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THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVIII.

TORONTO AND MONTREAL, MAY, 1901.


No. 5.

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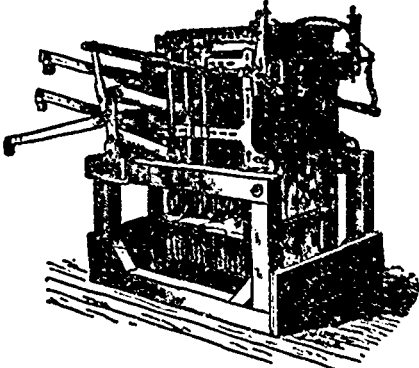
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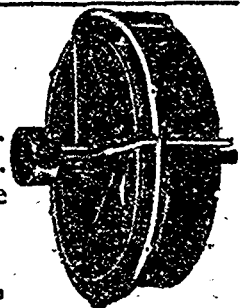
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THE CANADIAN TEXTILE DIRECTORY

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

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THE METRIC SYSTEM.

(FROM THE CANADIAN ENGINEER).

We have several communications on the subject of the Metric System of weights and measures. Two of our correspondents regret that we oppose the introduction of the Metric System into Canada. We regret that this meaning should be taken out of our article in March number, which was meant to enlighten the Toronto gentlemen who appear to think that all we need to do is to learn the metric tables and the whole thing is done. We wished to point out that in the engineering trades, particularly, a heavy expense is involved in changing machinery, tools, and stocks of goods, such as nuts, bolts, set-screws, etc., and that after all this is done, we have not got an ideal system of measurements. While we show this, we confess that the Metric System, with its admitted faults, is immensely superior

to our own jumble of inconsistent and inconvenient weights and measures. That it is superior to the system, or lack of system, in use in Anglo-Saxon countries, is made evident by the fact that starting with France, a little over a hundred years ago, it has found acceptance in one country after another, till it is now used by forty-four nations with an aggregate population of 485,000,000. The associated Chambers of Commerce, of Great Britain, seeing how foreign trade has been slipping away from their country, owing to the increasing use of the Metric System throughout the world, and to the fact that one country has adopted the system it never goes back to its own clumsy weights and measures, has at each annual convention for several years past, urged the adoption of the system; and, moreover, a special committee of the British House of Commons, in 1895, brought in a report recommending the change to the Metric System. The people and Government of the United States, realizing that their future foreign trade, too, depends on the adoption of a system which is already in use by almost every important non-Anglo-Saxon country in the world, except Russia—and that country also is coming into line—has ready a bill which is morally sure to pass at the next session of Congress, making the Metric System compulsory in the United States in 1903. The adoption of this law will simply compel Great Britain to fall into line, and Canada will have no other option.

In order to educate the Canadian public, and especially the engineering element of it, the publishers of The Canadian Engineer have prepared a metric chart, showing the meter in full size, and giving the principal tables and the key to the whole system on a single sheet. The fact that the entire system of metric weights and measures can be explained in five tables, on a single sheet, is, in itself, a proof of the simplicity of the system. This chart will be sold for office and shop use at the nominal price of 10 cents per copy, mailed free.

With reference to the foregoing article, we may add that the Metric System is already largely used in the textile manufacturing trades, and especially in the dyeing departments. The English-speaking chemist and analyst has already become convinced of the great advantage of the Metric System of weights owing to its simplicity and its conveniences in calculating by per-

centages, since its denominations are based on our decimal system of notation. The Canadian Journal of Fabrics would recommend every textile manufacturer to begin at once to familiarize himself with the Metric System, and will be pleased to forward the same chart at 10 cents per copy.

AN EXAMPLE FROM INDIA.

The recent decision of the Indian Government, to make fuller use of the products of the local woolen mills, will have a far-reaching effect, and might serve as an object lesson to other governments. Up to the present time, many local requirements in cotton clothing and in jute goods have been filled by local manufacturers, who have thereby doubtless received a stimulus to their trade for which they will rejoice, not merely from a financial point of view, but also for the recognition of merit and value, which to industries of new countries and colonies is like life and blood. The plant in the Indian mills is the best money could buy, the material is on the spot, and of accepted value the world over, and it is well known that some of the best brains from the cotton centres of England have been induced to transfer their sphere of labor from smoky Lancashire towns to India's sunny clime. One case in point comes to mind of an overseer in a well-known English mill, who has, by his transfer, risen to be a princely director, the only European in a syndicate of wealthy Indian merchants. But up to this time the woolen trade has lacked official recognition. The woolen goods and cloths were right enough for the natives, but for all official requirements orders were placed in England. To a large extent this policy will be modified with the new financial year, with the result that the Yorkshire mills will miss a considerable portion of the trade which regularly came in like the flowers of spring. It is expected that the new departure will eventually so work that all the forces, police, prisoners, and public officials, will be officially clothed in native goods. This is as it should be; for other things being equal, native industries on the spot, not merely have first claim to recognition, but they can also supply at rates, which defy competition. Woolen goods of Indian manufacture, though hitherto of imperfect finish, and liable to develop unpleasant odors of the fatty type, have at length, through skill and care, been improved, and the goods turned out at Cawnpore, Bangalore, and elsewhere leave nothing to be desired. Official recognition can no longer now be denied, and the recent action of the government in this matter is the result. The moral is plain enough, and other Colonial governments should do likewise. The principle is already acknowledged by our Dominion, which has effected a substantial contract for home made steel rails from the Clergue mills. However, the disastrous effect of the tariff regulations on our woolen

industries, might well cause Canadians to wonder by what process of reasoning the principles recognized in the rail contract, are so completely violated in the woolen question. Why should the puddler be patted on the back and be given a bonus, and why on the other hand should the wool worker be worried to his grave? Evidently the Indian Government can be loyal to the Mother Country, and fair to its own industrial interests.

—The United States exported to British and Portuguese South Africa, in 1900, goods to the amount of £4,127,428, as against £3,430,565 in 1899, an increase of over 20 per cent., in spite of the disturbances of the war. There are thirty-five classes of goods, the principal of which, beside articles of food and drink, are books, maps, cotton goods, leather goods, machinery and manufactures of metal, woodenware, and furniture, oils, turpentine and other manufactured goods. The chief increases were in animals, such as horses and mules for war purposes, while manufactured goods in many lines decreased owing to the war. Cotton goods fell off, for instance, from £123,391 to £65,314. Canadians should bestir themselves for this trade, for as soon as business settles down after the war, there will be a good opening for many of our products, including textiles. The fame Canada has gained by sending her young men to vindicate the principle of the equality of the races in South Africa, and to crush the attempt made to disrupt the Empire there, will dispose merchants to doing business with Canadians. Every Canadian now in South Africa is a living monument of this country's enterprise, as well as its loyalty, and therefore we do not regret the migration of our young men there, or their large representation in the forces now in the field, such as the contingent to Baden-Powell's constabulary. Every man will advertise Canada, and will be the means of educating the colonists of South Africa as to what this country is like, and what its capabilities are.

—The hosiery manufacturers of Nottingham and Leicester are much interested, not to say alarmed, at the statements made that the United States hosiery mills, following the United States carpet mills, are now shipping their products to England, to the very centres of the British hosiery industry. The Hosiery Trade Journal, commenting on recent trade figures, says: "Taking the figures inclusive of silk goods, etc., we find that out of the United States imports for the three years of about £3,173,859, Nottingham, Leicester and Derbyshire, the home of the English hosiery trade, contributes only about £161,524. Where is the remaining value of about £3,012,335 sent from? Hosiery exports from this district to the United States are decreasing, and hosiery imports to this country from the United States are increasing. Can any of our readers predict what will be the ultimate result if this continues?" A correspondent

of the same journal, commenting on the decline of the exports of British hosiery, attributes it partly to lack of technical education, in which the German rivals of the British knitter and dyer are so far in advance; and partly to the refusal of British manufacturers to adopt the metric system of weights and measures, which handicaps him in doing foreign trade. The latter reason is not thought so weighty, but another reason is considered more serious, and that is the statement that the British manufacturer has not improved the quality of his work as the German, French and American manufacturer has; nor has enough attention been paid to the point of doing up goods in an attractive style.

—Japan has certainly been a factor in the American cotton trade for years: first in the buying of manufactured goods, as well as in raw cotton; and later, after the introduction and establishment of cotton mills in Japan, in the purchase of the raw material. The usual history of industries has been exemplified in this respect, as far as the Japanese are concerned. They are an industrious, thrifty people, with originality, research and pluck, who evidently do not mean to be left behind in the struggle for commercial supremacy. They caught on to the latest American ideas in cotton spinning, and lured to the far East the most expert technical and practical cotton experts they could buy in the market. These men have educated the Japs to think and act for themselves in cotton matters. The American cotton growers had a fine market for their raw cotton in Japan, and things have been going on as merrily as wedding bells, when lo! the bolt from the blue is shot, and the news comes as fast as cable will convey it, that the Cotton Spinners' Union of Japan, which embraces the largest manufacturers of that small but busy Empire, have bought for shipment during the next few months, 250,000 bales of cotton grown in Bombay! This movement must undoubtedly greatly affect the American market. It is the intention to mix the Indian cotton with the American, and it is claimed that it can be laid down in Japan cheaper than the former. The Indian cotton growing industry will receive an impetus from this demand, which may have far-reaching effects.

—One might be engaged in a textile factory in Canada a year without knowing whether there was a factory act in existence. Whether this is owing to the laxity of inspection or to the absolute faithfulness with which the regulations are fulfilled by the factory owners of the two provinces (Ontario and Quebec), which have factory acts, is a question which may for the moment be left with the consciences of the parties responsible. What is worth noting is that in England one cannot live in a textile manufacturing town for a week without being made aware of the fact that a factory act not only exists on the statute books, but is

being carried out to the letter. A single issue of the weekly *Textile Mercury* will contain half a dozen cases of infraction of the factory laws. For example, Samuel Renshaw & Sons, waste manufacturers, of Bury, were summoned for employing a young person after legal hours, and John Slater and Fred. Hopwood, spinners, of the same town, were summoned for having a young man employed in the space between the fixed and and traversing portion of a self-acting machine, which was not stopped with the traversing portion on the outward move. The former were fined 10 shillings and the latter two shillings and sixpence. Healey Bros., rope manufacturers, Heywood, were fined £5 for failing to fence a shaft. In this case, the failure to fence the shaft had caused the death of a young woman. At Oldham, the Boundary Spinning Co., and the Henshaw Spinning Co., were fined each 20s. for allowing boys to clean a mule while in motion. Several firms of dyers in Huddersfield and adjoining towns were fined for causing a nuisance in the discharge of dyewaters and refuse; while manufacturing firms were fined for contravening local regulations as to the smoke nuisance. It is evident that in Great Britain laws are made to be enforced.

—Among a considerable section of our woolen manufacturers, there seems to be an apathy concerning the preferential tariff. In some cases this apparent apathy means that political sympathies are stronger than financial interests. In other cases manufacturers are apathetic simply because the flood of foreign competition has not yet swamped their particular line of goods, and until their own corns are trodden on, they are content to stand by and grin at the sufferings of their neighbors. As we have pointed out, the wave of prosperity has so affected all trades that even the special disabilities under which our woolen mills labor have not brought about the pinch to all branches of this trade, but the pinch will come along without doubt. What we would like to impress upon the Canadian woolen mill owners is the certainty of this event, and such action on their part as will compel the government to recognize the exceptional circumstances of the woolen manufacturing industry, and to provide the remedy, not when the mill owners have been ruined, but now before the evil is accomplished. A couple of months ago it was intended that a deputation of 200 woolen mill proprietors should go to Ottawa and lay the situation before the government, going into those details of which members of the Cabinet are certainly still ignorant. It was a tactical mistake that the mill owners allowed themselves to be switched off from making these representations in person; for some of the members of the government are under the impression that the formal statement made by the delegation was the whole case, whereas it simply touched the fringe of the subject. It is only when the catechism

begins at such an interview that light begins to dawn on a half-informed statesman. It is no libel on some members of the Dominion Government, however, to say that they are not earnest seekers after light on the woollen question just now.

—Our Yankee friends, not satisfied with having invaded the British market with their carpets and their cotton goods, have gone there with their clothing, and not only do they claim to have done a big trade in shirt waists, during the past two seasons, but one American firm, as reported in another column, has taken a second large order for felt hats for the British troops in South Africa, in competition with British hat manufacturers. If anyone had told an English hat manufacturer, ten years ago, that a United States firm would take an order from him, in the open market, he would have been laughed at. Taking the carpet trade, as a sample of these changes, the remarks made by John Brinton, the English carpet manufacturer, now in his 74th year, will be of interest. Mr. Brinton said to an interviewer of the Kidderminster Shuttle: "Reference was made to the hold which English carpet manufacturers once had upon the American market, and Mr. Brinton expressed the firm conviction that but for the adoption of an enormous protective system, Cousin Jonathan would not have been able to keep the British manufacturer out of his country. As things now stand, it is almost impossible to do any business with the States. The carpet industry commenced in Philadelphia nearly forty years ago. By degrees the Yankees attracted many of the skilled mechanics and best weavers from Kidderminster and the North, and in that way England taught America how to make carpets. The Americans were a very ingenious and persevering people, as was shown by the many patented carpet looms, which had been produced by them. No doubt they would as years went on become even keener competitors with English manufacturers, although Mr. Brinton did not believe they would ever get a hold upon the English market for their goods. They had a footing in Canada, South America and other markets, so that the home producers were already seriously threatened. At one time, added Mr. Brinton, about one-third the looms in Kidderminster were engaged on American orders, and now only 'specialties' were locally made for the American houses."

THE WORLD'S LINEN TRADE.

The seventh of the series of lectures on textiles, delivered in London by A. E. Garrett, F.R.S., had for its subject the linen trade. Linen, said the lecturer, was the product of the fibers of the flax plant, which was cultivated in Ireland, Russia, Germany and France. The Russian flax was chiefly used by English and Scotch manufacturers. The flax plant was not always cultivated for the purpose of linen manufacture. The seeds of the flax plant, which were called *linseed*, were a val-

uable product, and in some countries the flax plant was cultivated mainly for these seeds. In India it was cultivated, as far as he could ascertain, only for the oil which was obtained from linseed, and there was little doubt that its cultivation in India was carried on for the sake of the fiber as well as for the oil, or instead of the oil, the flax industry might become a rival to the jute industry of India. In South America flax was also cultivated almost entirely, if not entirely, for linseed. It was a well-known fact that the flax, as distinct from the linen industry, was on the decline in Ireland. In Buenos Ayres there was as much as 500,000 tons of linseed on hand more than was required for home use, and, therefore, ready for export purposes. If there, they could supply such a large amount as that so easily, they might be able to supply a good deal of fiber as well.

The manufacture of linen was carried on in most European countries and also in the United States of America. But it was in the British Isles, France, Belgium and Germany that the industry had attained importance. Belfast and other towns in the East of Ireland, Dunfermline, Kirkcaldy, and other towns in the East centre of Scotland, and Barnsley in England were the chief centres for the manufacture of linen in the United Kingdom. Before the flax was manufactured it underwent a process known as "striking up." By that process it was arranged in handfuls, according to whether fine or coarse. The handfuls were then "combed out" or "hackled" by machinery, in order to remove any of the woody, useless matter, along with any short fibers that might be in it; but, for very fine work, there was still nothing better than the old process of hand "hackling." After "hackling," the flax entered upon the first operation in the formation of yarn, passing through a machine known as a spreader, where it was formed into a sort of chain, known as a sliver. The sliver was very unequal in thickness, and it was therefore passed through an equalizer machine, or drawing frame as it was sometimes called, by which it was doubled and drawn out as far as possible. The operation was repeated two or three times until the sliver was equal in thickness. It was then passed to a roving frame where it got a slight twist which could be regulated as required, and where it first received the form of thread. It was, however, called "Nove." That material was ready for the spinning frame, which consisted essentially of two pairs of rollers, the first pair fluted and moving slowly one against the other, thus passing the material to the other pair while still holding the rove firmly. The second pair revolved with such increased velocity that the rove was drawn out to any required degree of fineness. Twisting, which was commenced in the roving frame, was repeated in that operation, and the thread was wound on bobbins. The yarn was then next reeled from the bobbins on to large reels, 99 inches in circumference, and was then ready for the bleach field or weaving factory.

