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.

- [x] Coloured covers/ Couverture de couleur
- [x] Covers damaged/ Couverture endommagée
- [ ] Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- [ ] Cover title missing/ Le titre de couverture manque
- [ ] Coloured maps/ Cartes géographiques en couleur
- [ ] Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- [ ] Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- [ ] Bound with other material/ Relié avec d'autres documents
- [ ] 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
- [ ] 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.

- [ ] Coloured pages/ Pages de couleur
- [ ] Pages damaged/ Pages endommagées
- [ ] Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- [x] Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- [x] Pages detached/ Pages détachées
- [x] Showthrough/ Transparence
- [x] Quality of print varies/ Qualité inégale de l'impression
- [x] Continuous pagination/ Pagination continue
- [ ] Includes index(es)/ Comprend un (des) index

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

- [ ] 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
									✓		

Canadian Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVIII. TORONTO AND MONTREAL, MARCH, 1901. No. 3.

Canadian Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVIII. TORONTO AND MONTREAL, MARCH, 1901. No. 3

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, 5
Advertising rates on application.
Offices: 62 Church Street, Toronto, and the Fraser Building, Montreal.

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

TRAVELLING REPRESENTATIVE: A. W. SMITH.
PHILADELPHIA AGENT: H. E. BURNETTE, Cor Fourth and Locust Sts.
BOSTON AGENT: F. F. GRANT, 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.

CONTENTS OF THIS NUMBER:

THE WOOLEN SITUATION.

The memorial laid before the Government at Ottawa the other day, by the woolen manufacturers' section of the Canadian Manufacturers' Association, and reprinted in nother column, presents the case of the Canadian woolen mills very ably, and yet much more might be said. For instance, it has not clearly been brought home to the Government that of all lines of home manufactures, adversely affected by the preferential tariff, the woolen manufacturers are singled out for the severest competition, not only by reason of the peculiar advantages of the British manufacturers in this line, but by reason of the extent to which German goods can be smuggled to Canada, through Great Britain, under pretence of partial manufacture in England. The other departments of the textile trades are relatively untouched by the preferential tariff. The Canadian silk trade, for example, is not hurt by the British preference, because our imports are principally in those lines not made in England, and, as we know, the British silk manufacturing industry has been a declining industry not likely to be revived by all the help Canada can give it. The linen trade is unaffected by the tariff, because there are no Canadian linen manufacturers to protect; except the two or three twine factories, which are able to hold their own. So with the jute trade, there being no jute weaving done in this country, and the makers of jute bagging in Montreal and Toronto being protected by a special provision in the tariff for the free importation of their raw material —the unfinished jute cloth. The binder twine industry has nothing to fear from England. Even the cotton trade is comparatively safe, for the classes of cotton goods now coming into keenest competition with the products of Canadian mills are those of the United States, rather than Great Britain. English goods selling most largely and freely in Canada are, generally speaking, of classes not made by the Canadian mills at all. Even if it were otherwise, the case would not be so serious from a home producer's point of view, since the raw material of a cotton mill is a foreign product, while that of the woolen mill is in great part—and in some cases wholly—a Canadian product.

Another point not taken into account is that the crippling of our home woolen industry is going to have a serious affect on the Canadian clothing manufacturing trades, such as men's and boy's clothing, ladies' cloaks, and tweed wrappers, etc., for it is only just to say that the wearing qualities of the goods turned out in such large quantities by these factories are largely due to the excellent raw material furnished to them by the Canadian woolen mills. These are facts which should be fully and fairly considered by the Government before they decide the grave question now before them.

Although the woolen industry will only be remotely affected by the question of direct shipments, the proposition made the other day at a meeting of the Canadian Manufacturers' Association to allow the preferential rate of duty only to such shipments of goods as come from Great Britain direct to a Canadian port, is a politcially sound one, and should be acted on. This would throw all the importing business to Mont-

real, Quebec, Halifax, St. John, and other Canadian seaports, instead of building up Portland, Boston and New York trade, as is done by the policy of our own railroad corporations. J. P. Murray, of the Toronto Carpet Co., made another good suggestion that the Government undertake the bonusing of Canadian vessels built to operate directly to Canadian ports. This will help to revive Canadian shipbuilding, and at the same time help Canadian trade.

Since the foregoing article was put in type the Finance Minister has announced that there will be no tariff changes. The woolen manufacturers may now realize that they were ill-advised the other day when they were persuaded that it would be to their interests not to bring the large deputation which was preparing to go to Ottawa to lay their case before the Government. There is no hope for justice from the present Government.

THE POWER-LOOM RIOTS.

The London Times has been publishing a record of events of the past century taken entirely from its own columns. It contains a good deal of instructive history, and the Textile Mercury does the work of a commentator on those events that affect the textile trades. In 1826, our Manchester contemporary notes, the unfortunate operatives employed in the cotton trade, especially the weavers, were beginning to feel the competition of the power-loom, and attributed their misfortunes largely to that source. Meetings were held, and angry feelings once more obtained the mastery. A semi-military organization was formed, and the men armed themselves with hammers, pikes, and fire-arms, and commenced a crusade against the hated machines. The people gathered from Burnley, Padiham, Harwood, Clayton-le-Moors, and Haslingden, and met at Accrington, where the work of destruction commenced. This agitation came to a crisis in the early springtime, and on April 27th, the "Times" had a communication from Blackburn, relating to the disturbance. This it reproduces as follows:

POWER LOOM RIOTS AT BLACKBURN.

The following letter contains, we believe, the most accurate account that reached the city yesterday morning of the riots at Blackburn and in its vicinity:

"Blackburn, April 24, 1826.

"I am extremely sorry to inform you that we have had a riot here, and in the neighborhood, to-day. The rioters commenced by breaking all T. and R. Sykes' power-looms at Accrington, then B. and R. Walmsley's at Rough-hey, and afterwards James Bury's, of White Ash. About three o'clock we were all greatly alarmed by the sudden appearance of the same mob here.

All the shops, warehouses, and the bank were immediately closed and all were in the greatest possible alarm. They came in good order and quietly into the town; about 500 were armed with pikes, several with fire-arms (and these were called captains); some with large hammers, and the remainder with various weapons.

"The damage altogether cannot be estimated at less than £10,000. I did not believe there were so many pikes and weapons of various kinds in the county. The rioters are really most desperate, and they are ready for any act of violence."

We reproduce the above as an industrial curiosity. (It contained two or three obvious printers' errors, which the Mercury has corrected). It would be interesting at this time to know who was the "Times'" correspondent, for it is rather singular that he should have confined the enumeration of the mills damaged by the rioters to those outside the town—four to five miles away—while much more damage was done to mills under his eyes. Great distress prevailed throughout East Lancashire, through the winter and spring of 1825—26. In the congeries of townships—Witton, Lower Darwen, part of Oswaldwistle, Rishton, Harwood, Balderston, and Mellor—of which Blackburn is the center, the hand-loom weaving industry was the chief source of employment. In March it was computed that of an aggregate population of about 35,000, one-third of the adults were dependent on weaving and its adjunct employments. Of these, 6,500 were totally unemployed, 1,500 half-employed, and only 3,500 fully employed, the remainder eking out with casual work the shortcomings of their regular occupation. Starvation was everywhere, and cases of outrages began to occur. Though the power-loom had come into use rather extensively in South Lancashire, and in the neighboring districts of Cheshire and Derbyshire, it had not been adopted to any important extent in East Lancashire; indeed, there was not more than 2,000 of the new looms in the districts we have named. Rightly or wrongly, however, the weavers thought the power-loom was the cause of their trouble, as it was doing so much more work than they could do, and at less cost. Remembering how successful their fathers and grandfathers had been in driving away Hargreaves and his spinning jenny, they thought the breakage of the looms would be equally effectual in banishing their new enemy. The word was passed round, and a great meeting was called to gather on Enfield Moor, about two miles north of Accrington, an admirably central spot for the mischief intended. It was also midway between Blackburn and Burnley, but at that time the cotton trade had hardly reached the latter town. There was a vast gathering on the morning of Monday, April 24th. After listening to some fervid and denunciatory speeches, the meeting broke up, the people dividing into three sections. Armed with pikes, scythes, sledge-hammers, and a few guns and pistols, they marched upon Accrington, as the nearest objective point. There were only about 100 looms all told in Accrington, and these were soon wrecked. Turning westward, they went through Church and Oswaldtwistle, where they found about 100 more of the hated machines, which they destroyed in like manner. The mob had now

grown to about 6,000, and marched from White Ash, the last mill visited, to Blackburn. They entered the town at Further Gate, and passed down to Salford (one of the principal thoroughfares), where they looted some shops and public-houses, taking all the bread and beer they could find. They next proceeded to Jubilee Mill, so named from having been erected in the jubilee of the reign of George III., which stood upon the spot now occupied by a theatre, abutting upon the parish churchyard, near the railway station. It was a building of six or seven storeys high, and had been equipped with 212 new power-looms not long before by the owners, Bannister, Eccles & Co., who were among the most enterprising men of the time. The mob soon forced the gates of the mill, and reduced the machinery to a wreck. Very soon the broken parts of the wrecked machines were flying through the windows into the street below, while crowds of terrified observers stood helplessly looking on. The present writer has often listened to the story of eye-witnesses of this destruction. Before the wreckage was completed, the military had arrived, and were attacked by the mob. The conflict began in Darwen Street, and many on both sides were soon injured. The military were very forbearing, but two or three of the mob were killed. In a few years, however, the operatives had become wiser and recognized that their interests would not be served by the destruction of the machinery of the employers. They satisfied themselves however, that their purposes would be served if they succeeded in bringing the industry to a stand, and placing all the employers in one position. This they decided they could do by going round to the mills, and compelling a stoppage by drawing the plugs of the boilers. The old wagon-shaped boiler was the only one in use, and high pressures were unknown. Chartism and the Free Trade agitations were then coming rapidly into notice, and there are good grounds for something more than a suspicion that the plug-drawing was encouraged, if not suggested, by the Free Trade leaders. It was an apparent outbreak of violence which really did no harm beyond temporarily stopping the mills. South and East Lancashire were again the fields in which the manifestation took place. Two or three lives were lost in conflict with the military, who were called out to suppress the disturbances. This outbreak was used by the Free Trade party in their campaign arguments against the Corn Laws, which were repealed in 1847.

ICELANDIC SHEEP IN CANADA.

A matter of much interest to the Canadian woolen manufacturers is the improvement of the breeds of native sheep. The native sheep of Quebec and the Maritime Provinces produce a wool that is remarkable for strength, and hence the secret of the great durability of our Canadian Halifax tweeds and other "homespun" goods, when made of pure stock. The sheep of Ontario and the North-West also produce an excellent fleece, of a finer texture, and these wools can be further improved on, the only difficulty being that a sheep grown specially for the quality of its mutton, does not necessarily yield the wool best suited to the climate.

We are glad to call attention to experiments now being made in the introduction into the Canadian North-West of Icelandic sheep. Our readers are aware that the colonies of Icelanders that have settled in Manitoba and the North-West, during the last fifteen years, have proved to be among the most desirable of our settlers, being hardy, industrious, frugal and religious. In their native land, the Icelanders have taken naturally to the textile trades, and the raising of sheep and the manufacture of wool into hosiery, mittens, guernseys, and a coarse fabric, called vadmel, have long formed a staple industry. Recent statistics show that Iceland, while having a population of only about 75,000, was stocked with 20,000 oxen, 30,000 horses, and 400,000 to 500,000 sheep. The accumulation of ice on the north coast of the island in some seasons makes the summer so cold that famines are caused through scarcity of fodder, and the industry was at times almost ruined through such causes. The Icelandic colonists, who have settled in Canada, have had no such difficulties to contend with, and the sheep recently brought over from the island have thriven well. In Iceland, the manufacture of hosiery, underwear and cloth is carried on in the most primitive fashion by hand spinning wheels and hand looms, but of late hand knitting machines have been introduced and it is interesting to note that a number of these machines have been imported there from Canada.

In reply to enquiries on the subject of Icelandic sheep, B. L. Baldwinson, editor of Heimskringla, the organ of the Icelandic colonists, wrote us recently:

"I am in receipt of your letter of the 26th ult., requesting information respecting the character of Icelandic sheep. I am sending your letter to S. Christopherson, of Grund P.O., Manitoba, who has imported several sheep from Iceland, and bred them in this country. The export from Iceland in some years has been as much as 70,000 sheep, averaging in price almost a pound sterling per head, but since the English market was closed that export trade has fallen off. I cannot tell you the number of sheep in Iceland, but think they are not under a half million head. The Icelandic people have in past years spun their wool in the old fashioned spinning wheels, and carded it with handcards. All the utensils for manufacture have been of the most primitive style, but within the past two or three years machinery for the proper manufacture of wool on the most modern basis, have been imported into the country, and the industry is now assuming fair proportion."

We have since received the following interesting letter from Mr. Christopherson:

"Your letter, to the Editor of The Icelandic paper, Winnipeg, has been sent me by the Editor with the request that I give you whatever information I can on the subject which you mention in your letter, namely, character of sheep raised in Iceland, their average number, methods of manufacturing

wool, etc. First, the average number of sheep in Iceland is 500,000. The Iceland sheep are very hardy. They are kept out on the pasture all winter, only being housed at night. They are rather smaller than the sheep in Canada, but are very pretty. They have large horns and beautiful long wool. On the English market the mutton is considered superior to that brought from any other country, being finer in grain and of better flavor. The Icelanders export about 2,500,000 lbs. of wool annually to Denmark and Great Britain. The wool is always washed before being shipped, and on account of the extra fine quality it always commands the highest price. The women in Iceland card the wool by hand, and spin it on their small spinning wheels, and knit mitts and stockings. They also make flannel for domestic use. There are only two small woolen mills in Iceland, where they make yarn and common flannel. There is room in Iceland for one or two good factories, which no doubt, could be run quite economically by water power. It would be a great boon for the country if such factories could be established, for it is a serious mistake to send all the wool out of the country, and then import so much cloth. In 1892 I went to Iceland and spent one year there. I admired the sheep so much that I purchased three ewes, one ram and two lambs, and brought them to Manitoba. These are the only sheep that to my knowledge have been brought from Iceland to this country. They have thrived here remarkably well, and I have now quite a flock of them."

S. CHRISTOPHERSON.

CANADIAN COTTON SHIPMENTS TO CHINA.

The following gives the amount of shipments of Canadian and American cottons (so far as they go over the Canadian Pacific), to China, for the years 1887 to 1900, inclusive, the figures being for the calendar and not the fiscal year. These cottons run about 3¼ to 3½ yards to the pound:

	Canadian Cottons. Lbs.	American Cottons. Lbs.	Totals. Lbs.
1887	1,742,205	4,055,970	5,798,175
1888	2,009,974	6,816,798	8,826,772
1889	886,322	12,245,150	13,131,472
1890	2,279,150	17,079,730	19,358,880
1891	2,466,944	7,413,167	9,880,111
1892	1,825,259	4,322,452	6,147,711
1893	1,742,312	9,321,205	11,063,517
1894	3,770,343	4,303,701	7,074,044
1895	3,521,004	5,208,654	8,730,158
1896	3,392,042	11,834,372	15,226,414
1897	2,471,278	4,898,470	7,369,748
1898	1,375,257	8,639,191	10,014,448
1899	1,344,316	6,916,845	8,261,161
1900	274,107	2,628,412	2,902,519

This does not include 115,262 lbs. of Canadian cottons shipped from Nova Scotia to Japan, which amount is slightly in excess of similar shipments to Japan in 1899 (113,021 lbs.). In 1897, the shipments of Canadian cottons to Japan were 296,549 lbs. It will be noticed that there is a heavy falling off last year, both of Canadian and United States exports to China, due, of course to the Boxer troubles.

