position that they decline to make any further concessions to attract new business. There are more enquiries and a growing demand for blended yarns, which are acquired so as to produce goods at a fixed price. Lambswool and fancy knitting yarns are in active demand.

**SOUTH OF SCOTLAND**—The South of Scotland woolen industry is rather quieter than it has been, and manufacturers are experiencing some difficulty in getting confirmation of winter orders. Buyers are reluctant to pay ruling rates, and as manufacturers decline to make any concessions very little fresh business results. Producers contend that the small decline in the price of wool at the sales was not sufficient to justify any reduction in the price of goods. Buyers who think otherwise naturally prefer to adopt a waiting policy.

**BELFAST**—The linen market recently has been very firm, and

although the actual amount of business carried through was not quite so large as expected, it has been sufficient for the present resources of the market. The fact is that all the principal manufacturers are so far booked ahead that they are not over anxious to commit themselves further, and, taken in conjunction with the fact that the market is practically bare of stocks, it is quite easy to conceive of a slight reduction in the turnover for the moment. Those best qualified to judge anticipate that prices for linens and unions will not be lower for, at least, this year, and are also of opinion that the top has been reached. Demand from New York has considerably improved, and the prospects for future trade are most encouraging, as the demand for better-class goods is largely on the increase. The home markets are very regular, and fully up to expectations. At the present there seems to be a boom on damask goods, especially in the lower qualities, for which it is almost impossible to get deliveries in any reasonable time. In the brown cloth department there has not been much fresh business put through, principally owing to the prohibitive prices asked by manufacturers. In this particular branch of the trade every maker of consequence is booked ahead up to the end of August, and is therefore not anxious to entertain any further orders except at certain prices, and about six months for delivery, which does not seem to meet with the approval of the majority of buyers. The yarn market remains very much in the same position as last week: prices are firm without any alteration, and the bulk of business at present is merely to meet present requirements. In the made-up goods, manufacturers of ladies' shirts are exceptionally busy, and find it almost impossible to keep deliveries up-to-date, owing to the pressure.

**LYONS**—The recent improvement in the raw silk market in Lyons has not been permanent, as legitimate consumers of raw material have not taken much share in the demand. The market is not active, but prices generally remain firm and the ground they have gained has not been lost. Holders have found some encouragement in the last spell of activity and are not offering too freely, so that buyers are unable to purchase at the figures current a fortnight ago; but prices are irregular, and here and there weak holders are found who are anxious to sell and are willing to make concessions. A moderate business has been done in European silk on the basis of 57 to 58 francs for Cevennes No. 1, 10-12. Broussa and Syria sorts are in moderate request. Italian silk is quiet, with little doing and prices showing a little weakness. The last quarter of the campaign has almost been reached, and it must be taken into consideration that before the opening of the new season, when the new cocoons become a factor, reelers are not, as a rule, anxious to drive raw silk prices high, as this would force them to pay a higher price for the cocoons. In Asiatic silk a short period of intense activity has been followed by extreme quietness. A small business has been done in China tsatlées. Canton silk has been quiet and very little has been done in Japans. In thrown silks there is no change. Dry cocoons are quiet and rather heavy in the Marseilles market. Waste silk is quiet.

**MILAN**—The raw silk market in Milan has again become quiet, the demand having been limited to actual requirements, in addition to some transactions in bargain lots. More business would have been done had buyers been more liberal with their offers in regard to prices. Better grades and extra qualities of raws are in limited supply and prices of these are firm. In thrown silks the demand is fair and transactions are reported in organzines as well as in trams. Trams sell readily and are not in heavy supply. In Asiatic silk little, if any, business has been done in this market, but prices show little weakness, although they are almost nominal. Cocoons and waste silks are quiet.

**CHEMNITZ**—During the past week quite a large quantity of

goods has been shipped, more, in fact, than in any other week this year, and if manufacturers keep up the present rate of delivery the back orders will soon be filled and buyers will be better satisfied, as it is an unpleasant task to place new orders at considerably higher prices where the old ones have not been delivered. In coarse gauze goods the prices are high and goods are hard to get, other markets having bought heavily in them, although the United States took only a rather small percentage of the production this year. In fine gauges the market is sold up until fall and at good prices, so that any further orders coming in will be delivered, and should the demand improve to a marked extent prices will go still higher. Embroidered hosiery is at the present time much in favor and large orders have been placed for a great variety of styles. Small effects on colored grounds seem to be the most popular, but vertical stripes are bought, especially in men's half-hose. Lace hosiery is having as much call as ever, and is now being taken considerably in light evening shades and also in white and cream. Extracted goods are holding their own well, and the only complaint is that manufacturers cannot turn them out quick enough. In children's hose extracted styles are also very popular, and in men's wear fancy stripes are selling readily. Trade in gloves is still improving, and in knit gloves especially the demand is far beyond the production, and the buyers who have not placed their orders for ringwoods, will find it hard work to get the goods when they need them.

## Textile Design

### LIGHT-WEIGHT COTTON WORSTED TROUSERINGS.

Yarns dyed in the skein. Finished weight, 13 to 13½ ounces for 56-inch width. Dressed, 6,240 ends 6-4 width; 2-30s cotton; 2-40s worsted.

Woven—54 picks to the inch; all 2-30s black cotton.

Designed—

Light stain	1	1	1	1	equal 4 2-40s worsted.
Medium stain	1	1	1	1	equal 4 2-30s cotton.
Slate	2	2		4	equal 8 2-30s cotton.
Black		4		4	equal 8 2-30s cotton.

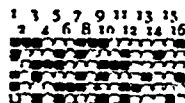
Threads in pattern equal 24

6,240 divided by 13 equal 480 section.

480 divided by 24 equal 20 pat. to section.

Cross drawn on 16 harnesses. Reed, 66 inches over all.

Chain Draft.



Double length of chain draft when building for loom.

Commence to draw on first thread light stain in design draft.

1,040 ends 2-40s worsted warp, equal.....1.65

5,200 ends, 2-30s cotton warp, equal.....7.33

54 picks, 2-30s cotton fill, equal.....5.02

Estimated weight 6-4 yard from loom equals 14 oz.

1.65 oz. 2-40 worsted shrink 10 per cent., equal 1.83

12.35 oz. 2-30 cotton shrink 5 per cent., equal 13

Yarn nec. for 1 6-4 yard equals.....14.83 oz.

Frederick W. Watkins, Hamilton, formerly in the dry goods business there, has been appointed buyer and manager of the dry goods section of the Stanley Mills & Co.'s departmental store business in that city.

### VALUE OF TECHNICAL SCHOOL TRAINING.\*

Your training in this school will make you more intelligent workmen; will be the means of your acquiring a more intelligent knowledge of your duties than you could otherwise acquire, and will so far give you an advantage over others who do not take advantage of the same opportunity, and further, you will surely rise in the ranks of industry proportionately, distinguishing your labor from drudgery and rendering it proportionately more valuable and at the same time more pleasant to yourselves. I doubt not that most of you who are present to-night have already experienced this. You must not, however, imagine that the technical knowledge you acquire here will alone make you superior to the practical work of the mill, and will straightway fit you to take places in the mill to direct others who do the manual work; it will never do this, for, believe me, there is very much to learn of the details and mill management that can only be obtained in the mill itself. Do not suppose that within the walls of this building you will find a substitute for the patient, diligent and steady manual work in the mill. It is an utter fallacy to suppose for a single moment that any man who has not been brought up in the mill can in a comparatively short time acquire sufficient knowledge to enable him to take charge of any department in the mill.

It is impossible for such persons to compete with the practical man who has been in the mill from an early age, and who has, therefore, had every opportunity of thoroughly learning the business in all its intricate and complex details. Presumably most, if not all of you, who are enrolled as students of this school have the very laudable and proper ambition of some day becoming overseers and superintendents in the mills of this, or some of the nearby cities, where cotton manufacturing is carried on, and in this connection permit me to speak to you this evening as one of yourselves; as one who has passed through what you are now all of you passing through; as one who has striven and worked and hoped as you are doing; as one who has felt and tried as you now feel and are trying; let me, therefore, assure you that with perseverance and determination, with your own skill and untiring energy, there is no reason on earth why you cannot in due course reach the goal for which you are striving, and towards which I trust and believe, your faces are turned. Remember there is always room at the top, and do not forget that every man must work out his own salvation; face the issue like men, with a firm and set determination to be in the front ranks.

In the direction and regulation of the affairs of a manufacturing establishment there is not, in my judgment, any one thing, or any combination of things, of more vital importance than system and discipline; the end of all government is order; perfect organization contributes to the pride of all; the best and most nearly perfect conditions attainable are when each and every one conscientiously contributes his individual part so as to produce the most telling and effective whole; no part should be wanting or favored at the expense of any other; a standard must be established to which everyone and everything must be deliberately brought and rigorously held; an example must be set to which all must conform.

The competition between the management of one corporation and that of another, and the pride which each takes in his own individual mill, are constantly leading to improvements in machinery and economy in every kind of manufacture, so that it is almost impossible for the management of any mill to be seriously defective for any length of time. In these days of keen competition and narrow margins, the cotton trade could not be conducted at all if mismanaged so wastefully as in former years;

all this has necessarily led all intelligent superintendents, overseers and operatives to become more economical with materials, more industrious, and to see what effect individual effort has upon the cost and quality of the material produced. The superiority of one manufacturer over another is due to the greater care and attention bestowed upon the manipulation of the material by the one than the other, to his superior arrangements for securing cleanliness, to particularity, to intelligent and skillful management of the operatives resulting in a friendly interest among all concerned; to his greater energy and enterprise, and also to the scientific laying out of the machinery to produce the best results in both quality, quantity and economy.

No man can find himself in a position so trying and exacting as that in which he is called upon to control and direct his fellows; no position which more greatly calls for the exercise of tact, consideration and sound judgment; the intelligent and skillful management of labor outweighs almost any other consideration in the conduct of any business employing an army of workers.

Those of us—no matter whether we be second hand, overseer or superintendent—who have any opportunity over our fellows, must be careful not to abuse that authority; above all, we must be just, reasonable and fair, for mark you, we will otherwise most assuredly fail. There must be mutual action and help of all classes towards each other. It is a grave and serious responsibility to have placed in one's hands the welfare and happiness of one's fellow-men, and all that this means; not only to ourselves and the interests intrusted to us, but also to the entire community; this is a matter of tact and equity, and is no mere sentimentalism; it is simply right and reasonable from both the humane as well as the practical side of life and business. Let us not forget that the ordinary artisan or workman has to perform the same monotonous operation hundreds of times, day after day, his trade has a harrowing influence, it subjects him to the continual recurrence of the same sort of activity and the same ideas, and, therefore, if there can be introduced into that man's life a feeling and knowledge that there is a bond of sympathy and interest between employer and employed, there will come with it the pleasure of imagination and satisfaction, that which appeals to the ordinary man, and which will add so much charm and agreeableness to the humblest; no effort should be spared to make the conditions of work as acceptable as possible, and all this in the interest of the mill quite as much as in the interest of the operatives themselves. They, on their part, should not disregard those necessary rules of discipline and subordination without which no business can be conducted with any degree of comfort, pleasure or profit.

System and a strict, whilst not too rigorous discipline, combined with well regulated order and method constitute true organization, from which alone is evolved effective and successful administration. In this technical school of ours, systematic instruction is provided in the branch of knowledge which has direct bearing on our leading industry. Let us, therefore, pursue these practical studies and so more fully equip ourselves to take our share in upholding the position of New Bedford as the centre in this country for the manufacture of the very best goods that can be produced. Educated labor is a necessity; the better educated and the higher the standard of efficiency of labor, the higher must be the character of our products. The productive power of cotton machinery has made, and will doubtless continue to make, considerable progress, chiefly through the increased skill of our ingenious machinists, which is ever being urged on by the keen competition in the cotton trade to make the machinery as automatic as is possible, and, at the same time, to increase its productive power for quantity combined with quality. The wonderful and admirable machinery of a cotton mill—in complexity as well as perfection; in truth of adjust-

\*Extracted from a Lecture given by H. E. Walmsley, in the New Bedford Textile School Series.



ment, nicety of finish and elaborateness of design—each particular part of which has a special function to discharge, performing its work with the precision of a mathematical instrument; forms an essential part in the education of the student who is solicitous to learn the resources of textile mechanism, and the principles on which the machinery is constructed as applied to the mechanical treatment and manufacture of cotton to-day.

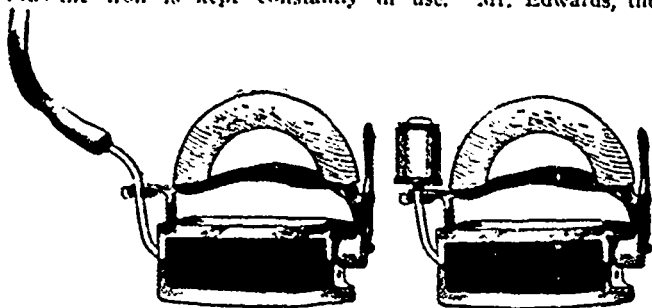
The very large enrollment of students in this school is very striking evidence of the need of this very institution, and of the earnest purpose and sincere desire of so many of you to better your own positions in life. This is most gratifying to the trustees and is also a guarantee that the mills of this city can in the near future depend upon having a body of trained and practically informed men whose ambition is to fill important positions in the mills. You must do what you can for yourselves, you have the advantages of this school before you; make good use of them.

Permit me, in bringing to a close my discursive observations, to reiterate that there are on every hand sufficient evidences and indications that in the future we will have to encounter a competition far more acute than anything we have yet had to grapple with.

In the coming struggle for our share of the world's trade—the trade, not alone of this continent, but also the trade of those vast far eastern lands, alive with their hundreds of millions of human beings—our geographical position, our great material advantage, our intelligent race of workers, will undoubtedly count for much, but the possession of which will not alone suffice. We must not be content to live upon the traditions and reputation of the past, above all, we must endeavor to improve and develop our technical educational machinery and, while adapting this machinery to our own particular condition, we must see that it is maintained at least on a level with that of any other nation.