Bundles of yarn intended for the warp were rewound on bobbins from the reels by a warp-winding machine. The bobbins were then arranged in a framework, and the warp was prepared for a dressing of starch and after being drawn through a comb and a reed it was passed on to the loom. The loom was the machine by which the weaving was done, and might be one which could be used in weaving plain cloth or geometrical patterns, as the Dobbie loom, or patterns which were not exactly geometrical, as the Jacquard loom. Machines, called creppers, or cutters, were used to remove any little imperfections there might be on the surface of the cloth. To make the cloth take the finish or a gloss it required first of all to be damped by being passed through a damping machine. It was then passed through a calender, where it passed round heavy rollers under great pressure, and thus the gloss was obtained. Each web when completed was measured, sometimes by being passed round a drum exactly a yard in circumference.

The industry in Ireland had assumed greater dimensions than anywhere else in the world. In the reign of George III. the staple industry was woollens, but it had now almost disappeared. The facilities or natural advantages which Ireland enjoyed for carrying on the linen industry were provided by her soil, her atmosphere, and her springs.

The success which attended the manufacture of flax at Courtrai might be attributed in a great measure to certain properties possessed by the water of the river Lys, which imparted to the flax a remarkable fineness or spinning quality combined with extreme tenacity. The peculiar virtue with which nature had endowed that stream would appear to have baffled scientific research. The demand for flax prepared in the Lys has greatly increased during the past ten years, and the amount of fiber brought for treatment on that river became annually larger. The local crop no longer sufficed to meet present requirements, and immense quantities of flax arrived from foreign countries, especially Holland and France. The quantity of flax straw retted in the River Lys last year was about 60,000 tons, some 12,000 to 15,000 laborers being employed. About 10,000 tons of scoured flax were sent in 1898 to Great Britain and Ireland, the greatest part going to the latter country. Other countries, such as Germany, Austria, Russia, France and America received the remaining portion of the flax exported. Spinning was, however, carried on at Courtrai only to a very limited extent. The number of machine weaving factories in the Courtrai district amounted to about 20; the number making use of the hand-loom system was, however, much larger.

Foreign flax to the value of £3,000,000 was now imported, but since flax could be so readily grown, there was no reason why some of the money might not be earned at home, in view of the prevalence of agricultural depression. Belgian flax realized £74 per ton, as against Irish at £56 per ton. The area under flax in Ireland had decreased from 305,000 acres in 1864 to about 70,000 acres at the present time.

Summing up, Mr. Garrett said the linen trade of the United Kingdom was suffering from competition with other countries, and the competition for a number of years had been keenly felt. The imports of foreign yarns, as distinct from flax, had steadily grown from 3,000,000 lbs. in 1875 to 20,000,000 lbs. at the present time. The decline was, Mr. Garrett thought, possibly due to the somewhat more rapid strides which technical education had made on the Continent. The exports of yarn had fallen from 28,000,000 in 1875 to about 16,000,000 lbs. at the present time. One of the countries which now sent much less raw material was Russia, due to the fact that that country was fast putting up factories. Only the finest class of linen goods was now imported into Russia, and, he believed, almost exclusively from Ireland.

A GRIM JOKE.

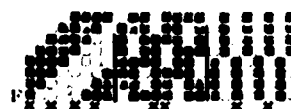
The rate on wool from Bradford (England), to Toronto is 17 cents per cwt., while from Hamilton to Toronto it is about 50 per cent. higher. This discrimination, previously quoted, seems like a joke, but it is a serious matter to the wool raisers of Canada, who must compete with foreign products, while paying excessive local rates. These rates are in effect either an import bonus or a domestic tax levied by the railways. There are lines of goods shipped to Britain from Toronto at rates actually lower than to Halifax. In some cases, they were shipped by way of Halifax, and it would cost more to have them remain in that city than to have them put on a vessel and carried across the Atlantic.

—The last scene in the demolition of the famous West-houghton old mill at Bolton, England, which achieved a notoriety in the early part of last century from the fact that several persons were hanged at Lancaster Castle for burning down the structure, was witnessed last month, when, in the presence of hundreds of people, the remaining portion of the once fine chimney was razed to the ground. The brick base-ment of the chimney having been taken away and replaced by timber supports, gallons of paraffin and tar were thrown on the inflammable material. A light having been applied a huge flame burst forth, and the structure fell to the ground in a heap. A remarkable incident, in view of the many times the chimney has been struck by lightning, was that immediately it fell a vivid flash was seen, accompanied by loud thunder.

Textile Design

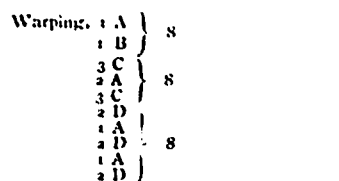
By "TEXTOR" IN TEXTILE RECORDER, MANCHESTER.

Design No. 1 is a fancy striped worsted trousering. silk and worsted twist yarns produce lively and pleasing effects when the silk threads are not too prominent, and only display their presence at close quarters. The following warping details are a good example of silk twist, in combination with other colors and three weaves:



Place threads A where marked X
DESIGN NO. 1

Warp A, 1 thread red silk—spun 150,000 yds., twisted to 1/20's olive worsted, 20 turns per inch; B, 2/40's olive worsted; C, 2/40's navy blue, D, 2/40's black, 5,280 threads, 66-in. wide in the loom. On 24 healds, straight draft. Reed, 4/20's. Weft D, 2/40's black, 72 picks per inch. Shrinkage, 6 per cent. Clear finish, 56-in. wide. Weight, 17 oz. per yard.



24 threads in the pattern.

Design No. 2 is a vicuna cloth of carded woolen yarns. A very serviceable cloth of fine or medium quality may be produced by the following details, which permit the employment of mungo in moderation in the material for the blends. The fulling and finish to be the same as a melton cloth, but the cropping not close cut. The warp yarn should be twisted to the left, and the weft opposite twist to the right, and as soft as will weave well.



Weaving, 1 pick face weft
1 " back " X
1 " face "
3 picks repeated.
57 picks per inch.

Warp, woolen, spun 21 yards per dram.; 3,500 threads, 74-in. wide in the loom. On 6 healds, cross drafted. Reed, 4/14's. Face weft, 21 yards per dram. Back weft, 14 yards per dram. Fulling and melton finish, 56-in. wide. Finished weight, 24/25 oz. per yard.



The above shows a trousering of very pretty design. The cross-stitch stripe could be well employed for more fancy goods, such as dress fabrics, but by means of subdued coloring is not out of place in the present instance. The design is given in the lower figure, the light threads being shown by dots, the dotted portion to the right of the design being that which gives the cross-stitch effect. The weft is single-fold black woolen, whilst the warp is two-fold worsted throughout, warped as follows:

1	1	end navy.	1	1	end black.
Times	1	" black.	Times	1	" navy.
Twice	1	" lavender.	Twice	1	" black.
	1	" black.		1	" twist.
	1	" navy.		1	" lavender.
	1	" lavender.	Twice	1	" twist.
	1	" navy.		1	" black.
Twice	1	" black.			
	1	" lavender.			

—Textile Manufacturer, Manchester.

DYE-HOUSE DISEASES.

Dr. Schuler, factory inspector in Switzerland, describes in his last annual report certain appearances of illness in dye-works, and his remarks will necessarily interest foreign readers. He begins with chrome mordants, and reports on a factory where some of the dyers who used them suffered from eczema and fissuring of the skin of the hands and arms. This was first taken for the itch, but when its true cause was ascertained, those found to be subject were put to different work. Two deaths have been caused in Zurich by mineral acids. The mixture of all three used by silk dyers is especially dangerous, for if it should be spilt it gives off suffocating nitrous fumes.

Throwing down water, a thing often done in such cases by thoughtless or ignorant persons, only makes matters worse. Attempt to make unbreakable flasks for the acids, or to protect ordinary flasks in some way have not succeeded. The only thing to be done is to use stronger and smaller ones, and to impress upon the men the necessity for more care. Even in chemical works, where processes are carried out almost in the open air, precautions have to be taken to prevent acid vapors from reaching the lungs of the workmen, and the fumes of sulphurous acid supply a very powerful argument in favor of replacing it as a bleaching agent by peroxide of hydrogen and water glass.

Certain finishing processes often cause a spray of hydrochloric acid, which in the best constructed apparatus is drawn away by a fan. In dyeing with aniline black the vapors of kinone are very apt to cause severe inflammation of the eyes, and a special case is mentioned in Dr. Schuler's report. A man who had long been employed in dyeing aniline black in a badly ventilated place developed yellowish white tumors in the eye, between which mucus and tears collected. The cornea was badly affected, and the lens was darkened with minute

particles of dye, which had penetrated the softened epithelium, and it was found on enquiring that numerous other aniline black dyers suffered in a similar way, although in this particular case the symptoms were specially severe.—Textile World

DYEING OF UNIONS WITH DIAMINE DYESTUFFS.

For drabs, fawns, etc., Diamine Catechu B is an ideal dye-stuff being fast to light, stoving and hot pressing; in conjunction with Diamine Fast Yellow B and Diaminogene B, varied shades are obtained, which are level and fast to light.

In the dyeing of light shades it is important to keep on the light side of the pattern, since, if the shade be too dark, it is very difficult to strip the wool, which indeed can only be done effectively by means of potassium permanganate and sodium bisulphite.

Again, in dyeing shoddy unions which have been stripped with potassium bichromate and sulphuric acid, it is best to neutralize the goods thoroughly with alkali previous to dyeing, otherwise uneven results will be obtained.

Dress goods and crepons containing mercerized cotton are dyed with less sodium sulphate than usual, the material being entered into the dyebath at or near the boil, and the boiling continued during the whole of the dyeing process in order to cover the wool. (The ordinary process consists in dyeing for a considerable time below the boil.) In this connection, avoid dyestuffs which have a greater affinity for cotton than wool.

In the case of dark shades, the mercerized cotton has a tendency to dry up bronzy, but this appearance can be removed by running the goods for fifteen minutes in a fresh hot bath containing sodium sulphate. In all cases, the addition of a small amount of acetic acid in washing is recommended.

Two-colored ("shot") effects upon crepons are obtained by dyeing the wool with acid dyestuffs, washing and dyeing the cotton in a cold concentrated bath containing sulphate and carbonate and substantive dyestuffs: Diamine Black RMW, Diamine Black BH, Diamine Sky Blue, Diamine Fast Yellow A, and Diamine Orange D, are largely used in this connection. However, where the cotton is to be dyed black, the following process is employed:

Dye the cotton with Diamine Black BH at 100° F. (if higher temperature the wool will be stained), diazotize and develop with Phenylene Diamine, and finally dye the wool in acid bath. Quite recently a new method of dyeing, by a combination of the dyeing and milling process, has been adopted, chiefly for the production of black. A full black is obtained by adding 1 to 1½ per cent. of Milling Black B to the soap solution and milling for at least sixty minutes; the wool, which is only slightly but uniformly tinted, is dyed in acid bath with 2 to 5 per cent. sulphuric acid, and the boiling is reduced to a minimum in order to diminish the bleeding effect of the cotton.

The addition of sodium sulphate in the milling yields a more intense black, but this advantage is more than counter-balanced by the increased scouring which is necessary to remove the soap in the presence of a salt, and which consequently diminishes the intensity of the black. In all cases, scouring must not be done at a temperature above hand warmth, nor for too long a time.

Generally, most substantive dyestuffs can be applied in the manner described, only they are not fast enough to acids to withstand cross-dyeing. However, for mixtures in which the wool has been dyed either in the loose state or as yarn, the cotton is advantageously stained or even dyed to shade by adding the dyestuff to the soap solution in the milling process; moreover, this procedure is more economical than the older process of dyeing the cotton cold in the washing machine.—Textile Colorist.

THE "MALARD" WOOL-SCOURING MACHINE.

Having read an article by M. Vandembosch, engineer in a spinning mill at Wambrechies, on the Malard wool-scouring machine, W. P. Atwell, the United States Consul at Roubaix, sought the author, and obtained from him the following description of the machine:

The machine serves a triple purpose: It scours perfectly, eliminates from the wool secretions from which industrial potash is obtained, and thus renders the water that passes off into streams less poisonous. The complete purifying of the waste water may be effected by the addition of less acid, as the acid is not neutralized by the presence of salts of potash. The machine is an invention of M. Georges Malard, a Tourcoing engineer, and has been patented in France and other countries, including the United States. It is largely used in France, some combing establishments producing annually more than 2,204,600 lbs. of potash obtained from wool grease, and selling it at prices ranging from 27s. to 38s. per 100 kilos. (220 lbs.) of carbonate. The potash is obtained from the soluble grease secreted in the raw wool, which is run off in the scouring process in concentrated liquid, having a density of 12° to 13° Baume areometer (corresponding density 1.0744 to 1.099). This liquid is evaporated and calcinated in special ovens made of masonry, and leaves a saline residue of spongy form and grey blue in color. This product is known as wool potash, and contains from 75 to 90 per cent. of carbonate of potash, and very little soda. It is much used in the Roubaix district in glass-works, in the manufacture of soap and chemical products, in the preparation of refined and caustic potash, and in the manufacture of prussiate of potash. It has thus great commercial value.

The Malard scouring machine is very simple, requiring neither cellar, cistern, nor upper storey, like the old machines. It is movable, works on a level, and, being automatic, requires no special superintendence. One workman can easily feed several machines extracting the grease, and consequently several washing machines, since the wool leaving the first machine falls directly into the first tub of the second, or washing, machine, which may be of any pattern.

The wool is first spread on an open-work metal plate of about 6½ yards in length, and is carried over this to the first washing bath. The plate is of malleable sheet iron and serves to carry the wool in layers of 25 to 50 centimetres (9.8 to 9.16 inches). It is the invention of M. Paul Malard, of Tourcoing. It is extremely solid, holds its shape, and lasts indefinitely, as it offers the maximum of resistance. This plate is placed over a vat divided into six compartments, which is placed next to the receiving tub of any washing machine. A battery of centrifugal pumps puts in motion a small quantity of the liquids contained in the compartments, so that they moisten and pass through the layer of wool, eliminating its grease. The wool in its progress receives each one of the dissolvents, the strength of which decreases in regular proportion as the wool reaches the point from which it passes into the receiving tub.

The pumps are worked by a single belt, and are started into action simultaneously with the plate, by a single turn of the gear. An ingenious mechanism produces the automatic evacuation of a variable amount of the first grease drippings, when sufficient density is obtained. Hinged valves worked by floats constantly maintain a high level in each of the compartments of the machine, so that they neither overflow nor get empty. The automatic passage of the liquids from one compartment to another is obtained by means of these hinges. This passage is regulated as required, and is in an opposite direction from the movement of the wool. A very simple and absolutely sure contrivance regulates the supply of warm water for rinsing.

This water, which takes the last alkaline traces from the wool, then passes into the last compartment of the machine. Its flow is constant, as it must supply the loss of liquid sustained by the receiving compartment, which pours the liquid through succeeding compartments by means of the valves spoken of above.

The automatic operation of the machine, regulating the duration of the cleansing process, preserves the strength of the wool and gives a clearer white. The wool is impregnated successively with liquids that lose in alkaline properties as they gain in heat, until the wool reaches the temperature of the first washing bath. The Malard machine permits absolute cleansing or partial cleansing to any degree desired. All the wool may leave the machine carrying a portion of grease regularly distributed, or it may be absolutely freed from the grease that clings to its filaments, by means of six liquids of decreasing density (12, 9, 7, 5, 3, and 1 Baume), then by rinsing in warm water.

The liquid products are usually 2 greater in density than in other modes of extraction, and this can readily be raised to 10° even with lambs' wool, which is not rich in fatty matter. This is regarded as a notable feature, in view of the constant rise in price of coal. Australian wool gives about 160 grammes of carbonate of potash, and fine qualities of Buenos Ayres as high as 190 grammes to each kilogramme of combed wool.