In this connection, it may be worth noting that according to the trade and navigation returns, the export of Canadian-made cottons for the fiscal year ending June, 1900, to all countries was as follows:

	Yards.
To Great Britain	350,212
Australia	1,468,109
British Africa	498,418
New Zealand	9,218
Newfoundland	3,576
Austria	1,564
China	1,850,056
Japan	23,220
United States	249,886

This makes a total of 4,454,259 yards, valued at $334,405. Out of this total, 2,870,238 yards, or over half, were shipped from the province of Quebec. Under the head of "Other cotton goods,' there were shipments to the value of $79,854, chiefly to Newfoundland, China and the United States; and of which $41,361 went from Quebec. Cotton waste, to the amount of 3,153,273 lbs., valued at $57,180, was shipped, of which 2,804,858 lbs. went to the United States, and 333,028 lbs. to Germany, the small balance going to Great Britain, Newfoundland and St. Pierre. Of this also, Quebec shipped the bulk.

CARPET VS. YARN MANUFACTURERS,

Editor, CANADIAN JOURNAL OF FABRICS:

Sir,—Having read the second article by "Scrutator" in your February number, I came to the conclusion that to allow such a concoction of mis-statements to go uncorrected, would be paramount to aiding and abetting the extreme selfishness of a carpet manufacturer (which undoubtedly the writer is), to gain the advantage of 10% or 15% protection at the expense of the yarn manufacturer, which, to say the least is very unjust and ungentlemanly. I use the latter word because the attack is uncalled for and without cause. If a business cannot show a fairly reasonable cause that it is suffering from want of more protection, in a legitimate manner, without having to stoop to the meanness of trying to injure another by gross mis-representation, it has a poor case indeed, and the person who will play such a part is certainly not to be trusted, because "Scrutator" knows better. The article seems to have been carefully prepared, and in consequence was without a doubt, premeditated.

In one part of his article he states, "duties on yarns should be reduced or carpet duties increased." In another, that "consistency demands that no reduction should be asked for on yarn." I should say so. This kind of argument is "squaring the circle " with a vengeance; and in reply to these special quotations he knows perfectly well that the carpet manufacturers are already importing all their worsted warps and many of their ingrain yarns, also that 83% more yarns have been imported since the last clause of the preferential tariff came into operation last July, than any time previously, to the great injury of the yarn manufacturers and their employees, and the country also. Does it not show clearly beyond a doubt that the present 20% is far from being a protective tariff? "Scrutator," in his concluding remarks says it is "ample." Ample for what? From his own selfish point of view I presume. Whatever his ability may be as to making carpets, it is quite evident, he knows nothing whatever about the yarn business.

As to his estimate of the relative cost of manufacturing in Great Britain and Canada, I have nothing to say, only to point

out that the yarn manufacturer has this same extra expense to contend with as the carpet manufacturer; both are equally at a disadvantage in this respect. Neither do I object to his securing sufficient protection against wholesale importations, which is, no doubt, a detriment to the building up of the manufacturing industry. No, I would rather give him all the assistance I could in securing what his business is entitled to; but, not at the expense of another industry as fully entitled to it as his own. I would think it worse than bad taste to act on the policy of "we must swim no matter who sinks." To make myself clear it will be necessary for me to repeat part of his article, as follows:

"To emphasize the argument for an increase in duty on carpets or a reduction of the tariff on yarns, there is here submitted a comparative statement of two instances; one the Canadian manufacturer, who imports the yarn to make the carpet, and the imported yarn in the carpet made in Great Britain. A roll of 100 yards of all-wool ingrain carpet finished, weighing 130 lbs.:

In Canada—		
36 lbs. 2/14s. worsted, 28c		$10 08
Duty, 30 per cent	$3 02	
Preference, 33⅓ per cent	1 00	
		2 02
119 lbs. of wool yarn, 12c		$14 28
Duty, 30 per cent	$8 52	
Preference, 33⅓ per cent	2 84	
		5 68
155 lbs. freight, 1¼c.		1 94
		$34 00
Imported—		
36 lbs. 2/14s. worsted, 28c		$10 08
Duty, 35 per cent	$3 52	
Preference, 33⅓ per cent	1 17	
		2 35
119 lbs. of wool yarn, 12c		$14 28
Duty, 35 per cent	$4 99	
Preference, 33⅓ per cent	1 66	
		3 33
130 lbs., 2c.		2 60
		$32 64

"Consistency demands that no reduction should be asked for on yarns. The Canadian spinner is entitled to the protection of his industry, as well as any other manufacturer, but the foregoing evidence clearly shows that the difference in the protection is 16% in favor of the yarn manufacturer. The percentage of labor in the production of yarn of course varies with the grade of yarn made, but as it is the carpet trade that is being discussed the reference is made to yarns for this industry, and as the example is being given on an ingrain carpet, then ingrain carpet yarn is understood.

"The cost of labor on this yarn is about 5 per cent. The cost of labor on the carpet is about 30 per cent. The class of labor—with the exception of a few foremen—on the yarn is mostly small boys and girls; on the carpet not 5 per cent. is unskilled labor.

The deductions from the foregoing arguments then are twofold. That the carpet industry requires an advantage of at least 35 per cent. before it is on a level to compete with the foreigner, and should have at least 10 per cent. protection over that, thus making the duty 45 per cent. The yarn manufacturer has now a net duty of 20 per cent., which in proportion to the labor on his finished product is ample."

You will note, Mr. Editor, that the total of cost in Canada, is according to his figures, $34, and imported, $32.64; but if you will look at the item of duty in the first statement, he has made it appear that 30 per cent duty on $14.28 is $8.52, which calculation would amaze a schoolboy. This is "emphasizing the argument" most excellently. It should be $4.28, and less 33⅓ per cent., preferential, $1.43, would make the item read $2.83, instead of $5.68, bringing the total to $31.15, against $32.64, which proves at once that instead of the present tariff being 16 per cent. in favor of the yarn manufacturer, as he states, it is 4⅝ per cent. in favor of the carpet maker. Such a palpable mistake as this can scarcely be an accident but designed to try and make "ends" meet. Again you will notice he states that the cost of labor on yarns for ingrain carpets is only 5 per cent. This is too absurd to reply to, for after the most conservative estimate, I find it is 30 per cent. to 35 per cent.

"Scrutator's" nom de plume is certainly most appropriate when he can "screw" such astonishing statements out as these. His remarks as to percentage of skilled labor required to make a carpet 90 per cent. is equally "rich" and, as I am already taking up so much of your valuable space I must come to a close, but before doing so would like to say a few words as to quality of Canadian yarns and imported. Also explain some of the difficulties we have to contend with which our foreign competitors have not.

First. We are obliged to import most of our wool from the wool sales at Liverpool, as special wools are required for the carpet trade, and cannot serve any other purpose. We must pay cash before goods are shipped, and having to keep a large stock on hand incurs a heavy interest as well as freight bill; while at the same time we are subject to these severe terms in buying, we are also obliged to give four months time in selling. Then again, the woolen and worsted mills are so numerous in England and the United States that the yarn manufacturers there have the advantage of being able to procure cheap shoddies and wastes for adulteration. Jute and cotton wastes are also largely used. This low material is so manipulated that it requires an expert to detect it, especially so, after scouring and dyeing; and while the carpets made from such yarns may appear very nice when new, it is really a fraud upon the innocent customer who buys it.

On the other hand Canadian yarn manufacturers are compelled to guarantee all wool stock, and an honest yarn which is tested before using and shrinkage must not average more than 18 per cent., while English and American yarns waste from 25 to 30 per cent. These are no empty assertions, but can be vouched for by those using them. Why is it that Canadian carpets during the last 10 years have attained such a high standard of excellence in quality and cleanliness? Simply because the material from which they are composed, the yarns, are much superior to any imported, the very fact that Canadian carpets were never clean, and always left its pattern in grease on the floor on which it was laid, is sufficient logic, I think, to indicate the low greasy waste and shoddies they were made from.

In conclusion, I may say, it was with much regret I found it necessary to write the above explanation, because it is neither common sense, nor sounds well to hear manufacturers whose interests are mutual, quarrelling as it were, over matters of this kind, but "Scrutator's" article was such an extravagant, unscrupulous mis-representation, and so utterly selfish in its character, that I took the little time and trouble it has occupied in the interest of truth and justice, and I trust in future he will adopt a little more of the policy of "live and let live."

March 4th, 1901. GOLDEN RULE.

BRADFORD AND THE PREFERENTIAL TARIFF.

It will be remembered that in April, 1897, the Canadian Government decided to allow a rebate of 12½ per cent. of the rates specified in the customs tariff on nearly all articles imported into Canada from the United Kingdom On July 1, 1898, this rebate was increased to 25 per cent. and on July 1, 1900, it was further increased to 33⅓ per cent Great expectations were based upon these concessions, it being anticipated that Canada's imports from Great Britain would forthwith progress by leaps and bounds Those expectations have doubtless been realized in a few instances, but Canada's trade with Bradford can hardly be regarded as one of them. We append some official import figures in proof of this:

	1898	1899.	1900.
Worsted tissues ...	£571,000	£548,000	£564,000
Woolen tissues .	220,000	305,000	362,000
Apparel and slops	314,000	260,000	254,000
Carpets	152,000	175,000	230,000
Silk manufactures	22,000	37,000	59,000

Probably the explanation is to be found in the fact that we have always enjoyed so large a proportion of Canada's trade in woolens and worsteds that no very marked increase was possible.

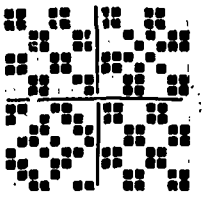
It is to be observed, however, in reference to the figures quoted above, that the woolen manufacturers of Canada are not at all contented with the present situation. They were not perfectly happy when they enjoyed full protection, British manufacturers being able to make an inroad into the Canadian market even then. Since the introduction of the preferences accorded this country at the initiative of the Liberal Government of Sir Wilfrid Laurier, they have naturally been more and more conscious of British competition, and it is now an open secret that they intend to make every effort to induce the Government to reduce these preferences We have no fear, however, that they will be successful The question was fought out at the late election, and decided in the negative The leaders of the Protectionist party, at the head of whom was Sir Charles Tupper, attacked the preference policy of the Government during the campaign, making the increase of the amount last session one of the principal charges against their opponents. But the Protectionists were decisively beaten at the polls, and after the elections Sir Wilfrid Laurier, on two or three occasions, seized the opportunity of saying emphatically that the policy of British preference, as it then stood, would not be departed from. Under these circumstances it is extremely unlikely that the Canadian woolen manufacturers will succeed in persuading the Government, backed as it is by an unassailable majority, to go back upon the declarations it has so clearly made, and so practically endorsed.—Draper's Record, London.

TESTING BLACKS.

The Deutscher Farberverband gives the following simple tests for identifying black on cotton goods: Sulphur blacks, such as Vidal or immedial black are readily recognized by heating a swatch in a test tube with a little stannous chloride and hydrochloric acid and holding a lead paper in the escaping vapors; if the paper turns brown or black, the dyestuff contains sulphur. Aniline black is characterized by turning green on treatment with cold hydrochloric acid, and imparts the same color to the acid; if the material gives a green ash, announcing oxide of chromium, the black has been produced by the one-bath method. Such a black also rubs very much compared to "aged" black. Direct blacks are recognized by the ease with which they bleed into whites, if boiled together with a little soda The well-known characteristic reaction for logwood black is to turn dark red with dilute sulphuric acid, and to color the acid. If the material at the same time gives a red-brown ash, the black has been bottomed with tannate of iron.—Textile Recorder.

TEXTILE DESIGNS

This design is a small check pattern, available in tweeds and worsteds The broken effect combines well with the arrangement of colors, and the bright threads form a neat overcheck



Warp A, 2/36's, steel gray; B, 2/36's, bronze; C, 2/36's crimson; 3,840 threads, 64-in. wide in the loom. On 16 healds, straight draft. Reed, 4/15's. Shrinkage, 5 per cent. Clear finish, 56-in. wide. Weight, 14-oz. per yard.

Warping		Weaving	
112	2 A, 2 B	128	2 A, 2 B
	2 A		2 A
	2 B		2 B
	2 A		2 A
	1 B		1 B
16	2 C	16	2 C
	1 A		1 A
	2 B		2 B
	2 A		2 A
	2 B		2 B
	128 in the pattern		144 in the pattern

60 picks per inch. Threads and picks C placed where marked ·. —Textile Recorder

TEXTILE INDUSTRIES OF SAXONY.

Textiles have taken, in recent years, first place among Saxon industries. Saxony is a kingdom of less than 4,000,000 souls. It is hundreds of miles from the sea, and was once famous for its wool, woods, and mines. To-day fully one-third of the people participating directly in the German Empire's textile trade, are located within this little kingdom, and more than one-third of all the people in Saxony are employed in the textile industries.

One very interesting feature of industrial life here is the so-called house or home industry. Hundreds of dozens of gloves, hose, underwear, laces, embroideries, etc., are made in the home. In recent years the movement towards the mills has been gaining strength. Whereas in 1885, 113,341 hands were in the mills, 1895 found 165,459 in the factories. In 1886 the horse-power attributed to stationary engines in the textile industries of Saxony was 33,352; in 1895, 81,292. Add to these a very considerable horse-power produced by water. The average producing power o. the help has been happily augmented by improved machines. Wages went up in recent years, the last five or six fully 25 to 30 per cent. The assertion—argument one cannot call it—advanced by the enemies of Saxony, that it is unable to bear its competitors in the world's markets because of low wages, is without foundation.

Saxony's success is due to its marvellously trained help, to its splendidly-equipped schools, technical, industrial, and industrial art; to the perseverance, intelligence, thrift and energy of its merchants, manufacturers, and people; to the enterprise of its unions to encourage commerce and manufactures There is scarcely an occupation of any kind, textile or otherwise, from plough-making or bag weaving or watch making, to silk weaving, that is not carried on within the confines of this busy kingdom. There are, in round numbers,

3,000,000 spindles employed, about 1,000,000 on cotton, 700,000 on shoddies (cotton and wool mixtures), 450,000 on carded, and 850,000 on worsted woolens. One mill, the Leipzig Wool Combing Works, employs about 2,000 hands, producing annually upwards of 13,200,000 lbs. English worth £1,500,000. Saxony turns off upwards of £5,000,000 worth of worsted yarns, many of which are sent to England, other parts of the Empire, and foreign countries. Over £2,000,000 worth of shoddy yarns are spun. Women's worsted dress goods to the amount of £3,000,000 are run off the looms; woolens worth upwards of £4,000,000 are made. The Greiz-Gera region, often put down with Saxony, turns off woolens worth £5,000,000. The United States buy huge quantities. They took in 1893 of the Griez-Gera goods for £599,650, of Glauchau-Meerane goods for £276,150; a total of £875,800. In 1896 the total was £1,249,800. Flannels worth £2,500,000 are made also, mostly for export to China, Japan, and South America. Quite large quantities are taken at home and by European countries. Cottons, linens, and half linens make up in value £4,000,000 per annum. Most of these, when exported, go to South America. Calicoes, linings, buckram, etc., keep 3,000 hands employed in and around Plauen. Besides these over 2,100 hands are making laces for curtains, tuilles, and so-called English laces. Both these industries turn off goods worth upwards of £1,000,000. Upholstery goods worth £1,500,000 to £2,000,000 are made here. Over 100,000 weavers are helping day and night to keep this hive of human industry at the head of the textile procession.