### A LABOR-SAVING DEVICE.

A Canadian inventor has patented a device which will make ironing in domestic use easier, and cheapen the finishing work in whiteware and clothing factories. This invention is the reversible self-heating sad iron. It is double surfaced, and has a hollow interior, into which is inserted either a gas, wood, alcohol or kerosene burner. The internal flame heats the upper surface while the ironer is working with the lower one, and thus the iron is kept constantly in use. Mr. Edwards, the



inventor of this device, was born in the county of Kent, on a farm near Chatham, Ont. The idea, which he has since wrought out and embodied to "perfection," the self-heating sad iron, occurred to him some years ago, and he studied the inventions, which up to that time had endeavored to "fill the long-felt want." Seeing and understanding the causes of failure he wrought along other lines, and when he had his invention completed he determined to introduce it into the wider field of the United States. Accordingly he removed to Philadelphia, and having secured his patents, he availed himself of the opportunities afforded by the

great Philadelphia and New York department stores of John Wanamaker. From the moment the invention was offered to the public its popularity and success was assured, as the following extract from a letter written by J. T. Collins, buyer for the House Furnishing Department of Wanamaker's store, will show: "After demonstrating and selling your self-heating sad-irons for several seasons we are pleased with the result, both as to number sold and the amount of satisfaction given our customers." Thousands of the Perfection sad irons have been sold in Wanamaker's stores alone, and they are now kept in stock, and so sold by leading merchants in all the principal American cities. Having demonstrated the utility of his invention and established the business in the United States, Mr. Edwards has returned to Canada and is about commencing the manufacture of the "Perfection" sad-iron here. His intention is to establish a manufactory in this city with a minimum weekly capacity of 2,000 irons, his expectation being to supply from here both the Canadian and foreign trade.

### ARGENTINA'S CONTRIBUTION TO THE WORLD'S WOOL SUPPLY.\*

BY H. GIBSON, BUENOS AYRES

(Concluded from last issue).

In Argentina and Uruguay there is to be found the sole exception to this general decrease in sheep throughout the world. The two countries combined carry to-day more than 20,000,000 sheep in excess of what they carried in 1890. There is no indication here of a break in the upward march of their flocks. The sheep stock of Argentina at the present time is approximately 85,000,000, and of Uruguay 17,000,000. It would be misleading to terminate this exposition of the falling-off in the world's sheep stock without reference to the result obtained from that stock by better husbandry. With more intelligent methods of sheep breeding, the sheep capital of the world gives a greater per centum of mutton and of wool than it did a quarter of a century ago. This is evident more especially in the younger countries, evident perhaps most of all in Argentina. From every thousand head of sheep there are more lambs successfully reared than there were twenty-five years ago. From every thousand head of sheep there is more wool and better wool gathered than there was twenty-five years ago. An unfavorable season, a year of drought or of excessive rain, may occasion an exceptional drop in these results; but taking averages, the returns are better. Whatever allowance is made for this improvement in proportionate returns, it is, however, outweighed by the decrease in the capital. We cannot ignore the evidence of the facts presented by the returns from every continent and country. The long record of progress in the world's wool parcel, dating from the days of McArthur and his brother pioneers, was broken three years ago. The maximum point, at any rate for some years to come, has been reached. The volume of the wool of the world is shrinking.

A feature as striking as that already alluded to, perhaps even more striking, is the change in quantities of wool fiber, of carding and combing sorts, in the wool parcel of to-day as compared with fifteen years ago. Dating back to the second half of the present century, there has been a steady increase in the value of medium cross and long-locked lustre wools, and a correspondingly steady rise in the values of merino and fine cross wools. In January, 1896, the price on the London colonial market for merino wool was 30 per cent. higher than the price for the same article in the same month of 1895. From that date up to the present year this rise has continued, and we have recently seen Australian merino wool sold at 18. 11d. per pound. During the same period the value of medium crosses and long wools has

\*Paper read at the International Commercial Congress, Philadelphia.

depreciated, their price to-day being from 40 to 45 per cent. lower than their value in 1895. The explanation of this notable variation in the value of the different classes of wool fiber has been attributed to a change in fashion which has demanded an augmented supply of merino and fine wools, and diminished proportionately the usefulness of the coarse sorts. A little comparative study of the breeds of sheep composing the world's flocks of to-day and of ten years ago would demonstrate that the demand of the wool markets obeys a more stable law than that of capricious fashions. In old countries, where husbandry follows the traditions of many past generations and centuries, we are not likely to find within the narrow limits of a decade any remarkable change in the type of fleece produced by these countries' flocks. Each breed has its recognized district, whose topographical and climatic conditions have in process of time taught the husbandman the type of sheep best suited to his region. The tendency here is not to a change in the breed, but to a perfection of the recognized type of that breed. The proportion of merino, fine cross, medium cross, and long-locked wools produced on the continent and in Great Britain has suffered little change in the past ten years, and what change there has been is due to the decrease in sheep in such countries as Germany.

The Australasia and River Plate sheep-breeding countries supply rather more than 40 per cent. of the whole world's wool parcel. A change in the types of wool produced by these countries would speedily be felt in the world's woolen trade. Within the past ten years this change has taken place, and may be briefly summarized under three headings: (1) An increase of 100,000 tons of medium cross and long-locked wools caused by the conversion, chiefly in Argentina, of 50,000,000 sheep from the merino type to the strong-wooled mutton type, (2) a decrease of 100,000 tons of merino wool from the same cause; (3) a further decrease of 70,000 tons of merino wool arising from the series of drought and bad seasons in Australia, dating back to 1894, through which to-day the merino sheep stock of that country has been reduced by 30,000,000 head. The climax in this change of proportion has not yet been reached. It will arrive, at the earliest, in 1900, when the world's wool supply of merino and fine wool will be 170,000 tons less than it was in 1889, and the supply of medium crosses and long wools will be 100,000 tons more than it was in that year. The decrease in merino is derived not only from conversion, but from mortality in the Australian merino sheep stock; in this is the explanation why the rise in merino wools is greater proportionally than the fall in the combing sorts. Arising from the foregoing comes a question, will the new proportions of wool classes remain permanent, or will there ensue a process of reversion? The answer covers an element of speculation, but it is that the supply of medium cross and long wools will not decrease, though the supply of merino and fine cross will get back to its old figures. Australia will build-up her sheep stock again, and she will go solid for merino. The mutton breeders of Australasia (chiefly New Zealand) will continue to breed for mutton, despite the low price of the medium cross and long wool. In Argentina and Uruguay, some of the breeders will revert to merino again; in the former country there is still a vast depasturing hinterland unstocked, and it is a merino zone; in most of the country where the merino has been changed into the mutton sheep, the latter, with its medium cross fleece, will continue to prevail.

The conversion of 50,000,000 merino sheep into mutton cross-bred types, approaching the Down and long-wooled white-faced breeds, took place chiefly in Argentina. It was in response to the mutton trade, which began with the export of frozen mutton in 1883, and was strengthened by the export trade in live stock commencing in the early nineties. The breeder scored in every direction: he got a better price for his carcass; the cross

wool in the first and second generation was still a "fine" cross—it fetched even a better price per pound and the fleece was a heavier one; the introduction of the harder constitution of the English types of sheep gave him a larger increase. This felicitous state of things could not last forever. With each successive generation the fleece departed more from the merino type, and became more approximated to the open lock of the long wool. In their enthusiastic pursuit of the Lincoln breed, some have altogether overshot their market, and not only find the duldest of trade for their strong fleeces, but they are beginning to hear complaints from the freezer and live-stock exporter that their sheep are too coarse. But they have a propitious climate, and within the limits of the mutton-growing sheep they can produce a fleece of good elasticity, softness and lustre. The older portion of Argentina's sheep-breeding country is not favorable to the merino; the climate is moist, the rainfall a heavy one, and these are conditions adverse to the golden-fleeced sheep of Spain. In exchange it is a country well adapted for fattening stock, and its proximity to the sea coast and market centres kicks the beam in favor of mutton. A change in sheep stock, either by conversion of breed or by decrease or increase, is not felt on the wool market at once. The lamb which died in 1894 is only missed by the manufacturer in 1896. The cause is forgotten before the effect is felt. Hence it has been said "merinos are in fashion," when in truth it should be said "merinos are scarce and in demand." For some years after the general crossing of merinos with English breeds had commenced in Argentina, the aspect presented by the Buenos Ayres markets remained unchanged; merino was the distinguishing feature. Then, from one year to another the intermediate stage was passed; merino wool seemed to have suddenly disappeared—lost amidst the piles of white long-locked fleeces.

From the foregoing evidence of a general decrease in the wool supply to the manufacturing countries of the world, as well as the displacement of merino and approximately merino carding wools by the combing sorts, it is apparent that Argentina has become, at any rate for the present, the most important source of supply. The total wool parcel from that country has now reached 200,000 tons. Of this, 90 per cent. goes to the French, German and Belgian manufacturers, France taking 42 per cent. of the total parcel. The remaining 10 per cent. is divided between the markets of Great Britain, the United States and Italy. Taking both the home production and the foreign supply handled by the wool manufacturers of the Continent, of Great Britain, and of the United States, we find that Argentina contributed 3½ per cent. to the trade of Great Britain, 4 per cent. to the trade of the United States, and 43 per cent. to the combined trade of France, Germany and Belgium. Most of the wool of Argentina is sold direct on the Buenos Ayres markets to buyers who represent the Continental manufacturers. Seventy-five per cent. of the total clip is shipped to-day straight from the River Plate mart to the European industrial centre. Intermediary markets, such as Antwerp, now receive a greatly diminished parcel. In 1886 about 55 per cent. of the Argentina wool crop was shipped to Antwerp, and in 1896 the export to that centre did not quite reach 25 per cent. Fifty years ago, when sheep in that country were neglected by the majority of stockmen, and little care was taken to improve their quality and free the pastures of burr-bearing weeds, the English manufacturer rejected Argentina wools as unsuitable for his trade. That period of neglect has long since faded into the shades of history, but it would appear to live as green in the memory of the British manufacturer to-day as it did then. The parcel of wool which finds its way from Argentina to the English textile industry is nearly as insignificant as that exported from the same source to the United States.

For a number of years the Argentine Republic has been the



largest buyer of fine and pedigree sheep in the world. During the past five years she has taken 80 per cent. of the value of the total sheep exported by Great Britain for abroad. Out of 42,909 sheep, valued at £468,813—which was the British export from 1894 to 1898—Argentina alone absorbed 26,640, valued at £372,805. For the past quarter of a century the Argentina breeder has been the best known and most frequent buyer of merinos from Germany and France. The United States of America have contributed Vermont merinos to the Argentina flocks, and New Zealand has supplied Lincolns from its best studs to the same market. It would be strange if Argentina breeders, situated in the best sheep country of the world, had nothing to show in exchange for so much enterprise and outlay. The present high standard which Argentina flocks have attained is little known except by those who have visited the River Plate within recent years; possibly it is least known in the United States of America, who are the sole buyers of the hairy stuff grown by that remnant of the old Creole breed in the upper provinces, where it is fast disappearing before the advance of intelligent husbandry. Manufacturers here may have perhaps judged Argentina's wool parcel by this little consignment of Creole wool, but they will find no more than the sample they already take.

The English representative breeders who visited the International Stock Show held near Buenos Ayres last year, expressed amazement at the magnificent collection of locally-bred sheep presented for their inspection. The English Board of Agriculture, in its report for 1898, alludes to "the marked improvement in the quality of sheep" sent from that source. In the earliest days of the industry it was remarked that the offspring born in the country of merinos, imported from Germany to Argentina, was superior in type and fleece to the progenitors. Argentina's climate and soil are particularly favorable for sheep breeding, and the wool acquires a softness and lustre not readily found in Europe. To these natural conditions has now been added a competent knowledge and care on the part of the breeder, and the extension of the railway system has been followed by the formation of agricultural societies, shows, and fairs in every district, bringing with them the familiarity of the points of each typical breed to the eye of the flock-master, and providing him with the market at his door in which he can buy the sires he needs to improve and renew the blood of his flocks. Argentina now offers to the world's manufacturers her store of wools, merinos, and medium crosses and long lustrous, all healthily and carefully grown, of fair uniformity of quality, and claiming as high a standard as those from any quarter of the globe. She will be the most ready to respond to the cry for more merino. During the past autumn the large sale of merino types in all the fairs was remarkable. In July a selection of merino sheep from Germany fetched an average price of £100 in Buenos Ayres. These are signs that the Argentina breeder has noticed the scarcity of merino wool, and is going to meet it.

**THE WOOL MARKET.**

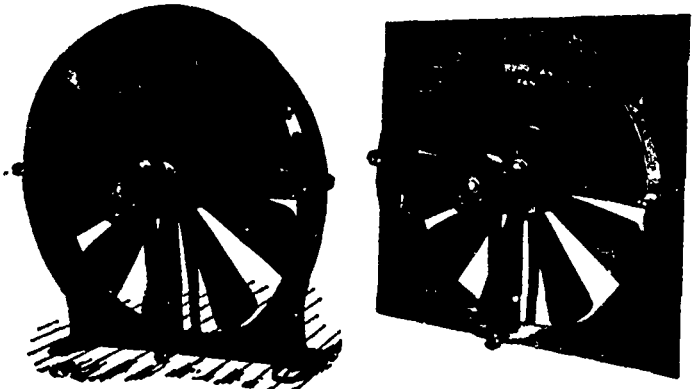
Montreal.—There has been little, if any, change since last month. No wool coming in, and hardly any demand for existing stock. The little that has been sold being of coarse grades, without any call for wool of fine quality. The following quotations are made: Greasy Cape, 23c. to 27c.; Australian greasy, 28c. to 32c.; B.A. scoured, 55c. to 60c.; Canadian pulled 23c. to 25½c.; do. fleece, 21c. to 23c.

Toronto.—In fleece wool there has been practically nothing doing. What little is held amongst the mills being required for their own consumption. Prices have stood at 18c. to 19c. for washed, but these figures are nominal. English quotations for

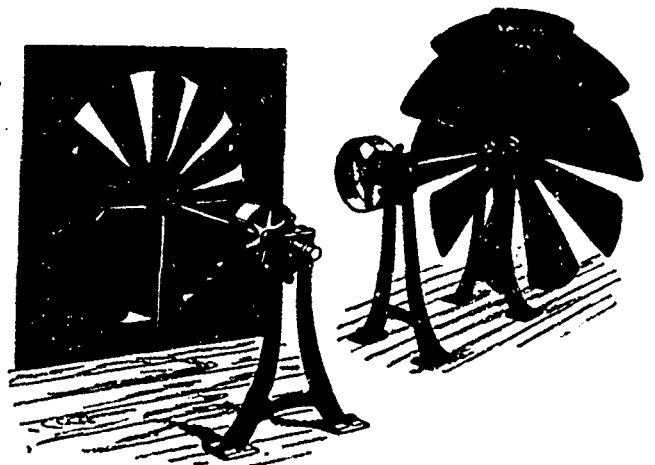
Lincoln and Irish fleeces, wools similar to ours, give 8d. to 8½d. as current prices, equivalent to 16c. to 17c. There is nothing to warrant any higher prices here, it is thought, and unless there should be some radical change in the situation in England these figures ought fairly to represent the value of the new clip, now only some six weeks distant. Of unwashed wool this season chiefly from breeders there is a good deal now being offered for which 11c. is quoted. Pulled wool is moving slowly.