The Malard machine has a capacity per day of ten hours of 140 to 320 cubic feet of grease, 12 Baume, according to the kind of wool and capacity of washing tub. Each cubic metre (35.36 cubic feet) yields about 78 kilogrammes (172 lbs.) of wool potash, selling for about 12s. per metre.

REVOLUTION IN CARPET MANUFACTURE.

Entirely new machinery for carpet weaving has been in operation for some time past in Lucerne. It is of such a nature as to be likely to revolutionize the manufacture of pile fabrics of the kind now so extensively imported from the East. The Oriental weaver, with his hand loom, requires one day to produce one square yard of carpet; by the new machinery, fabrics identical in every material respect can be turned out with a ten-foot loom at the rate of 35 square yards a day. The inventions are those of Otto von Halleneleben. They comprise certain mechanical operations that do away with a large proportion of manual labor, and are calculated to have a very important influence on this branch of the textile industry in Great Britain and other countries. The Halleneleben inventions consist primarily of a shuttleless loom and an automatic system of yarn dyeing. This is the first time a practicable shuttleless loom has been produced, and its introduction is expected to create a great effect on the Bradford cheap carpet trade, seeing that low-grade material, such as cowhair, formerly practically waste products, can be woven by this loom as perfectly as any yarn now in use. The inventor has been successful in adapting his machinery to the production of carpets of the Brussels type, producing two carpets simultaneously at one operation, thereby doubling any given output in the same time.

It is, however, the automatic system of dyeing the yarns which is anticipated to produce the broadest effects in the general textile industry. The system produced by Halleneleben is radical in its departure from existing methods. Instead of using drums with their cumbrous accessories and large number of hands, Halleneleben, by one simple apparatus, produces three times the output with only two assistants. The dyeing is stated to be a true liquid dye, no molasses or other thickening material being required.

The entire process, as in operation in Lucerne, has been most exhaustively examined by James Wade, the well known

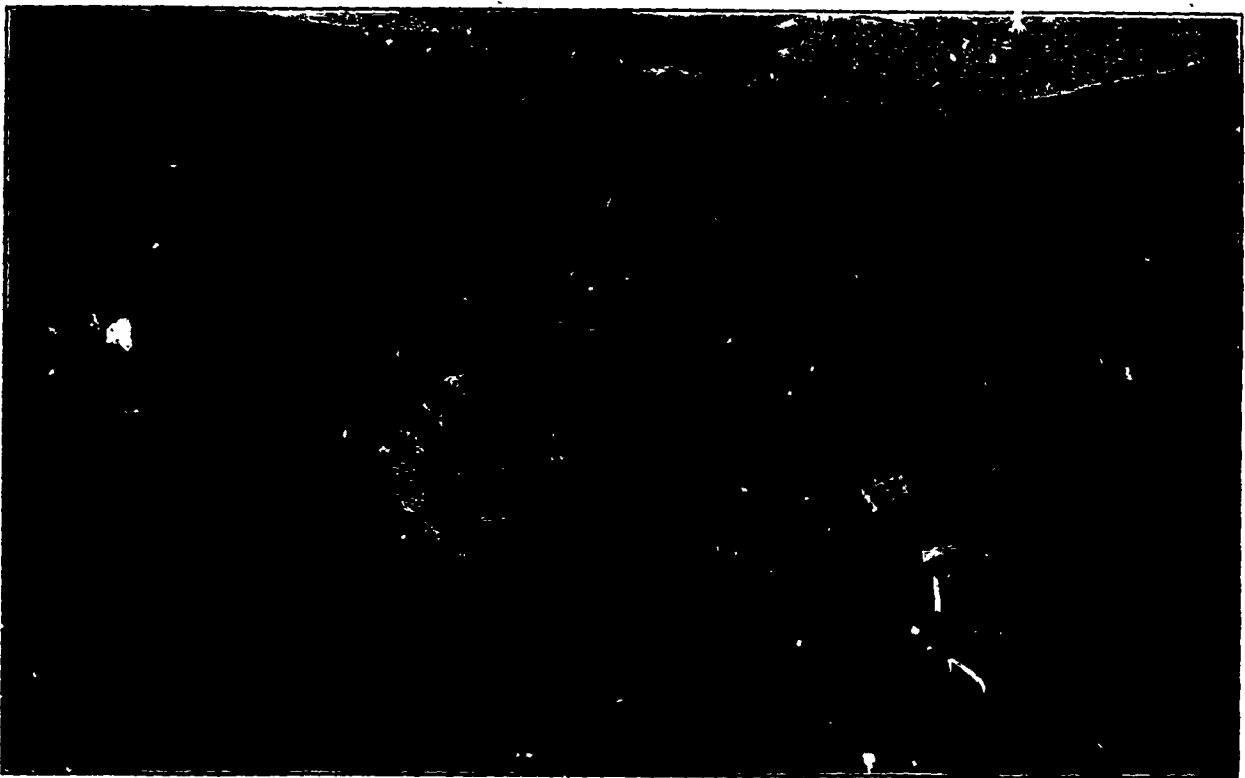
textile expert, who in his report expresses the conviction that it will effect a complete revolution in the carpet industry wherever established. The patents for the whole world, including those already issued for Germany and the United States, have been acquired by a British syndicate.

STRIPPING THE COLOR FROM TEXTILES.

Leopold Cassella & Co., Frankfort, whose agents in the United States are Wm. J. Matheson & Co., Ltd., have patented in Germany a process for stripping dyed fabrics. The patent specifications state that the methods heretofore employed for stripping colors from fabrics, involve the use of as much hydrochloric, sulphuric, or other acid as could be used without destruction of the fiber. Carbonic acid and alkalies have also been used in as strong solutions as the wool fiber would stand. By these methods, the fiber is seriously injured, while many of

high price of the material, and their practical workings left much to be desired.

The patentee claims that he has found in hydrosulphite of soda a material which will destroy the most solid color without injuring the fiber, which can be recolored. He states that there is scarcely one artificial or natural dyestuff which can resist the action of this acid. The method is very simple. A solution of hydrosulphite of soda and cold or lukewarm water is prepared. The material to be stripped is allowed to stand in this solution until the color becomes bright enough to receive the new color. Generally, from two to four hours will be found sufficient to strip the color, although if necessary the material may be left to stand in the solution over night. Toward the end of the operation the process may be facilitated by heating the bath. The tub should be well covered during the process. If the color has been sufficiently stripped, the material should be well washed in cold water, and is then ready for the new color.



Interior view of new shops of Richard Schofield, Court Street, Toronto. Manufacturer and Repairer of Knitting Machines and Special Machinery.

the colors resist the action of these solutions. Spirit of nitre, or a mixture of it, with hydrochloric or sulphuric acid, has been employed, but this did not answer the purpose, because, while it stripped the dyestuff from the thread, it left the fiber of a yellowish color, and made it impossible to color the material again with colors that were complimentary to this yellow, such, for instance, as violet or blue.

Hot alkali solutions are particularly injurious, especially to the animal fibers, as they destroy more or less of the natural structure of the fibers which become matted or felted together. This shrinkage is very objectionable for dress goods. The vegetable fibers become rough and woolly by being treated with alkalies, while acids impair their strength.

Dyers sought to avoid these difficulties by treating the material with potassium permanganate, and afterwards with bisulphite of soda, or an alkaline solution of wasserstoffsupperoxyd. The use of both of these methods is restricted by the

The patentee claims a new process for stripping colors from textiles which have been dyed with artificial or natural dyestuffs, by the use of hydrosulphite, or its salts, in particular with acid hydrosulphite of soda. The advantage of this system, it is claimed, consists in the fact that the color is much brighter if the hydrosulphite is used, rather than sulphuric or other acids.

The objection to this process is the high price of the hydrosulphites. This hydrosulphite can be obtained from several sources, but either the price is very high, or it contains so much alkali that a large quantity of acid must be used in order to strip the colors from wool. Since solutions of hydrosulphite cannot be kept for any great length of time, it is necessary for the dyer to prepare it himself, by mixing zinc dust and bisulphite and slowly stirring them together. Ten parts of bisulphite, 38° Be., is mixed with 12 parts of cold water, and one part of zinc dust is slowly added.

Foreign Textile Centres

MANCHESTER.—Two factors affecting cotton values, on which we have already several times commented, have continued strongly in evidence, says the Textile Mercury. These are—the continued quietness of the trade, and the large receipts of cotton compared with last year's deliveries. The trade boom is over, and there is now among cotton users an earnest endeavor to reduce their stocks to the smallest working compass, which is an entire reversal of their policy of last year. Naturally, growers and dealers did not like to believe that cotton would rush down in value as it had rushed up, and they did all in their power to prevent it. Hence cotton was held back as much as possible by short-sighted sellers, thus giving those who looked further ahead the much desired opportunity of realizing at 1½d. per lb. over current quotations. In the meantime, the consumer patiently waited, confident that the steady approach of the new crop will force the remains of the old one from their hiding places. This is now taking place. The average weight of this season's bales is almost 8-lbs. per bale more than that of last year's. Should the total outturn of this season reach 10,000,000 bales, and this excess continue, it would reckon out as an additional 160,000 bales, or nearly three weeks' supply for the English trade. Prices have kept remarkably steady for middling spot. This has meant a shade over ¼d. for the current month's futures.

BRADFORD.—This market has been very quiet, with a continued disposition to await the result of the London sales, as there is a difference of opinion between buyers and sellers as to the probable course of prices. Topmakers are confident that their attitude will be confirmed, but spinners are apparently content to take their chance. Under these circumstances the turnover is very small, but merinos maintain their position. The finest cross-breeds are steady, but medium and lower qualities are weak. English is neglected, and the outlook is very unsatisfactory. Mohair is quiet. In the yarn department only those engaged on botanics are well employed, and even they are not booked far ahead. Machinery in lower counts is not fully employed, and values are exceptionally low.

LEEDS.—The finer grades and most of the medium qualities of wool maintain high rates, but manufacturers are not disposed to do more than keep themselves covered. In cotton warps there has been a partial reaction after the recent decline. Opinions differ as to the future course of prices of the raw material, but at present manufacturers are keeping themselves supplied. The colonial demand for worsted and woollen piece-goods has slightly improved, but the shipping trade is still depressed, as the excessive stocks acquired last year have not been cleared. The change in the weather has benefited the makers of ready-mades, and a fairly good summer trade is expected.

HALIFAX.—The following is the trade report for April of the Chamber of Commerce: Woolens—We cannot report any improvement in this branch during the past month. Merchants appear to be assuming a waiting policy so far as winter goods are concerned. Wool—Business in this branch continues in a very slow and unsatisfactory condition. Carpets—There has been a falling-off in the number of orders this month. Worsted Yarn—There has been little, if any change to better the condition of spinners during the month. Some new contracts have been placed, and for super qualities at slightly advanced prices, but the higher rates demanded for merino wools and tops still leave spinners without a margin of profit. Cotton—Shipping yarns remain inactive and generally unsatisfactory. Fustian manufacturers and wholesale clothiers continue fairly well employed. Spun Silk—As regards orders the

past month has been quiet, and spinners are not well employed. Prices tend to weakness. Slubbing and Yarn Trade—There has been a little more stirring in this department during April, but the piece-goods trade has been exceedingly quiet. Pieces—There is no improvement whatever; the cold weather of March dispirited merchants, and very few orders are being placed either for home or abroad.

LEICESTER.—The hosiery industry has experienced a revival; stocks are being rapidly cleared and autumn contracts are for larger quantities. The yarn market is healthy and more active. Choice cashmere yarns are firm and medium steady. Good medium worsteds for special purposes are in strong request at very low prices.

NOTTINGHAM.—The demand for lace is not sufficiently active to give any buoyancy to the enquiries for cotton yarns. Quotations for lace and curtain yarns have not been fairly tested. Some of the higher counts are moving steadily, but heavy qualities are languid. The tendency of bobbin nets and plain tulles continues in favor of buyers, and speculative orders are less freely placed. Cotton millinery laces are in favor, but orders are sparingly placed. There is a superabundant supply of ordinary goods. A few specialties both in cotton and silk are well engaged. Full employment for machinery is not general.

KIDDERMINSTER.—With a few exceptions, the carpet looms are running steadily. Business generally is not brisk for the time of year, though the "Kidderminster Shuttle" reports overtime work on special orders, but there is now a prospect of a busy time through the spring and summer. The yarn trade, especially in worsteds, is very flat. Particulars are kept down to the lowest possible limit, and very little buying is taking place. Prices have sunk to a very low level, and it cannot be said that there is any alteration one way or another. Their improved demand for Wiltons of better class and Axminsters make a steady sale.

KIRKCALDY.—There is no material change in the condition of the weaving industry, and no substantial improvement in the trade can be looked for at present. The position in the linoleum and floorcloth industry is unaltered, excepting that prices of material are now coming round again towards their former level, and in consequence the outlook has so far brightened.

DUNDEE.—The market is stronger for jute and all kinds of jute goods. Calcutta reports have expressed anxiety regarding the want of rain. Sowings must be late, but the latest wires give the welcome news of abundant rain. In the meantime the price of jute has steadily risen until "firsts" are £14, a rise of quite 30s. a ton from the bottom. The news of rain has not caused any fall. Good parcels of jute are still firmly held. The flax trade is still quiet and unsatisfactory. In flax, tow, and codilla there is no change, and the same must be said of linens. Bleachers have great difficulty in getting prices for yarns which will cover cost. Warp yarns, although not particularly so much ahead, are much more saleable than they were. The finer qualities are rising. The demand is mostly on home account, although there is some enquiry for the export trade going round. Hessians are quoted dearer in all widths, but business is quiet. Sackings and baggings are also quiet.

BELFAST.—So far from any improvement taking place in the linen market the trend of business is rather the other way, says the correspondent of The Drapers' Record. The high prices current are, undoubtedly, the main cause for the stagnation, but, although in some instances large buyers might be able to obtain fractional concessions, the present and prospective scarcity of flax and consequent high rates of raw material will render any general or material reduction an impossibility. It is likely that the dulness in the linen market

will last for months to come. The demand for yarns hardly covers production, but rates remain practically unchanged. Spinners are more inclined to stop spindles than to increase stocks. Tow wefts are very scarce, but line yarns have been rather slow of sale. Business in the brown cloth market keeps quiet. A moderate trade is passing in cloth for dyeing and hollands, and tow-made goods are selling steadily. Unions are in quiet request, and sales of damasks and household lincens have fallen off again. Linen handkerchiefs are not doing so well as before, but the demand for cotton handkerchiefs is fairly well maintained. Hand-loom lincens for bleaching are still dull. In the bleached and finished end of the trade there is little activity. The home warehouses have failed to send in the usual spring orders. The making-up factories are also feeling the pinch of bad trade, and the outlook generally is not of the most hopeful character. Business on export account has been small. The slight improvement in demand from the United States has not continued and Canadian trade is sluggish.

CHEMNITZ.—Since last report, says the Dry Goods Economist, the situation of the market has not much changed. Several days were lost by the Easter holidays, during which time nearly all buyers went to Dresden, as Chemnitz is a rather lonely place for strangers during such holidays. Shipments also fell short. Stock orders have, so far, hardly been placed on staple goods. The purchases were mostly all stock lots for immediate delivery. The Canadian preferential tariff in favor of British goods has reduced to a minimum the export of woolen hosiery to the Dominion, and since the Dingley Tariff came into operation in the United States, woolen hosiery has been kept within close limits. Lace hosiery will undoubtedly be again in good demand during the coming season, as all the leading houses in the market now are sampling largely in this article. In spite of the fact that a number of fancies were cancelled this year and that only very few orders are placed for them at the present time, there are signs that another "fancy" season is in sight—striped goods being the probable favorites. Plain cashmere gloves are still in very little demand and business in those will be rather limited during this season. On knit gloves, however, as reported before, the demand exceeds the production in nearly all articles. Entirely seamless gloves are sold up until late in fall.