Hosiery alone has nearly 50,000 hands, turning off an annual product worth more than £5,000,000. Uncle Sam, the biggest buyer of hosiery that comes here, took on an average £1,500,000 from 1893 to 1896. Since that time the falling off has been very heavy. I doubt whether the purchases made now equal more than half that huge amount. Cheap goods are not going at all. Those the States are turning off are cheaper and better than they could be obtained here. Some say it is only a question of a few years when Uncle Sam will make all his own hose. Fancy woolen goods, embroideries, and tambour goods take up nearly another £1,000,000 per annum. Flat-stitch embroideries, not unlike Nottingham's or St. Gall's, go out in huge quantities from Plauen. There are more than 2,500 machines, worth £375,000, in the mineral hills, turning off goods worth £2,000,000. Then there are 3,000 hand embroidery machines. The total output of Saxony lace is more than £3,000,000. It takes fully 16,000 persons to do this; of these, 10,000 are in factories, and of these 10,000, fully 6,000 are on shuttle embroidering machines. The United States buys about £200,000 to £225,000 worth of laces and embroideries in the Plauen district every twelve months. Berlin buys large lots of trimming, borders, etc. This branch employs upwards of 14,000 workmen. The total turn-off runs up to £1,250,000 every twelve months. Of these the United States take an annual average of £200,000. Besides the branches on Saxony's flourishing textile tree, one would miss were he to make mention of the allied ones of dyeing, printing, finishing etc. Ten thousand persons are in Saxony's dyeworks. Hermsdorf, alone, employs more than 1,100. His diamond black is as well, if not better known in both Americas, Australia, India, and Africa—aye, even in England, than in the Empire. His success in securing not only a fast black, but uniform results, has helped to spread his fame. Bleaching, dyeing, and finishing employ about 20,000 persons. How has Saxony succeeded? What were the ways in which she walked? Ask your parliamentary commission that came to this Empire fourteen years ago, and again two or three years ago, to get at the underlying causes. Ask the French, Belgium, and other commissioners; ask the United States consuls, who have made a very close study of this nation's renaissance. Schools! schools!! schools!!! Technicals, industrial, and industrial art schools is the answer. Go thou and do likewise, if thou wilt do as well comparatively. Remember that this Empire is not rich in resources. It must buy its cotton, corn, copper, wool, etc., outside. Professor Blondel, an eminent Frenchman, sent here to study Germany's forces, says: "Success is due—(1) to the temperament of the people; (2) to the Empire's marvellous system of education; (3) to the application of scientific methods to manufacturing and merchandizing.' The last is a natural corollary to the second. If the English people are wise, they will do what Germany has done, and is doing. There is no argument in the empty assertion that England is holding her own. England's average is by no means as big as the average of this Empire. What is the percentage of gain? Not what England has done without such schools, to paraphrase an article by J. C. Monaghan, U.S. consul, addressed to his own people, but what England would have done, or be now had she had these schools.—*Kuhlow's German Trade Review.*

DYEING WOOL WITH LOGWOOD.

Logwood is used chiefly in wool dyeing for the production of blacks, and, in a less degree, blue. As a shading color used in small proportions in conjunction with fustic, etc., it is valuable for the production of olives, browns, greens, etc. The chief mordanting agent for the black dyeing of wool with logwood is chrome, but iron is occasionally used, and as it is by far the oldest of the two mordants to be used for this purpose, we will consider it first.

To produce good iron blacks on wool, the "stuffing and saddening" method is commonly resorted to. A dyebath is first made from logwood with more or less fustic, according to the tone of the black which it is desired to produce. On the average, 50 lbs. of logwood and 6 lbs. fustic per 100 lbs. wool are required. If a greener shade of black is wanted, then the proportion of fustic can be increased, while in the case of a bluer shade more logwood is added to the dyebath. The wool is boiled in this bath for 1 hour to 1½ hours, at the end of which time it is lifted out and wrung, when it is ready for the "saddening" bath. The dyebath is not exhausted and may be used again and again for successive lots of wool, adding about one-half the quantities given above for each successive lot of wool. The wool simply absorbs the logwood and the fustic from this bath, but does not fix them in any way, so that after passing through this bath the wool must not be washed, or else the logwood and fustic may be washed out again.

The "saddening" operation, or the development of the black, is done in a bath of 5 to 6 lbs. copperas (sulphate of iron). The wool is boiled in this for one hour, or until a good black is obtained. Some dyers add 1 lb. of bluestone (copper sulphate) or verdigris (copper acetate) to this bath; the use of the copper salt certainly adds to the fastness of the black and develops it more fully than by the use of the iron salt alone. Undoubtedly this "stuffing" and "saddening" method is the best for the production of an iron logwood black on wool. There is no material loss of dyestuff, while good even shades are obtained. Before dyeing, the wool may be mordanted with iron or with iron and copper, in which case the mordanting bath is best made with 5 lbs. copperas, 1 lb. blustone, 1 lb. alum, with 10 lbs. argols or tartar. The latter is added to promote a more even and uniform disposition of the mordanting agent on the wool; without it there would be a chance of the mordanting oxide going on somewhat unequally. The wool is treated in this bath for 1 hour to 1½ hours at the boil, after which it is squeezed and allowed to lie over night; the object of this is to permit the oxide of iron to become more firmly fixed on the wool and to change it from the ferrous to the ferric condition, as a fuller black is then obtained.

The dyeing is done with logwood and fustic, as in the "stuffing" operation of the previous process. A fine, full black is thus got. While we have given the process in its simplest form, yet in the hands of various dyers, it has been subjected to minor modifications; various amounts of the mordanting agents, the use of oxalic acid in place of the argols, the addition of acetate of lime to the dyebath (which helps in producing a faster and more intense black), and the addition of such dyes as sumach, cudbear, and madder to the dyebath (with a view of shading the tone of the black which is dyed).

Lastly, an iron black can be dyed on wool from a single bath, and color dealers offer what are called "direct blacks" in the form of pastes, which are dyed in a single bath. A bath is made from 20 lbs. logwood extract, 8 lbs. fustic extract, 8 lbs. copperas, 2 lbs. copper suphate, and 4 lbs. oxalic acid. This should dissolve in the dyebath with a clear amber color; if it does not do so, then there has not been sufficient oxalic acid added. Too much acid must not be used, or else the dyeing of the wool is retarded. If a little soda is added, it will correct this tendency. Too little acid must also be avoided, and it requires no little practice to hit the happy mean between these two points. The dyeing takes about two hours, and the dyer should observe how it proceeds and correct the dyebath accordingly; if it proceeds too slowly, add a little soda, if too quickly, a little oxalic acid. The dyebath may be kept for future use, freshening up by the addition of from half to three-quarters the original amounts. These direct blacks are good ones, fairly fast to light, etc.; are full and solid in appearance. As with the other iron logwood baths their tone may be modified by adding other dyes to the dyeing bath.

UNITED STATES CARPET TRADE WITH CANADA.

The American Carpet and Upholstering Journal, says: Certain large firms making carpets and rugs, who have had some difficulty in exporting goods to Canada, are said to be having clearer sailing now owing to a more definite and liberal interpretation by the Treasury Department. In fact, one may see in Toronto, Montreal and other Canadian stores just now, a very liberal sprinkling of pile carpets and rugs made in the United States. The Dingley schedule defines a drawback as follows: Drawback is a refund upon the exportation of imported merchandise, of the duties which have been paid thereon. There are two kinds of drawback: 1st, that allowed upon imported goods exported in original packages; 2nd, that allowed upon imported material used in this country in the manufacture of articles exported. It is under the second clause that carpet and upholstery goods manufacturers in this country are benefitted, in case their exported product has been made of imported foreign raw materials. The Dingley tariff says further: "Articles manufactured in this country and exported, made wholly or in part of imported material, are entitled, on exportation, to a drawback equal to the amount of duty paid on the imported material used in the manufacture, less 1 per cent." It will be seen, therefore, that mills using third class carpet wools, for instance, of foreign origin, are entitled to a drawback equal to the original duty paid on the wools, and all the formality necessary is a notification to the Treasury Department before the exportation of the goods, so that the treasury may ascertain the amount of imported material upon which a drawback is due

Under the stimulus recently given by the allowance of these drawbacks, Canadian merchants of prominence have been seen in New York and Philadelphia, prominent among these being John Kay, of Toronto, who conducts one of the largest and handsomest exclusive carpet stores in the Dominion In the case of carpets and rugs, it may be said that pretty much of the duties which our manufacturers are required to pay on third class wools are refunded absolutely, less 1 per cent., whenever they are exported.

COTTON MANUFACTURING OF THE WORLD.

FROM A LECTURE BY A. E. GARRETT, F.R.G.S., LONDON.

Considering the cotton manufactures of England this industry was located chiefly in the southeast of Lancashire, extending to Cheshire. The lecturer gave the reasons why the cotton industry was so situated. There were three: (1) The necessity for having a damp climate; this was present in Manchester, Salford, and other towns adjacent, for reasons which Mr. Garrett explained. The second reason which determined Lancashire as the district for cotton manufacture in England was its proximity to one of England's large coal fields—the southeast Lancashire coal fields, and to iron manufacturing centres from which machinery could be obtained. The third reason was in the fact that England's chief source of supply of raw cotton was the United States, and the centre named was the handiest part of England for its importation. The industry in Lancashire had advanced by leaps and bounds during this century. Between 1833 and 1898 the quantity in volume of cotton goods sent from that part had more than trebled itself.

From England to India was a far stride, but Mr. Garrett managed the transition without causing too much of a shock to his interested audience. He explained that a formidable rival had arisen to some of our cotton industries since 1876, the district surrounding Bombay being the culprit. Bombay was situated on some of the islands just off the coast in the Indian Ocean, and there was plenty of rain during one season of the year, which corresponded to the English summer, and there was also a dry season. There was plenty of cheap labor in Bombay. Was this an advantage or a disadvantage? Mr. Garrett inclined to the opinion that it was not altogether an advantage. When plenty of cheap labor was available there existed a large proportion of unskilled labor, which, in Mr. Garrett's opinion, was worse than having to pay more for skilled labor, and having a smaller number of men to pick from. Another disadvantage which Bombay had to contend against was that at present textile machinery was not made in India, it having to be imported. That was where Manchester scored. In respect of coal, the two towns were much on the same level, with perhaps Manchester a little to the good. There were coal fields near Calcutta, there was good railway communication, and also the sea-way was open. In one thing Bombay had a distinct advantage; the raw material was close at hand. For instance, Berah, one of the best cotton growing districts of India, was near. Bombay was the export town for raw cotton, in addition to manufacturing it into yarns and cotton goods.

India, of course, exported a large amount of its yarns to China, the cottons being chiefly of the coarser kinds, such as were used in the eastern countries Between the years 1875 and 1876 the cotton yarn exported from India to China (including Hong Kong) and Japan it being taken to Hong Kong, was 7,900,000 lbs weight In the years 1890 and 1891 it had risen to 161,200,000 lbs whereas the amount sent from the United Kingdom was about 48,000,000 lbs. weight, and it remained almost stationary during the whole period.

In Japan, the climatic conditions and the coal supply were favorable But Japanese manufacturers were alive to the fact that it was no use erecting factories, even if some of the necessary conditions for successful manufacture were fulfilled, unless there was a market for their products. The cotton district was, therefore, centred in a thickly-populated part. The first cotton spinning and weaving factory in Japan, in which steam power was employed, was that started from 1865 to 1867 in Kagoshima.

About 1889 a great impetus was given to the erection of cotton factories, and progress was rapid. In certain departments Japan now competed with the goods imported from Europe and America. It was estimated that 600,000 spindles would satisfy the home demand. There were now over one million spindles in Japan, so that a foreign market would have to be found for the output of over 400,000 spindles, which should yield an amount not far short of the toital amount annually imported into China from all countries. Having told of the output, Mr. Garrett gave a moment's consideration to the capitalists. It will no doubt, make the British capitalist's mouth water when he hears that there have been dividends of 40 per cent. paid, and that a dividend of 20 per cent. was by no means uncommon. Bad management in some cases was responsible for smaller ures. As a consequence the cotton industry in Japan attracted more capital. Competition became keener, and, needless to say, profits decreased. From the returns for the last half of 1898, it was evident that that period was a critical one for not a few spinning companies, and, upon the whole, a trying one for all engaged in the cotton trade. The price of coal was raised by 75 per cent. Just about that time (1897 and 1898) Japan had taken to sending out a large quantity of anthracite, which they mined in their country. However, the Emperor issued an edict from the council that no more coal was to be sent from the country. Consequently, the price of coal at the present time was not in the same way affected as it was at that period. At that time Japan was face to face with many of the industrial and economic troubles with which the west was well acquainted. In the Ozako spinning mills, for instance, during the last three years, wages had risen 50 per cent. The majority of Japanese loved a country life, and it was difficult to tempt the women to become factory hands. Even if the manufacturers did so, a huge proportion left in a short time, and thus the mills were always engaged in teaching hands. In order to tempt girls to remain, various inducements were offered, such as a system of deferred pay, savings banks, etc.

In 1890 the raw cotton yarns imported into Japan was very nearly 35,000,000 lbs. weight; in 1896 it was nearly 225,000,000 lbs. weight—figures which gave a good idea of the development of the spinning industry in that country in the course of six years. In 1890 the output of Japanese yarns was 42,000,000 lbs. weight; in 1896 it had risen to 180,000,000 lbs. The amount of Bombay yarns imported in 1890 was 18,630,000 lbs., in 1896 it had dropped to 1,200,000 lbs. In 1896 Japan was not only able to produce a large amount of yarns for home consumption, but exported 17,300,000 lbs. Bombay had lost an important market, but India was supplying Japan with the bulk of the raw cotton she consumed. In 1897, of the total amount imported into Japan, India sent 62 per cent., China 26 per cent., and the United States 11 per cent.

In the parts of China where cotton mills were established, the conditions necessary for successful production were fulfilled. China was one of the richest countries in the world in the production of coal. Prices were astonishingly low at the pit's mouth, but, owing to difficulty in transit, delivery sixty or eighty miles from the pit's mouth would increase the charge from 3s. or 4s. to 64s. to 80s. a ton. In Shanghai there were three large foreign cotton mills. The price of coal did not affect this town, as it was a port on the sea coast, and could thus get coal from other parts. The three foreign mills commenced working in 1897, and the yarn produced at Shanghai was superior, both in color and quality, to that produced in Bombay (India), or Osaka (Japan). In the cotton spinning mills in Central China, there were very nearly 380,000 spindles running in 1899, and about 525,000 projected, numbers which, considering the short time they were started, showed the very considerable progress which had been made. Fully 50 per cent. of the cotton used in the Shanghai mills consisted of imported finest Indian cottons and American yarns. Wages were higher than in Indian mills. To reduce expenditure, mills in Shanghai were known to have been working 22 and 23 hours per day with the aid of electric light. In consequence of this and the scarcity of European labor, the plant had deteriorated.