**A FEW STYLES OF HURRICANE FANS.**

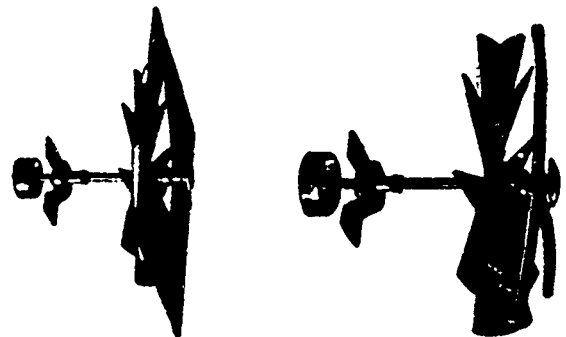
While manufacturers are constantly enquiring about fans for purposes of drying and ventilating many do not appreciate the



fact that some particular styles might be better adapted to their individual needs than some other picked out at random. The "Hurricane" fans, illustrated above, represent the usual types



made by the Philadelphia Drying Machinery Co., No. 6721 Germantown avenue, Philadelphia, Pa. The makers claim that



the advantages of each particular style will be appreciated by a careful inspection of the illustrations, which will also show the

comparative ease with which the several styles can be placed in position, ready for operation. A booklet has just been issued, giving in detail the construction, amount of air moved, and the power required by the fans of various sizes. It also contains much useful information, and the Philadelphia Drying Machinery Co. will be pleased to send copies to enquirers.

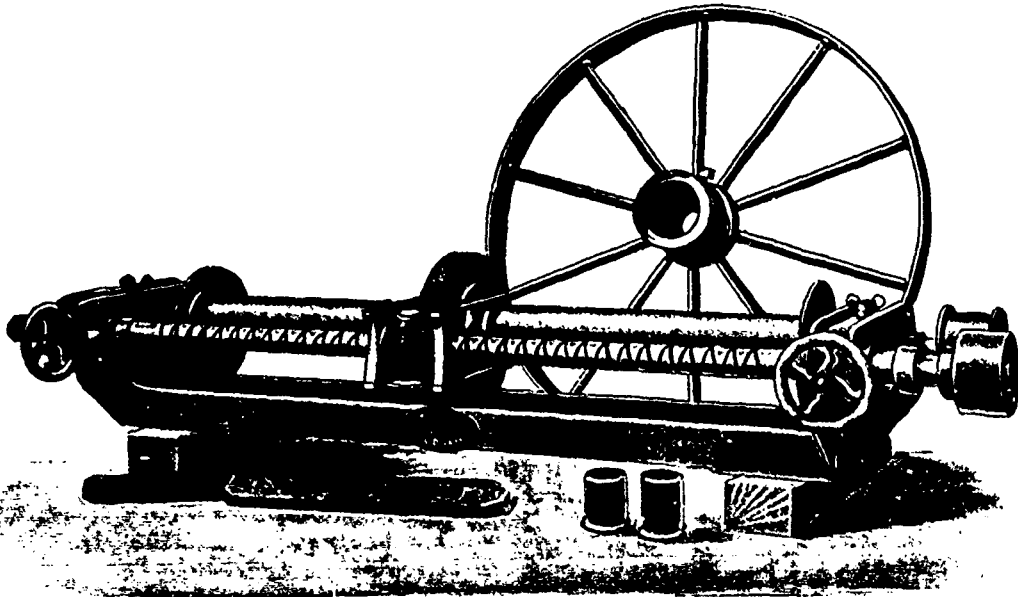
### EMERY WHEEL GRINDER.

Dronsfield's Emery Wheel Grinder for grinding bare cylinders or doffers, consists of a disc of solid emery mounted on a strong tube, and traversed by the screw and carriage shown in the illustration. The shafts of the tube run in bushes provided with special lubricators. Both tube and screw are carried in slides actuated by the hand-wheels shown, and the whole apparatus is mounted on a strong bed provided with slots, by means of which it can be bolted firmly to the card framing. The two slotted plates are for use where the card framing is too

is particularly desirable and neat in construction, and the screw adjustment works both ways, enabling the operator to adjust the rolls to a nicety without danger of injuring the main cylinder. The feed is driven from the doffer by a sprocket chain and the doffers are also coupled together by sprocket chain. This



makes an absolutely positive drive; there can be no slipping at the doffers or at the feed end, which prevents choking and clogging up, which is of course detrimental to the stock, and enables the Proctor Improved Single Fancy Garnett machine to give very uniform results, due to the fact that it is always run at the same speed. These machines are built in 40-in., 48-in. and 60-in.



short to hold the bed. The two eccentric plates shown on the ends of the tube enable the grinder tube to be fixed parallel to the cylinder or doffer before bolting down the bed. The pulley shown behind is fixed to the cylinder shaft, and consists of a large wrought iron pulley for driving the grinder and a small one fastened to it for driving the screw. The two separate bushes make the apparatus suitable for all diameters of shafts. The bed will bolt on all cards from 37-in. to 45-in. wide. The patentees and sole makers are Dronsfield Brothers, Ltd., Atlas Works, Oldham, England.

### IMPROVED GARNETT MACHINERY.

The pioneer designer and builder of garnett machinery in America, J. K. Proctor, president of the Philadelphia Textile Machinery Co., Hancock and Somerset streets, Philadelphia, Pa., U.S.A., after nearly thirty years' experience in the manufacture of this class of work, has lately placed on the market the Proctor Improved Single Fancy Garnett machine, which is believed to contain quite a number of new and valuable improvements. Self-oiling bearings (of the ring type) are used on the fast running fancies, thus saving the annoyance occasioned through inability to keep the fancy bearings properly lubricated. The new arch which carries the poppets for the workers and fancies

widths, and with any desired number of main cylinders. The Philadelphia Textile Machinery Company, Hancock and Somerset streets, Philadelphia, Pa., are at this time making three large Garnett machines with five main cylinders or swifts each.

### FABRIC ITEMS.

Little Current, Manitoulin Island, Ont., wants a steam laundry.

Fred. Evans, formerly with the R. Greene Manufacturing Company, London, Ont., has moved to Toronto, where he has secured a position in a wholesale clothing house.

It is said that Siegel, Cooper & Co., are building a departmental store in Montreal. E. Mann is architect of the building on St. Catharine street, whose proprietors are unknown, but believed to be, as stated, the famous New York firm.

M. Workman, tailor, Notre Dame street, Montreal, has received a contract to supply 30,000 great coats, and 20,000 each, tunics and trousers, for the Imperial army. The cloth and sample garments are being sent from England.

The Dominion Wool Pulling Co., Toronto, W. H. Guest, manager, is adding to its plant a hydro-extractor, supplied by Geo. Reid & Co., Toronto.

## 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.

A Teskey, Appleton, Ont., has imported mules direct from England for his mill.

The Hamilton, Ont., Cotton Co. is adding a large amount of additional carding and spinning machinery.

H. J. Bird, proprietor of the Bracebridge, Ont., woolen mills, is adding one set of carding machinery to his plant.

The machinery of the insolvent Qu'Appelle felt factory is being offered for sale as is announced in another column.

Geo. Flagg, successor to Geo. Moreau in the Elmsdale mills, Almonte, Ont., has moved his family there from Hespler, Ont.

B. Rosamond, M.P., president of the Rosamond Woolen Co., Ltd., Almonte, Ont., is spending a few weeks at Atlantic City.

Wm. Thoburn, woolen manufacturer, Almonte, Ont., intends spending the summer in Europe, and will visit the Paris Exhibition.

The sheriff is in possession of the estate of Geo. Street, pump manufacturer, Delhi, Ont., who a few months ago went into the woolen manufacturing business on a small scale. We understand the business is badly mixed up.

The strike in the woolen mill at Cornwall, Ont., collapsed upon it becoming known that the directors were determined to close the mill, dispose of the machinery and convert it into some other use if the strikers persisted in their demands.

The Truro, N.S., Knitting Mills Co. has decided to build a new chimney, as the old one is too small for the new plant. It will be eight and one-half feet at the base, and at the height of 80 feet, it will be over five feet wide.

A short time ago Jas. Horn, of Horn Bros., proprietors of the Lindsay, Ont., woolen mills, had the misfortune to lose the points of the two middle fingers of his left hand by accidentally allowing them to come in contact with the shearing machine.

The Lindsay woolen mills, Horn Bros., proprietors, have recently been enlarged by the addition of a set of English cards, all self feeders, breast on first machine. They are also adding 280 spindles, and intend adding several broad looms. The mills run on yarns, blankets, etoffe and sheetings.

The Cardinal, Ont., Glucose Works were destroyed by fire, March 7th. The fire started in the drying-room and spread to the glucose department, and soon this building was burned. The next building to go was the electric light station, and in six hours the three structures were a mass of ruins, and \$150,000 worth of property destroyed. The insurance amounts to \$90,000. The company will reconstruct the works. The Edwardsburg starch works, belonging to the same company, and immediately adjoining the glucose, was not damaged. A large number of hands are thrown out of employment.

Louis Simpson, late general manager of the Montreal Cotton Co., has had conferences with the Ottawa Board of Trade and city council, with the view to establishing a new cotton mill at Ottawa. An ample supply of French-Canadian labor can be had from the environs of Ottawa and cheap electric power can now be used for running the machinery, so that now with the new foot running looms, and the reduced cost of other machinery, the Ottawa authorities are favorably disposed to grant concessions for the establishment of the mill.

Prescott, Ont., has voted an \$8,000 bonus to the Imperial Thread Co.'s factory.

The Berlin, Ont., Felt Boot Co. has bought a broad gig and fur picker from Geo. Reid & Co., Toronto.

The paper box factory in Ottawa is to be enlarged, it is said, and about \$10,000 invested in new machinery.

The Penman Mfg. Co. has installed a first breaker Bramwell feed with Geb attachment, supplied by Geo. Reid & Co., Toronto.

A small carpet weaving shed belonging to T. A. Garland, at Portage la Prairie, was destroyed by fire recently, with a loss of about \$200.

Geo. S. Plow, 301 St. James street, Montreal, has been appointed agent for the Cobourg, Ont., Woolen Mills, Dick, Ridout & Co.

The Morden woolen mills, Morden, Man., are being enlarged. A cloth washer and fulling mill has been supplied by Geo. Reid & Co., Toronto.

At the Barnston woolen mills, near Coaticook, Que., the other day, W. Taylor had his arm drawn into part of the machinery, and it was quite badly crushed.

The Western, Ont., Hat Co., London, has bought two new motors in addition to the two it already has, manufactured by the Electrical Construction Co., London, Ltd.

At the annual meeting, April 13th, the Dominion Cotton Mills Co., Ltd., re-elected the old board of directors, and authorized the issue of \$1,000,000 preferred stock.

The sanitary provisions or lack of them in the woolen mill at Perth, Ont., are strongly commented upon in the Ontario Factory Inspector's Report for 1898, just issued.

McKeyes & Co., manufacturers of buttons, Montreal, are now extending their factory, and when the enlargement is completed will go into the manufacture of some new lines of buttons.

The Van Egmond woolen mills, after lying idle for nearly a year and a half, have been bought in by a Seatonth man, and are to be started up under the superintendency of Mr. Van Egmond.

Chas. Leaney, who had been for many years employed by the Rosamond Woolen Co., Ltd., Almonte, Ont., died last month from pneumonia. He was prominent in athletic circles some years ago.

John R. Hinchliffe is the new superintendent of the Excelsior woolen mills, of Montreal. Mr. Hinchliffe learned the business of woolen manufacturing in Yorkshire, England, but has been in Canada some time. He was recently at the Dingsby mill at Brantford.

The Dominion Carpet Co., Ltd., Sherbrooke, Que., is about to greatly enlarge its capital, English investors having become interested, and a considerable enlargement of the plant will take place at once. The spinning machinery will be increased to three times its present size.

A settlement has been effected in the suit of G. Reesor to recover from the Maple Leaf Woolen Mill Co., Markham, Ont., \$2,000 damages for injuries sustained by his son while employed in the defendants' mill as a spinner. Young Reesor lost three fingers. The company agreed to pay him \$575 without costs.

F. Egan, T. O'Leary and J. O'Leary, are under arrest in Toronto, accused of having been guilty of the extensive robbery of mill stock, the property of the Smith Wool Stock Co. The firm placed the stock in a building at the foot of Jarvis St., some months ago, and later it was systematically carried off. The accused are in jail awaiting trial.

Three pulp companies have been incorporated in Nova Scotia at this session of the Legislature. They are the Bear River Pulp and Paper Co., Ltd., the Meteghan River Pulp and Paper Co., Ltd., and the Sheet Harbor Pulp and Paper Co., Ltd.

The new Riverside colored yarn mill of the Riverside Manufacturing Company, of Montmorency, Que., is now running on a fine grade of hosiery yarns. The management intends to double the mill's capacity in the near future. Edward Linsky is superintendent.

While at work recently in Caulfeild, Henderson & Burns' factory, Front street, Toronto, Miss Townsend, an employee, had a narrow escape from being seriously injured. In some way her dress was caught in a rapidly-revolving shaft, and she was instantly thrown on a belt and was carried some distance before the power was shut off.

Michael Harding, shoddy and wool stock manufacturer, Simcoe, Ont., met with a fatal accident at the railway station, St. Catharines, Ont., April 14th. His foot was crushed under the wheels of the train, and the shock to his system, he being about 70 years of age, proved fatal on the 16th. Mr. Harding formerly carried on business as shoddy manufacturer in Montreal some years ago, in partnership with a Mr. Huston, but the firm failed and the plant fell into the hands of G. B. Burland. He then moved to Simcoe where he and his two sons started the business carried on till the time of his death.

C. T. Grantham, Yarmouth, N.S.; J. M. Young, W. D. Long and J. Knox, Hamilton, Ont.; C. Kloefer, Guelph, Ont.; J. Kendry, Peterborough, Ont., and T. P. Coffee, Toronto, have been incorporated as the Imperial Cotton Co., Ltd., to manufacture, buy, sell and deal in cotton ducks, ropes, yarns, twines, threads and all other fabrics and products composed wholly or in part of cotton, wool, hemp, flax or other fibers or substances; capital, \$750,000. It is understood that the company has secured property for its factory east of the city limits. It is 200 feet by 800 feet, and is between that of the Hoepfner Refining Company and the Grand Trunk Railway. The company will it is said, employ nearly 500 people; C. T. Grantham will be manager.

John Hunter, J.P., from near Emerson, Manitoba, arrived a few days ago to visit old friends here and at Hunterville, where he formerly resided. He and his brother ran what was known as "Old No. 3 Mill," in Almonte, many years ago, but lost \$20,000 in the business through the failure of a Montreal firm. They then took hold of the Hunterville mill, but it was destroyed by fire. Some twenty-five years ago John Hunter went to Emerson, and in the last ten or fifteen years he has acquired sufficient for his needs through the balance of his life; and now he has disposed of his extensive farming properties with the intention of retiring from business. He has gone to New York, where he takes the "Oceanic" for Paris, and intends to do the big fair pretty thoroughly.—Almonte, Ont., Gazette.