CREFELD.—The prospect for a good development of business and a permanent improvement in the general silk situation is fair. Except from England, where stocks seem to be a little larger than desirable, reports from all countries are favorable, and the same can be said of the home market. But the actual demand for current consumption is slow. Retailers are ordering little, and this, in turn, does not encourage wholesalers to place re-orders with the manufacturers. The leading article at present is gold brocade. This continues in demand and is rather scarce, and while buyers keep themselves on the safe side by ordering only for very short delivery and buying ready goods when obtainable, their requirements are good and give a steady demand for this article. Much improvement in the demand for colored damasks has taken place, and these now sell well. Warp prints continue in demand, but they seem to have, for the time being, lost in ascendancy on dress silks, and in this line the demand has lessened, although warp prints remain a good article for fall dress and trimming. In umbrella silks, warp prints are in good demand.

CALAIS.—The Dry Goods Economist prophesies that the coming season will be one of the greatest lace seasons known in years. We are to have whole dresses, separate waists and skirts and other articles of apparel made of lace. Then, too, there will be many lace-trimmed waists this year. But, perhaps, the greatest point of all is that which even now is causing a big demand for galloons. This is the flounced idea.

Flounces are to be pre-eminent this year. All kinds of skirts will have flouncings of some description or other. Even plain wash dresses will be adorned with black lace, which will be removed when the garment is sent to the laundry. With the better class trade, in particular, festoon effects are the thing in all kinds of goods. With this better class trade, however, the call is almost exclusively for Chantillys, batistes and Arabians. Both black and white effects are taken. The blacks are confined almost exclusively to Chantillys, but the Arabians and batistes are called for mostly in white and ecru. Allovers and insertions have suffered much more from climatic conditions than have the galloons. The call for these amounts to comparatively little less and is confined to actual requirements. This state of affairs, however, promises to be but temporary. A return of warm weather will start in a splendid request for all kinds of laces, particularly allovers. Fashion indications point to this being the feature of this season's wear.

THE SILK TRADE.—The London silk market is quiet but steady. According to advices received from the Far East, a better tone prevails all round. Yokohama shows an advance on American purchases, and quotations are: £.42 for 1½ 9-11; £.38.75 for 1½ 14-16. Stock has been reduced to 7,000 bales, of which 4,000 are not suitable for exportation. From Canton prices are not well defined. The Shanghai market is firmer, gold killing being quoted Tls. 350; business was a little more active. The finer descriptions of raws and throws of all kinds participated in the expansion as against last year, and especially French, Canton and Japanese descriptions. Local manufacturers and representatives of foreign manufacturing centres were buyers from stocks. This revival of demand has strengthened the opinion that the off-take of silk fabrics generally continues good and has imparted increased firmness to the market. As regards the new silk crops, they are now likely to be late and to be more irregular than usual. The reports from Italy meanwhile indicate that holders there had become more pressing sellers, to an extent which had weakened the Italian markets for both throws and raws. The raw silk market in Lyons is unchanged. Buying is restricted to actual current requirements. Consumption of raw silk has been good since the year opened, and is still on a very satisfactory basis.

THE METRIC SYSTEM ON THE CONTINENT.

Those of our readers, says The Warehouseman & Draper, who are interested in the metric system of weights and measures, and the much-discussed question whether it should be introduced into Great Britain, should procure a copy of a Parliamentary paper on the subject, just issued. The Associated Chambers of Commerce represented to Lord Salisbury that it would be an advantage if reports were obtained from our Consuls and other officials as to the actual experience of nations which have adopted the metric system, especially as to the ease or difficulty with which the change of systems was made, and how it was accomplished; how far the metric system is satisfactory in its working, and what effect its adoption has had upon commerce. This has been done, and the paper referred to contains 22 consular and other reports giving the information desired. They are uniformly favorable to the system, and show that the difficulty of introducing it has not been so great as might have been anticipated. Of course, it has in all instances been attended with some inconvenience. Long-established habits cannot be superseded by a stroke of the pen. In Austria, for example, the difficulty was, we are told, enhanced by the fact that there was absolutely no resemblance between the old system and the new. A transition period of four years was, however, quite sufficient to prepare the public for the compulsory

use of the new system, which has been in use for twenty-four years, and "may be said to give complete satisfaction." We are, of course, in a similar position, as the current system of weights and measures in this country does not coincide at any point with the metric system. If our home trade alone were concerned, it might be a question whether the advantages of the metric system are so great as to render it worth while to make the alteration. It is not in connection with our home trade, however, that the change is so much to be desired. The question is how far our foreign commerce would be favorably affected by the adoption of the metric system, and upon this point we cannot do better than quote from the reply of the Spanish Minister of Public Works to the enquiry of Mr. Adams: "The metric system forms a bond of commercial union between those nations which adopt it, as language does in a higher degree. The facility and security afforded to the sending of orders, owing to the amount ordered being subject to the same measure in different countries, the conformity in transport, Custom House and commission tariff, etc., attract, tighten and increase commercial relations."

CLOSING THE WOOLEN MILLS.

Mr. Fielding is scoring triumphs all along the line. Here is another from *The Huntingdon Gleaner*, dated from Beauharnois: "The Dominion Woolen Manufacturing Company have suspended night work, throwing a number of hands out of employment. It is reported that several of the weavers have been notified that if they can find employment elsewhere to accept it, as it is possible the mill may have to stop altogether. The alleged cause of this is the preferential tariff in favor of English woolen goods, which are brought into Canada at a price Canadian manufacturers cannot compete with. Should the mill stop, it would mean over 200 hands out of employment, and a great loss to the town." A few days ago *The Hespeler Herald* made this announcement: "For the first time in many years part of the R. Forbes Company's mill is running on short time—40 hours per week—and there is just a possibility of the mill being even slacker before the summer months are gone." A like story comes from Peterborough. We cannot understand why Mr. Fielding should give more protection to the cotton industry and a bounty of \$6 a ton to steel manufacturers, and at the same time kill the woolen operatives. The Minister professes that his idea is to help England. But if he gives a bounty on iron and steel shipped to England, and to iron and steel used here in the place of English-made iron and steel, he is hitting the English manufacturer, to whom on the subject of woolens he is so devoted. Why not treat everybody alike? Besides the woolen operative in Canada is British. Why should he be sacrificed on behalf of a British subject resident elsewhere?—Mail and Empire.

IMPERIAL TRADE NOTES.

The following were among the recent enquiries relating to Canadian trade received at the Canadian High Commissioner's office in London. Addresses of the firms may be had on application at the office of the *Journal of Fabrics*:

Enquiry is made by a north of England firm respecting the import into Canada of new or second-hand sacks or bags, or materials for making the same.

The names of Canadian makers of trawl nets are asked for.

A correspondent at Guelph, Ont., desires to secure the agency for an English house who exports hides or pickle sheep skins to Canada. He would also like to hear from a wool exporter requiring a representative.

A Scotch firm of jute manufacturers who are in a position to export direct from their branch in India, desires to correspond with Canadian importers of these goods.

FIBER CULTIVATION IN INDIA.

A considerable amount of attention during recent years has been devoted by Indian planters to the cultivation in that country of indigenous and imported plants from which fibers can be extracted, and the interest shown in this class of products has been increased by the establishment of a Government fiber-plantation in Mysore, from which cuttings and plants can be obtained by the private planter. An account of the various plants so far cultivated in India for the sake of their fibers was given recently by J. Cameron, F.L.S., in a lecture delivered before the Planters Association of Southern India (*Indian Agriculturist*, February, 1901), from which the following summary has been compiled. The most important of these plants is the so-called sisal hemp (*Agave rigida* var *sisalana*), which belongs to the aloe tribe and is a native of Yucatan, although it is now extensively cultivated in Florida and Bahamas. The same plant has proved a marked success at Kikogwe, where it was introduced by the German East African Co. The Mysore Government imported several thousands of these plants from Florida in 1894, and the latter are now in a flourishing condition and available for the use of planters. This plant is suitable for cultivation in the scrub and jungle waste places of Mysore, since it grows well under such conditions. The cultivation of the plant is remunerative, especially with the high prices for the fiber which have ruled in London and Liverpool during recent years. The yield of fiber per acre in Yucatan is about half-a-ton, and the average price obtainable may be taken as £25 a ton, although as much as £65 has been paid. The "China grass" fiber has been grown to a limited extent in the cooler parts of India, but appears to be quite unsuited for cultivation in the plains. At present it has no commercial value, chiefly because of the lack of a machine for cheaply extracting the fiber. Another native plant which yields a fiber which may prove a valuable one is the Ban rhea (*Villebrunea integrifolia*) a plant growing in the sub-tropical Himalayas. The fiber has been examined in the laboratories of the Scientific department of the Imperial Institute and found to be similar in type to that of China grass but of a much better quality, being more highly resistant to the action of acids and alkalies, and therefore likely to last better. Of plants which have been introduced into India the Mauritius hemp (*Furcraea gigantea*) seems to be a particularly useful variety. It produces leaves about eight feet in length, which are similar to those of the Agave and can be manipulated by the same machinery. The plant seems to readily become acclimatized to India, and was observed to have run wild on the Shavory Hills by Dr. Watt in his recent tour through India. This species is suitable, the lecturer stated, for cultivation on abandoned coffee plantations. It yields a fiber similar to the silk-grass, highly resistant to the actions of water, and so suitable for the manufacture of ship's cordage. It has been valued at £27 a ton. A coarser fiber suitable for paper-making is that derived from the Bhabur-grass (*Ischemium angustifolium*) which grows in Northern and Central India. This fiber has already been used in several Indian paper-mills and found to be a satisfactory material for this purpose. As a method of utilizing the coarser fibers obtained from the stems of trees, paper-making seems to be the most satisfactory, and a recent number of the *Indian Forester* contains an account of the native method of making paper from the inner bark of *Broussonetia papyrifera*. The outer bark is first scraped away and then the inner layers peeled off in strips about five feet long which are dried in the sun. These

are next boiled in water containing wood ashes, and when they have become somewhat soft are taken out and beaten into a pulp by means of wooden mallets, any impurities being picked out by hand during the process. The finely divided pulp is next poured into a stretched sheet of cotton through which the water slowly percolates, leaving a sheet of paper pulp. The latter when about half dry is glazed by rubbing with a piece of earthenware. Finally, when quite dry, it is stripped off by means of wooden knives. This forms the common writing paper of Burma. A coarser kind used for packing is also made which is sometimes rendered waterproof by smearing it with melted beeswax. A third kind is also made in a similar manner, but is finished by treating with finely powdered charcoal, so converting it into paper which can be written on with soft slate pencils.

ICE COLORS ON WOOL AND SILK.

The following is an account of a process depending upon the observation that alpha or beta-naphthol as well as their carbonates and sulphates are soluble in sulphonated or unsulphonated oxy-fatty acids, especially ricinoleic acid and Turkey red oil. These solutions are perfectly permanent, and form soaps with ammonia which give clear solutions with water. Solutions ready for immediate use are got by dissolving the naphthols in the warm ammonia-soap. Such solutions of beta-naphthol, which probably contain the alcohol in the free state, are most efficient for applying the insoluble oxy-azo dyes to animal fibers. Wool or silk prepared with them develops as well with diazo salts as when prepared with azophors, Nitrazol C, etc. The resulting colors can be made deeper and finer, and also faster to soap and milling, than those got on cotton with soda-naphthol.

On account of the fact that wool and silk appear to have a distinct affinity for beta-naphthol and its derivatives when presented in this form, the goods can be merely padded with the naphthol, instead of being mordanted with it, by giving two hours in an ammonia soap, say Turkey red oil, containing the naphthol, in the cold or at 40 to 45 deg. C. The results are as deep as, and faster than, those got by padding with naphthol solutions of two or three times the strength. Further, the troublesome drying necessary with soda-naphthol can be dispensed with, and the goods may even be slightly rinsed. Cotton, however, must be dried, even when treated by the new method. The development will also take place either in a neutral or in a feebly acid bath. Thorough scouring is a sufficient preliminary treatment for wool in most cases, but very hard twisted yarn or thick fabrics should have a previous oxidizing, but a milder one than is usual in the present practice, to enhance the fastness to milling. This is also improved by the presence of a little glycerine (about 3 per cent. of the bath) in the preparing liquor. Silk, however, requires none of this oxidation. It can be mordanted, raw or scoured, in a warm beta-naphthol-ammonia-soap solution, and developed wet. The results are handsome, full in body, and very fast to soaping. The prepared goods will wait some time for development without turning brown.—F. Reiss in *Farber Zeitung*.

PRACTICAL POINTS FOR FOREMEN DYERS.

In addition to the ordinary routine of a dye or print works, that is the application of the dyes or coloring matters to the textile fabrics, the foreman or manager is often called upon to give his attention to various other matters connected with the working of the shop. He has to consider the question of the storage of dye wares which he uses; the lubrication of the machinery; the cleaning and painting of the shop; the

prevention of stains; and many other things. Much of the comfort and convenience of carrying out the ordinary work depends greatly upon the way these little points are looked after and yet how often are they neglected, the result being that the work costs more and is not so well done. In order to give some hints to our readers we purpose to make some jottings on various topics which crop up in the everyday work of the dye and calico print shop.

Dye House Waste.—One great source of waste in dye shops occur in the buying of stock. Often hundreds of pounds of stock are purchased and delivered without there being any suitable place fit to store even one-fourth the amount. In consequence the stuff has to be piled out of doors, the exposure to the weather causing a waste that more than counterbalances any gain which arises through buying in large quantities, for much is lost by the time the material can be used up. It should be a rule never to buy more stock than there is room for in the shop. Waste often occurs which could easily be prevented and loss from this cause, appears everywhere from beginning to end of every process. Too much material is taken and the excess is simply run into the drains without a thought as to how it can be used up.

In the bleach croft there is often much waste of stock, of time, and of chemicals. Hundreds of pounds of lime are uselessly consumed, and in the chemic shop in some cases one-half the total amount of bleach goes into the drain. From the bleach croft to the finishing shop, waste occurs through loss of stock, loss of time and needless wear of the machinery. In some mills, through want of care in seeing that the right quantity of water is used in their baths, two and even three per cent of all the dyestuff used is wasted. In some localities it is possible to walk for several miles down a stream on which half a dozen mills are situated, and the waters will be found discolored with excesses of dyestuffs which have been run away to waste into the stream. In the dye store room have a table or bench run round the walls about 2-ft. 6-in. in height. Under this can be put the larger kegs of dye and chemicals, not directly on the floor, but on a stillage placed a few inches above. See that these kegs are properly labelled so that no mistakes can be made. Above the bench can be arranged shelves for the smaller tins of color, and stocks of those chemicals of which small lots only are used. The bench serves to hold the needful scales for weighing these out and for carrying on the necessary manipulations connected therewith. Keep the place warm in winter and have it well lighted.

Loss of Bleach Powder.—A considerable loss of chlorine takes place indirectly from the bleaching powder, and, unless care is taken to prevent it, in the course of a year pounds' worth would be lost. A very good way is to roll the hogshead to the desired position then with a hand saw cut three or four staves 6-in. either side of the centre, making a hole about 12-in. square. The hole thus made can be nearly on top. The shovel can be put through the hole and the bleach taken out as required. Then, as the contents of the cask are used, it can be rolled toward the operator, bringing the hole nearer the floor, until the hogshead is entirely empty. A piece of stout felt should be nailed to the top edge of the hole thus made, so that when the bleach is not being removed the hole in the hogshead can be closely covered by the felt. This prevents the free access of air. It also keeps out the dirt, and the bleach retains its full strength until every particle in the hogs-head is used, and does not get dirty. Soda ash, Farina, Epsom salts, Glauber's salts, and similar articles which are always affected by damp should be stored in dry places, where water cannot get to them. Take care of empties, see that before returning to their owners they are kept under such conditions that they will not deteriorate in value. This applies more particularly to iron and tin drums. Often these are simply left in the open.

for wind and weather to do what they will. Take care of them.

Paints for Protection.—All metal and woodwork should be cleaned and painted from time to time; this not only keeps them clean but adds to their life and is a great preventive of spots and stains in the finished goods. The cleanliness of all apparatus in the dyehouse is a matter of importance. In painting any apparatus it is usually best to apply a thin coat of paint, the following coat or coats should be of such consistency as to enable the painter to apply the greatest amount of oil in each coat, for oil is a grand preservative of wood and metal work. This is applicable to the repainting of iron or steel as well as wooden surfaces—with this exception, that the first coat when repainting iron or steel surfaces will not need to be quite as thin for wooden surfaces. Keep the walls and ceilings of the shop well lime-washed; this adds to sanitary efficiency of the shop while at the same time it makes the shop much lighter and therefore much easier to work in. The expense is not great and is saved by the better work that can be done in a well lighted shop than a badly lighted one.