The parts in the United States where the cotton industry had been attracting most attention were in the New England States, and more recently in the States of North Carolina, South Carolina, and Georgia and the neighboring states. Owing to the climatic conditions, the cotton was grown in ridges. In Uplands they had been trying to invent patent processes to have the air damped to order, and the processes had been somewhat successful. The progress in the establishment of cotton mills had been wonderfully rapid; manufacturers were putting upon an average 2,000,000 spindles every year in the Southern States alone. In the Northern States there was a fair amount of moisture in the air, and plenty of coal could be procured from Pennsylvania In Massachusetts (in the New England States), the cotton industry had its birth. In the New England States there were now very nearly 13,000,000 spindles, and about a quarter of a million looms at work, and the cotton mills were some of the largest in the world. The weaving looms were on the two lower floors of the mill owing to the intense heat of the New England summer, which made it impossible to put workpeople in weaving sheds of the Lancashire style of construction. In several of the mills in Fall River there were recently installed automatic looms, which made it possible for one weaver to attend to 24, or even 32 looms, and if a thread broke, the looms would come to a stand. There were 35,000 of these, 25,000 being in the New England mills. In Lowell great use was made of water-power, but the town had long since outgrown its enormous water supply.

Competition in the Southern States was so keen, that many of the Lowell firms built mills there for their coarser goods. Lowell had a splendidly equipped textile school, which had been in existence for four years, and in other States textile schools were on the point of completion. There were now cotton mills in all the Southern States. Of the five million spindles that existed in the twelve cotton-growing States in that district, North and South Carolina and Georgia took about half. Nearly all the modern mills were in the above three States. There had long been cotton mills in the South, but until 1885 or 1886 there were no modern mills. Since the changes had taken place—especially since 1890—an enormous amount of capital had been put into the mills in Carolina and Georgia, a large amount being raised in New York and Boston, and the returns on it were most satisfactory. The growth of the industry would be gathered from the following figures: Bales of cotton worked into yarn or cloth in the Southern mills, 1889-90, nearly 550,000; 1897-8, 1,300,000. Many of the mills received a large part of their supplies direct from the planters' wagons—an advantage favoring the Southern mills in their competition with New England, as the expense of compressing the cotton, railway charges, and commissions were saved. The greatest advantages which these mills had, however, over those of New England were the abundance of cheap labor, and the absence of laws regulating the employment of labor. The chief markets for American manufactured cottons were in China—chiefly in the northern provinces and Manchuria. The reason why American goods were superseding English goods in these markets was because they were cheaper and superior. The proof of the superiority of American goods was said to be in the washing. When English goods were washed and the heavy sizings removed, they were very inferior to the American article when similarly treated. There was no doubt that the United States must in future depend largely on

the far East for a market for its surplus manufactured cotton products. Already a very large amount of cotton goods made in the Southern States was shipped to China, Japan, and other eastern countries. There seemed reasonable ground for the belief that before many years the bulk of cotton grown in America would be manufactured in the States where it was produced. It was estimated that there were about 46,000,000 spindles in Great Britain now engaged in cotton manufacture, as compared with somewhere about 20,000,000 spindles in the States. Should the English mills remain stationary, the two countries would in ten or twelve years have equal facilities for the manufacture of cotton, assuming that the States increased on the same average as hitherto.

MOISTURE IN WOOL.

In a paper before the National Association of Wool Manufacturers on Moisture in Wool, E. W. France made these observations:

In a moist condition the wool fiber is not so susceptible to electrical influences, and do not so readily become charged. These same electrical disturbances are even more noticeable in wool stocks which have been dyed certain colors than those in their natural condition, and all sorts of tricks have been adopted by carders to endeavor to overcome the so-called electrical troubles. It has long been conceded that the wool fibers should not be dried at too high a temperature after scouring or dyeing; indeed, the best condition for drying is the ordinary temperature which gives what is known as air-dried wool, leaving the wool with its normal amount of moisture. Dried at higher temperatures, there is danger of making the wool too dry, which always results in injury to the fiber. Therefore, in all artificial methods of drying, it should be the aim never to reduce the amount of moisture below that which is normally present in wool when dried in the open air. This also holds true in the finishing of both worsted and wool fabrics, as too great a heat will often affect a serious injury in both the strength and handle of the goods. The elasticity is ruined, and the tensile strength greatly diminished. Many of the just criticisms relative to the feel or handle of the finished fabric are, without question, due to a lack of knowledge on this particular point. There is, however, another point to this question of moisture on finished goods, which strangely enough becomes a fault, not of omission, but of commission that is to say, instead of abstracting more moisture than is good for the fabric, there has been a growing practice among some European manufacturers to increase the amount above the normal by adding to the fabric in the process of finishing various substances which have the property of attracting water. This is what is known as "loading," and bids fair to become a serious menace to honest manufacturers as well as to the purchasing public.

TEXTILE PATENTS.

The following are recent patents granted in Canada of interest to the textile trades:

No. 68,873.—Knitting machine; by George F. Sturgess, Leicester, England; a knitting machine provided with two needle beds, co-acting, with provision for piercing and depressing the fabric between them.

No. 68,942.—Apparatus for spinning fibrous substances; by Thomas Ashworth, Urmston, Lancaster, Eng.; a spindle provided at the top with a tubula part having vandykes or points, and means for filling said tubular part, the spindle being bored out and plugged at the top.

No. 68,943.—Apparatus for spinning fibrous substances; by Thomas Ashworth, Urmston, Lancaster, Eng.; a combination with a series of spindles and loose wire levers acting upon loose hanging brake frames, and a series of chains connected at one end with levers, falling into a festoon or loop.

No. 68,974.—Button-hole stitching machine; by Chas. Axel Dahl, Lynn, Mass.

No. 69,076.—Spinning machine; by Adolph Haenichen, Patterson, N.J.; combination of a frame and sets of aligned spindles, mounted in said frame revolving around a vertical shaft.

No. 69,127.—Apparatus for washing fibrous materials; James H. Annadale, Polton, Midlothian, Scotland; combination of a trough, with drum mounted therein and means for rotating the drum.

No. 69,199.—Apparatus for making trimmings; by Chas. P. Schlegel, Rochester, N.Y.; a machine for making trimmings with a feeding tape along one side of the support, and mechanism for winding continuous strands of fibrous matter around the support and tape, and sewing mechanism for uniting the loops of the strands to the tape as it is fed forward.

NEW TRADE MARKS AND INDUSTRIAL DESIGNS.

No. 7,458, Trade Mark.—Dick, Ridout & Co., Toronto, Ont.; collar canvas.

No. 7,497.—Trade Mark.—D. G. Laidlaw, Kingston, Ont.; knitting yarns.

No. 7,502, Trade Mark.—Robt. Simpson Co.; corsets and woolen and cotton underwear for women.

No. 7,520, Trade Mark.—Consumers' Cordage Co., Montreal; yarns, twines and cordages.

No. 1,690, Industrial Design.—H. Lennard, Dundas, Ont.; shirt gussetts.

No. 1,703, Industrial Design.—Toronto Carpet Manufacturing Co., Toronto, Ont.; cors for textile fabrics.

No. 1,713. Industrial Design.—W. A. Baker, Montreal; skirt or garment protector.

WET SULPHURING WOOL.

To get a fine white wool, the raw material must be selected already nearly white, and free from specks. The processes which it undergoes need careful supervision, especially the milling. There are three processes in use: First, bleaching with sulphurous acid and permanganate; second, bleaching with peroxide of hydrogen. Electric bleaching is not used for animal fibers. The first of the above processes gives the best results. The vessels used must be entirely of wool, without any metal, and no wood can be used that contains tannin. American pine is very good. For 40 kilos. of goods two vats are required, each 4 feet square and 40 inches deep. One has a well-fitting cover, and is used only for bleaching. For 40 kilos. of goods take 400 grms. of permanganate of potash, dissolve in from 3 to 5 litres of warm water and put into the coverless vat through a very fine hair sieve. The goods are then worked in the solution for half an hour, after first soaking them in water. They are then of a light brick-red color, and are hung up and well drained. They are then worked with sulphurous-acid solution in the other vat, and quickly turn white. When this happened all air bubbles are pressed out, so that the wool will lie wholly immersed. The cover is put on, and the vat is left for from 12 to 18 hours. The goods are then worked again for a few minutes, taken out, and drained. If a bluish or reddish tint is to be visible, the goods are now taken to a washing machine, which is only used for white goods, and treated with from ¼ to ½ grm. of neutral aniline blue or methyl violet 6 B. When the color is right, wring and dry at the lowest possible temperature, for high temperatures spoil the lustre

and clearness of the white very decidedly. If the goods are to be pure white, they have a bath of chalk and water after coming from the bleaching vat, and are then toned with blue or violet. The baths in the two vats can be reinforced and used again.—Textile Manufacturer.

WOOLEN MANUFACTURERS AND THE GOVERNMENT

The following is the substance of the formal representations made to the Government on behalf of the woolen manufacturers through T. A. Russell, secretary of the Canadian Manufacturers' Association. The position is briefly as follows:

Woolen manufacturers in different parts of Canada have with practically unanimous voice declared that their industry at the present time is in a most precarious condition, and that the prospects for the future are most discouraging. Our investigation along this line has shown that those apprehensions are only too well founded. Not only are many of the smaller mills lying idle at the present time, but we have personal knowledge of some of the largest and most important of our mills being closed on account of lack of work. Again a large number of mills making a variety of lines are only running to half their capacity, and we venture to say that there are very few woolen mills in Canada at the present time running all their machinery full time. From every mill comes the complaint that orders are scarcer than usual and very limited in quantity, this necessitating continual change and stoppage of machinery. The most significant point in connection with these various complaints is that they are becoming more pronounced and more general day by day, so that from practically every mill we may say we have had expressions of the gravest apprehension as to the future, for they state that they are only now beginning to feel more keenly the severeness of the increasing competition with foreign goods.

This is the experience of the practical woolen manufacturer engaged in his industry, and it would appear to be borne out by the statistics of the imports of woolen goods for the fiscal returns. Thus, the total imports of woolen goods for the fiscal year ending, June 30th, 1900, were $9,968,899, as compared with $7,116,007 in 1897, an increase of some 40%. This means an increased importation of woolens of $2,852,802. We believe further, that this increase has been even greater and more marked during the months of the present fiscal year. It is not easy to prove this, as all the figures are not available. The imports for the months of July, August, and September, as shown by the monthly returns just issued, amount to some $3,669,000. The imports for the whole year might not reach the large figures indicated by the three months above mentioned, as if these were typical months; it would mean that the imports would exceed $14,000,000, or in other words, would more than double those of the year 1897. Not having the figures for the corresponding months in previous years, it is hard to say how representative these particular months are, but it would seem at least that the facts that the imports for the three months were more than half those for the total year of 1897 would indicate a very considerable increase at least. But it may be said that the consumption of all classes of goods has increased, and that these figures do not necessarily mean that home goods are being displaced, but merely that there is a larger demand and that imported goods are obtaining their share of the increased market. Now we wish to show that while it is the case that the consumption has increased still it has not increased to anything like the extent that the imports of woolen goods have. It may, we think, be fair to say that the consumption has kept pace with the imports of dutiable goods of all classes, and that any surplus of importations of woolen goods above the increase that would follow in common with all other dutiable goods, may be accounted for as due to the displacement of home-made goods. Now the total imports of all classes of dutiable goods exclusive of woolens in the year 1897, was $59,925,608, whereas, the total dutiable goods imported in the three months of July, August and September of 1900, exclusive of woolen goods was $24,715,609. Now had the imports of woolen goods increased in the same proportion, they would have approximated for the three months above mentioned, $2,525,000.

In other words, there is a surplus of imports of woolens for these three months of $719,000, which if they are representative of the year would mean a displacement of $2,876,000 of home-made goods for the whole year. This will go far to explain the small orders received, the mills running to half their capacity, and the other mills that are closed.

Now, we may state that an output of this size would mean work for 26 factories, each turning out $100,000 worth of goods per annum; one-third of this amount would go as wages to Canadian workmen, and so would mean at least the employment of 2,876 persons, and the support of at least five times that number.

So much then for the statistics relating to the woolen industry, which are available at the present time. Now we wish to turn to some other features that are of interest for they all go to prove most emphatically that the present tariff on woolen goods is not sufficiently high to admit of that industry, and the profitable growth of wool being continued with success in Canada.

1st. Having already referred to the small orders in the hands of the mills we would point to what is a very direct result of this, namely, the fact that at the present time there is a greater amount of wool on the market in Canada than at any previous time in the experience of the business men with whom we have consulted. This arises from the fact that about two-thirds of the wool that is produced in Canada finds its market in the home factories; hence, any depression in the woolen manufacturing business directly influences the prices of domestic wool thus affecting the welfare of the farming classes directly. We might further state that the development of an important woolen industry in Canada, would be of the greatest importance to our Canadian Northwest, where it has been found possible to produce wool of a very fine quality and suitable for working into almost the finest grades of woolen goods.

2nd. The industry affected is a large one, distributed throughout the Dominion, and is in the hands of many individual manufacturers. There are perhaps fifty large mills in Canada, with some two hundred smaller ones using one to two sets of cards, without taking any note of the numerous custom mills in every town and village. A careful estimate places the present capital at about fifteen million dollars, employing some twelve thousand people. The welfare of this large number of persons who contribute directly to the support of at least sixty thousand people, and the interest of this large amount of invested capital, we believe will have your careful consideration.

3rd. The position of Canada geopraphically also renders her case a difficult one. As Mr. Clergue remarked on Friday evening last, the geographical position of Canada, with her scattered population and huge areas of unoccupied lands, renders it necessary that the connection between the industries of the country and the Government thereof should be most intimate. To show how this operates, we need only refer to the position of the woolen industry of the United States. The duty on woolen goods there, is from one hundred to two hundred per cent., and the result of this is that only those goods can be imported that are in the height of fashion, and so able to pay this heavy tariff. If, however, any of these goods drop out of their position in fashion, and so become unsaleable in the United States, there is only one market for which they are

suited, and that is Canada. The New York merchant, therefore, who finds that he has over purchased goods for that market, ships his surplus through in bond to Canada, and sells them here at slaughter prices. This is a most serious condition, and operates almost every day in our large cities where job lots of this kind are exposed for sale at public auction.

4th. We are all aware that the last few years have been essentially a growing time, and we may reasonably expect a period of less industrial activity, as we all know that there are cycles of good and bad times. In consequence, we view the future prospects of the woolen industry with the greatest apprehension.

5th. The smallness of orders to which we have already referred has not only reduced the income of the factories, but has also increased the cost of production as the mills could formerly manufacture much more cheaply when they had a continuous run for large quantities of the same pattern than they can at the present time, when orders are only for very small quantities.

6th. This brings us to the question of the cost of production on which subject we have on previous occasions addressed you, and it is scarcely necessary to cover this ground again. What we state is that for many reasons the cost of manufacture is necessarily higher in Canada than in England. In the first place the cost of building and plant is greater, as all the machinery in use has paid the high rate of duty. In the second place wages are higher and hours of labor shorter in Canada than in England and Europe. It is difficult to say just how much higher they are, but the experience of those of our managers who have visited the other side, is to the effect that wages here are from 40 to 50 per cent. higher than in England. How important an item this is may be seen from the fact that labor forms possibly one-third of the cost of production of woolen goods. In connection with wages, our situation being so close to the highly protected manufacturers of the United States is important, and our experience is that the best operatives are continually leaving to accept more remunerative situations in factories across the line. In the third place, the cost of fuel is nearly double in Canada what it is in England, and our rigorous climate demands that fully twenty-five per cent. more must be used. In the fourth place interests in Canada may be said to be five and a half per cent., whereas in England it is three and three and a half per cent. This, rated on both the original cost of plant and the banking accommodation, forms a very important item.