A press despatch from Burlington, Vt., referring to the failure of Knott & Closson, brokers of that city, states that several fresh suits have been taken against the firm, whose liabilities are now \$480,000. These fresh actions are nearly all by Canadians, among whom are, Charles L. Owen, manager of the Trent Valley Woolen Mills of Campbellford, whose action is for \$46,000; Charles Smith, of the same town, \$1,800; John Douglas, M.P.P., of Warkworth, \$25,000, and Geo. A. White, of Trenton, \$3,000. The suit of Charles Smith differs from the others and from any previously brought. In this it is claimed that the plaintiff sent to Knott & Closson just preceding their failure a check for \$1,400, with which they were to purchase cotton. It is claimed that the cotton was never purchased, and the suit is brought to recover the amount of the check. The bucket shop law of Vermont makes all persons liable to a fine of \$200 to

\$1,000 for dealing in any commodities on margin or for differences. The suits appear to have been bought in connection with cotton buying "on margin."

### TEXTILE IMPORTS FROM GREAT BRITAIN.

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

	Month of February.		Two months to February.	
	1899.	1900.	1899.	1900.
Wool.....	£ 2,076	£ 9,588	£ 3,103	£ 11,595
Cotton piece-goods .....	52,133	71,892	136,802	165,188
Jute piece-goods.....	7,409	9,300	15,258	21,130
Linen piece-goods.....	14,550	21,185	37,895	44,921
Silk lace .....	1,060	2,972	2,895	4,841
" articles partly of .....	4,402	6,389	6,411	12,201
Woolen fabrics .....	33,183	55,660	58,982	93,828
Worsted fabrics.....	59,284	66,587	147,355	149,458
Carpets .....	29,888	33,543	42,685	58,321
Apparel and slops .....	19,484	29,046	36,198	49,980
Haberdashery .....	17,623	16,964	40,088	37,316
Writing-paper, &c. ....	1,395	1,299	3,226	3,387
Other paper .....	384	769	1,213	1,478
Stationery, other than paper	814	808	1,577	1,900

### LITERARY NOTES.

The April Century is rich in pictorial illustration, its special art features including a frontispiece engraved by Cole, a full page plate of H. O. Tanner's painting, "The Annunciation," Castaigne's Paris pictures and Du Mond's decorative treatment of "The Groves of Pan," a poem by Clarence Umy. From the "Talks with Napoleon," in this number, it appears that the Emperor was so fully resolved to make his home in America, in the event of defeat at Waterloo, that he had bills drawn upon this country for whatever sums he chose to take. He told Dr. O'Meara that he had "spent sixteen millions of ready money," of his own, before the battle. "I have probably as much money as I shall ever want," he said at St. Helena, "but I do not know exactly where it is." "Fashionable Paris" is brought vividly before the reader by Richard Whiteing's pen and Castaigne's pencil. M. Worth's explanation of how fashions were started, under the Second Empire, is one of the titbits of this paper. Lovers of travel and adventure will turn to Miss Scidmore's account of "The Greatest Wonder in the Chinese World," the bore of Hang Chau, a tidal wave that sweeps up the T sien-tang River thrice every year; to R. Talbot Kelly's "Out-of-the-Way Places in Egypt," with illustrations by the author; and to the first instalment of Benjamin Wood's true tale of "The Hardships of a Reptiler" engaged in turtle-hunting, for profit, on the Carribean coast of Central America. The same class of readers will be drawn to "The Kentuckian," a timely study of a type, by John Gilmer Speed, a native of Kentucky, and in some respects a typical representative of the "blue grass" state. Lovers of letters, on the other hand, will find their account in "Browning in Asolo," by Katherine C. Bronson, an American friend of the poet's, the loggia of whose summer home was perhaps the one spot in Italy that most attracted him. Of kindred interest is an unpublished letter of Tennyson's to an old bricklayer in a Western state, who had known the Laureate in his childhood. Mr. Morley treats chiefly, this month, of the crisis of 1647, and Cromwell's attitude therein. In Dr. Weir Mitchell's "Dr. North and His Friends," the heroine is introduced—a beautiful young woman with a beautiful voice but a slightly deformed body. "The Dulce-Piji Family" is a sympha-

thetic study of marmosets, by Justine Ingersoll, with pictures drawn from life. W. S. Harwood writes of "The Success of the Government Telegraph in England" and Charles Barnard of "The Industrial Revolution of the Power-Tool." Fiction in the form of short stories bears the familiar names of Cornelia Atwood Pratt, Abbie Carter Goodloe and Ellis Parker Büttler. The frontispiece is T. Cole's engraving of Constable's "The Thames."

The report on the Archaeology of Ontario for 1899, has been presented by David Boyle, and published as an appendix to the report of the Minister of Education. Mr. Boyle, whose enthusiasm for the work is well known, reports the receipt of over 2,000 specimens of Indian relics for the Archaeological museum. Some of these curious relics are illustrated, and descriptions are given of Indian games and ceremonies. Among the special features of the report is a paper by A. F. Hunter on the sites of Huron villages in Simcoe county; a paper by W. J. Wintenberg on sites of Indian villages in Oxford and Waterloo counties; Mrs. Holden's translation of Benjamin Sulte's "War of the Iroquois," A. T. Cringan's notes on the Dance Songs of the Iroquois, with samples of these songs set to the original music, the last named being very quaint. The report is very instructive and interesting.

"School Room Decoration in Ontario, Historical and Patriotic," is the title of a very suggestive booklet by Dr. J. George Hodgins, historiographer of the Ontario Education Department. The essay is addressed to the Canadian historical societies, and puts before those interested in the education of our young some of the ways in which the great events and grand personages of Canadian history may be impressed upon the mind by suitable treatment in the art of our school rooms. The spirit of patriotism is apparent everywhere in these timely suggestions.

The Canadian Magazine for April is again strong in military features, Mr. Cooper's graphic sketches of Strathcona's Horse, and Dr. Ryerson's account of the work of the Red Cross Society being particularly noteworthy articles. The illustrations are numerous and well chosen, and the whole number makes a very desirable souvenir to send to friends abroad.

### DECOLORISING FABRICS AND MATERIALS.

The rapid advances made in the use of previously manufactured materials are likely to receive another stimulus in an improved process for stripping these goods of their previous dyes. If practice proves the value of the process recently patented by a Silesian manufacturer, and if all its claims are substantiated, it must be of great value to the shoddy, mungo, and all such industries. It is applicable to vegetable and animal fibres alike, and is said to be entirely free from the destructive effects which accompany the process where colors are stripped by the use of strong acids. The materials to be decolorised are, after being suitably reduced, first treated for from fifteen to twenty minutes in a bath of boiling water rendered alkaline by the addition of about 3 per cent. of the weight of materials of ammonia, soda, soap, or borax, thereby dissolving a considerable portion of the dye which remains dissolved in the bath, so that the materials on being taken out of the latter and washed contain only such dye as cannot be removed by dissolving. For removing the last residue of dye, a bath is used which is formed by putting a mixture of bisulphite of soda and powder of zinc (or substances forming sulphurous and hyposulphurous acids) into water and heating the solution. The materials previously washed in the above manner are left in the bath, which is maintained if necessary at a boiling temperature, until the very last residues of the dye adhering to the fibre are removed. The fibrous materials after being removed from this bath, are perfectly white, and when they have

been thoroughly washed and dried in the usual manner, can be further treated, or at once be manufactured.

The composition of the baths depends on the nature of the dyed materials as well as on the dye, and can be readily determined according to the different proportions by any practical man, on the basis of a previous trial. Even in the case where active materials are contained excessively in the second bath, any evil effect on or weakening of the fibre need not be feared. By the aid of this process the waste of different kinds of textile materials can be utilised in an economical manner, since not only a complete decolorisation of the materials is attained, so that they can undergo any desired further treatment, but a weaken-

**FOR SALE OR TO LET**—That valuable property situated in the Town of Wierton, formerly occupied by the Wierton Woolen Mills Company; equipped with a full set of machinery for manufacturing yarns, blankets, shawls, etc.; the best location in Ontario for custom work. Apply to JAMES SYMON, Box 64, WIARTON. 4-1

**WANTED**—An Experienced in small woolen mill or superintendent in Blanket Mill. Apply "CARDER" care of CANADIAN JOURNAL OF FABRICS. 4-1

**FINISHERS WANTED**—Energetic man as second hand in finishing department. Age, experience and wages. Address "FINISHER" care of CANADIAN JOURNAL OF FABRICS. 4-1

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

### Woolen Machinery For Sale Cheap

1 Set 48-in. Cards, Iron Frame, 11 Rubb. rolls. 1 288 Spindle Hand-Jack, 2-in gauge. 1 30-in. Wool Picker. 1 24 Spindle Flyer Twister. 1 2 Shearing Machine Iron Frame.

Apply at once to The BROWN & WIGLE Co., of Kingsville, Limited, KINGSVILLE, ONT. 4-1

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

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

A Perpetual Injunction was this day granted against the Defendants, restraining them, their servants and agents from infringing the Letters Patent No. 5599, of the year 1893, for "Improvements in means for strengthening and protecting tubes and bobbins used in the preparation and spinning of fibrous materials." And it was ordered that the Defendants should pay to the Plaintiffs damages, to be ascertained on enquiry, and costs. The Judges also certified to the validity of the Plaintiff's patent.

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

### Felt and Woollen Factory and Plant

#### FOR SALE

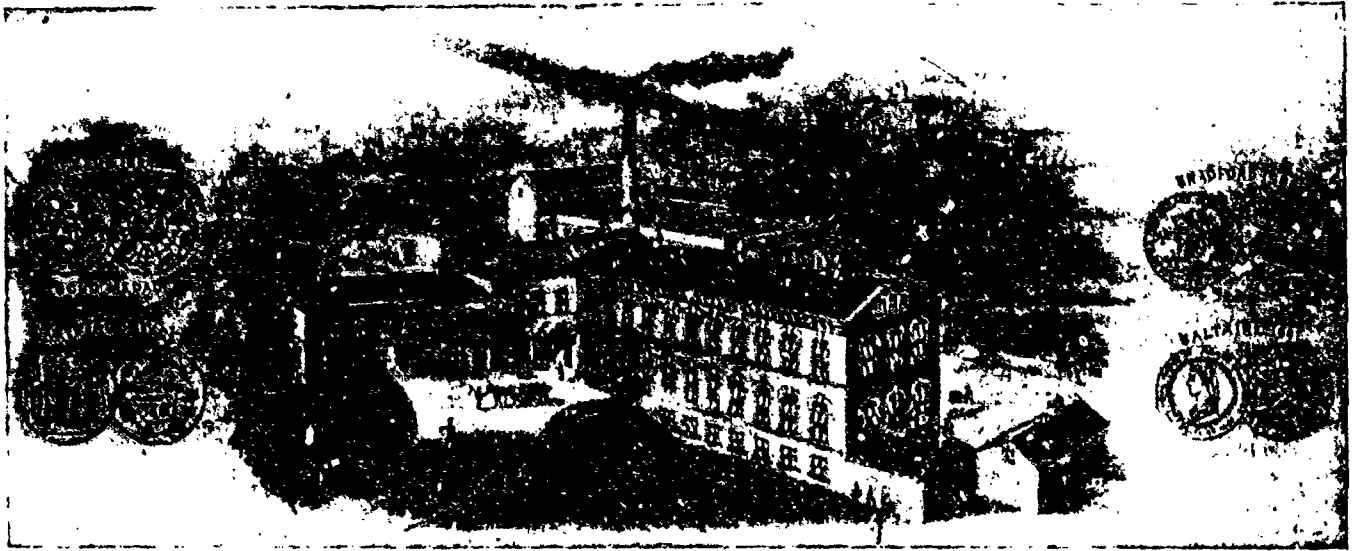
IN THE SUPREME COURT OF THE NORTH-WEST TERRITORIES, JUDICIAL DISTRICT OF WESTERN ASSINIBOIA.

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

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

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

HAMILTON & JONES,  
Solicitors for Liquidator



# JAMES YATES & SON

MANUFACTURERS OF

## Card Clothing

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

Established 1820 

**CLECKHEATON, ENG.**

All Correspondence to be addressed to Canadian Stock Depot.

---

“Genuine Oak”, Tanned Leather Belting,  
Mill Furnishings of every description.

We would also draw your attention to our “**LANCASHIRE**” PATENT HAIR BELTING  
for exposed situations.

---

# D. K. McLAREN,

Head Office and Factory: **MONTREAL**

Branch: 88 Bay Street, **TORONTO**

ing or deterioration of the fibre is not experienced, which unsatisfactory result is the principal reason why the known bleaching methods with acid corrosive materials could not hitherto be made utilisable with practical success for the purpose.

### A COMBINED CLOTH.

An attempt has been made by a Bradford manufacturer, which is a departure in the line of cotton and linen goods, says an English textile paper, the aim being to produce a cloth suitable for underclothing, blouses, cricketing trousers or tennis jackets which shall possess in a great degree the advantages of all-wool clothing, while not being liable to shrink, and which is less expensive, and is capable of being got up for wear with all the elegance of starched and hot-iron pressed linen and the like. A cloth is made with a face of cotton or linen or a combination of cotton and linen, whilst the back is made entirely of wool or silk or a combination of wool and silk. The face, which is the right side of the cloth, or the side exposed to view when in wear, is thus made of material which can be got up by starching and hot pressing, or which may be printed upon, whilst the back of the material, which is worn next the skin, has the advantages of feel, warmth, and absorption, hitherto obtained only by the use of all-wool clothing. A nap may be raised on the back of this cloth, so as to make it resemble flannel, the use of which latter the new cloth is intended to replace.

—Khaki hosiery is the novelty for the present summer. A speciality we have seen is a khaki cycling hose, with a fancy top with the British flag in the favorite red, white and blue colors—Knitters' Circular, Leicester, Eng.

The well-known firm of A. R. Clarke & Co., leather and glove manufacturers, established in 1852, has been, owing to the growth of the business, formed into two joint-stock companies, viz.: A. R. Clarke & Co., Ltd., with A. R. Clarke, president, and C. E. Clarke, vice-president and treasurer, manufacturers of glazed and dull kid, glazed boxed and dull chrome calf, gloves and moccasins; and Clarke & Clarke, Ltd., F. G. Clarke, president; C. E. Clarke, vice-president and treasurer, manufacturers of sheepskins, India kid, bookbinders' leather, skivers and russets. The well-known reputation of the present firm in the trade all over the Dominion, will ensure the complete success of the new companies, and those changes will enable the name "Clarke" to maintain its acknowledged leadership throughout Canada.