Running Goods in the Machines.—It often happens that the position of the various machines affects the quality of the work done. In coloring the goods dyed in string form, the outer ones are likely to come in contact with the piping or other connections of the dyeing apparatus, and this will affect the surfaces of the goods, producing thinness and often streaks and patches, through some parts getting hotter than others and thereby causing the dye to go on better in those heated places. Strong dyes and hot dyebaths will also destroy some of the scale of the wool fiber, and thin spots will occur. In the milling process the friction of the rolls is the chief thing that produces wear. Sometimes the goods will rub against the sides of the machine, or hang between the rollers. Either will cause thin places. A loose board, a nail head, a nut loose, etc., in the fulling mill always has disastrous effects upon the texture of the goods and these should be looked out for, as they will produce many defects.

Oiling Shafting and Machines.—In many places much attention will be given to keeping the machinery clean, and yet the shafting which transmits the power to the machines is often sadly neglected. The bearings are allowed to get out of register; to become badly worn, worse still, to get dirty; and too much oil is used. What is the consequence? In the first place, there is a loss of power, which tells its tale in the coal bill, owing to the friction which occurs. Worse still, from a colorist's point of view, owing to the large quantity of lubricant used, oil is thrown off, which causes spots on the goods, the cause of which is not always easily traced. Sometimes the workmen notice the oil being thrown off, sometimes they do not. Putting the bearings in good order will put an end to this trouble. Sometimes troubles happen with belts and friction clutches, due to imperfect lubrication, to oil working into places where it is not wanted, and to dirt being in the wrong place. When troubles arise in such cases it is always best to have a good clean up: see that all oil channels are clear and free from dried up oil, that no oil can get on to the working surfaces in any way. While bearings require to be lubricated, too much oil is a bad fault, for it often leads to oil being thrown off the bearings on to the goods, and spots being thereby produced.

Fixing Dye Vats.—Time was when it was the almost universal custom to let the vat into the ground, leaving but a little of it above. This system was bad, and often led to accidents by the workpeople tumbling in. Then the contact of the probably damp earth rapidly led to deterioration, and soon the vat became leaky and unusable, and the only remedy was to put down a new one. Now the custom is to build the vat a little above the floor, so that no wet from that shall affect the vat in any way, and this is certainly the

better way, for then every part of the vat is accessible for inspection, and if anything goes wrong it can be easily put right.
—Dyer and Calico Printer.

NEW DYESTUFFS.

Diazo Indigo Blue BR Extra.—This new product is possessed of equally as valuable properties as those of the older "M" quality, merely differing in concentration, the new product being almost double the strength. Diazotised and developed with developer A, it is, like the "M" brand, above all, conspicuous for its excellent fastness to light, being better even than that of Indigo. Diazo, Indigo Blue BR, extra, can be recommended for the dyeing of loose cotton, as well as for cops, yarns, and piece goods. Diazotised and developed shades can be discharged well with tin crystals or zinc powder.

Diamond Black FB.—This new product has been put on the market to meet the want caused by the present tendency towards blue-black shades. This dyestuff is Diamond Black F, chemically pure, and has the same excellent fastness to light and milling, as well as the same good property of penetrating the material, working in combination with other dyestuffs and dyeing level. Experience has shown that this product is admirably adapted for the dyeing of loose wool, yarn, as well as piece goods, and cotton selvages are not tinged in the least.

Benzo Brown RC and D 3G extra are two new additions to the well-known series of Benzo Browns, and are on account of their cheap price and great productiveness, deserving of special interest. Dyed on cotton with Glauber's salt and soda in the usual manner, the RC quality produces full red brown shades; the D 3G extra quality, however, dyes a bright yellowish brown of great clearness. The former is, moreover, adapted for diazotising and developing, producing a dark brown with developer H of tolerably good fastness to washing. Benzo Brown D 3G, extra, is, compared to the ordinary brown qualities, of about double the strength. Both qualities are easily soluble and dye level and can be employed to advantage as cheapest browns in all branches of cotton dyeing. The color is discharged only a cream shade with tin crystals, but discharges white fairly well with zinc dust.

Shade cards, circulars, dyed skeins and color samples of the above dyestuffs will be mailed to those interested, on receipt of address by the Dominion Dyewood & Chemical Co., Toronto, sole agents in Canada for the Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany.

THE OUTLOOK OF THE BRITISH SILK TRADE.

The annual meeting of the Silk Association of Great Britain and Ireland, recently held in London, has brought before the public mind the fact that despite all effort to the contrary the British silk trade is slowly but surely losing ground. The president, Sir Thos. Wardle, J.P., F.C.S., F.G.S., who occupied the chair, after presenting the financial statement for the year, called the attention of the meeting to the depressing state of the silk trade, and suggested a discussion on the subject of methods to foster the decaying trade. The discussion which followed was interesting though it partook of the character of whipping a dead horse. Frank Debenham, of the world-wide known firm of Debenham & Freebody, who is a specialist on the silk question, believed the extinction of the trade was only a matter of time, as the Lyons, Zurich and Como manufacturers, owing chiefly to cheap wages, were able to compete successfully with the English article. By appealing to their spirit of patriotism ladies had been induced to create a fashion for English silks, which had been sustained for a time by the patronage

of the late Princess of Teck, and by the Duchess of Cornwall, our future Queen. But trade was not to be built up on these lines, for the people who made trade, would persist very naturally in buying the best article at the cheapest price, and there was no questioning the fact that our English goods were not equal in price and finish to the foreign article. English wages were higher than French, Italian or Swiss, and if, as suggested, these foreign workmen were brought to England to work, they would inevitably desire and obtain the same rate of pay as English workers, and so the status quo would remain unchanged; foreign goods would still be cheaper. The only hope of solving the problem was one which would cut at the root of an old favorite idea, viz., free trade—but it was beyond doubt that an import duty would solve the difficulty. Foreign silk could be manufactured at 1s. 3d. per lb. cheaper than English silk, and as English wages were higher and other expenses proportionately so, the import duty appeared to be the only solution in sight.

In opposition to the general gloomy outlook, the success of the Leek silk school in Staffordshire gives it a unique position. This school, opened by the Duke and Duchess of Cornwall in the fall of last year, contains a complete silk weaving equipment donated by the late Joshua Nicholson to stimulate the silk industry. The town of Leek, by energy and industry, had not only been able to escape the decadence prevailing elsewhere, but had steadily increased the value and variety of its manufactures in spite of the keenest foreign competition. If one locality can so far rise superior to prevailing conditions, those who object to the import duty can with some show of reason assert that if other localities will put more intelligence into their work and produce better results, which these technical schools will surely enable them to do, then they too can hope to secure their share of English trade, which £16,000,000 worth of manufactured foreign silk is annually imported to supply.

LITERARY NOTES.

The Canadian Magazine for May contains an appreciation of the poet Swinburne, by Joanna E. Wood, and a well illustrated article on actors and actresses by Katherine Hale. In a short sketch under the title, "Where the West is East and the East is West," Agnes D. Cameron describes the scene of the memorial service for the late Queen, and the accession ceremonies of King Edward at Victoria, B.C. Perhaps the most suggestive article in this number is the one by Alfred Fitzpatrick dealing with life in the lumbering and mining camps. The writer points out that a large percentage of these poor lumbermen and a certain percentage of the miners cannot read the papers sent to them by kind-hearted friends, and of course cannot read the books proposed to be sent in the form of travelling libraries. He therefore suggests that students be sent out to take turns in educating these industrious fellows and help them along. This help would no doubt be mutual, as the trip would give the student a knowledge of things to be learned in the lumber or mining camp of which the student is quite as ignorant as the lumberman may be of books and arithmetic.

The Prince Edward Island Magazine is just entering in its third year, and looks more attractive than ever in a new cover. Among the articles in the current issue of this bright little magazine is the first of a series of reminiscences of Charlotte-town 50 years ago.

As only a brief summary of ex-President Cleveland's two recent lectures on the Venezuela affair has been given to the public, these lectures have now been especially copyrighted for appearance in the June and July numbers of *The Century Magazine*.

The Century for May is a Travel Number. Without leaving his home the reader may voyage in imagination from China to Nepal, from Asia Minor to Italy, and from France to America by way of England. If he reads his magazine as it is printed, he will pretty nearly reverse this itinerary, for the opening article is an account by Mrs. Anna Lea Merritt, the American artist, of her home in the heart of England—"A Hamlet in Old Hampshire." It is a charming paper. In the next article we "Breakfast in Naples" with Mary Uda-Scott. France is brought before the eye by two contributors—Baron Pierre de Coubertin, who temperately eulogizes Emile Louhet, and Stoddard Dewey, who wanders "Along the Paris Quais," peeping into the bookstalls, pointing out the piquant features of "Paris in profile" on the other bank of the Seine, and gossiping, as he walks, of men and books and other mundane things. "Out-of-the-Way Places in the Orient" are picturesquely described, in separate sketches, by Mrs. Lockwood de Forest, Marion M. Pope and V. C. Scott O'Connor, with illustrations by J. Lockwood Kipling (who is very much at home in India), and from architectural and other photographs. Prof. A. L. Frothingham, jr., writes of "A Recovered City of Alexander the Great." Fanny Corbett Hays tells of missionary experiences in China. The number has many other features.

Some of the many excellent features of the *May Ladies' Home Journal* are "The Brilliant Social Reign of Harriet Lane," "When John C. Calhoun Went a-Wooing," "When the Animals Escape from the Zoo," "Some Remarkable Cases of Double Personality," "My First Colony of Bees," and Clara Morris' "Frank Sen," the romance of a little Japanese girl acrobat. To those arranging for a summer holiday, Edward Bok offers some pertinent suggestions, and the methods of "Preserving a Husband in Summer," and "Keeping Summer Boarders with Success," are dogmatically detailed. The admirable pictorial features include a page drawing, "President Lincoln's Call for Volunteers," by W. L. Taylor; "In the Fold," the first prize picture of the twenty-seven thousand photographs submitted in the journal's recent contest; a page of Miss Gertrude Kasebier's photographs—the first of "The Foremost Women Photographers of America" series—and two pages giving "A Glimpse of Picturesque Canada." There are three architectural articles, and seasonable contributions on gardens, lawns, cooking, and needlework. There are also four pages from the journal's fashion writers and artists. By The Curtis Publishing Company, Philadelphia. One dollar a year; ten cents a copy.

Alfred Judson Fisher, the Chicago historian, has woven the highly interesting results of a genealogical investigation into "A Daughter of Adam," a short story which he has written for *The Ladies' Home Journal*. He traces the heroine of his romance (in real life a well-known Philadelphia woman), directly back to Adam, establishing with corroborative detail every link in the long genealogical chain. He brings to light the fact that there have been one hundred and twenty-one generations of the human family, beginning with Adam.

Among our new exchanges we note the *Dyers' Bulletin*, the official organ of the American Society of Dyers. This is a monthly paper of 32 pages, about the size of the *Journal of Fabrics*, and is edited by A. Von Lehmann. The subscription is \$2 a year, and the office of publication is 502 N. Sixth street, Philadelphia. It is a good all round dyer's journal, and much cheaper than most technical papers devoted to this trade.

The mills of the Dominion Cotton Mills Co., Ltd., Windsor, N.S., are running full time. G. Wilson is superintendent; S. Walsh, boss weaver; J. McManus, spinner; R. Sprowson, carder; E. Donald, engineer.

THE WOOL MARKET.

There is little to record of change in the Canadian wool market. The new clip will not be much in evidence till next month, as the absence of warm weather renders shearing out of the question, and the easy prices prevailing for coarser wools in the English market will tell against the export trade. Washed fleece is quoted in Toronto at 13c. as against 6d. in London; unwashed, 8c.; pulled supers, 15 to 16c., and extra supers, 19c. to 20c.

The Montreal wool market is slow, although prices seem on the upward turn in sympathy with the London sales. Merinos have advanced $7\frac{1}{2}$ to 10% in London, but coarse grades are lower. Prices remain same as last quotation. Capes, 14c. to 15c.; Natal, 15c. to 16c.; Chilan, $11\frac{1}{2}$ c. to $13\frac{1}{2}$ c.; B.A. pulled, 25c. to 35c., according to quality. Boston reports a quiet market and small sales, with little change in prices. Canadian fleeces being quoted at 28c. to 30c., a slight improvement over last month.

The third series of London wool auctions opened April 30th. Demand was principally from the home trade, but French buyers caused considerable competition. On fine merinos prices were 5 per cent. dearer than at the closing of the previous sales. Fine crossbreds and other medium wools were firm, but common and coarse grades were 5 per cent. lower. Cape and Natal wools were in fair request at unchanged rates. Some superior greasy merinos sold at full rates. Some Victoria wools, marked "Glendonald" were purchased by American buyers at $11\frac{1}{2}$ d. An advance of 5 per cent. was obtained on snow white Cape and Natsals. The offerings of the latter were large and were freely sold to the home and continental trades. A quantity of Victoria was withdrawn. Crossbreds, chiefly low and medium grades, were in fair supply, but sold freely at full prices. Good greasy was taken for America. The home trade were the chief buyers of crossbreds. Bidding on Punta Arenas was not up to expectations. Prices declined $\frac{1}{4}$ to $\frac{1}{2}$ d. and several lots were withdrawn. The result of the sales, together with the scarcity of wool in the hands of the manufacturers, and the supposition that the consumption of wool will be up to the average at least for the coming year, seems to point to improved prices.

The American Wool and Cotton Reporter gives the following review of the United States wool market for the past year: The depression in the wool market during the year 1900 was partly the result of an over speculation in wool, both abroad and at home, which forced the price of the staple up to figures which were practically prohibitory. The high price of wool drove consumers to a very liberal use of substitutes, which displaced enormous quantities of wool, thus increasing very materially the visible supply of the latter. The enormous purchases of wool for speculative account, both in England and on the Continent, at very high prices, were not justified by actual trade conditions and the status of the goods market. Monetary conditions also were unfavorable, and when the foreign banks found it advisable to call in their loans, an enforced liquidation ensued, and the demand being insufficient to absorb offerings, a steady decline in prices was the result, which was reflected in a continuous lowering of prices at the London auctions. At home the beginning of the year 1900 found most of the mills loaded with wool as the result of large purchases made during the year 1899, and as the goods market failed to respond to the activity and strength which had previously characterized the wool market, consumers purchased very sparingly of wool throughout the year. The inevitable result was a piling up of wool in the hands of the trade and the growers, and lower prices all around. In the last month or two, however, the wool market has shown a decidedly steadier tone, both abroad and at home, and the prevailing belief at this writing is

that bottom has been at length touched, although as yet there has been no actual advance in quoted prices.

BLEACHING FLANNELS.

To deal at a time with two pieces at 50-lbs., there are required two pitch-pine becks, measuring about one yard each way and fitted with winches. Charge one of these with 1-lb. of permanganate of potash, previously dissolved in one to two gallons of warm water, and run the goods in this for half an hour; wind on and drain well. Charge the other beck with half carboy of aqueous sulphurous acid, run the pieces in this until they appear white, then leave them to steep under the liquor from 12 to 18 hours. Again give a few ends, wind on and drain well; wash in the machine, first with clean water, and finally with a little aniline blue or methyl violet, centrifuge and dry at low temperature. If a dead white be required, wash, instead of clean water, with chalk. The baths are kept on.—Textile Recorder.

WILL MORGAN HAVE OUR MILLS?

There is very good authority for the statement that the Morgan interests will shortly invade Canadian territory and attempt a combination of the Dominion, the Montreal and other large cotton industries. Questioned on the subject by a "Witness" reporter, a gentleman, who is very prominent in one of the largest of these concerns, acknowledged that he understood there was an agent of Mr. Morgan's visiting in the city, and that he was interesting himself in the affairs of the different companies "And would your company sell?" was asked. "Why wouldn't we sell if we got our price?" was the reply.—Montreal Witness.

KNITTING SHAWLS.