It is difficult to compute the exact percentage of advantage enjoyed by foreign manufacturers, but our continued experience goes to show that our former estimate of thirty per cent. is substantially correct.

7th. We desire to make it plain, however, that we are not moving solely in our own interests, as one of the greatest difficulties that we have to contend with is the importation of a class of cheap shoddy goods of fine appearance, which are absolutely worthless, but which cannot be distinguished by the inexperienced, from the genuine article. It is this class of competition from fraudulent goods that is having the most serious effect on our industries, and causes loss on the part of the poorer consumers, who think that they are obtaining a good article at a low price, when in reality they are being deceived by the smart appearance of inferior goods. We feel that the goods to which we refer should be kept out of the country as much as possible, not only as a protection to the manufacturer, but even more so for the sake of the consuming public.

We have thus far pointed out some of the conditions prevailing in the woolen industry, and desire now briefly to recapitulate our argument, as follows:

The woolen industry in Canada with its large amount of invested capital and its numerous employees must be preserved in the highest possible state of development, because of:

(a) Its close relation to the farming community.

(b) The capital invested in the industry itself.

(c) The employment it affords for Canadian work people.

(d) The possibility of great future development.

Now we have shown that under present conditions the industry cannot develop but rather recede, this is seen:

(a) In the number of mills not now running.

(b) In the number that are only runing to partial capacity.

(c) In the small orders that are being placed with home mills, and the general dullness prevailing in the industry.

(d) In the rapidily increasing volume of imports of foreign goods displacing those of home manufacture.

We have further seen how this displacement was possible on account of:

(a) The increased cost of manufacturing in Canada.

(b) The importation of shoddy goods on the value of which the duty becomes no obstacle.

(c) The slaughtering of goods in this market, intended for the United States.

Hence our conclusion is unmistakable that woolen goods imported into Canada must pay higher duties than at present or the home industries are doomed if not to disaster at least to permanent injury.

WOOL CLIP OF ONTARIO.

It is a pity the other provinces of Canada have not the system of statistical records possessed by Ontario; and it is now high time the defect was supplied. As an example, we know very accurately what the wool clip of Ontario is from year to year, but we can only guess at the wool product of the other provinces, or strike an estimate from the census returns which we know are inaccurate in almost every department. The report of the Ontario Bureau of Industries for last year gives the number of sheep, the pounds of wool, the average weight per fleece, and the value of the clip since 1890, as follows:

Year	No. of sheep.	Lbs., wool.	Lb. per fleece.	Value.
1899	928,184	5,525,172	5.95	$ 790,092
1898	865,179	5,104,686	5.90	847,378
1897	887,003	5,139,984	5.79	945,757
1896	991,371	5,581,387	5.63	1,026,975
1895	1,109,140	6,214,811	5.60	1,242,962
1894	1,092,467	6,235,036	5.71	1,053,721
1893	1,015,497	5,896,891	5.81	1,073,234
1892	961,160	5,643,706	5.87	1,027,154
1891	954,522	5,498,141	5.76	1,066,639
1890	807,486	4,574,700	5.67	937,814

—A very important little part of any loom is the picking stick. It must maintain the rate of speed set by iron and steel, and if it breaks much valuable time is lost, by the loom standing idle while the necessary labor of the loom-fixer in taking out the broken stick and replacing it with a new one is being done. Then, too, there is a danger to the workmen from its breaking while the machine is in rapid motion. The best lumber for the sticks is heavy close-grained hickory. This wood is very scarce in the United States, and is becoming scarce in a lesser degree in Canada. It should be the policy of those interested in Canadian forestry to specially advocate the planting of hickory as this would come in for purposes that cannot be served by any other wood; and picking sticks are only one of many of these uses.

BRITAIN'S TEXTILE TRADE WITH CANADA.

As the preferential tariff in its relation to the textile trades makes the history of British exports in these lines of more than ordinary interest we give the following summary of the trade since 1885, condensed from the British Board of Trade returns. These figures are in sterling money and are for the calendar year:

	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
	£	£	£	£	£	£	£	£
Raw wool	36,958	32,276	18,317	10,153	26,914	24,173	25,035	21,623
Cotton piece goods	629,195	634,158	620,378	499,230	494,752	404,417	420,005	453,017
Jute piece goods	.....	.....	.....	.....	92,278	91,444	100,811	114,140
Linen piece goods	145,287	153,242	178,039	149,116	181,249	138,343	142,527	177,047
Silk goods	34,671	296,010	145,598	21,414	11,498	3,929	4,414	53,381
Silk, mixed goods	63,929	98,540	74,149	70,822	54,974	34,985	44,136	60,438
Woolen fabrics	642,347	703,306	676,424	539,691	497,132	336,417	335,792	386,163
Worsted fabrics	465,820	599,485	626,710	488,418	640,824	518,354	588,581	637,042
Carpets	183,979	216,329	240,910	186,993	221,291	171,860	206,695	201,405
Apparel and slops	240,000	260,397	227,080	291,904	331,285	346,568	377,408	395,676
Haberdashery	*507,217	480,699	535,946	436,683	432,940	373,201	401,684	394,784
*Estimated.	2,959,403	3,222,517	3,212,551	2,694,424	2,982,037	2,443,691	2,653,088	2,900,716

	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
	£	£	£	£	£	£	£	£
Raw wool	22,310	14,317	16,312	15,210	48,018	39,317	31,096	44,139
Cotton piece goods	515,711	431,259	447,919	421,157	399,887	487,990	547,526	662,875
Jute piece goods	137,860	99,040	98,057	151,808	126,189	133,894	112,404	141,855
Linen piece goods	139,406	111,637	142,597	135,252	120,768	148,859.	171,250	186,591
Silk goods	41,080	32,023	21,842	7,638	26,017	7,683	14,342	13,144
Silk, mixed goods	70,990	41,788	35,234	27,232	.....	32,219	51,870	52,565
Woolen fabrics	343,977	255,525	228,875	255,511	219,784	288,811	310,885	404,612
Worsted fabrics	661,949	463,873	551,454	519,445	579,248	582,811	567,507	578,047
Carpets	227,607	162,113	166,450	153,582	139,343	177,555	188,660	217,897
Apparel and slops	338,091	298,305	351,059	343,901	300,532	322,362	228,955	252,673
Haberdashery	*252,483	144,647	148,370	150,911	138,101	141,677	154,078	152,633
*Estimated.	2,751,464	2,054,527	2,208,169	2,179,647	2,097,887	2,363,188	2,378,353	2,707,031

LAST OF THE PAISLEY SHAWL WEAVERS.

The following from a recent number of a Paisley paper refers to a grand uncle of George Reid, of the firm of George Reid & Co., Toronto: In our obituary column will be found intimation of the death, in his 84th year, of Mr. John Reid, in former times when shawl-weaving was in its palmy days, well-known as a simple-head tyer—an occupation now not only unpractised, but its very name forgotten if not unknown. Mr. Reid was perhaps the oldest weaver in Paisley—for, from that trade he took to the connected branch which he so long followed after, and to it he at last returned when the art of simple-head tying became superseded by the Jacquard machines, gradually introduced as an appendage to the weaver's loom some thirty or more years ago. Mr. Reid, speaking of the favorable circumstances under which education is now acquired by the young, often said that in consequence of having been put to weaving when eleven years of age, he had never received any schooling, but learned his lessons from placards attached to his grandfather's loom. But love for reading enabled him to overcome the difficulties in his way; and when a boy, and before he could get access to works of repute, every penny he could get into his hands went in the purchase of the popular literature of the day so largely published by the late George Caldwell. The possession of common sense, combined with the results of extensive miscellaneous reading, rendered Mr. Reid a shrewd observer, and—as was natural, in face of the political abuses existent in his early days—he became a "radical reformer," and in his own sphere was a vigorous opponent of the iniquitous Corn Laws. While the agitation was in progress against these laws, he formed one of a deputation, the other members being John Osborne and John Kelly, which was sent to Edinburgh to attend a conference on the subject. In his early weaving days, he worked for a long time for the shawl-manufacturing firm established by the father of the late J. & J. Robertson; and when he was getting married, the senior Mr. Robertson testified his satisfaction with him as a workman by presenting him with a handsome plaid for his wife. This plaid, well kept, was latterly esteemed such an excellent example of the manufactures of the time, that the late Mr. McMurchie, when forming a collection of local textile fabrics for the cases of our Museum, was glad to get it from Mr. Reid, with whom he had for many years been on terms of intimacy. Besides in his early manhood manifesting considerable political activity, Mr. Reid was an earnest laborer in local religious organizations. He was, as his father also was, for several years a visitor in connection with the Sabbath School Union. But he was democratic in even his religious views. When the church with which he was connected—now Oakshaw street U.P. Church, then ministered to by the late Rev. Dr. Ferrier—was, on the death of George IV., partly draped with black cloth in token of mourning for the deceased monarch, he, along with a number of democratic members, took umbrage at this having been done without the congregation being consulted. No satisfaction being rendered, he sundered his connection with the denomination, and joined the Congregationalists body that now worships in Gilmour street, in the hope that there, along with the privilege of listening to equally palatable theology, he could find opportunity for the exercise

of individuality more in accordance with the opinions of the time than that which was permitted in the other dissenting community. Up till but a few weeks ago, Mr. Reid was in the enjoyment of better health than falls to the lot of most men ten years earlier in life. He had always been very simple in his habits, was fond of gardening, and accustomed to early rising; and possibly he was indebted to this temperance for much of the bodily vigor which he so long retained. In the prominent features of his character, he much resembled the intelligent race of weavers for which the town was famous in the beginning of the century. Indeed, he might not inappropriately be said to be the last lingerer of the race, surviving amidst a generation which had almost wholly departed from the austere customs and primitive habits of a less hurried and perhaps quite as comfortable community—all things considered—as the present. He had seen with regret the passing away of some features of the former times. But he rejoiced in many ameliorations that had become visible in social as well as political life, and hoped that when society had adjusted itself to the changed circumstances consequent on the abolition of ancient restraints, good would evolve from the confusion more or less inseparable from change, and the improvement take place that philanthropists believed was certain to ensue. Mr. Reid's end was calm and quiet, as his life had been pure and uneventful and he had the satisfaction of knowing that to the last he enjoyed the respect of all who had at any time known him.

Foreign Textile Centres

MANCHESTER.—The figures of the raw cotton brought into sight this year to March 1st stand at 5,797,000 bales, against 5,500,000 for last year. This shows only a surplus of 289,000 for the moment, and unfortunately the diminution is still going on. Still it need as yet cause no alarm. Regarding the Egyptian crop, the receipts have been rather small, but crop estimates have not been materially affected. Turning to the consuming markets, there is nothing material to report of a cheering character. The trade of India keeps of a dribbling variety; in none of the sections is the off-take of a satisfactory character. The simmering down of the Chinese troubles seems to promise better things, but the time for them is not yet. Japan is not distinguishing itself by any special activity. The markets on the margin of the Mediterranean are quiet without exception, and so are those of Eastern Europe, while those of Germany and the Continental States around are in a still more unsatisfactory condition. Home trade, says The Textile Mercury, is the reverse of brisk. In no section of manufacturing is the production being sold, and this universal quietude is making cloth producers somewhat anxious, because if orders be not soon forthcoming looms will have to stand. The time is long since past when manufacturers could safely make goods to stock to any extent, so that the practice has been largely discontinued. Naturally, spinners are also feeling the depression; prices are comparatively steady, but orders on the books are bulking smaller than for some time past. In the United States there is a prospect of an early stoppage of looms of the eastern states. As bearing on American competition in the China market, stocks of American drills, yarns and sheetings in Shanghai exceed those of any other make. The figures for American sheetings were 1,241,000 pieces, as against 101,000 pieces of English sheetings. This is one of the facts which brings closely home the reality of the American struggle for a share in the world's markets.

BRADFORD.—The improved tone in the finest classes of wool is maintained on this market, with a fair business in merinoes, and some topmakers are declining to book further orders, save at an advance. Medium and lower crossbreds are still in poor request, and topmakers cannot sell at a profit on the prices they had to pay at the recent London sales. English wool generally is very dull and weak, with the exception of bright hoggs, which are in better request. Mohair, quiet. In the yarn department botany spinners complain that they cannot secure prices which enable them to work at a profit, and the position is very unsatisfactory. Ordinary two-folds are very low in value, but this fact does not induce much business. There continues to be a steady business done in cross-bred wool serge dress goods for the home market, both in finer and cheaper goods, but this trade is probably not greater than it has been for some seasons past. The improved enquiry for the best pure lustre English wool still continues, and the best lots of this class of wool are already becoming somewhat scarce, but there is very little doing in non-lustrous home-grown wools, and the trade in them is quiet. There is still a considerable business doing in the best classes of both mohair and alpaca weft yarns both on home and export account, and both these raw materials are quite firm in price. In the dress goods trade there is less demand for those dull finished black fabrics which are more particularly suited for deep mourning purposes, but there is more enquiry for half mourning and bright black goods, and even quiet shades in colored goods are again beginning to move to some extent. For the autumn trade, fabrics of the Amazon and Cheviot types seem to be looked upon as being the most safe at present, and buyers seem most in favor of fabrics of a plain character which have a warm soft handle, and any novelty in cloths possessing these essentials would no doubt be readily taken up.

HUDDERSFIELD AND LEEDS.—In Huddersfield, in addition to the quiet demand for all classes of worsted coatings, there is also very little demand for the best classes of men's wear woolens, and only a few makers of ladies' wear cloths and cheap specialties are at all busy. In Leeds, manufacturers of medium and cheaper woolens are rather better employed, and spring season's orders are now keeping the clothing factories well going, but the general tone of the trade is not as satisfactory as it might be. Business has been quiet in most departments of the heavy woolen trade during the week, but a few makers of serges, vicunas, and some other chief woolens are well employed. Some of the leading makers of ladies' wear light-weight woolens have been enabled to reduce their stocks very considerably by the run on blacks and steel grey costume cloths for mourning purposes, and they are now beginning to find that the demand for navy blues and other quiet colors is also improving. Blanket makers report that the arrangements for the coming season's trade have been difficult to make, as although they have recently got some relief in the price of raw material, coals and all other reagents, such as soap, are still very dear. There continues to be a fair shipping demand for cheap colored blankets and rugs. The demand for art printed plushettes is improving, but plain plushettes are only moving quietly in the upholstery trade. Some of the earliest buyers have now completed their arrangements in flannels for the coming season, but in most cases orders are smaller than they were a year ago. There is a distinct increase in the business being done in Yorkshire in fancy flannels and shirting, and some of the former, which are used for blouse purposes, are not only extremely pretty, but they are also practically unshrinkable. It is quite possible that those buyers of flannel goods who are postponing the placing of their orders in the hopes of raw material being cheaper may wait too long before operating.—Draper's Record.

HALIFAX.—The Chamber of Commerce trade report for February states: Wool—During the month business has continued exceedingly quiet. Merinoes are slightly firmer; other-

wise prices are unchanged, but the market generally is rather steadier. Woolens—Beyond repeated enquiries for army goods, we are unable to report improvement in this branch of trade. Worsted Yarn—The heavy cloud of depression still lingers over this branch of business. The few orders which are being placed are mostly at prices below actual cost to the producer. Cotton—The demand for shipping yarns, both single and double numbers, has been much quieter during the month. Fustians and ready-mades are about as last month. Spun Silk.—A slow, dragging trade, and some machinery idle. Raw material from the East and the Continent is more plentiful. Pieces—Excepting that the Government has been giving out a few more orders for the Army Department, there is very little improvement to record. Manufacturers are very quiet, and both for the foreign and the home trade there is very little new business. Carpets—Although there has been a slight falling off in the volume of orders, looms have been, upon the whole, fairly well employed. Dyeing—There has been no change of importance during the month in the dyeing trade. Both in slubbing and pieces it remains in the same dormant condition, with the exception of black goods. In these there continues to be a fairly strong business done.