### PIRN WINDING

Pirn winding is one of the processes in a mill which requires frequent attention in order to ensure that the filled pirns are built in a satisfactory manner. This statement is more accurate, remarks a writer in The Textile Recorder, when applied to the cup frame than to the one known as the disk frame; but the cup, by reason of its cheapness, simplicity and the ease with which the pirns are doffed, still holds a prominent position in the manufacture of colored cloth. The pirns are provided with a head, the lower portion of which is conical in form, and it is evident that if yarn is wound upon the conical surface in even layers the conical form must be retained. This is the principle of building up the pirn, but the method of supporting it and causing its revolution (in order to wind on the yarn) varies with the different makes of frame. The parts of the cup winding

YOUR ENGINEER OUGHT TO HAVE A COPY!!

## The Manual of Lubrication,

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

With Methods of Determining the Purity and other Properties of Oils etc.  
By Louis SIMPSON.

Price \$1.00  
Post-paid

Address **BIGGAR, SAMUEL & CO.,**  
Fraser Bldg., MONTREAL, Can.

ESTABLISHED 1859

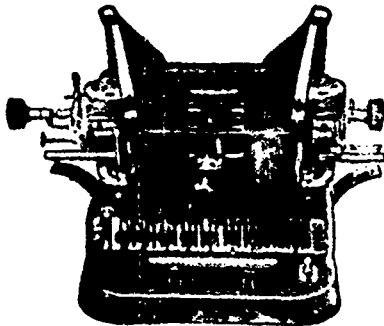
## THE C. TURNBULL CO., OF GALT, Limited.

MANUFACTURERS OF  
Full Fashioned Lamb's Wool Underclothing, Hosiery and  
Knitting Yarns, Perfect Fitting Ladies' Ribbed Vests,  
Sweaters, Jerseys, Knickers.

The Modern  
Type Machine  
Is The

# OLIVER TYPEWRITER

Possessing all Latest Improvements—  
including



Visible Writing, Lightest Touch, Strongest Mechanism,  
Double Type Bar, Strongest Manifolding Power,  
Unequaled Speed,  
Automatic Line Spacing, Writing in Various Colors,  
Lines Ruled Neater and Quicker than with a Pen.

The only Free Type-Bar Visible Writing Standard Machine manufactured. The price of the OLIVER is ~~\$95.00~~, \$30.00 less than any other Standard Machine manufactured, because it is a "CANADIAN." Catalogue on application. Telephone us and our representative will call. Manufactured by

BRANCH  
55 Victoria St., TORONTO, ONT.  
PHONE 8479

## LINOTYPE COMPANY,

166 St. Antoine St., MONTREAL, Que.

frame are adjustable, in order to compensate for the wear and tear of the various parts.

The pirns (after they are filled by the winder) should be occasionally examined, when they will, to a certain extent, reveal defects in the conditions under which they are wound, and probably one of the most prominent features will be the number of partially filled pirns—very likely ranging from one-quarter to half an inch from the full extent. This defect is often caused by spindles which are worn at the extremity to an extent sufficient to prevent the slot in the warve from gripping the spindle at the point, and the pirn is stationary before this spindle has completely receded from the warve. In this case the stud upon which the warve revolves may be raised sufficiently high to allow the pirn to be completely filled, and has the effect of making the shorter spindle efficient by decreasing the distance between the bottom of the pirn and the warve.

Another defect is caused by the guide rail having on some account acquired a lower position from the one it should attain. (Continued on page 128).

**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
- Woolen and Worsted Loom Fixing. A book for Loom fixers, and all who are interested in the production of plain and fancy worsteds and woolens; by A. Ainley. \$1 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.**

Prices are firm. Sulphate of Copper is scarce; all lines remain steady:—

Bleaching powder .....	\$ 2 75	to	\$3 00
Bicarb. soda .....	2 00	"	2 05
Sal soda .....	0 75	"	0 80
Carbolic acid, 1 lb. bottles.....	0 40	"	0 50
Caustic soda, 60° .....	2 35	"	2 60
Caustic soda, 70°.....	2 60	"	2 85
Chlorate of potash .....	0 13	"	0 15
Alum .....	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 11	"	0 12
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 10
Cocoanut oil.....	0 10	"	0 11

**Dye Stuffs**  
Chemicals

**..Alizarines..**

DIRECT DYING ANILINES FOR

COTTON & WOOL

**Dyewood Extracts**

**F. E. ATTEAUX AND CO.**

53 Colborne Street, TORONTO

121 Lemoinne Street, MONTREAL

NEW YORK, PHILADELPHIA.

**BOSTON.**

CHICAGO, GLOVERSVILLE, N.Y.

**A. KLIPSTEIN & CO.**

122 PEARL STREET, NEW YORK.

**Chemicals & Dyestuffs**

Fast Color for Wool—Dry Alizarine, Phenocyanine, Gallocyanine  
Direct Cotton Colors—Auramine, Congo Red.  
Azo Colors—Naphthol Yellow, Orange, Scarlets, Fast Red.

HEADQUARTERS FOR

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

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

**JOHN W. LEITCH & CO.**

Milnsbridge Chemical Works, near HUDDERSFIELD, ENGLAND.

**PHENYLENE DIAMINE (DISTILLED)**  
**TOLUYLENE DIAMINE (DISTILLED)**

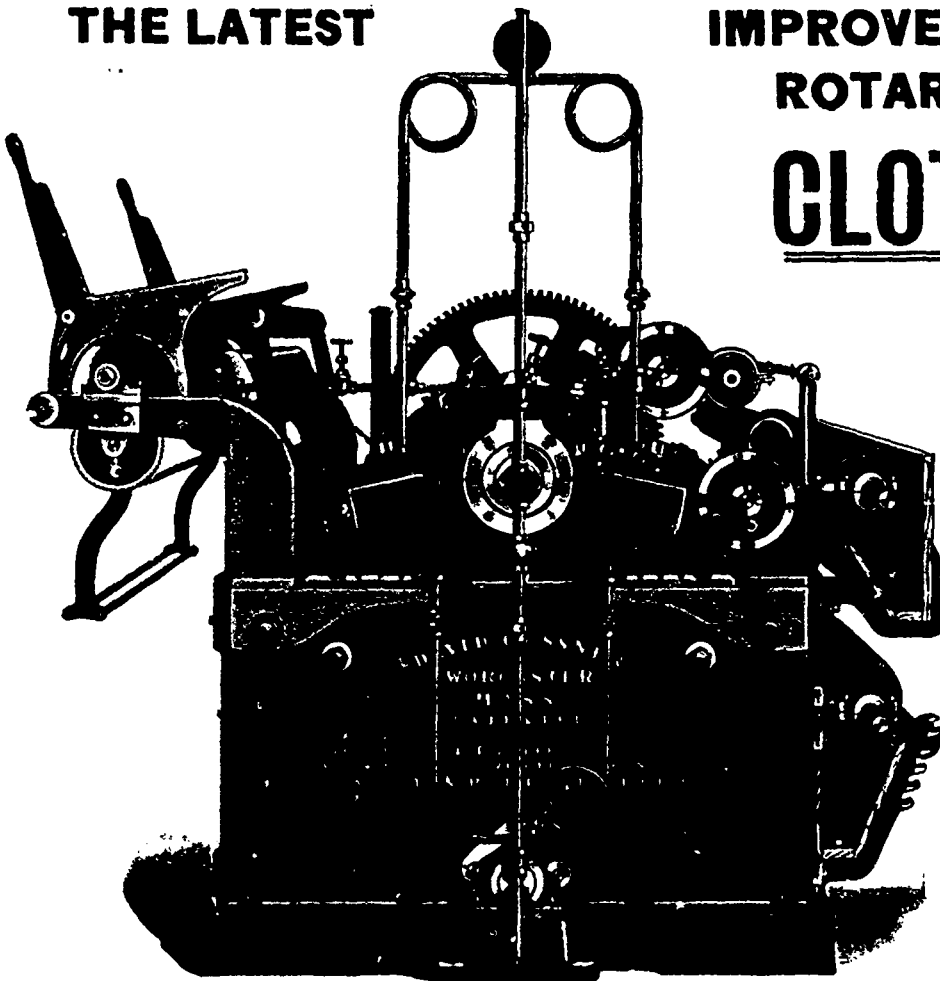
**Bismarck Brown, Chrysoidine,** Crystals and Powder. Largest makers in the world.  
**Soluble Blues**—all shades.  
**Binetro Benzol and Binetro Toluol.**  
**Reduced Indigo. Wood & Leather Stains.**  
Specialties for Cotton, Wool and Silk Dyers, Paper Makers, &c.



**THE LATEST**

**IMPROVED DOUBLE-BED  
ROTARY**

**CLOTH PRESS**



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

**DAVID GESSNER,**  
WORCESTER,  
MASS., U.S.A.



Heater and Fan in Steel Casine.

**Utilize Your Exhaust Steam**

and heat your factory by our HOT BLAST or FAN SYSTEM of Steam Heating. Hot Blast Drying Apparatus for drying of all kinds of materials. Fans, Blowers and Exhausters of all kinds. Write for Catalogue.

**McEachren Heating & Ventilating Co.**  
GALT, ONTARIO

**ENGINEERS'**

**DIXON'S  
PERFECT LUBRICANT**

**SUPPLIES**

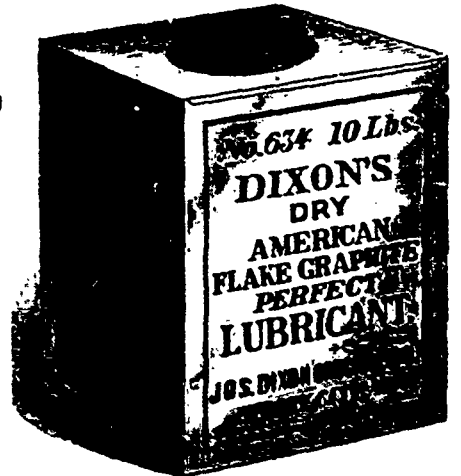
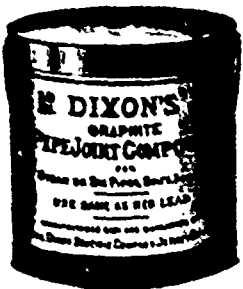
Pipe Joint Compound and Solid Belt Dressing.

Also a full line of Packings, Spiral, Asbestos, Metallic, Gum Core, Square Flax, Gasket Tubing, Rainbow, Jenkins '96, etc.

Fairbanks' and Jenkins' Globe Valves.

**Aikenhead Hardware Co.**

Canada's Leading Tool House  
6 Adelaide Street East, Toronto

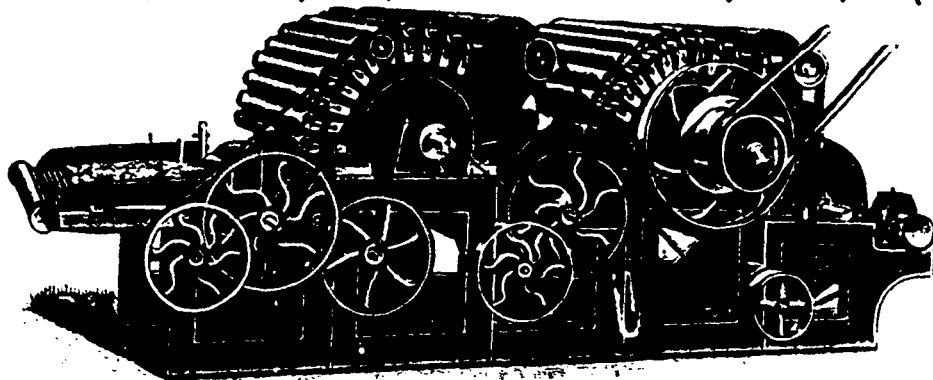


# Garnett's WOOLLEN & WORSTED WASTE OPENER MACHINES

**WORLD WIDE  
REPUTATION**

TELEGRAMS: Garnett, Cleckheaton.

TELEPHONE No. 9, Cleckheaton Exchange, Under Dewsbury.



**T**HESE 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.

Waste Opener or Garnett Machine, for Opening Hard Twisted Woolen and Worsted Waste.

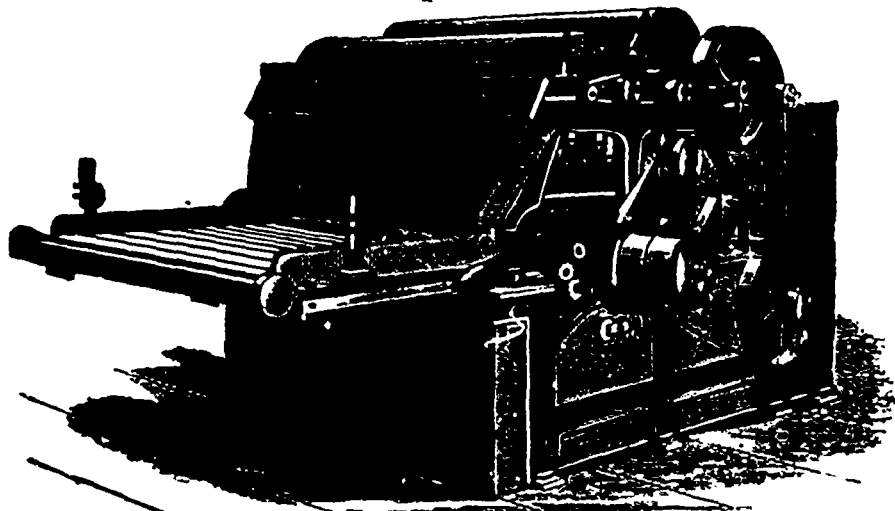


Garnett Wire, or Metallic Card, made with any form of tooth, in Swedish Charcoal Iron or Cast Steel, with points hardened by electricity.

This Wire is used for covering iron rollers, breasts of woolen cards, lickersin of cotton cards, comber doffers, etc.

## Patent Garnett Clothing Apparatus

By means of this simple and inexpensive apparatus parties can reclothe the rollers of their waste-opening machines in their own mills—and so save an immense amount of trouble and expense in sending their rollers away to be done.

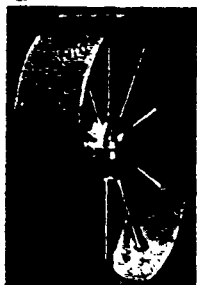


Improved Wool Cleaning or Burring Machine.

Capable of cleaning 1,500 pounds of wool per day. The very best and most economical machine made for the purpose.

## Wrought Iron Pulleys

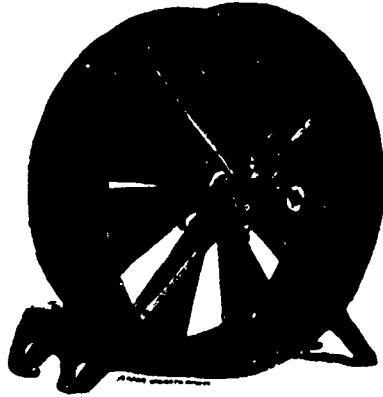
Light, True and Unbreakable



CAST IRON PULLEYS

Iron and Steel Shafting, Couplings,  
Flummer Blocks, W. I. Collars,  
Hangers, Wall Boxes, etc.