A correspondent says: There seems no reason why the women of the northwestern farming districts should not do as others do, and at the same time enrich themselves and their country, by cultivating the art of knitting shawls. The long winter season leaves opportunity enough for work and play. The latter to a great degree seems to be the accepted method of passing the Canadian winter, and with some excuse. Summer is a busy season, and every available assistant must work early and late to secure the golden harvest on which so much depends. But in the long winter, allowing abundant share of social pleasure, much valuable time could be spent in profitable occupation. The beautiful Shetland shawls that are known the wide world over, are made by the Shetland women while their husbands are away at sea and during the winter months. The wool grown on the island is carded and spun by themselves, without the aid of machinery, except the primitive spinning wheel, which is so much in evidence at present in the fashionable houses in England. Many of the shawls are of most elaborate make, and take months to complete, and good, and even fancy prices are realized. Most of them, however, are of a more homely and serviceable make, and find ready market. It is said that the art of knitting was taught to the natives by the sailors of the Spanish Armada, who were known to be shipwrecked at that point. It is difficult to see why geographical location should stand in the way of a similar industry being adopted by the farming population of the Northwest, especially when the conditions seem so much alike. True, the fashions do not call for shawls, but in winter time, few if any of the fair sex on the prairies trouble themselves about fashions, the main desire being to secure protection from the cold and winds, which have little respect for apparel that is fashionable. It is more than probable that were a farmer's

wife known as the maker of good storm-proof shawls, she might soon have a clientele larger than many a stylish milliner could boast of, and at the same time replenish her pocket and home. Were any woman gifted in this manner and possessed of nimble fingers, her husband's sheep as her stock in trade, would enable her to lay down the foundation of a thriving business, and well compensate her better half for the loss of his wool.

Among the Mills

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

The Ontario Cotton Mills, Hamilton (The Canadian Colored Cotton Mills Co., Ltd.), are running short time.

The G. B. Perry Knitting Co., Hamilton, Ont., which recently started the manufacture of ladies' underwear, is running full time.

Since the destruction of the woolen mills at Lambton Mills, Ont., by fire some time ago there has been a steady exodus from the village.

Harry Clutton has bought the woolen mill, Vienna, Aylmer, Ont., lately owned by the Merchants' Bank, and his father, S. S. Clutton, intends running it.

Myron, McBride & Co., wholesale dealers in men's furnishings, Winnipeg, are selling off their stock this month, and announce the winding up of the business.

J. C. Saulnier, proprietor of the Union Felt Hat Works, of St. Johns, Que., is fitting up the Bousquet mill property acquired by him. This will make a model hat factory.

The old cotton mill property at Coaticook, Que., is being negotiated for by A. Goldstein, manager of the Montreal Feather Company, Montreal, who contemplates removing this industry there.

Robt. Corrie, at one time partner in the firm of Corrie & Cole, who ran a woolen mill near New Hamburg, Ont., died on the 2nd inst. The deceased retired from business some years ago.

There is "something" in a name after all. The Bjerneborgs Bomullsmanufaktur Aktiebolag Porin Puuvillateollisuus Osakeyhtio is the name of a new cotton spinning and weaving mill at Bjerneborg, Finland.

G. A. Burrows, carpet manufacturer, Breslau, Ont., is still searching for a new site, and has lately approached the Goderich town council on the subject. He would employ 35 hands and pay \$6,000 to \$7,000 per year in wages.

Mark Workman, the clothing contractor of Montreal, has bought the Balmoral Hotel, recently put up at auction, in Montreal. If he cannot run it as an hotel he will let it out for factory purposes.

The work at the new pulp mill, Thorold, Ont., is about completed, and the company expect to have the mill running soon. They have a very large stock of pulp wood on hand and arriving daily. The mill will run night and day and employ between 15 and 20 hands.

At Highlandville, Mass., Geo. Queen, a spinner who worked at McCrac's woolen mills, near Guelph, Ont., some 19 years ago, and well-known to old residents, died from pneumonia. Shortly before the departure of the family from Guelph his eldest son was killed at Paris while making a balloon ascension in connection with Pullman's circus.

Alex. M. Rosamond, son of James Rosamond, and nephew of the president of the Rosamond Woolen Co., of Almonte, has been appointed general manager of that large concern. Mr. Rosamond is under thirty years of age, and has been through a textile school in the Old Country.

The Dodge Mfg. Co., of Toronto, have been congratulated on the ingenious little calculator they have got out for calculating the speed of pulleys. This will be sent to any engineer appreciating it. The company have also issued a neat booklet of testimonials to the Dodge split friction clutch.

The William Hamilton Co., of Peterborough, have secured the contract for the grinding machinery for the Spanish River Pulp and Paper Co.'s plant at Orillia. The Jenckes Machine Co., of Sherbrooke, will supply the steel penstocks or flumes. Work starts on these contracts at once, and it is expected that manufacture will begin within a year from date.

The Ste. Croix Cotton Mill, Milltown, N.B., is working only about half time with little prospect of running full time before September. Many of the hands have left the town and the unfortunate state of affairs likely to cause inconvenience. During the recent heavy floods nearly all the big coal pile was swept away, entailing a heavy loss.

J. Davis, boss carder; R. Campbell, boss spinner, and W. H. Scott, cutter, on retiring from their positions in the Anchor Knitting Mill, Almonte, Ont., were each presented with a substantial token of goodwill and esteem by the employees. W. H. Scott transfers his services to the Almonte Knitting Co., and F. Young succeeds R. Campbell as boss spinner.

W. C. Edwards, Egan, Fraser and others, of Ottawa, had an interview with Hon. S. Parent, the Premier of Quebec, and purchased from the Commissioner of Crown Lands, a water power adjoining Table Rock. The price paid was \$27,700, and the sale is considered a good one for the province. The new owners intend constructing very extensive pulp works near the site of their property.

Since the dispute concerning the location of the Blanche River Pulp Co.'s mill was referred to the Commissioner of Crown Lands, about a month ago, an examination of the water power at Mattawa has been made with the result that these holding the concession consider it satisfactory. A slight extension of time for the completion of the works may be made by the government.

William Stewart, one of the oldest merchants in Guelph, Ont., died recently, aged 74 years. He came from Scotland and settled in Guelph, where he established a dry goods business in 1855. He also started in 1861 a woolen underwear factory, which was afterwards absorbed by the Forbes Woolen Co., Hespeler. In 1896 he was appointed to the Customs House, which position he occupied till shortly before his death.

The Chicoutimi Pulp Company has received a severe check to its summer operations by the washing away of the southern wing of its new dam recently constructed at a cost of \$40,000. The river instead of going over the dam has formed a new course for the distance of about four acres. The drill which carried the water to the company's flume, was carried away, and the whole of the work will be stopped for a period of at least two months.

At the annual convention of the New England Cotton Manufacturers' Association, held in Boston in the last week of April, the following Canadian members were present: A. Hawkesworth, superintendent, and F. Hawkesworth, assistant superintendent of the Merchant's Cotton Co., Montreal; F. J. Muir, superintendent of the Ste. Croix mills of the Canadian Colored Cotton Mills Co., Ltd.; C. H. Porter, Valleyfield, Que., and D. K. McLaren, textile mill supplies, Montreal.

The Lachute Shuttle Co., has put in a special lathe, made by McQuat & McRae, machinists, of Lachute mills.

E. Edwards, of Wesson, Miss., has succeeded D. Earon as boss carder at the Hamilton, Ont., Cotton Co.'s mill.

Both of Cornwall's cotton mills have decided to go on half time for the present. They will be operated week about.

Over 400 tons of binder twine have been manufactured at the penitentiary at Kingston, for the coming season.

Mrs. W. D. Balloch, Centreville, N.B., is continuing the wool and cloth business formerly conducted by Sheriff Balloch.

Abraham Uttley, of the Waterloo woolen mills, has gone to Chatham, where he has secured a situation in Taylor & Co.'s woolen mill.

The death of W. R. McRae deprives Kingston of one of its leading citizens. He was one of the promoters of the cotton mills, as well as of the locomotive works of that city.

A bylaw, voted on at Drayton, Ont., on May 6th, to aid by way of a loan of \$10,000 a factory to manufacture felt and shoes, was carried by a large majority. The vote was 138 for and 8 against the bylaw.

The Rockwood, Ont., woolen mills are being improved by Harris & Co. They have recently installed a new 50-h.p. Goldie & McCulloch engine, and expect to run sixteen hours a day for a time.

Norbert Tremblay, owner of the woolen mill at Les Eboulements, Que., who was seriously injured by being caught in a revolving shaft in his mill last month, died from his injuries after a few days' suffering.

Richard Pomford has resigned as second hand in weave room of the Kingston cotton mill, and returned to Valleyfield, Que. James Cooper, for many years a loomfixer, has been promoted to succeed him.

The William Firth Co., Boston, have the sole agency for Canada and the United States for the firm of Geo. Hattersley & Sons, Ltd., Keighley, England, makers of every description of looms for plain and fancy weaves.

The Wellesley correspondent of The Waterloo Chronicle says: Prospects are that the flax mills will be run again this coming season as a good many acres have been leased from the farmers who also intend to sow a few bushels for themselves.

The Wm. J. Matheson Co., Ltd., 96 Foundling street, Montreal, have issued a bulletin containing samples of Leopold, Cassella & Co.'s Peri Blue for wool. It is a patented dye, and the samples have a handsome appearance. Instructions are given for using these dyes, and for shading with other colors.

The St. John's, N.B., Daily Telegraph, announces the suspension of W. J. Parks of that city, who has carried on a knitting factory since 1887. The liabilities are stated to be about \$5,000, and the assets about \$1,500. Mr. Parks is not in any way connected with the cotton manufacturing firm of Wm. Parks & Son, of the same city.

A new company entitled the Kent Milling Co., Ltd., has been chartered by L. C. Daigle, J. H. Daigle, E. Daigle, P. L. Richard, I. M. Richard, who propose to carry on a grist mill, a carding mill and a lumber mill at St. Charles, Richibucto, and St. Louis, Kent Co., N.B. The capital is \$4,800, and the office at St. Charles.

The annual meeting of the Colonial Bleaching and Printing Company of St. Henri, Que., was held last month in Montreal. The financial statement showed the results of the past year to have been satisfactory, and the prospects for the coming year to be good. Directors were elected as follows: H. S. Holt, president; Alph. Racine, vice-president; C. R. Hosmer, Frank Paul, E. N. Heney, George F. Hart and W. T. Whitehead. P. C. Shannon is secretary-treasurer. The question of building the cotton mill will be decided in a few days.

A good all round woolen mill man with a mechanical turn could make a comfortable income by taking up the offer made in another column, announcing the sale of a one-set mill in central Ontario. The mill has water and steam power, having a 15-h.p. engine and 25-h.p. boiler, and is the only woolen mill in the county. Along with the woolen mill there is a saw mill and feed chopper, all in running order, so that work could be insured all the year round. We understand that easy terms will be given to a man of good character.

On behalf of a boy named Codere a suit has been entered for damages against the Elmsdale flannel mills, Almonte. The suit was to be tried at the Assizes at Perth, but has been settled out of court. Codere was employed at a rag picking machine in a room, which it was alleged, was too small and insufficiently lighted. While operating the machine in the confined space and poor light, his hand was caught and injured so that it had to be amputated. The defendant agreed to pay \$500 damages, and \$150 costs.

The Waterloo, Que., Knitting Mills Company is applying for incorporation to carry on the business of manufacturing all kinds of knitted goods and clothing. The head office of the company will be at Waterloo, and the capital stock of the company, \$30,000. The names of each of the applicants are, A. F. Savaria, trader; W. R. Lefebvre, trader; H. Lefebvre, registrar; C. A. Nutting, advocate; H. E. Allen, trader; L. Jodoin, notary public, and E. F. de Varennes, notary public, all of Waterloo.

The Inglewood Pulp and Paper Company, which recently purchased the Knight property at Musquash, has elected the following provisional directors: D. Stetson, G. McAvity, G. Mullins, of Bangor; B. F. Pearson, of Halifax, and C. Burrill, of Weymouth, N.S. The company will now proceed to take over the property under its act of incorporation, and erect a sulphite pulp mill and a paper mill. Pulp will also be brought from the Sissiboo mills at Weymouth, N.S., for the manufacture of the finished product.

The Perth Flax and Cordage Co.'s factory, Stratford, Ont., is busy. During the past few months many thousand dollars worth of new machinery has been installed, including modern machinery for the manufacture of binder twine and a 150-h.p. engine. Fifty hands are at present employed under the management of A. H. Raymond. Owing to lateness in getting started a comparatively small quantity of binder twine will be turned out this year. An advantage that this factory has is its facilities for manufacturing into rope any binder twine that might not happen to be marketed in any particular season. The company have rented about five hundred acres on which to cultivate flax during the present season.

The additions now being made to the Montreal Cotton Company's plant at Valleyfield are being carried vigorously forward, and it is expected that the two new structures will be ready for the machinery early in August. The first will be used exclusively as a spinning mill, while the other is for weaving. There will be 40,000 spindles in the former, and in the latter 850 looms, both being fitted up in the most modern fashion. The two mills will number from 600 to 700, thus giving to the town of Valleyfield an additional population of from 1,500 to 2,000 souls. Two-thirds of this new contingent of operators will be women. Wighten & Morrison are the contractors for the mills, which are of brick, on stone foundation, and three storeys high. The new stock of the Montreal Cotton Company, amounting to \$500,000, was called up on the 1st of April, the payment to be made in five monthly instalments, but it appears that the entire half million had been paid in before ten days had elapsed. Frederick Lacey is the new manager, and the selling agents report business good. The additions referred to will give these mills a total of 160,000 spindles and 4,800 looms.

Fred. W. G. Brock, of the firm of Brock & Paterson, wholesale millinery merchants, St. John, N.B., died on the 11th inst.

It is reported that a man from Toronto has leased the carpet factory at Bloomingdale, Ont., and is likely to commence operations at once.

A Maritime province woolen mill wants an operative (male or female) capable of running knitting machines on stockinet or hosiery. Particulars can be had on application to *The Canadian Journal of Fabrics*.

A gentleman representing eastern capital made a proposal to establish a binder twine factory at Brandon, Man., at a special meeting of the board of trade on May 8th, and it was received with favor by that body. The proposal is to erect a factory employing thirty or forty hands and having a capacity of 500 to 1,000 tons of twine per year.

Simon Falla, proprietor of the woolen mill at Port Elmsley, died suddenly, a few days ago, from heart failure. He had been ill for a few days, but his illness was not considered dangerous. On the day he died he was seated in a chair and had just risen from his seat when he suddenly expired. Deceased conducted a mill at Failbrook for many years, but moved to Port Elmsley over a year ago. He was in his sixtieth year. —Perth Expositor.

A new factory for the production of Smyrna rugs has got into operation this month at 19 Jarvis street, Toronto. Leslie W. Jones and John Crosland have formed a partnership as Jones, Crosland & Co., to carry on this business, Mr. Jones having been designer and Mr. Crosland a weaver in the Toronto Carpet Mfg. Co.'s establishment for some years. They have started with four looms and will shortly add two more. They have some very attractive samples ready for the wholesale trade, chiefly in size, 30 by 60 inches.

The foundation for the large addition to Cronkhite Bros. woolen mills has been commenced. It is the intention of this firm to duplicate the capacity of their mills at Thessalon, and with this aim in view they have now placed on the ground another complete outfit of machinery. This concern has been doing business in Thessalon for the past two years and the following is the amount of wool they have handled during that period, viz.: 1899, 84,841, and in 1900, 96,964 lbs., an increase of 11,994 lbs., which is good evidence of the prosperity of the firm. This season they expect to work at least 140,000 lbs.—North Bay Times.

The white birch forests of Maine, of which are made the spools for thread in domestic use, are becoming depleted. The spool wood mills of the eastern States use up annually, it is said, 35 to 40 million feet of white birch a year, besides which 15 to 20 million feet are shipped in the form of "bars" to Scotland and England to be made into spools there. New Brunswick and Quebec have plenty of white birch, and when the supply of Maine has run out the thread magnates will have to look to Canada again for their supplies. Some years ago there were three or four of these factories here, working on British orders, but, partly owing to differences with the owners of the timber lands, they moved across the border.