NOTTINGHAM.—Complaints of the dulness of the home demand for lace are to be heard on every hand, and there are no present appearances of an improvement. Those houses, too, that do business with the colonies report a falling off in orders consequent upon the national mourning. One effect of the Queen's death has been to clean out stocks of black silk laces and nets, which in some cases were beginning to be looked upon as "old shopkeepers," but taken altogether the sad event has had a very depressing effect on the lace trade. Certain specialties in Torchons, Valenciennes and guipures, with lace insertions, galons, and allover nets to match, are meeting with some favor. Only moderate orders have been placed for Cluny, Point de Paris, Maltese and Malines laces. Crochet, American and other heavy cotton laces are languid, though the advanced prices are maintained. Black silk laces and nets have sold freely up to now. Manufacturers of black cashmere hose keep well employed. The demand for cotton stockings and socks is not satisfactory, and it is difficult to realize adequate prices. Merino and cashmere half-hose have been in better request. Some good orders have been placed for merino and cashmere vests and natural wool combinations. Prices are somewhat unsteady and irregular, though some army contracts have given a degree of firmness in certain branches. The silk and elastic branches are doing a moderate business.

LEICESTER.—The hosiery industry is much brisker as a whole; stocks of heavy fabrics have been cleared, and larger orders are being placed for light goods and specialties. The yarn market shows a steady revival, and more firmness, while stocks are being reduced by the larger deliveries. There is a healthy turnover in lambs' wool and fancy yarns, but cottons are flat.

KIDDERMINSTER.—The Shuttle reports the tone of the carpet trade as quietly confident. The amount of new business is not large, and yet sufficient comes in to keep up a respectable turnover. Prices of raw materials have apparently reached the bottom. In one or two instances there is a tendency to look on the bright side in this respect, and occasionally to ask a little more money.

HAWICK.—Manufacturers in this district report that a good state of trade still continues, and that looms are well employed. Overtime is being worked in those departments where it can be done. Spinning, dyeing, and finishing Government orders have been a great aid both to employers and employed, giving much-needed work between seasons. Orders for the regular makers of Scotch tweeds have been coming in fairly well for next season. All the spinners are busy, some exceptionally so on khaki yarns.

KIRKCALDY.—In the linoleum and floorcloth industry there is a considerable run on the cheaper class of cloths, which are being turned out in large quantity. Linen manufacturers are able to maintain the slight improvement in business formerly noted, but almost nothing can yet be said with regard to the future.

DUNDEE.—The market is quiet and there is less doing. Jute is easier to buy. For first marks £12 5s. is offered, and the market for this style of jute droops. For first rate quality with color, however, the market is quite steady. Holders of such fiber feel sure that the price cannot fall, as the quantity of such jute offering is very limited. Jute yarn is easier. Common cops are 1s. 5½d. for 8 lb. and warps are 1s. 7d. Good yarn is still firm at 1s. 10d. for 8 lb. Heavies are flat, and there is more disposition to sell. Hessians are very dull, with some looms being stopped. The only goods that sell freely are very light Hessians for the American market. The flax market is quiet. The excitement is at an end. Only the very finest flax holds its price. For all inferior kinds there is less demand, and offers of such flax come from all quarters. Tows are also less firmly held this week. Had there been large stocks pressing on the market the prices would have given way, but as it would seem that the quantity of this year's crop is not now large, holders show much reluctance to give way in price. Flax yarns of the finest quality are firm, but all other kinds are difficult to sell. Tow yarns are quiet. There is less doing in them this week. The fancy jute trade is still quiet. There is, however, a large and an increasing miscellaneous trade in jute goods doing from day to day, which keeps many looms profitably engaged. Fife and Forfar alike complain of the want of orders for linen goods. Some Brechin firms, having secured pressing orders for Government goods, have extended their working hours, but the whole tone of the linen trade is still flat. The orders do not come in freely at the rise in price required by the greatly enhanced value of flax.

BELFAST.—The report submitted at the annual meting of the Linen Merchants' Association, of Belfast, Ireland, contained the following: With reference to the condition of our staple industry, the council have to report that the area under flax in Ireland in 1900 was 47,327 acres. Although this shows a substantial increase on either of the two previous years' sowing, it is much below the acreage under flax in any of the years 1886-1895, when it averaged about 100,000 acres. The yield and quality are fairly good. The Russian crop is small, and the quality of fiber poor, consequently coarse and medium flaxes have been 50% to 80% higher in price than a few years ago. Reporting the linen trade The Draper's Record correspondent says: The demand for yarns has been hardly so good as in recent weeks, but spinners have enough orders on hand to keep them from anxiety, and prices keep very stiff. Some continental lists have been still further advanced. The brown cloth market is rather quiet, but here also values have been fully maintained. Power-loom linens for bleaching have sold to a moderate extent. Cloth for dyeing and hollands has been in quiet demand. Tow-made goods have sold steadily, particularly in the cheaper qualities, and a moderate business is passing in unions. In damasks and housekeeping goods there is little improvement as yet, and the handkerchief trade continues a little less active than formerly. Handloom linens for bleaching show little change. High prices continue to affect adversely the demand for bleached and finished linens. Buyers are acting with more than usual caution, and postponing orders as long as possible. Prices however, are unlikely to show any weakness for some time to come. The coming weeks should show a consideable improvement in turnover. Canadian demand is growing, Australasian is fairly good, but the European markets keep rather quiet.

THE SILK TRADE.—Though the market could not

described as exceptionally active, there was a good steady flow of business. Prices, however, were again somewhat irregular, advances being obtained in some instances, while in others a decline was recorded, the great majority of descriptions, however, remaining unchanged. On the whole it may be said that values were about stationary. As regards the fabrics, the position may be described as remarkably good, if account be taken of the slackness of demand for England and America—the two chief foreign markets for Lyons silk goods—during the past year or two, though latterly the demand for mourning in the former has made itself felt in the French centre. French and Broussa raws appear to have been most prominently in demand during the past week, followed by Syrian and Italian raws, the demand being not merely for material for the light weaving branches of the industry, but for throwing, throwsters being all busy in consequence of the improved demand for organzines and trams. The margin obtainable by throwsters is, however, said to be not quite satisfactory. The reports from the Italian centres indicate less activity there than in Lyons; transactions have been few and prices weak. Shanghai and Canton telegrams say that business had been interrupted by the Chinese New Year advent, but prices were well maintained. Important purchases on American account are again reported by wire from Yokohama.

CREFELD.—A sudden although not unexpected demand for the heavy silk fabrics in medium qualities in black and dark shades has sprung up at Crefeld, especially for the London market. Merchants have been able to clear old stocks, and manufacturers have received considerable orders for both quick and forward delivery. For the home markets also a fair amount of business has been done. Prices have shown but little material change as yet, which is no doubt caused by the somewhat heavy stocks of raw silk held by most markets abroad. The velvet trade has only partly shared in the demand, but manufacturers have still good orders on their books for pile fabrics for the upholstery and plush trades. For dress and millinery goods it is now between seasons, and duplicate orders are of small importance only.

CHEMNITZ.—The wholesale trade in underwear and hosiery goods has been able to clear largely the winter stocks, owing to the severe weather, and the position of the market looks therefore healthier in this respect. Manufacturers are, however, complaining of the want of new orders, and contracts for the new season's goods have so far been very small. The export trade remains disappointing. America is keeping out of the market to a large extent, but the home trade is active and continues to be a large customer, especially for medium quality underwear and all-wool hosiery fabrics. Cashmere goods are receiving more attention at present low rates. The fabric glove trade remains unchanged.

CALAIS.—The long strike of lace-makers at Calais ended last month, the strikers having given way. There is a colliers' strike at Montceau, which is likely to cause collisions. The Paris ladies' tailors resolved on meeting the partial strike by a lockout. The lace-makers' strike is one of the longest that has occurred in France. It has been aided considerably with funds from England, and especially from the cotton trade operatives of Lancashire.

—At the annual meetings of the South Lancashire spinning companies, dividends have been declared ranging from ten to thirty per cent., and sums varying from £1,000 to £4,500 have been placed to the reserve funds in addition to allowing substantial amounts for depreciation and interest. The closing years of the nineteenth century were the most prosperous experienced by the fine counts spinning companies.

LITERARY NOTES.

The March issue of the Canadian Magazine is a memorial of the life of Queen Victoria. The purpose is a good one, and the special articles on the subject are of more than usual merit. Among these may be mentioned, "Victoria and the Victorian Age," by Dr. G. R. Parkin; the "Queen's Prime Ministers," by A. H. C. Colquhoun; "The New King," by Norman Patterson; the "Prince of Wales' Visit to Canada," by Richard T. Lancefield; the "Growth of the British Empire Under Victoria," by Hon. G. W. Ross, and the "Death of the Queen," by Prof. William Clark. The number is well worthy of study and preservation.

Under the auspices of the London Times, there is now being prepared a history of the South African war, to be completed in five or six volumes, and published through Sampson Low, Marston & Co., of London, for whom the Copp, Clark Co., Toronto, are Canadian agents. The first volume has been issued, and we can only say that if the character of the succeeding volumes is maintained—and the name of the publishers will be generally accepted as a guarantee on this point—this will be the standard history of one of the most remarkable wars of modern times. The first volume contains 392 pages, with a pocket map—the best one we have seen of South Africa—and a large number of photogravure plates giving portraits of prominent figures in the events antecedent to the war. The volume deals with the history of the Boers from the acquisition of the Cape by the British to the outbreak of the war, and the schemes and political movements by which during recent years the Boer republics sought to overthrow British power in South Africa. In one aspect, the Boer war was a conflict to decide whether slavery was to be revived or extinguished in South Africa, and in treating of this aspect a remarkable series of parallels is drawn between the Boer war and the American civil war. The historical treatment is very fair, and taken altogether it is a work one can most strongly recommend.

Fiction readers will turn first, in the March Century, to the opening pages of a new story by Irving Bacheller, author of the record-breaking "Eben Holden." The title is "D'ri and I," the genral theme is American border life at the time of the War of 1812. Continuing his Webster series, Prof. McMaster considers this month his hero's experience as a leader of the opposition in Congress. It will surprise most readers of The Century to learn that the flight of the Empress Dowager from Peking did not occur till the city was actually in the hands of the "foreign devils." It was on August 15th that she, with the Emperor, Empress and Heir Apparent, set forth, each in a separate cart, towards Tai-yuan-fu. Luella Miner, an American missionary, who describes this hegira, has drawn her information from a hitherto unpublished account written by a Chinese gentleman of high standing, whose authority is unimpeachable. As a companion paper to this may be taken Bishop Potter's "Impressions of Japan," the third of his series on the East of To-day and To-morrow. This is quite as incisive and suggestive as the articles on China and the Philippines, which preceded it. Augustine Birrell's "Down the Rhine," with Castaigne's pictures, which is resumed this month, covers the stream from Worms to Coblenz, and includes Bishop Hatto's famous Mouse Tower, which, it seems, never had anything to do with mice—nor even with rats. Less light in theme is Waldon Fawcett's account of the iron-mining industry in the United States, which has had so portentous a growth of late years.

The remarkable romance of Elise Hensler, the Boston girl, who married King Ferdinand of Portugal, is recalled by Mabel Percy Haskell, in the March Ladies' Home Jour-

nal. At her marriage, Miss Hensler was created the Countess of Edla, and with her royal husband took up her home in the beautiful Palace of Cintra. "Had she wished it, the Countess of Edla might have been Queen of Spain, for King Ferdinand declined the crown of Spain in 1869, soon after his marriage to the beautiful American girl. It was offered to him by General Prim and General Serrano, and both the King and his lovely wife decided that their quiet life so free from cares of state was infinitely to be preferred to the worry and fret of a great European Court. Ferdinand died in 1885, and since then the Countess has lived in retirement in the Palace of Cintra. She is visited by members of the present royal family and is greatly beloved by them, for they never can forget how fine and good was her gentle influence over the King, and they shared his admiration for her. She is treated as if she had been born to the purple instead of far across the sea.

As many of the ablest writers are now engaged in journalism, much writing of the highest quality in matter and style *is fugitive, seen only by the readers of each particular* newspaper, and by them often lost before it is read. Much of such writing is only of local and very transient import, but much is of more permanent and world wide interest. It is proposed to fill the pages of World Wide with articles and extracts of this latter class, with occasional selections from notable books and scenes from striking stories. An effort will be made to select the articles each week so that due proportion will be given to the various fields of human interest—to the shifting scenes of the world's great drama, to letters and science and beautiful things. It was at first intended to publish World Wide upon fine paper at a higher cost, but recalling the long list of elegant publications, which in the past have been started in Canada, only to fail, and reflecting that good taste in literature does not always imply the means to pay for costly journals, and that people of taste can be relied upon to appreciate literary excellence on the plainest sheet, it has been decided to offer World Wide at the lowest possible price, in order to give all who desire good reading an equal opportunity. Published weekly. Sixteen pages. Two cents. 75c. per annum, post paid, to any address in Canada or U.S. 25c. additional for delivery in Montreal or to foreign countries. John Dougall & Son, Publishers, Montreal.

We are in receipt of a very ingenious device called the "Dodge Calculator," issued by the Dodge Manufacturing Co., of Toronto, manufacturers of the celebrated Dodge pulleys. This device is not only a novelty, but an instrument of considerable value to all mechanics, foremen, superintendents, etc., whose duty it is to figure up speeds of pulleys, gears, etc. We are informed that the Calculator is one illustration of the many uses to which the slide rule principle may be applied. The Dodge Manufacturing Co. will be pleased to mail free, for the asking, the Dodge Calculator.

COMPROMISING CUSTOMS FRAUDS.

The Montreal Witness is a liberal paper with independent leanings, or as many may now adjudge it, an independent paper with liberal leanings, but whatever the category of its politics, it is no friend of fraud or corruption in high places. Every decent citizen and every honest merchant will admire its courage in condemning the Government's shameful compromises of customs frauds, as it does in the following editorial: It is painful and discouraging to hear again of Government compromising with importers who commit deliberate fraud upon the customs. Governments seem to act as though they only were intersted in transgressions of customs laws, and can do as they like in the matter to secure their own immediate financial and political interests. They do not seem to consider that every man's interest is involved where justice fails—that the public interest suffers in many ways where it is arbitrarily and secretly administered. Nobody's reputation is safe. Men pay whatever officials may demand rather than get heard of as having had trouble with the customs, and they suffer in silence when fraudulent competition takes business out of their hands. The "Witness" has protested against the immorality of this trafficking for years, and the beginning of a new century is a good time to inaugurate a better state of things. Let all importers understand now and once for all that all cases of fraud will be taken to the criminal courts and prosecuted to a conclusion there. If that is done, and it must be done, not only will the country's reputation for commercial morality increase very greatly, but the aggregate revenue derived from the customs will be increased. Upon the representations of the dry goods section, the Toronto Board of Trade has once more brought this scandal to the attention of the Government, and entered a vigorous protest. All the trade organizations of the Dominion have made equally vigorous representations in the past, and there is a unanimity of opinion that the Government has failed to do its duty to honest traders. That the present Government is only following the bad precedent of its predecessors is no excuse for it, and it must be held fully responsible for its practical encouragement of criminality. Political exigencies are, of course, at the root of the evil. Importers who find themselves caught in fraud obtain the assistance of their member of Parliament, or put their cases in charge of lawyers with a political pull, and these influences have been so effective in the past that they have always managed to keep out of jail, at least. It is asserted that reliance upon these dishonest influences has so encouraged this class of crime that it is being practiced every day of the year, sometimes in a petty way and sometimes on the largest scale. Most of this the general public learns nothing about. But occasionally there is seen the public disgrace of the Government entering into a prosecution, only to abandon it for a cash consideration. No language too severe can be expressed in reprobation of this participation in crime. It lowers the whole commercial character of a country, and is a direct incentive to fraud. The majority of importers are honest, and the delinquents must no longer be allowed to put this scandal on the whole body. The customs department must be compelled to do its duty.