NEW ENGLAND **Ventilating & Heating Co.**



PROVIDENCE, R.I.

R. RICHARDSON, Treasurer

Manufacturers of

Exhaust Fans, Blowers,  
Ventilators & Sheet  
Metal Pipes.

A workroom well ventilated  
will increase its production.

Our Exhaust Fans are used extensively for removing smoke, dust, heat and for drying by air circulation.

Office and Works:

826, 828 & 930 MANTON AVE.

W. M. M. YOUNG,

Manufacturer  
of

*Novelty Braids*

For Ladies' Dress and Wrapper Trimmings, Braided and Woven Spool Tapes and Bindings, Tapes for Underwear, and Round Braids, Cotton Banding and Hook Bands.  
36, 38 and 40 Frankford Ave., Philadelphia, U.S.

**YARNS**

William Hollins & Co., Limited, Nottingham; Cashmere, Worsted, Merino Yarns  
David Sandeman & Co., Glasgow; Worsted and Woolen Yarns.  
William Ajkroyd & Sons, Bradford; Mercerized Yarns.  
James Smethurst & Sons, Manchester and Bolton; Cotton Yarns.  
Bent Ley Silk Mills, Meltham; Spun Silk Yarns.  
J. & R. Young, Belfast; Linen Yarns.

Agent for the U. S. and Canada

**W. M. CROWE, 477 Broome St., New York**

Represented by J. A. ROBERTSON, Board of Trade Building, Montreal

# The Canadian Textile Directory

**1899 Edition Just Issued.**

**CLOTH, \$3.00.**

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

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

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

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

**Biggar, Samuel & Company.**

62 Church Street, Toronto,

or

Fraser Building, Montreal

Copies Mailed post-paid on Receipt of Price

**WILLIAM FIRTH CO.**WILLIAM FIRTH,  
President.EDWIN BARNES,  
Vice-Pres.JOHN H. NELSON,  
Treasurer.

IMPORTERS OF

**Textile Machinery**67 Equitable Building, Boston, Mass.,  
150 Devonshire Street, U. S. A.

Southern Office, 40 South Forsythe St., Atlanta, Ga. C. E. W. Dow, Representative

SOLE IMPORTERS OF

**Hetherington's Patent Revolving  
Top-Flat Carding Engines.****Combing Machines.****Drawing Frames.****Roving Frames &****Self-Acting Mules.**Curtis Sons & Co., Patent Worsted Card, Woolen Cards and Mules.  
John Perry, Limited, Shipley, England, Worsted Machinery, on  
French and English Systems.William Tatham & Co., Vulcan Works, Rochdale, England, makers  
of Waste Machinery for Working Hard and Soft Waste, Cop  
Bottoms, etc.James Yates and Son, Hardened and Tempered Steel Card Clothing  
for Woolen and Worsted Cards.Joseph Stubbs, Manchester, England, maker of Patent Quick Traverse  
Gassing Frames for Cotton, Worsted and Silk Yarns; Yarn Pre-  
paring Machines; also, Patent Adjustable Yarn Clearer for  
Winding Frames.**Machinery delivered, duty and freight paid,  
and erected.**

—Many branches of the textile trade are very busy through the war and the accompanying fever for khaki-colored goods. It is said that bicycling hose are to be "the go," made of khaki-colored wool, with tops showing a design in red, white, and blue. The noble army of scorchers will look very well thus attired.—Draper's Record, London, Eng.

—Acid Rhodamine R, RR, RRR.—The Society of Chemical Industry in Basle, through its Canadian agents, Jack & Robertson, 7 St. Helen street, Montreal, is placing on the market these new products, which distinguish themselves from the older brands of Rhodamine, by dyeing wool and silk with acid, and by their being suitable for mixture with other acid colors.

—C. A. G. Browne, advertising agent, has removed from 145 Fleet street, E.C., to 53 and 54 Wych street, Strand, W.C., where he has acquired premises, which, much more extensive than those formerly occupied by him, will provide him with the necessary accommodation for his increasing business. A Pocket Diary and Note Book for 1900, issued by Mr. Browne, is convenient in size, and valuable to the busy man from more than one point of view.

—The Lancashire bleaching trade will shortly be in the hands of a powerful company, says the London Daily Mail. It is said that the combination will involve the capitalization of from \$48,665,000 to \$58,398,000, and the object in view is to prevent individual concerns from indulging in sharp practices, cutting prices, discounts, etc. Individual businessès are to be taken over and worked from March 31st by the company, which will be known as the Lancashire Bleachers' Association, Limited; the prospectus will probably be in the hands of the public soon after that date. Experts are confident that there is no branch of the textile industries which will lend itself so well and profitably to the adoption of joint-stock combination principles as that of the Lancashire bleaching trade.

**EVAN ARTHUR LEIGH**

Successor to E. A. LEIGH &amp; COMPANY

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

IMPORTER OF

**Textile MACHINERY**  
Etc.

Sole Agent for the U. S. and Canada for

**Messrs. PLATT BROS. & CO.**  
(LIMITED), OF OLDHAM, ENGLAND.

BY FAR THE LARGEST MAKERS OF TEXTILE MACHINERY IN THE WORLD

Platt's Cotton, Woolen and Worsted Machinery.  
Sole makers of Brown's Patent Carding Rollers for wool—  
give woolen yarn a worsted appearance.New Patent Noble Comb—increased production, better  
work.Platt's Special Machinery for making English and French  
Worsted Yarns.Platt's Special Machinery for making Cotton Waste into  
Yarns.

Also Sole Agent for U. S. and Canada for

**Messrs. MATHER & PLATT**

Salford Iron Works, Manchester, England.

Bleaching, Dyeing and Finishing Machinery and Archbutt-  
Deeley System of Softening and Purifying Hard Water.  
The Best System on the Market.Wool Washing and Drying Machines. Garnett Machines. French  
and English Napping Machines. Card Clothing for Cotton (Sykes's).  
Woolen and Worsted (Critchley's). Vary's Fallers and Circles, etc.Fine Cotton and Worsted Yarns. Machinery delivered duty and  
freight paid.**Lowell Machine Shop**

LOWELL, MASS.

**COTTON  
MACHINERY.****Revolving Flat Cards****Railway Heads****Drawing Frames****Roving Frames****Ring Spinning Frames****Twisters, Spoolers****Warpers, Slashers****CLOTH ROOM MACHINERY.****Looms**

*If You want the BEST*

Order our Patent  
Metallic

## **BURNISHED RINGS.**

WHITINSVILLE SPINNING RING COMPANY  
WHITINSVILLE, MASS

The Denn Warping Machinery.

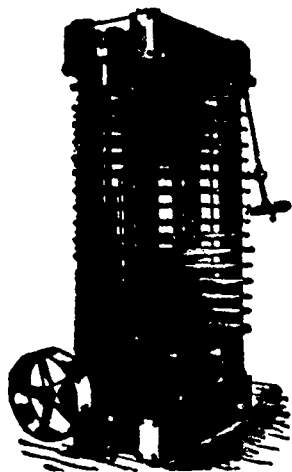
Linking      Balling  
Slasher      Beam

## **WARPERS**

100 to 3,200 Ends.

Electrical Stop-Motions Applied to all Creels  
SEND FOR CATALOGUE

GLOBE MACHINE WORKS, Oxford St., Frankford  
PHILADELPHIA



### **RELIANCE**

## **Hot Plate Press**

FOR

**Hosiery & Underwear Trade.**

For Price and Particulars, address

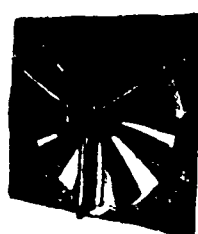
**CHARLES HART**  
Hedge and Brown Streets  
FRANKFORD, PHILA., PA.

**Loom Picker Co.**  
H. P. GARLAND, Treas. **BIDDEFORD, ME.**

MANUFACTURERS OF

Rawhide and Leather Loom Pickers,  
Loom Harnesses and Reeds,  
Duck and Ticking Lug Straps,  
Tape Picker Loops, Leather Strapping,  
Black Oak-Tanned English Picker Leather,  
North Carolina Hickory Picker Sticks.

Illustrated Catalogue sent on application.



## **'Cyclone'** **Fans**

are marvels of efficiency

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

Our "**Cyclone**" **Dryers** (for all materials), **Carbonizers**, **Yarn Scourers**, **Willows**, and "**Proctor**" **Carnetts** have reputations that are worth something, too.

Philadelphia Textile Machinery Co.  
Philadelphia, Pa., U.S.A.

## **NYE & TREDICK,**

MANUFACTURERS OF

*Circular*  
*Knitting*  
*Machinery*

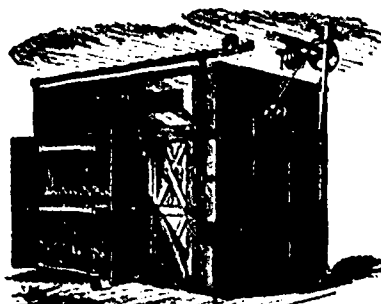
PLAIN AND AUTOMATIC

**Ribb Knitting**  
**Machines**

606 ARCH STREET,

**PHILADELPHIA, U.S.A.**

# "HURRICANE" DRYERS



Truck Yarn Dryer.

FOR  
Wool, Cotton Stock, Yarn,  
Stockings, Under-  
wear, &c.

## Carbonizers

Yarn Scouring  
Machines.

## HURRICANE FANS

Ventilating and Drying,  
BEST in construction,  
Lowest in price.

Plans, Estimates and Catalogues  
cheerfully furnished.

PHILA. DRYING MACHINERY CO., 6781 Germantown Ave., Philadelphia, Pa.

# H. W. KARCH,

HESPELER, ONT.

Manufacturer of

Woolen Machinery,  
Rotary Fulling  
Mills, Kicker Full-  
ing Mills, Soaping  
Machines, Cloth  
Washers,  
Wool & Waste  
Dusters, Rag Dus-  
ters, Drum Spool  
Winders, Reels,  
Spooling & Doubling  
Machines, Ring  
Twisters, Card  
Creels.



Dead Spindle Spooler for Warp or Dresser Spools,  
Pat. Double Acting Gigs, Dyeing Machines.

-Jacob Upshur Payne died in New Orleans recently at the age of 97 years. For a quarter of a century Mr. Payne was the largest cotton dealer in the world, and for more than half a century he was one of the foremost citizens of New Orleans. Mr. Payne was born in Woodford county, Ky., in 1803. He was prominent in and identified in public affairs in Kentucky, then in Mississippi, and later in Louisiana, where his cotton business expanded to gigantic proportions, first as Payne & Harrison, and later as Payne & Huntington. His immense wealth fell with the Confederacy, but though advanced in years, the energetic old man went to work to pay back not only the money lost to his clients through his business, but the interest on it.

-The following were among the enquiries relating to Canadian trade received at the Canadian Government offices in London recently: A firm of paper agents and merchants desire to open up business connections in Canada for the sale of the product of their paper and pulp-board mills, and will be glad to hear of a house through whose intermediary they could find a market. Enquiry is made for the names of Canadian firms exporting wood-pulp and paper. A firm in the Midlands wishes to enter into communication with one or two good Canadian houses who desire representation here, for the sale in the United Kingdom and Europe generally, of Canadian productions. They are acquainted with foreign trade and could develop a large business in suitable goods. A financial agent interested in the wood-pulp industry, desires to hear of properties favorably situated on the Atlantic coast which could be utilized. The manufacturers of rubber parts used in the manufacture of pneumatic tires, viz., outer covers and inner tubes, and other various cycle rubber goods, are desirous of opening up a trade with Canada and are looking out for reliable firms in the Dominion who would do a factoring business with them.

# RICHARD SCHOFIELD, TORONTO

Manufacturer of all kinds of

Cylinder Dials,  
Cams,  
Yarn Guides,  
Cut Pressers,  
Mill Supplies,  
Fluted Rollers  
Gear Wheels,  
Worm Wheels,  
Ratchet  
Wheels,  
Special  
Screws  
&c., &c.

## Power Knitting Machines

14 COURT ST.

Canadian Agent  
for the  
Branson  
Machine Co.,  
Philadelphia



14  
Court  
Street.

"WE HOLD THEE SAFE."

# The Dominion Burglary Guarantee Co.

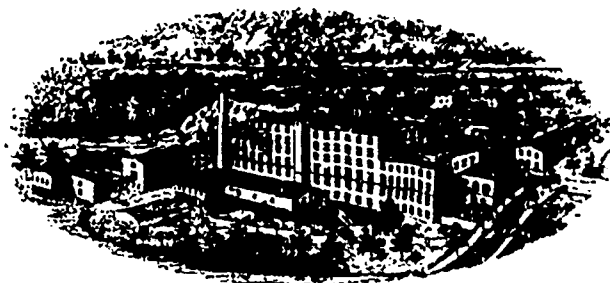
LIMITED.

Head Office, Montreal, Can.  
CAPITAL, \$200,000.

Insurance against burglary and housebreaking. Policies clear  
and free from vexatious or restrictive clauses.

CHAS. W. HAGAN, General Manager

# ROSAMOND WOOLEN CO., ALMONTE, Ont.



Fine TWEEDS, CASSIMERES, and Fancy WORSTED  
SUITINGS AND TROUSERINGS

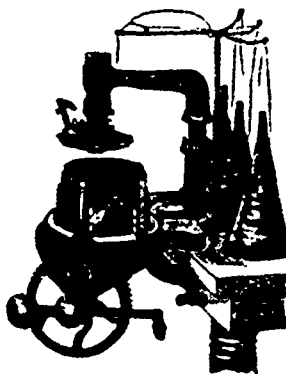
Colors warranted as fast as the best British or Foreign goods

# CREELMAN BROS.

GEORGETOWN, Ont.

Manufacturers of

## Knitting Machines



"THE DOLLAR," Family,  
AND  
"THE STAR," Steam Power,  
AND  
"THE WORLD'S STAR," for  
Knitters

**JOHN HALLAM,**  
 83 & 85 Front St. East, - - - Toronto  
 and  
 85 Princess Street, - - - Winnipeg  
 Wholesale Dealer in  
**DOMESTIC AND FOREIGN WOOLS**  
 Sumac, Japonica, &c.

**LONG & BISBY**  
 DEALERS IN  
 Foreign and Domestic  
**WOOL AND COTTON**  
 GENERAL COMMISSION MERCHANTS  
**HAMILTON, ONT.**

**B. Spedding & Co.**  
 72 St. Henry St., Montreal  
 Wholesale Dealers in all kinds of Foreign  
 and Domestic Woolen & Cotton Rags,  
 Paper Stock and Metals. Graded  
 new Woolen Clips a specialty.  
 Agent for  
**George Hirst & Sons,** Exporter of Woolen  
 Rags, Birstall, England  
 Telephone 2882.  
 Cable—"SPEDDING," Montreal.