The Consolidated Pulp & Paper Co., of 30 Front street west, Toronto, is in financial difficulties, and a meeting of the creditors of the firm has been called. It is expected that an extension of time will be asked to enable the firm to tide over its difficulties. Recently a couple of suits were entered against the company, which led to the calling of the meeting of creditors. The company was organized last year, with a capital stock of \$500,000, which, however, was not all paid up, and recently took in the Thomson Paper Mills Co., which operated at Newburgh, in the county of Addington, Ont., of which C. W. Thomson was manager. In the Consolidated Company the

latter was appointed secretary-treasurer. John M. Poole is president of the company, which, besides having its head office in Toronto, has a branch at Montreal and a mill at Newburgh.

A special issue of *The Hamilton Herald* describing the industries of that city, has the following on the Hamilton Cotton Mills Co.: A firm that is regarded as one of the leading concerns of the city, finding employment for a large number of hands and paying out a very large sum annually in wages is the Hamilton Cotton Mills Company. It is rightly regarded as one of the solid institutions. In 1880 the spinning of cotton yarns and the weaving of cotton goods was commenced here, being inaugurated by Jas. M. Young and R. A. Lucas, who erected a factory at 304 Mary street north, and organized a company under the name of the Hamilton Cotton Company. These gentlemen continued to co-operate in the partnership until about five years ago, when Mr. Young acquired the absolute ownership of the institution. The mills, which have been enlarged from time to time to accommodate the expanding business, now consist of the main building, three stories high, 50 by 280 feet in area, with two wings added, both also of three storeys, and 70 by 40 and 60 by 50 feet, with another addition recently added of 72 by 100 feet. The dyehouse is 130 by 60 feet; and the cotton storehouse is 120 by 40 feet, two storeys high. Altogether the premises have a frontage of 320 feet and depth of 268 feet. There are 110 first-class looms, and 300 people are employed in the manufacture of denims, cottonades, webbings, yarns of various descriptions, twines and cotton cordage. In addition, a new department for the manufacture of chenille curtains and table covers, was added two years ago. The various lines of goods manufactured have obtained a good reputation, so that the mills are always kept busy. The goods are distributed all over Canada. The selling agents are D. Morrice, Sons & Co., Montreal and Toronto, and W. B. Stewart and Geo. Reid & Co., Toronto.

For the past two or three months negotiations have been going on with the view of rescuing the Streetsville woolen mill from the tangle in which it was left by the freaks of Fred A. Clarry, whose brief but lively career as head of the Imperial Wool Mill Co. has been referred to before. The local stockholders, who had lost money in the company were, in common with the villagers, anxious to see the mill once more in operation, and when they heard that John Dick, of Dick, Ridout & Co., proprietors of the Cobourg woolen mills, was considering the acquisition of the property, there was general rejoicing in Streetsville. In fact several of the village councillors, knowing the general feeling, assured Mr. Dick that if he took hold of the mill the council would give a bonus to the concern, and the figure of \$7,500 was mentioned. This offer came quite unsolicited to Mr. Dick, who had an option on the mill property from Thomas Long, of Toronto, who still held the property, and who had escaped legal liability in connection with the claims upon the Imperial Woolen Mills Co. But a change came over the spirit of the village council's dream. Some one suggested that Mr. Dick would buy the property and open the mill whether he got the bonus or not, and if so, why pay out \$7,500 for nothing? Mr. Dick had not asked for a bonus in the first place, but the manner in which the offer was made and then repudiated gave him a very poor opinion of Streetsville, and he simply decided not to take up the option. He will probably live to congratulate himself on withdrawing from the deal. It will be a long time before the village will be able to get another man of the character of Mr. Dick to take hold of this enterprise, and it may be a still longer time before Long will get as good an offer for this property. Up to the time the late Imperial Company made its fitful start last year, the mill had been idle since 1891, with consequent depreciation in the machinery, a considerable portion of which was of a very ancient type to begin with. A large part of the carding

machinery, it is interesting to note, was made at the village of **Ancaster**, by a firm which has been out of existence more than a quarter of a century, and which was in its prosperous days about the beginning of the last century. Mr. Douglas, the late superintendent of the defunct company, who was so shabbily treated, has got back to the States, and most of the other hands—some of whom were subsisting by the aid of friends—have dispersed.

FABRIC ITEMS.

A large Dublin manufacturer has a room entirely furnished with Irish peat. The carpets on the floors, the curtains at the windows, and the paper on the walls are made from the fiber of peat. Canadian peat has not been turned to similar profitable uses.

Boulter & Stewart, manufacturers of ladies' wear, Toronto, who obtained an extension last year, have failed to meet their engagements. They owe \$47,000, with nominal assets of \$44,000. A member of the firm is in Europe trying to get a compromise.

The death of Mr. **Vandersalt**, who was for many years a very successful Canadian traveller for the **Pemplettons**, carpet manufacturers, of Glasgow, is announced. Of late years he represented the linoleum firm of **Barry, Ostlere & Co.**, of **Kirkcaldy**.

Incorporation has been granted to **Alison & Alison, Ltd.**; capital, \$50,000; to carry on the business of dry goods importers and dealers in woolens, linens, etc., heretofore known as **T. Alison and M. B. Alison**. Head office, Toronto. Provisional directors, **T. Alison, M. B. Alison and E. R. Alison**.

The Hat Review reports that **Lord Kitchener** has authorized a second order of 6,000 American hats from the **John B. Stetson Co.**, of Philadelphia. The first order was for 5,000 hats for the **Baden Powell** constabulary, and evidently gave satisfaction. Where are the Canadian hat manufacturers?

Charles F. Titus has severed his connection with the **Maritime Wrapper Co.**, Woodstock, Ont., and gone to **Bangor** to assume the management of a wrapper company, just established there. **C. Herb Smith** takes Mr. Titus' place in the factory in Woodstock.

The conflict between the **Retail Merchants' Association** of Toronto and the **T. Eaton Co.**'s departmental store over the assessment of the latter is ended by the County Judge giving a decision reducing the Eaton assessment by \$300,000. The Court of Revision on the **Retail Merchants'** appeal put the assessment up from \$626,000 to \$972,000. The County Judge brought it down to \$671,000, the chief cut being \$247,000 on personalty.

Circulars have been issued by both the **J. and P. Coates** and the **English Sewing Cotton Combinations** announcing reductions in selling prices from the revised lists issued in September last. It is stated that the present reduction of thread prices is designed to meet some competition on the part of certain outside makers, who are stated to have been cutting prices. Unfortunately the Canadian trade will not get the benefit of these reductions.

The old **Hepburn** shoe factory, **Preston, Ont.**, recently occupied by the **Osgoode Glove Works**, was damaged by fire on May 6th. The **Roman Catholic** church sheds were destroyed. The machinery and stock which were in the building were insured for \$2,500. The **Osgoode** stock was removed without damage. The building, which was owned by **Harry Edgar**, was only partly insured for \$500. The building was about to be torn down to make way for a terrace, and Mr. **Osgoode** had most of his stock packed ready for shipment to London, where

he was about to locate his work. The loss will run up into several thousands.

In connection with the enforcement of the provincial law requiring the inspection and granting of certificates of sanitation to clothing factories so that sweating may be prevented, the factory inspectors at Ottawa are confronted with a serious constitutional difficulty. Much of the clothing sold in Ottawa is made across the river at **Hull**, in **Quebec** province. The conditions under which it is made, the inspectors say, are hopelessly unsanitary. It comes into competition with clothing made in Ottawa in places that the inspectors require to be kept in sanitary condition. This means greater cost of production and unless something can be done to reach the **Hull** sweatshops the whole business will desert Ottawa and concentrate there. Legal advice is to be taken as to the powers of Ontario.

Shortly before 6 o'clock on Sunday, May 5th, fire was discovered in the show rooms and stock rooms of the **Alaska Feather and Down Company**, **St. Henri, Montreal**. Damage to the extent of \$85,000 was caused in a few hours, and only the fire wall saved the portion of the building containing the machinery and other manufacturing apparatus. It is supposed that the fire started through the electric wire, as the smoke was noticed issuing from the window just at the moment the lights were turned on. The **St. Henri** department started in to fight the fire, but **Chief Massy** soon called for assistance from outside municipalities. The combined forces fought the fire fiercely, and they applied themselves especially to keeping the approaches to the fire wall well dampened. **J. H. Sherrard**, manager of the establishment, stated that the machinery was all safe, but that 150,000 pounds of feathers, which were gathered between November and May could not be replaced, although they were wanted for the delivery of orders in June. About 600 cords of bass wood was in one end of the building to be used in the making of excelsior. Between four and five hundred cords were destroyed. Work will be resumed at an early date. The insurance will amount to about \$45,000.

The 25th anniversary of **Jos. Allen** as manager of the **British American Dyeing Company**, was celebrated by a complimentary dinner in the new building, at the corner of Fortification lane and **St. Peter street, Montreal**. **Wm. Reiff**, foreman of the company, was in the chair. Mr. Allen in reply to the toast of his health, recalled the progress made by his firm since 1876. When they first started, their work was very local and to-day they had 75 offices and agencies outside the city, extending from **Charlottetown, P.E.I.**, to **Winnipeg**, and goods are often received from **Victoria, B.C.** The value of the plant in 1876 was \$3,500, while it now exceeds \$3,000,000. The floor space occupied is 27,038 feet, as against 3,364 in 1876. Mr. Allen also referred to his three sons, who have finished their technical course in the dyeing business in England and took the first prizes in **Yorkshire College, Leeds**, and the first medal in the city and guilds of **London Institute**, and the first prize of the **Dyers' and colorists' Association of Great Britain**, which added materially to the reputation of the firm.

The big clothing manufacturing firm of **John Calder & Co.**, of **Hamilton, Ont.**, made an assignment on Saturday, May 4th, to **C. S. Scott**, for the benefit of its creditors. **Calder & Co.** have carried on a large business for thirty years, and, up to a short time ago, was considered one of the most substantial in the city. A year or so ago **George Copley**, manager, and a number of the head men in the various departments, withdrew, formed a partnership, and started a rival business in Toronto. A few months later Mr. Calder's health began to fail and for the past seven months he has been compelled frequently to seek rest at health resorts. The necessity of making an assignment is attributed mainly to his loss of health. Arrangements have

been made to carry on the business until the creditors meet. The firm employed 150 to 200 hands in its manufacturing establishment and warehouse, and fully as many in outside shops. The creditors are chiefly Montreal and Old Country concerns, though the Canadian Bank of Commerce and the Molsons Bank of Hamilton are interested. It is announced by the firm's legal advisers that the nominal assets amount to about \$100,000 more than the liabilities, and that, even if it should be decided to wind up the estate, the creditors would likely get 100 cents on the dollar.

EVOLUTION OF COTTON GINNING.

The Board of Trade have received from the director of the Twelfth Census of the United States an interesting report on cotton ginning in that country during the census year (crop of 1899), prepared by Daniel C. Koper, of South Carolina.

This is stated to be the first report of its kind ever made by a United States census. The statistics have been taken upon a special schedule, collected both by correspondence and through the enumerators, from 29,620 establishments, public and private, engaged in ginning cotton in fourteen states and two territories, and much important information has been elicited in this manner which is new to the public.

The American crop of 1899 is found to be 9,645,974 commercial bales (bales as marketed), amounting to 4,672,695,500 lbs., equivalent to 9,345,391 bales of an average weight of 500 lbs.

The aggregate of commercial bales is divided into the upland and the sea-island crops, as follows: Square bales, 9,043,231, of an average weight of 498 lbs., with an average cost per bale for ginning and baling of \$2.03; round bales, 505,464, of an average weight of 259 lbs., with an average cost per bale for ginning and baling of \$1.15; sea-island bales, 97,279, of an average weight of 388 lbs., with an average cost per bale for ginning and baling of \$4.90.

The report further shows the actual number of pounds of cotton put up in each of the three forms given, and classifies the 29,620 ginning establishments reporting, as follows: Those operated for the public, 6,468; those operated for the plantation only, 2,863; those operated for the public and plantation, 20,289. It shows, also, the average time the ginning establishments were operated to be three months.

Prior to the invention of the cotton gin, by Eli Whitney, in 1794, the separation of the seed from the lint cotton was so difficult as to limit the cultivation of cotton. This separation of the seed from the lint had to be done by hand, a task being four pounds of lint cotton per week for each head of a family, working at night, in addition to the usual field work. Thus it would take one person two years to turn out the quantity of cotton contained in one average standard bale. One machine will gin from three to fifteen 500-lb. bales per day, dependent upon its power and saw capacity.

Possibly no invention has ever caused so rapid development of the industry with which it was associated, as that brought through this saw-cotton gin. In 1793, the exportation of cotton from the United States was 487,500 lbs., or 975 bales of an average weight of 500 lbs. In 1794, the year in which the Whitney gin was patented, the number of pounds of cotton exported from the United States was 1,600,000, equivalent to 3,200 bales of a 500-lb. standard. This large production so frightened the cotton farmers, in anticipation of an over-production of the crop, as to cause them to pledge themselves to desist from its production. One of these farmers, looking upon his crop gathered for that year, exclaimed, "I have done with the cultivation of cotton; there

is enough in that ginhouse to make stockings for all the people in America." And yet within 100 years, 1800 to 1900, the production of cotton in the United States has increased from 80,000, approximately, to 9,345,391 bales, 500-lb standard, and the crop of 1899 is generally admitted by the ginners to have been small compared with that of 1898.

The following table shows the quantity of cotton grown in the United States, according to the census of 1900, 1890, 1880, and 1870:

	Production in bales. No.
Census of 1870 for 1869 crop	3,011,996
" 1880 for 1879 crop	5,755,359
" 1890 for 1889 crop	7,472,511
" 1900 for 1899 crop, commercial bales ..	9,645,974
	Bales of 500 lbs. . . 9,345,391

The bale measurement of 1890 was 477 pounds; in 1880 it was 453; in 1870 it was 440 pounds. The statistics for 1900, given in the above table, were obtained from the cotton ginners; those for the census of 1890, 1880 and 1870 were secured from cotton growers, and tabulated by the Agricultural division of the census.

The rapidity with which the private or plantation ginning establishments have been supplanted by public and more modern equipments is noteworthy. Through enquiries of the census of 1880, covering the power and machinery of cotton ginning establishments, it was ascertained that a large percentage of the crop of 1879 was handled by those of a private character. The motive power of these ginning and baling plants consisted of horses or mules, and such had a daily capacity of from three to five bales. They were simple and inexpensive in their construction, suited only for limited purposes. The general introduction of steam power brought economic methods that have crowded out primitive horse gins to such an extent that they are now curiosities. As stated previously, there are in the United States 29,620 cotton ginning establishments, of which 2,863, or less than 10 per cent., are reported as ginning exclusively for the plantation. A very small percentage of these plantation establishments are of the old-fashioned horse-power variety.

DIRECT CARDING AND SPINNING MACHINE.

A short time ago the daily press contained a reference to a direct carding and spinning machine which, it was alleged, was to revolutionize the trade. The Textile Recorder inspected the machine several times, and, having done so, endorses the following remarks from the Textile World, of Boston: "The manner in which matters relating to technical subjects are distorted by the daily press has received a striking illustration recently in the references to the carding and spinning machine invented by Nicholas Cupers, of the Netherlands, and which is now controlled by W. H. Drury, of Boston. A despatch from London startled the world by stating that the machine was about to revolutionize the woolen industry, and this was copied far and wide on this side of the water. The revolution grew until it included not only the woolen but the cotton and linen industries as well. We examined this machine in operation in Boston several years ago, and while it may be useful on certain kinds of work, particularly coarse yarns when no draft is required, it is likely to be confined to a narrow field. To the practical observer, it fails to suggest a revolution of anything, except its own wheels, gears, rollers and threads, but appears to be a device that can be used to advantage for coarse yarns for certain uses."

BLEACHING WITH SULPHUROUS ACID.