THE FIRST SCHOOL IN CANADA.

Madame de la Peltrie's life in New France is inseparably associated with the school she founded, for it afterwards developed into the great Ursuline Seminary, of Quebec, still active and flourishing after more than two and a half centuries. She and her companions took up their residence in a little two-roomed house, previously used as a warehouse, which they playfully called their palace. It was in the Lower Town, near what is now known as the Champlain Market. The French inn now occupying this site is so old and quaint and foreign that the traveler stopping there finds little difficulty in carrying himself back over the long flight of years and conjuring up vivid pictures of the landing of these gentle French ladies.

The school began with six Indian and a few French girls. But soon reports of this wonderful institution, where girls, irrespective of race or condition, were taken in, clothed in beautiful garments, and given plenty of food, spread throughout the neighboring country, and crowds of redskinned maidens flocked thither. So many made their appearance that the miniature seminary could not accommodate them all, and soon a larger and more commodious building was erected in the Upper Town, on the same site the school occupies to-day.

Madame de la Peltrie threw herself into the work of caring for these little savages with all the enthusiasm of her ardent French nature. She assumed the duty of teaching them the more polite accomplishments, while Mother Marie and the other two women instructed them in the principles of the Catechism and the French language. It became her favorite diversion, after spending an hour or two in teaching them to sew, to dress them up like little French children, and take them to visit their parents or to the chapel not far distant; and grotesque looking little objects they were, with tight Norman caps covering their black and glistening locks, and snowy kerchiefs pinned round their tawny throats. They regulated all their actions by hers, and frequently astonished those about them by making an elaborate curtesy like a grand dame of France.—From "Maids and Matrons of New France," by Mary Sifton Pepper, in The Chautauquan, Cleveland, O.

FULLER'S EARTH.

We have not heard that Fuller's earth has been mined in Canada, but an interesting report just issued by the United States Geological Survey on the production of Fuller's earth in the United States suggests the question whether valuable deposits may not exist in this country. From the report referred to, it appears that small amounts of Fuller's earth were mined in New York, Colorado, and Utah in 1899, but the bulk of the product, as in earlier years, was from the vicinity of Quincy, Fla. The total production in 1899 was 12,381 short tons, valued at $79,644, a decline from 14,860 short tons, valued at $106,500, in 1898. The decrease in domestic production is probably due to larger importations of English earth, these having increased from 8,353 long tons, equivalent to 9,355 short tons in 1898, to 10,320 long tons, or 11,558 short tons in 1899. The decrease in domestic production was 2,749 short tons; the increase in imports was 3,203 short tons; the difference (724 short tons), would represent a normal increase in consumption. The production of Fuller's earth in the United States for the last five years is shown in the following figures:

In 1895, 6,700 short tons, valued at $41,400; 1896, 9,872 tons, valued at $59,360; 1897, 17,113 tons valued at $112,272; 1898, 14,860 tons, valued at $106,500; 1899, 12,381 tons valued at $79,644. Considerable interest attaches to the development of this industry in connection with the deposits that have been found in New York State, Colorado, and Utah, although there is no immediate prospect that they will supersede the deposits at Quincy, Fla., as the principal source of supply. A very promising deposit was discovered some time ago in South Dakota, an interesting feature of which was the fact that it is almost a duplicate of the English earth, which is now preferred for the filtering of cottonseed and lard oils, while the American earth is principally used as a substitute for boneblack in the filtering of mineral oils. The rapid growth of the cottonseed oil business is likely to create a heavy demand for the English earth, and therefore for any domestic substitute that shows the necessary qualities.

The process of filtering vegetable oils is thus described: The oil is heated to beyond the boiling point of water, in large tanks, and from 5 to 10 per cent. of its weight of Fuller's earth is then added, and the mixture vigorously stirred for twenty minutes, and then filtered off through bag filters.

The coloring matter remains with the earth, leaving oil of a very pale straw color, provided the original cottonseed oil had been sufficiently well refined by the ordinary process to admit of this; and provided the operation had been conducted with sufficient care. Perhaps the most remarkable feature of this filtration by Fuller's earth is the different rate of speed at which oils of different density (in such a mixture of oils as is found in ordinary crude pretroleum), will percolate through with the result that the first oil which makes it appearance is not only very much lighter in color, but markedly lower in specific gravity. In fact, by this process separations can be made which are quite comparable with the results of fractional distillation.

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.

Robert Gofton has left Hespeler for Markham to take a new position in the Canada Woolen Mills factory there.

Three carloads of machinery arrived in Brantford, March 8, for the Farmers' Binder Twine factory in West Brantford.

Mr. McDonald has sold the woolen mills at Trenholmeville, Que., to the Coaticook Mills Company.—Sherbrooke Examiner.

At the annual meeting of the Paton Manufacturing Co. in Sherbrooke last month, the old board of directors were re-elected.

The proprietors of the woolen mill at Morden, Man., are asking for 20 years' exemption from taxes, on the strength of increasing the number of employees to 15.

It is denied that New York capitalists control the stock of the new Imperial Cotton Co. at Hamilton. It is stated that only $20,000 worth of stock is held in New York.

O'Hare & Sons, Midland, Ont., have placed an order for card clothing with D. K. McLaren, Montreal. They want English clothing only. Sheets, cylinders, rings and second breaker are included in this order.

In the Supreme Court at Ottawa on March 7, the hearing in the case of Consumers' Cordage Company v. Connolly, relating to Central Prison binder twine contracts, was postponed to the end of the hearing of the Ontario appeals, when the Chief Justice will be able to sit.

Jacob Kessler, who has been superintendent at A. Lomas & Sons' woolen mill, Sherbrooke, for the past three years, has gone to Glastonburg, Conn., to take a place in a woolen mill there. His place at Sherbrooke has been taken by Mr. Knoepfle, of Hespeler, Ont.

At the annual meeting of the shareholders of the Cornwall Manufaturing Company, held in Montreal, the following officers were elected: President, Andrew Allan; vice-president, W. M. Ramsay; managing director, Robert Meighen; directors, Lord Strathcona, A. T. Paterson, H. Montagu Allan, W. A. Hastings

The official returns of the Ontario crops of 1899 thus refers to the growth of flax. This crop is not now largely grown, as a number of the mills in Western Ontario have been closed for some time. Where raised it has been a fair crop. The area was 7,103 acres in 1899, as against 10,720 in 1898, and 16,[illegible]10 in 1897.

The firm of McLean & Scott, woolen manufacturers, Pembroke, have dissolved partnership. D. E. Scott retires and James McLean is continuing the business. Mr. McLean has been the practical man of the firm, and now that the business is entirely in his own hands his many friends will wish him all prosperity.

Thompson & Co., Sherbrooke, Que., have been awarded the contract for supplying all of the bobbins and spools for the Montreal Cotton Co.'s new mill at Valleyfield. This firm has orders on its books from nearly every cotton mill in Canada, and they report the past year has been one of the most successful they have ever had.

A flax mill is about to be started at Moorefield, Wellington Co., Ont.

Three more Ontario woolen mills have started selling direct to the retail trade.

D. K. McLaren, Montreal, has completed within the last month a second sett of 60-inch cards for the Elmira Felt Co.

Among the many shipments of machinery received by the Wm. Firth Co., of Boston, are a large shipment of cards for the Parker Mills, Fall River, Mass., which have been built by Asa Lees & Co., of Oldham, England.

The pulp mill of the Canada Paper Co. at Riviere du Loup, Que., was totally destroyed by fire on the 11th inst. The dynamo house of the Fraserville Company was also destroyed. The loss is partly covered by insurance.

James P. Murray, prominent among the manufacturers of Canada, in connection with a number of other public-spirited men of the city of Toronto, is interested in founding an art museum there.—American Carpet and Upholstering Journal.

A. Davitt, late superintendent in the Perth woolen mill, has left for New York, where he has secured a similar position in one of the large mills. His eldest son John accompanied him, and the remainder of his family will follow in a few months.

The William Firth Co., Boston, have received a repeat order for speeders from the Mechanics' Mills, Fall River, Mass. These, same as the previous ones, are of Asa Lees' make, for whom the Wm. Firth Co. are sole agents in Canada. The Wm. Firth Co. are having many enquiries for mules, of Asa Lees & Co.'s make, for whom they are now the sole agents in this country.

The annual meeting of the Alexander Gibson Ry. and Mfg. Co., Miramichi, N.B., was held on February 16th. The report showed that the net earnings of the company—which controls the Canada Eastern Railway, and the lumber and cotton mills at Marysville—were far in excess of any previous year. The directors elected were: Alex. Gibson, Sr., (president); Alex. Gibson, Jr., (vice-president); E. C. Jones, D. MacLaren and Hugh H. McLean (sec.-treas.).

Among the Canadian firms exhibiting at the Glasgow Exhibition the following are in the textile trades: Montreal Cotton Co.; D. K. McLaren, Montreal; Rosamond Woolen Co., Almonte; Corticelli Silk Co., St. John's, Que.; Merchants' Dyeing & Finishing Co., Lachute Shuttle Co., and Berlin Rubber Mnfg. Co. There are also the Watson-Foster Co., wall paper manufacturers, Montreal; the Canadian Fur Co., Montreal; Sault Ste. Marie Pulp & Paper Co., and Lake Megantic Pulp Co.

The Port Hope carpet factory, which recently removed to Milton and started there under the name of the Canadian Carpet Co., the village having given a bonus, now operates 40 looms, and manufactures wool and union ingrain carpets and fringes. The company sells direct to the trade; J. R. Smith being traveller east of Toronto, and W. Dunbar taking the ground west of Toronto.

The Moodie Brothers, of the Eagle Knitting Co., Hamilton, appear to be a house divided against itself just now. An assault case, in which John Moodie, jr., was charged with having struck Frank M. Barnard, a traveller for the Eagle Knitting Company, was dismissed at the Hamilton Police Court the other day, the parties shaking hands. The defendant and his brother, J. R. Moodie, are having trouble over their partnership in the knitting business, the assault charge being one phase of it. In connection with the same difficulty between J. R. Moodie and John Moodie, jr., a writ has been issued on behalf of John Moodie against his brother, J. R., for damages for having taken possession of the knitting factory and locking John Moodie out.

Both knitting mills at Almonte are running overtime.

T. F. Hinnegan, of Wallaceburg, is likely to start a flax mill in Tilbury.

The knitting mill at Thorold shut down for a month or so while a new boiler and other improvements are being put in.

Robt. Dunlop, for some time loom fixer in Thoburn's woolen mill, Almonte, has gone to West Superior, where he has secured a similar position.

The Berlin Record mysteriously hints as follows of new textile industries in that town: There is a prospect of a carpet, worsted and knitting factory being established in the East End. More later.

Geo. Dick has returned to Carleton Place, and takes the position of designer in the Canada Woolen Mills. His many friends here give him a cordial welcome back. A. M. Morrison has also arrived and assumed the duties of his new position.—Herald.

The adjourned meeting of the shareholders of Wm. Parks & Son, Ltd., cotton manufacturers of St. John, was held last month, but was further adjourned till 19th March to enable Walker, Hacking & Co., one of the English shareholders, to be personally represented.

J. A. Powell, of Edmonton, has bought the machinery of the Farmers' Milling Co., of Fort Edmonton, and is forming a new company, who are to put in a flax manufacturing plant. The Galician settlers in the district raise a good deal of flax which will be worked up in the proposed mill.

Alex. Eamer, a young son of Matthew Eamer, had his arm broken and was otherwise injured by getting his arm caught in one of the gigs in the finishing room of the Cornwall Mnfg. Co.'s woolen mill. He is doing as well as can be expected.—Freeholder.

The cutters at the Canadian Woolen Mills Co., St. Hyacinthe, refused to return to work on the 7th inst., owing to the reduction in wages, made the day before. Their action, however, did not delay the running of the mill, as the positions were filled by others.

The Co-Operative Store Co., Queen street west, Toronto, of which Chas. S. Botsford was manager, is being wound up with a deficiency of $18,185 on liabilities of $63,490. There are a number of English creditors; the Canadian creditors being chiefly Toronto wholesale dry goods houses.

Robert Connor, youngest brother of John Connor, well known in politics and the binder twine business, and of Thomas Connor, manager of the binder twine works at Kingston penitentiary, was found dead by his own hand in a remote corner of the old warehouse of the long disused Connor rope walk on the 19th ult.

Samuel Cleveland is advocating the formation of a joint stock company composed of local men, with the end in view of purchasing the old cotton mill building and placing therein machinery for the manufacture of woolen goods, including hosiery. He says that he is meeting with considerable encouragement. We have our doubts, and yet we hope it may.—Coaticook, Que., Observer.

Application is made to incorporate the Knit-to-Fit Company, with a capital of $25,000; headquarters at Montreal; to manufacture knitted goods; to trade in knitted goods, buy and sell trade marks of different knitted goods and patents relating to improvements and new inventions for the manufacture of knitted goods, and to sell other goods woven in Canada or foreign countries. The applicants are: H. M. Meyer, Mrs. Helen Hyman, wife of the said H. M. Meyer, manufacturer; James Goldstein and Mrs. Ida Hyman, wife of the said James Goldstein, manufacturer, and Berthold Marcuse, trader, all of Montreal.

A long debate took place in the House of Commons last month on the binder twine question, and the competition of the prison binder twine factories with those working under free labor. Solicitor-General Fitzpatrick said the penitentiary binder twine could not regulate prices in Canada. The output at Kingston was only 500 tons. The makers of binder twine turned out 8,000 tons, and 10,000,000 pounds are imported. He quoted Sir John Thompson to the effect that the penitentiary binder twine was sold in his time at market prices, and the present Government sells at one or two cents a pound less. The object of the industry was to supply work to the inmates of Kingston penitentiary, and dispose of it at reasonable prices. Since the present Government came into power the output had been sold by public tender. The Solicitor-General immediately admitted to Mr. Monk that in 1898 the tenders were invited by private circular. Frank Oliver offered an amendment that the output of the penitentiary be sold at a price calculated on a free labor basis, at fair wages, every year up to the 1st of July, and after July 1 by public tender after advertisement in the newspapers. Mr. Blain accepted the amendment, and it passed the House unanimously.

Regarding the by-law, which has been carried at Cornwall, in aid of the carpet factory proposed by Richard Westwood, of Guelph, the Freeholder says: On the face of it the bargain seems to be a good one. The town agrees to give a free site, of the estimated value of $700, and to loan Mr. Westwood $12,000 for twelve years without interest, repayable $2,000 in two years and $1,000 each year thereafter. Free water is also given and exemption from all except school taxes. Mr. Westwood on his part agrees to erect a building worth $4,700, and to put in power and machinery worth about $12,300. He will employ 40 hands, including 10 heads of families, after the first year, and will spend $10,000 in wages the first year, and $15,000 annually thereafter, exclusive of any wages to the proprietor or his family. The corporation will have a first mortgage and insurance on the plant, and it is estimated that the taxes from the families and the school tax on the property will pay the interest on the loan. Building operations will begin April 15, and the factory will be ready for operation August 1. The carpet industry, as we have before set forth, is one which is not by any means overdone, and there is a large market for the grades to be made in Cornwall. The Factory Town is standing still at present; without new industries it will soon begin to go down hill. The carpet factory is not a large concern, but it appears to be a good one.