**ROBT. S. FRASER**  
**Wools, Cottons, Nolls, Yarns**  
 Specialties:  
*English Pick Lambs and Downs*  
*Foreign Wools and Nolls*  
*Egyptian and Peruvian Cottons*  
*Fancy Yarns*  
 17 Lemoine St., MONTREAL

**The R. Forbes Co.**  
 (Limited)  
 Manufacturers of  
**WOOLEN AND WORSTED YARNS**  
 For Hosiery and other work  
**HESPELER, ONT.**

**WOOL** **WM. GRAHAM**  
 54 and 56 Wellington  
 St. East, TORONTO  
 Dealer in  
**Foreign and Domestic  
 Wools**  
 My manufacturing experience assists me in import-  
 ing wool for any desired goods

**The Montreal Blanket Co.**  
 Manufacturers of  
**Shoddies, Wool Extracts  
 and Upholstering Flocks**  
 Office and Works: COTE ST. PAUL.  
 P.O. Address: MONTREAL

**W O O L**  
**A. T. PATERSON & CO.**  
 MERCHANTS,  
 Lon. & Lanc. Ins. Bldg.,  
 164 St. James St., MONTREAL  
 REPRESENTED BY MR. DAVID GUTHRIE.

**THE SMITH WOOLSTOCK CO.**  
 Manufacturers and Dealers in all Lines of  
 Wool Stock, Shoddies, &c., Graded Woolen  
 Rags, Carbonizing and Neutralizing.  
 Best prices paid for Wool Pickings, Woolen  
 and Cotton Rags, Metals, &c. Hard Waste, &c.,  
 purchased or worked up and returned.  
 219 Front St. E., Toronto | Foot of Ontario St.

**WM. D. CAMERON,**  
*Woolen & Cotton Manufacturers'*  
*Agent,*  
**HALIFAX, N.S., & ST. JOHN, N.B.**  
 Address P.O. Box 401. - HALIFAX, N.S.

We make the best  
**LOOSE  
 LEAF  
 LEDGER**  
 in the market  
 Get our Prices before  
 ordering elsewhere.....  
**MORTON, PHILLIPS & CO.**  
 Stationers, Blank Book Makers  
 and Printers  
 1755 & 1757 Notre Dame St., Montreal

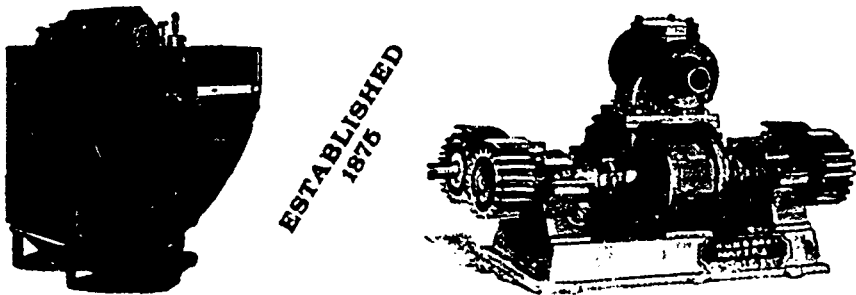
**WILSON & COMPANY**  
**DEALERS  
 IN ALL KINDS OF** **WOOL**  
 102 FRONT STREET WEST,  
 TORONTO, ONT.

**The Lachute Shuttle Company**



We are the largest Shuttle  
 Manufacturers in Canada.  
*Slubbing, Roving and all kinds  
 of Bobbins and Spools for  
 Cotton and Woolen Mills.*  
 We have always on hand  
 a large stock of  
 Thoroughly Seasoned  
 Lumber.  
 Orders solicited and all work guar-  
 anteed to give satisfaction.  
**E. F. AYERS, Manager**  
**LACHUTE, P.Q.**

**MISSISSIPPI IRON WORKS**



**ESTABLISHED  
 1875**

Manufacturers of English or American Fulling Mills and Washers, Wool Pickers, Es-  
 haust Fan Drives, Dusters, Rotary Force Pumps for Fire Duty, Boiler Feed Pump,  
 Shafting, Hangers, Castings, Pulleys, Gearing, Forgings.  
 Full equipment of mills of every kind.  
**YOUNG BROS., Almonte, Ont.**

**ROTHSCHILD BROS. & CO.**

Importers and Manufacturers of all kinds of

**BUTTONS AND FANCY GOODS.**

Sole Agents for

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

Sole Agents of the American Continent



Sole Agents for the American Continent

OFFICES—466 & 468 Broadway, N.Y.  
11 & 13 Front St. East, Toronto.  
And 56 Faubourg Poissonniere, Paris.

**John D. Lewis,**

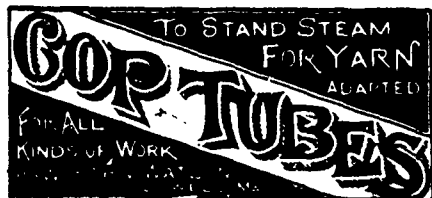
Importer and Manufacturer of

**Dyestuffs, Dyewoods, Chemicals and DYEWOOD EXTRACTS**

3 & 4 Exchange Place, PROVIDENCE, R.I.  
Mills: Charles and Bark Streets.

**CARBONIZER**

Much Superior to Acid for use in **Wool, Piece-Goods & Rags.**  
Address MERRIMAC CHEMICAL CO.,  
77 Broad St., Boston.  
Mfrs. of Acids and Chemicals.



SEVENTH EDITION.

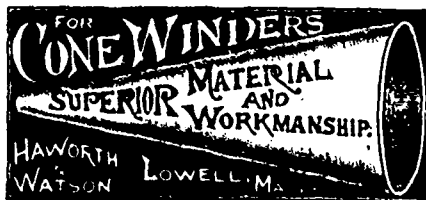
**THE BOER WAR**

Its Causes, and Its Interest to Canada.

A History of South African Colonization, with a Statement of the Grievances of the Uitlanders.

Also miscellaneous statistics of South Africa and a glossary of Cape Dutch and Kafir terms used during the war. Forty pages. Price, 10 cents.

**BIGGAR, SAMUEL & CO., Publishers,**  
Toronto and Montreal



Established 1848.  
**A. EICKHOFF**  
(A. KLAMER, Proprietor)  
Manufacturer and Dealer in  
Hatters', Furriers', Tailors',  
Glovers' and Shirt Outters'  
**KNIVES AND SCISSORS.**  
Knives for all kinds of business always on hand and warranted. All kinds of Cutlery ground and repaired.  
No. 381 BROOME STREET,  
Between Broadway and Bowery,  
**NEW YORK CITY**

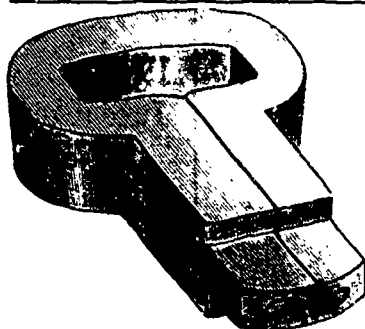
**ELLIOT** ———— Send for Circular.  
**Cloth Folder and Measurer**  
For Cotton and Gingham Mills, Bleacheries, Print Works, etc.  
Manufactured by **Elliot & Hall, Worcester, Mass.**

**WILLIAM CRABB & CO.**

Manufacturers of all kinds of

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

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



**JOHN W. BARLOW**

Manufacturer of

**LOOM PICKERS,**

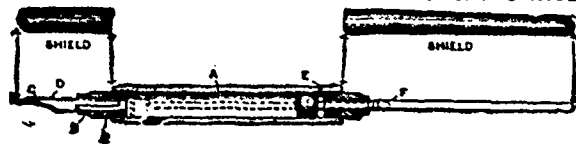
LAWRENCE, MASS.

This cut represents Barlow's Pat. Loom Picker with solid interlocking foot. Pat. Feb. 26, 1889



**The Post Fountain Pen**

is a self-filling and self-cleaning pen and is said to be as near perfection as possible in a fountain pen. The retail price of the POST FOUNTAIN PEN is \$3, but each new subscriber to THE CANADIAN JOURNAL OF FABRICS will get one at \$2.50, including the year's subscription to the paper. Some of the most eminent writers of the United States have given their unqualified endorsement of the Post Pen.

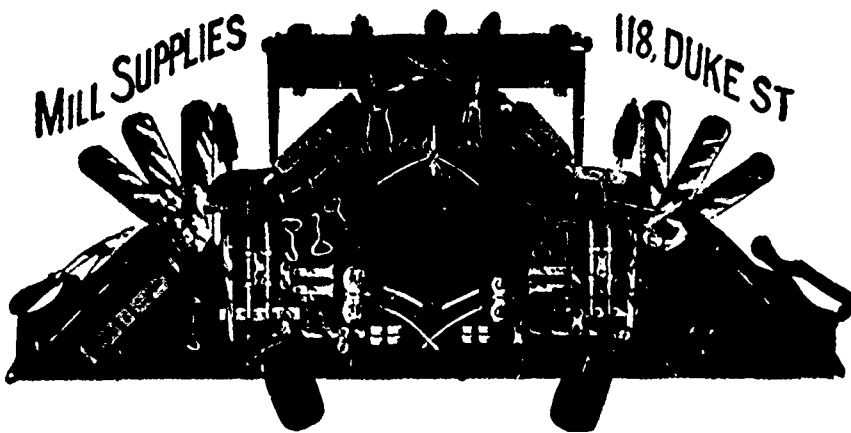


ADDRESS **BIGGAR, SAMUEL & CO.,**  
Canadian Journal of Fabrics.

**TORONTO or MONTREAL**



# GEORGE REID & COMPANY



**MILLS FOR SALE**

**BEAM WARPS**

Sole Agents for HAMILTON COTTON CO.

**Card Clothing** We are Sole Agents for Messrs. Samuel Law & Sons, Cleckheaton, Eng., and have always a large stock on hand.

WOOLEN MACHINERY - Cards, Mules, Looms, Pickers, etc. All kinds for sale.

WOOLEN MILL SUPPLIES - Every description kept in stock.

WOOL - Sole Agents for FRANCIS WILLEY & CO., Bradford, Eng. A large stock always on hand.

## G. B. FRASER,

**3 Wellington Street East  
TORONTO**

REPRESENTING

Miller Bros. & Co., Montreal; Paper and Celluloid Collars, Cuffs and Shirt Bosoms.

W. D. Vanligmond, Seaforth Woolen Mill, Etoffes, Friezes and Tweeds.

I. A. Teskey, Appleton, Ont., Fine Tweeds and Cassimeres.

D. Fisher, Paisley, Ont., Etoffes and Tweeds

John J. Ashley & Co., Bradford, Eng., Dress Goods and Vests etc.

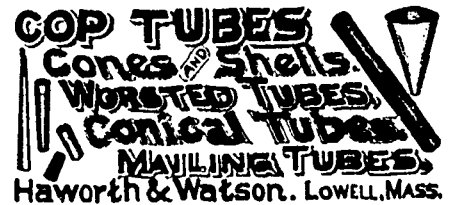
Horner, Determann & Co., Barmen, Germany Buttons, etc.

S. W. Whitham, Leeds, Eng., Woollens.

Merrinack Print Mfg Co., Lowell, Mass.

Burton Bros. & Co., New York; Linings, &c.

H. T. Lanikin & Co., Cotton Brokers, Vicksburg Mississippi Long Staple Cotton a specialty.



**ESTABLISHED 1865**

# GEORGE W. PAYNE & CO.

**PAWTUCKET, R. I.**

Builders of the

**PAYNE & MATHEWSON**



## PATENT UPRIGHT CONE WINDERS

For Hosiery purposes,  
Winding from Cop, Skein or Bobbin

### SKEIN SPOOLER

with adjustable skein holders for cotton wool and worsted. Upright Quillers, quills from cop, skein or hobbin, Ring, Dresser, Spooler and Reel Spindles, Cop Skinners, Warp Spools, Spooler Guides, Bolsters and Steps made and repaired at short notice.

## DICK, RIDOUT & CO'Y

Office—61 Bay Street,

**TORONTO.**

Works,

Cobourg & Winnipeg

Manufacturers of

**Jute and Cotton Bags**

Hessians, Starched and Dyed Jute Canvas.  
Jute Binder Twine, Horse Blankets, Etc.

**WOOLEN GOODS. TWEEDS, Etc.**

Agents for **LOUIS BEHRENS & SONS**, Manchester, England.  
Velveteens, Velvettes, Furniture Coverings.



The  
**UNDERWOOD**

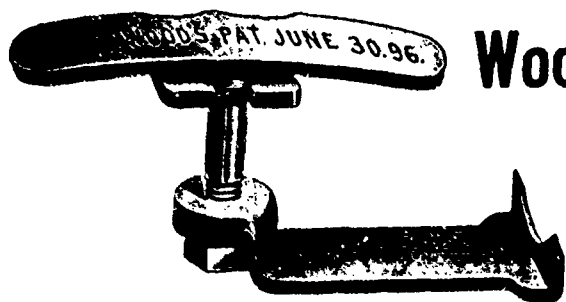
Visible writing start to finish—tabulating attachment for invoicing, billing, etc. No extra cost, easy touch, rapid action, handsome designs—

. . . fully guaranteed. . .

All other makes, new and second-hand,  
at reduced prices.

**GREELMAN BROS. TYPEWRITER CO.**

15 Adelaide Street East, TORONTO

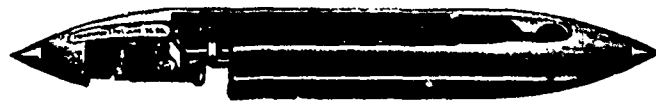


JOHN SHAMLOW, Treasurer.

# Woonsocket Reed & Shuttle Works

WOONSOCKET, RHODE ISLAND.

Makers  
of  
Every  
Description  
of



## Power Loom Shuttles

### G. Root & Company

Wool and Noil Merchants  
Combers  
and Top Makers

Cable Address—  
Hoote,  
Bradford.

**BRADFORD, ENG.**

**Australian, Cape and  
B. A. Wools  
Tops, Noils, Wastes**

AGENT:

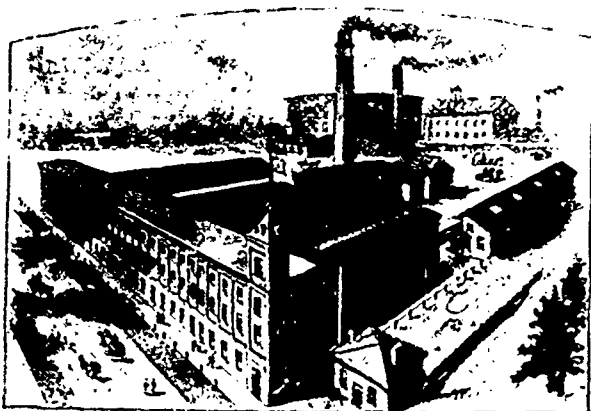
**R. S. FRASER**

17 LEMOINE ST., MONTREAL

### Hamilton Cotton Co., Hamilton

MANUFACTURERS OF

White and Colored Yarns, Single or Double, Hosiery Yarns  
of all descriptions, Warps, Twines, white or colored.  
Webbings & Bindings in great variety, Lampwicks, etc.



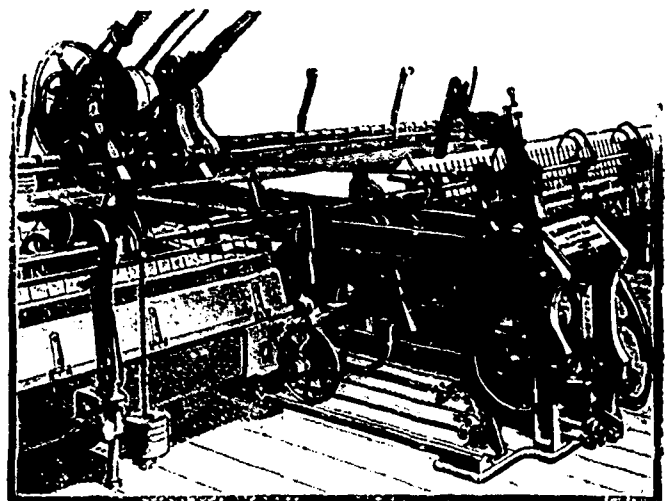
SELLING AGENTS:

WM. B. STEWART, 18 Front St. East, Toronto.

Agent for Warps: GEO. REID, 118 Duke Street, TORONTO

### WILLIAM WHITELEY & SONS, Limited

LOCKWOOD, HUDDERSFIELD, ENGLAND.



Winding Machinery, Improved Self-Acting Mule, Suspended  
Steam Driven Centrifugal Hydro-Extractor, Tentering and  
Drying Machines, Patent Wool and Cotton Dryer, Patent Wool  
Scouring Machine, Cross Raising Machine, Patent Crabbing and  
Winding-on Machine, Warp Sizing, Cool Air Drying and Beaming  
Machine, and other Woolen Machinery.

CATALOGUE ON APPLICATION

**SHAW BROTHERS, - Agents**

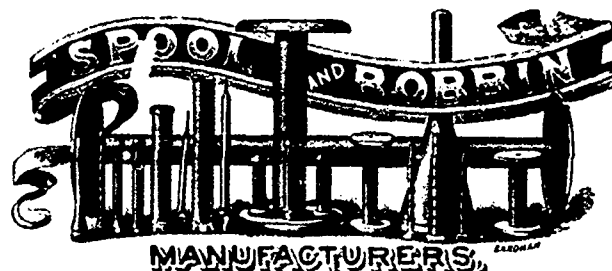
164 McGill Street, - Montreal.

THOMAS KER

J. HARCOURT

## KER & HARCOURT,

ESTABLISHED 1857



Orders by Mail  
will receive prompt  
Attention.

**Parry Sound, Ont.**

and the effect of this will be noticed in the reduced diameter of the pirns which are formed on the particular portion of the frame affected, and the yarn which is wound near to the bottom of the traverse is often excessively glazed or cut through by friction. If the guide rail assumes too high a position, the result is more objectionable, as the thread does not reach the bottom of the cone, and a blunt or stepped nose is produced, which is usually soft and is inclined to unwind in lumps or coils when weaving. The defects caused by the guide rail are not frequent, except where it is produced to a slight extent, and may be caused by having the rail accidentally blocked by a fallen pirn, by means of which the guide rail arms are sometimes twisted from their accurately set position on the oscillating shaft. The partially filled pirn (whether caused by a worn spindle or the low setting of the guide rail) is a considerable loss, because of the more frequent changes required when weav-

ing, and the consequent extra waste. If the guide rail is too high, the weft is liable to form one or two circles around the slot or neck of the pirn (which is provided for the clips in the shuttle), and when such is the case the weft breaks before the pirn is completely empty, and thus taking the weaver at un-awares, she is not able to stop the loom in time to catch the end of the weft, and the loom needs to be turned over in order to find the pick, which again results in a loss of time and frequently a crack or thick place in the cloth.

The constant friction between the revolving pirn and the fixed cup is liable to produce a glaze in the weft, especially if it be colored, and the color is hard and sticky to the feel. Such colors should be lubricated, as mentioned in the preceding article.

(To be continued).

## Dominion Oil Cloth Co'y,

MANUFACTURERS OF


# Oil-Cloths

of every description

Floor Oil-Cloth, Table Oil-Cloth, Carriage Oil-Cloth, Enamelled Oil-Cloth, Stair Oil-Cloth, etc.

Office and Works:

Corner St Catherine and Parthenais Sts., MONTREAL, QUE.



**New England Ventilating and Heating Co'y.**  
Providence, R. I.

Manufact're of  
**Richardson's Revolving Ventilator**

For use where power is not available.

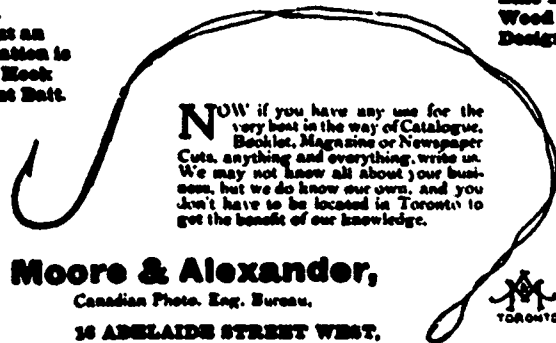
This Ventilator is balanced, has bearings and revolves with the least perceptible current of air, having no obstruction to its outlet, and never fails to give satisfaction. Specially adapted for Mills, Dye Houses, Workshops. They are so constructed that any carpenter can erect them.

OFFICE AND WORKS

926, 928 & 930 Manton Avenue

An Ad. Without an Illustration is Like a Hook Without Bait.

Half-Tone Fine Etching Wood Engraving Designing



NOW if you have any use for the very best in the way of Catalogue, Booklet, Magazine or Newspaper Cuts, anything and everything, write us. We may not know all about your business, but we do know our own, and you don't have to be located in Toronto to get the benefit of our knowledge.

**MERIT ALONE WON'T BRING BUSINESS**



We have learned this by experience.

**Moore & Alexander,**  
Canadian Photo. Eng. Bureau,  
16 ADELAIDE STREET WEST,  
TORONTO, CAN.

**METAL TRADES JOURNAL & MECHANICAL SCIENCE REVIEW**

ISSUED MONTHLY IN THE INTERESTS OF THE

CIVIL, MECHANICAL, ELECTRICAL, LOCOMOTIVE, STATIONARY, MARINE, MINING, AND SANITARY ENGINEER; THE MACHINIST AND FOUNDER, THE MANUFACTURER AND CONTRACTOR. SUBSCRIPTION, \$1 - - A YEAR - -

THE CANADIAN ENGINEER stands to-day unrivalled among Canadian trade papers for the wide distribution and character of its circulation. It has in fact the largest circulation of any trade journal in Canada.

Sample copies sent free to intending subscribers. Advertising rates on application.

**BIGGAR, SAMUEL & CO., Publishers**  
FRASER BUILDING, MONTREAL,  
062 Church Street, . . . . . TORONTO

Established 1833.

41 Highest Awards.

# Wilson Brothers Bobbin Co., Limited

Telegrams "Wilson, Cornholme"  
A.B.C. and A1 Codes used.

## BOBBINS & SHUTTLES

POSTAL ADDRESS:

Cornholme Mills, **ALSO** Atlas Works,  
Tadmorden, **Liverpool.**

Office:

14 Market Place, - - - Manchester.

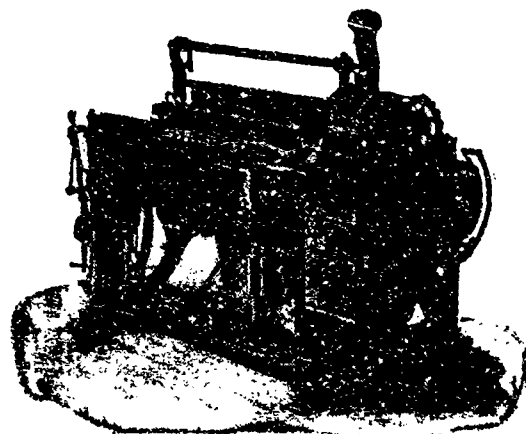
The best results in  
**Card Grinding**  
are obtained by using



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

**DRONSFIELD BROS. LTD.**  
Atlas Works, OLDHAM, England.

CIVTY 6'



THE NORTHROP LOOM

There is Only One Profitable Plan—

## BUY NORTHROP LOOMS

With Them the Future is Assured.

They are no Experiment.

Thousands have been running in the United States, and a large number  
are now in Canada. Sales steadily on the increase.

"The Mills that refuse their opportunities will find their future  
utility serving as picturesque ruins in the landscape."

We also Manufacture the Best Warper at present  
known—also Spoolers.

Write for particulars and quotations. Address

**THE NORTHROP LOOM CO. OF CANADA, LTD.**  
**VALLEYFIELD, P. Q.**

TEXTILE MACHINERY (New and Second Hand)

CARD CLOTHING **TETLOW'S**  
Stock in Canada

Condenser Aprons Buffed Surfaces  
Plain & Grooved.

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

**ROBT. S. FRASER**

17 LEMOINE ST., MONTREAL



English Sales Attended.

# BROADBENT'S HYDRO EXTRACTORS

Direct Steam Driven. No Shafts or Belting required.  
Suspended on Links and requiring no Foundation.

Adapted for Manufactories, Dyehouses, Laundries,  
Chemical Works, Sugar Refineries, etc., etc.

—SEND FOR CATALOGUE—

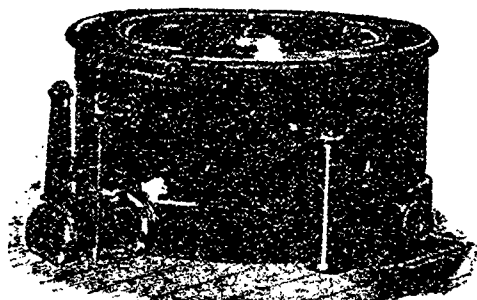
**Thomas Broadbent & Sons, Limited**

CENTRAL IRON WORKS

**HUDDERSFIELD, - - - ENGLAND**

Telegrams: "BROADBENT, HUDDERSFIELD."

Agents for Canada: - - **SHAW BROTHERS, 164 McGill Street, Montreal.**



# SEND FOR CURRENT PRICES OF LEATHER BELTING.

## THE J. C. McLAREN BELTING CO.

Factory—Montreal. Toronto. Vancouver.

### SAMUEL LAWSON & SONS, LEEDS, England

—MAKERS OF—

Machinery for Preparing and Spinning  
Flax, Tow, Hemp and Jute  
Special Machinery for the Manufacture of Binder and Ordinary Twines

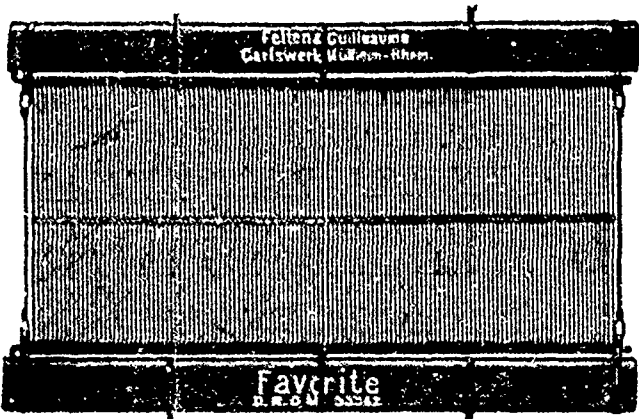
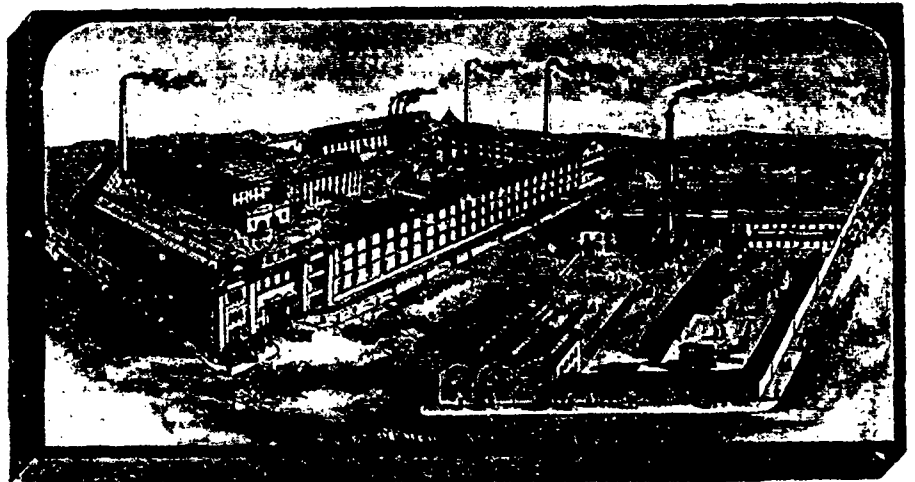
Good's Patent Combined Hackling  
and Spreading Machine

Patent Automatic Spinning Frames  
Improved Laying Machines  
and other special machinery for the  
manufacture of Rope Yarns.

ALSO OF

Brownell's Patent Twisting and Laying  
Machines for Twines

Council Medal, London, 1851. Grand Medal,  
Paris, 1867. Prize Medal, Moscow 1872. Diploma  
of Honor, Vienna, 1873; Highest Award, Phila-  
delphia, 1876. Gold Medal, Paris, 1873; Highest  
Award (Medal), Melbourne, 1880.



*Fellen & Guilleaume, Carlswerk  
Aktien-Gesellschaft, Mülheim-on-Rhine*

Manufacturers of

### Tinned Cast Steel Wire Heddles

made on Patent Automatic Machines and consequently perfectly uniform in every respect. The Lightest, Exactest and most Uniform Wire Heddles ever made, not surpassed by any other Wire Heddles in the market.

Patent "Favorite" Shafts for Weaving

give, combined with above Heddles, the best, most Reliable and most Durable Harness, either made with one or two carrying wires inside the wooden frame. These shafts have already been adopted by a great number of weavers, who speak most favorably of them, as can be seen from many testimonials in the possession of the makers. For Prices apply to

L. S. WATSON MANUFACTURING CO., Leicester, Mass.

## L. S. WATSON MANUFACTURING CO. LEICESTER, MASS.

Manufacturers of WATSON'S PATENT MACHINE WIRE HEDDLES

Guaranteed to be perfectly adapted to weaving all kinds of Woolen, Cotton and Worsted Fabrics, Fancy Cotton, etc., etc. Superior Harness Frames furnished promptly. Also Hand Cards of every description.