FABRIC ITEMS.

American calico printers are successfully competing with the English printers, and it is said that American agents have been selling goods which the London market considers excellent value.

Ignatius Cockshutt, of Brantford, who died a few days ago at the ripe age of 87, was the son of a Lancashire cotton manufacturer, and was identified with the dry goods trade for many years after coming to Canada.

The Stratford Clothing Co. has been incorporated with a capital of $40,000; head office at Stratford, and the directors include C. E. Tolton, J. Dow, E. T. Dufton, A. Tilley and A. L. Tolton, all of Stratford, Ont. The company will manufacture and sell clothing.

The Semi-Ready Clothing Co. are applying for a Dominion charter; capital stock, $200,000; head office, Montreal. H. A. Beatty, W. H. Wyman, A. Mercer, and R. D. Chipp, of Montreal, and R. Neill, of Peterborough, to be the first directors. The company propose to take over the business of the Kennedy Co., clothing manufacturers, of Montreal.

A Swedish firm has, it is said, solved the problem of knitting from ramie yarns and has established a branch in England to develop the business of manufacturing ramie underwear. The English agents are Hall, Nelson & Co., Lancaster avenue, Manchester.

A charter has been granted to H. Taplin, E. H. Moles, J. H. Brownlee, of Brockville, and H. A. Beatty, and J. J. Westgate, of Montreal, under the name of the Men's Outfitting Co., Ltd.; capital stock, $50,000; head office in Brockville, Ont.; the above mentioned being the first board of directors. The company proposes to manufacture clothing, and deal in clothing, hats, boots and shoes, etc.

In the suit of W. H. Leishman against the Garland Manufacturing Co., clothing manufacturers, of Toronto, judgment was given in favor of Leishman for $147.50, with costs. He sued to get $200 for alleged wrongful dismissal and arrears of salary, being a traveler for the firm. The company not only denied the wrongful dismissal and arrearages, but counterclaimed on the allegation that Leishman neglected his duty, sold goods for other parties, and had been paid by an overdraft of $200 for expenses. This counter-claim was dismissed with costs, and the judge held there had been a wrongful dismissal.

There are not many men in Ontario who have worked more devotedly than Edgar A. Wills, secretary of the Toronto Board of Trade, who when he took up this work, nearly twenty years ago found it a dead-and-alive institution, and worked up the membership in a few years to a thousand, representing the best elements of commercial activity in Toronto. On the occasion of Mr. Wills' marriage last month the members took advantage of the happy event to show their appreciation of his faithful work, and presented him with a purse containing over $500 in gold coins. At the same time the officers of the National Club, with which he had been connected years ago, gave him a complimentary luncheon and presented him with a handsome five o'clock tea set.

The Wholesale Clothing Cutters' Association of Montreal, at its last meeting, adopted the following resolution: "That, whereas, the attention of the Government has been repeatedly called by the different labor societies of Montreal to the existence of the 'sweating systems" in the clothing industry, affecting injuriously a large number of the laboring population, and being a constant menace to the public health, be it, therefore, Resolved, that we petition the Government to amend the Factory Acts so as to suppress this practice, and to appoint an inspector, conversant with conditions in the clothing industry, to enforce this law, and, resolved also, that P. B. Kennedy, president of our union, be recommended to the Government for this office, who by his long practical experience as a craftsman in this trade and his special studies relative to the alleviation of the sweating system, is exceedingly well qualified for such a position

Madame Rosa Coallier, doing business under the name of E. Lepage & Company, 280 St. Lawrence street, Montreal, has assigned on demand of Thibaudeau Brothers & Company, with liabilities of about $200,000. The principal creditors are: Thibaudeau Bros. & Co., $27,152; Debenham & Freebody, London, Eng., $18,572; G. Goulding & Son, Toronto, $4,778; the W. R. Brock Co., Montreal, $5,312; Bradbury, Greatorex Company, London, Eng., $2,794; Beaudry & Dumont (estate), $867; Wm. Agnew & Co., $396; Boivin, Wilson & Co., $536; Alfred A. Thibaudeau, $44,102; Consolidated Cloak Company, Toronto, $1,325; Continental Costume Company, $259; J. P. Adegrais Maison Co., $251; notes in sundry banks, $77,518; Harris Company, $357; King & Stuffmann, $671; S. J. McKinnon & Co., Toronto, $1,346; J. S. McBurney Co., Toronto, $344; National Corset Manufacturing Co., Quebec, $236.

EXTILE EXPORTS OF GREAT BRITAIN TO CANADA.

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

	January, 1900.	January, 1901.
Raw Wool	£ 2,007	£ 1,630
Cotton piece goods	93,296	87,733
Jute piece goods	11,830	10,906
Linen piece goods	23,736	22,933
Silk, lace	1,869	393
Silk, articles partly of	5,812	5,504
Woolen fabrics	36,168	50,781
Worsted fabrics	82,871	105,440
Carpets	24,778	26,289
Apparel and slops	20,934	18,983
Haberdashery	20,352	13,921

TWO-COLOR EFFECTS ON WOOLEN PIECE GOODS.

It was formerly only possible to produce parti-colored effects on goods of pure wool by weaving together yarns previously dyed of different colors. Even now this is by far the principal method. So much trouble, however, is involved in it that unceasing attempts have been made to find a simpler way, and they have, at least with some much used articles, met with success. The various proposals patented during the last ten years all depend on the same principle, viz., to mix mordanted with unmordanted wool, and then to dye the finished fabric in one bath with such dyes as will leave the raw wool either white or of a different color from the mordanted material. The same principle can be applied to cotton. Instead of mordanting the wool its affinity for dyes can be increased by chlorinating or by mercerization, so that diamine colors, of acid dyes can be used as well as adjective colors. It is, however, very difficult to regulate the action on the wool, so that it is very hard to secure uniformity. The time of exposure to the lye or chlorine, and the concentration and temperature of the bath are factors of great importance. Where two lots of wool treated in different chlorine or lye-baths meet, there is often a change in color where there should not be, and the goods are hence made unsalable. The chemical action of the soda lye is also to be feared. Very strong lye acting for a certain time strengthens the wool, it is true, but weak lye weakens it greatly or dissolves it altogether. The washing, after the action of the lye, requires great care and must be very rapid and thorough. The use of glycerine diminishes these dangers, but appreciably heightens the cost of production. It is also to be noted that these difficulties do not occur in the use of mordants of chrome, iron, copper, or alumina, which allow uniform dyeing although they present other difficulties of their own.

A patent has been taken out by Felix Meyer, of Aix, for preparing the wool beforehand in the loose state, instead of, as heretofore, in the yarn, and the so-called universal yarns are produced in this way. They are either mixtures of mordanted and unmordanted single fibers, or of mordanted and unmordanted yarns. The latter are used for mixed fabrics, and the former for jaspe and mouline fabrics. The chief advantage attending the use of these universal yarns is that the weaver is not obliged to keep a stock of colored yarns, so that he loses nothing by his stock lying idle or becoming out of date. The spinner, too, need only keep mordanted and unmordanted wool. The finished fabric can be dyed at any time.

The new yarns will not permit of every effect, but of a large number of the most current patterns, and their introduction is, certainly, an important step in advance.—Berlin Farber Zietung.

THE WOOL MARKET.

The wool market in Ontario has been stagnant during the past month. There is still no demand from the United States, but Canadian dealers are holding on patiently in the belief that prices are as low as they are likely to be, and that increased consumption abroad, if not at home, will improve the position. The new clip is now beginning to come in. Quotations are nominally as follows: Fleece, 14 to 15c.; pulled super, 17 to 18c.; extra super, 20 to 21c.

The Montreal market at present is dull. Some small sales are being made at prices in buyers' favor, but it is thought that rockbottom prices have been reached, and that a reaction will take place very soon.

The second series of the 1901 Colonial wool sales opened in London on the 12th inst., with a good attendance. There was a strong demand from the home trade. The continent took moderate quantity and American operators were quiet. A large selection of Cape of Good Hope and Natal sold slowly at old rates. Several parcels were withdrawn. A fair selection of merinos met with a good demand and sold freely at unchanged prices. Crossbreds were 5 to 7½ per cent. lower.

— The annual meeting of the Manitoba Sheep and Swine Breeders' Association was held at Winnipeg last month. In the course of the president's address and the long discussion that followed, the talk was all about hogs and the subject of sheep was not once mentioned. As the association appear to be going "the whole hog or none," they had better change their name.

TEXTILE PUBLICATIONS.

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

Loom Fixing; a handbook for loom fixers working on plain and fancy worsteds and woolens; containing chapters on shuttles and bobbins, and their management; head motion; putting in warps; filling; adjusting and starting new looms; chain building, etc.; 104 pages, by Albert Ainley $1 00

Technology of Textile Design; explains the designing for all kinds of fabrics executed on the harness loom, by E. A. Posselt 5 00

Structure of Fibers, Yarns and Fabrics, the most important work on the structure of cotton, wool, silk, flax, carding, combing, drawing and spinning, as well as calculations for the manufacture of textile fabrics, by E. A. Posselt 5 00

Textile Machinery Relating to Weaving, the first work of consequence ever published on the construction of modern power looms, by E. A. Posselt..... 3 00

The Jacquard Machine Analyzed and Explained; explains the various Jacquard machines in use, the tying up of Jacquard harness, card stamping and lacing, and how to make Jacquard designs, by E. A. Posselt..... 3 00

Textile Calculations; a complete guide to calculations relating to the construction of all kinds of yarns and fabrics, the analysis of cloth, etc., by E. A. Posselt.. 2 00

Wool Dyeing: an up-to-date book on the subject, by E. A. Posselt 2 00

Worrall's Directory of Cotton Spinners, Manufacturers, Dyers, Calico-printers and Bleachers of Lancashire, giving the mills of the British cotton district, with number of looms and spindles, products of the mills, cable addresses, etc $2 00

Worrall's Directory of the Textile Trades of Yorkshire, comprising the woolen, worsted, cotton, silk, linen, hemp, carpet, and all other textile mills, giving looms and spindles, and the various lines of goods manufactured, etc $2 00

Worrall's Textile Directory of the Manufacturing Districts of Ireland, Scotland, Wales, and the counties of Chester, Derby, Gloucester, Leicester, Nottingham, Worcester, and other centres not included in preceding works, with capacity, products of mills, cable addresses 2 00

The Wool Carder's Vade-Mecum, by Bramwell; third edition, revised and enlarged: illustrated; 12mo..... 2 50

CHEMICALS AND DYESTUFFS.

An improvement the last two weeks, enquiries for spring are numerous; market firm in all lines.

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 50	"	0 60
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 08
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

ABOUT ROPE.

All the fiber which is made into Manila rope comes from the Philippine islands. The plant resembles the banana. It grows from seeds and also from shoots or suckers, often to the height of 20 or 25 feet, having a tuft of leaves only at the top. It is difficult for those who live in temperate climes to realize the rank growth of tropical vegetation. When properly matured, the leaves are peeled off down to the bottom of the tree. The fiber is then separated, dried and cleaned, and tied in hanks, being from 10 to 15 feet in length; these, in their turn, are put up in bales of 270 pounds, in which shape the material is shipped to Europe and America for manufacture into rope and binder-twine. The fiber called Sisal is from a plant that grows in a wider extent of territory, but the best and most profitable country for its cultivation is Yucatan, now part of Mexico.

In manufacturing a rope, the fibers are first spun into a yarn, this yarn being twisted in a "right hand" direction. A number of these yarns are then twisted "left hand" into a strand. Three or four of these strands are then twisted "right hand" into a now completed rope. As the strand is twisted it tends to untwist the threads, and as the rope is twisted, it tends to untwist the strands, but retwist the threads. It is this opposite twist that tends to keep the rope in its proper form. When a weight is hung on the end of a rope, the tendency is for the rope to untwist and become longer. In untwisting the rope it would twist the threads up, and the weight will revolve until the strain of the untwisting strands just equals the strain of the threads being twisted tighter. In making a new rope it is impossible to make these strains exactly balance one another. It is this fact that makes it necessary to take out the "turns" in a new rope, that is, untwist it when it is put at work. The greater the twist in a new rope, the better it will keep its form, but it is not quite as strong, because the fibers are strongest in the direction of their length, and the greater the angle of the fibers, due to the twist of the strand, the less is their resistance in the direction of the center line of the rope. In bending over a pulley or drum, the rough fibers slide over each other, while under pressure from the load, causing internal chafing and wear. Open an old rope by untwisting the strands, and a fine powder will drop out, due to the cause just mentioned. The larger the drum, therefore, the greater the life of the rope.

—Among the street decorations at the inauguration of the Australian Commonwealth, at Sydney, was an arch of unpressed bales of wool, valued at about £7,000. It was 75 feet wide over all, with a height of 50 feet, flanked with imposing towers. The bales of wool were supported by piers built within the tiers, whilst a trussed web supported the arch construction. The whole of the timber was hidden, so that the arch presented the appearance of wool bonded like immense blocks of masonry. It was decorated with shields, a huge ram's head, and flags, whilst the front was embellished with the words, "Welcome to the Land of the Golden Fleece."

—In the ruins of a large ancient stone structure in Pajarato canyon, near Bland, New Mexico, an exploration party from Los Angeles recently found a quantity of pottery of great beauty, along with gold and other metal ornaments. There were also found some peculiar samples of cloth. It was woven in spirals, almost like a huge spider's nest. Around the fire-place in the room, which was excavated, stood a dozen large pots, each with bones of animals in it, showing that the inhabitants had suddenly abandoned the room while they were preparing a meal. Near some of the smelter

slag was found scorched corn, together with the bones of birds and other animals. Several baskets in the room were more beautiful than those woven by the Navajos to-day, but they crumbled to dust when touched. Iron knives, stone battle axes and polished stone reflectors, and several musical instruments, including a fife, were in evidence, and well preserved. Many human bones were found in the regulation burial mounds. In the building are 1,200 to 1,500 rooms, only one of which was excavated. There are hundreds of similar ruins in the 25 miles from Bland to Espanola, showing that in that district at one time lived more people than are in New Mexico to-day.

—The Anglo-Chinese Fibre Co. has produced samples of the raw Chinese grass as it is received from Hankow; and of the same grass carded, dyed, and undyed, and ready for spinning, as it will be prepared in the company's factory at home, its present appearance being hardly distinguishable from silk. Twenty bales have already been got ready for shipment home at the experimental factory at Hankow, and the company's process promises well.

—A New York Times special from Chicago, says: "According to reports received by clothing manufacturers here, the American Woolen Company owns millions of pounds of raw wool purchased at prices ranging from 15 to 20 cents a pound two years ago. The market price to-day brings only 11 cents a pound. The amount of surplus wool on hand at the last annual meeting was valued at $3,424,000. The clothing manufacturers are finding it to their advantage to buy cloth of the independent factories. A leading clothing manufacturer, of Chicago, who returned from New York to-day, declared that the backbone of the trust already had been broken, and that it was only a question of a few months when natural conditions would bring the combination to an end."