A recent text-book draws attention to a proposition made by Pictet almost twenty years ago, but which does not appear to have been properly appreciated, concerning the use of liquefied sulphurous acid for stoving woolen goods, silk and certain other materials. The process still in vogue consists in supplying the "stove" in which the goods are suspended, or through which they are passing, with sulphurous vapors, either by burning sulphur in the chamber itself or in a furnace connected therewith. This method has several drawbacks, notably that partial sublimation of the sulphur takes place on one side and over-oxidation into sulphuric acid on the other, both to the imminent risk of the fabrics or of dyestuffs. Again there is necessarily admitted with the sulphurous gas a large volume of air, which weakens and retards the bleaching action. Liquefied sulphurous acid is a current commercial article and can be bought very reasonably, much more so than in Pictet's time, and by merely connecting the upper part of the chamber or stove with the vessel containing the preparation, the space can be rapidly filled to any desired degree with pure sulphurous acid gas.

In some cases aqueous sulphurous acid is preferred as bleaching agent; also then the liquefied gas is very useful, as with the help of a very simple apparatus, readily imagined, it permits of the preparation of a strong and pure bleaching liquor in the shortest time, and without inconvenience.

—The Textile Manufacturers' Journal of New York, whose motto is, "We believe in the conservation of and protection to domestic industries," says: The Canadian woolen manufacturer is in a heap of trouble. He is face to face with what are known as preferential duties, duties in favor of the English manufacturer. We have not sufficient data at hand to give the exact figures, but speaking roughly, the importations of English goods into the provinces are nearly double the aggregate value of the production of the Canadian manufacturers. The situation is not a pleasant one for local manufacturers, who are amply competent under salutary laws to supply their home markets, and it is not surprising that protests against the present conditions are being made, and that aggressive action may be looked for in the near future. The Canadian manufacturer is naturally selfish, and desires to control his home market, and in asking the aid of parliament he asks for what he thinks is his right. Their request does not seem unreasonable.

—The country hold the Government to account for the disaster and ruin that is overtaking the Canadian woolen industry. Every month the situation is getting worse. If a remedy is not soon forthcoming this industry bids fair to become annihilated altogether. The carpet factories are suffering along with the other mills. A representative of The Monetary Times visited some of the largest Canadian carpet factories the other day and found about 50 per cent. of the looms standing idle. The woolen industry has been hit harder than any other by the preferential tariff. Other industries that were liable to suffer by a 33 1-3 per cent. concession in favor of Great Britain had been prepared for the change by a previous raise in the tariff in their favor. Not so the woolen industry, which has been ruthlessly sacrificed to gratify the ambition of a few politicians who are slobbering over with a sort of morbid loyalty for the Mother Country. The singling out of the woolen industry as a sacrifice for Sir Wilfrid Laurier's mock loyalty to the Mother Country is absolutely indefensible. The Government's general policy is built on protective principles. The Government is getting more and more protectionist every day. Nothing half so radical, from a protective standpoint, was ever perpetrated by the Conservatives as Sir Wilfrid

Laurier's iron and steel policy in virtue of which anywhere from ten to twenty million dollars will be paid out in bounties on iron and steel products during the next five years. Sir John Macdonald never did anything quite so radical as the Government's recent contract for the purchase of five million dollars worth of steel rails from a Canadian company, without competition, either at home or abroad. We have no objection to raise against the Government's general policy in these transactions; they were designed to foster industries that are indigenous to this country and, therefore, we approve of them. Sir Wilfrid Laurier, while a free trader in theory, is a close rival of Dingley, as far as protecting the iron industry is concerned. But why should he make an exception of the woolen industry? If one industry is worth protecting, so is another. There is no reason why one particular industry should be singled out for invidious treatment, and especially one in which such a large part of the population is so directly interested as in the woolen industry. The imports of woolen goods have increased from \$6,295,057 in 1897 to \$13,000,000 for the current year. The result of this increasing importation is the closing down of many small mills and the crippling of the large ones. In the face of what the Government is doing for the iron and steel industry and for other lines of manufacture, it cannot consistently turn a deaf ear to the demands of the woolen men. —Toronto World.

John S. Shearer, a well known dry goods commission merchant of Montreal, died on the 15th inst. of heart failure. He represented some Canadian woolen mills

It is a pretty and inspiring story, that of Gen. N. P. Banks and his wife. There is a lesson in it for the poor boys and girls in our great mills and factories. Nathaniel P. Banks was a bobbinboy in a Massachusetts cotton mill, and at a spinning frame near worked a bright, sweet, winsome girl, Mary Palmer, who afterwards became Mrs. Banks. Both young people were ambitious and energetic, and, after the mill closed, studied at the evening schools, tired as they were. Mrs. Banks has just died, and the Boston Journal of Commerce says of her that she was a lady who, starting in the lowest position that a cotton mill could offer her, rose by means of pluck, high moral character, and eagerness to better her lot, until she finally attained the highest position among the ladies of the state. This is the story of the wife of a governor of Massachusetts.

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- Technology of Textile Design; explains the designing for all kinds of fabrics executed on the harness loom, by E. A. Posselt 5 00
- 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
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- 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
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Alum	1 35	to	1 50
Coppers	0 65	to	0 70
Sulphur flour	2 00	to	2 50
Sulphur roll	2 00	to	3 00
Sulphate of copper	6 00	to	6 25
White sugar of lead	0 08	to	0 08
Rich. potash	0 11	to	0 12
Sumac, Sicily, per ton	75 00	to	80 00
Soda ash, 48° to 58°	1 30	to	1 40
Chip logwood	1 90	to	2 00
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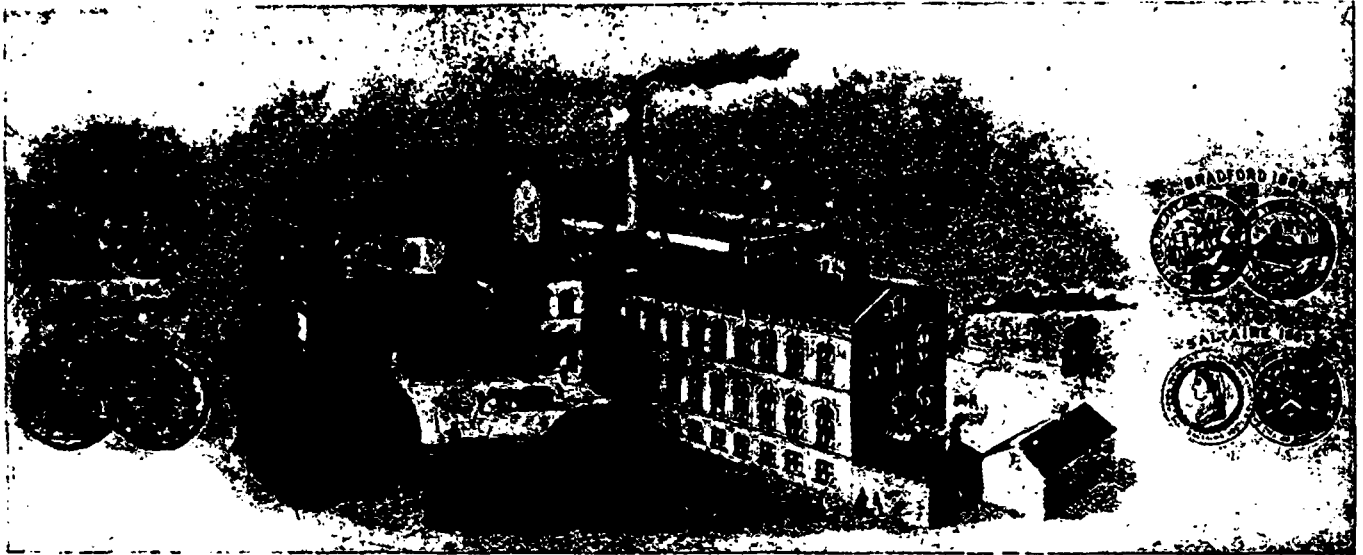
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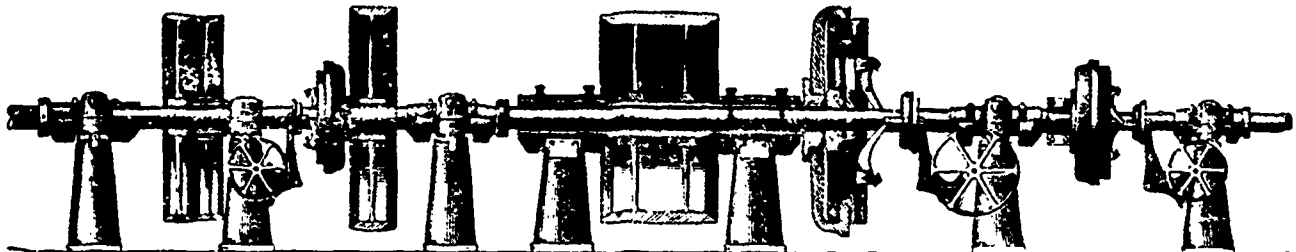
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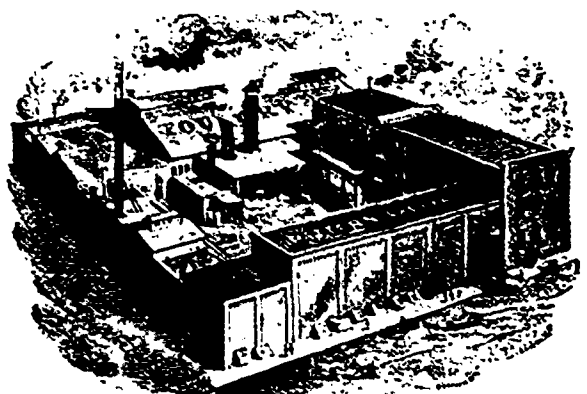
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The announcement is made of a combine of several of the large cotton duck factories in the United States, which have been incorporated under the New Jersey laws, with a capital of \$50,000,000.

Morris Cogan has resigned as overseer of carding for the Canadian Colored Cotton Co. at Merriton, Ont., and accepted a position as superintendent of the Beaver Dam, Wis., cotton mills. D. J. Scott, second hand at Merriton, has been promoted to overseer and Walter Davidson, third hand, has been made second hand.

—Sidney Moore, of Philadelphia, has patented a loom attachment, which may be adjusted to any make or style of loom, and which prevents the filling from catching in the selvages from the boxes, thereby making a perfect selvage and making steaming of filling unnecessary.

The Tetrault Sewing Machine Co., Ltd., have applied for incorporation, with a capital stock of \$25,000, with head office at Montreal. The applicants are H. Bernard, V. St. Denis, widow of H. Mercier, J. A. Dion, L. Dion, H. Tetrault, J. P. Morin, L. Deschamps, G. Tetrault, F. Tetrault, M. Gray, J. C. McNeil, C. Dignard, G. N. Monty and E. Monty.

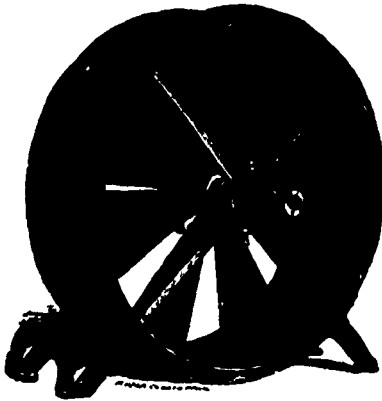
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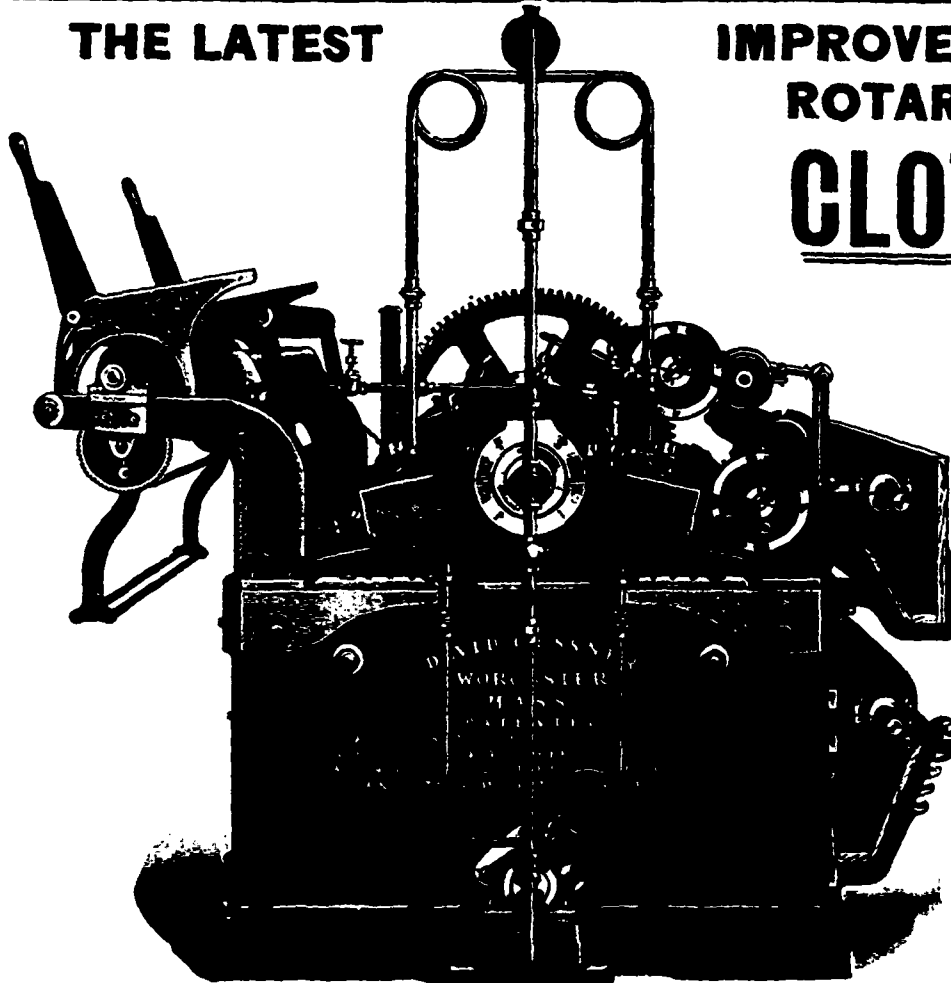
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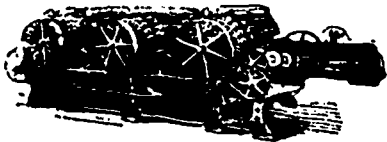
The "Trust" mania reaches far and low. Two American business men are reported to be now in England organizing a trust in second-hand clothes!

The business of Millichamp, Coyle & Co., manufacturers agents and dry goods commission merchants, has been incorporated with a capital of \$100,000. R. Millichamp, T. D. Bailey, R. W. Millichamp, F. R. Rogers and E. J. Coyle, are provisional directors, with head office at Toronto.

The present popularity of the Wilton carpets is beyond dispute, and evidence of it may be seen in the large stores where the latest designs are the subject of admiration. The backing of Wilton carpets being formed substantially of worsted color threads woven into the design, is the reason why these carpets are so much more expensive than other carpets; say, for instance, tapestry velvets, the backing of which consists of a cheap material such as jute. The production of Wilton carpets is a slow one, as the machines do not allow a high speed. A recent German invention promises to revolutionize the industry, by weaving them as double pile fabrics face to face, in order to save the expensive colored worsted backing, and also by running the respective looms on a high speed. The pile being cut, leaves the face of each carpet equal in appearance to those produced by the old method.

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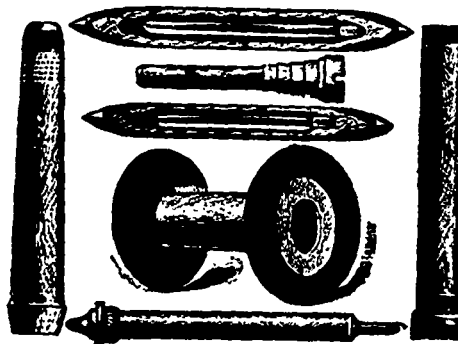
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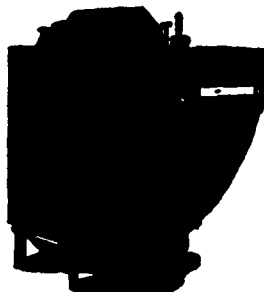
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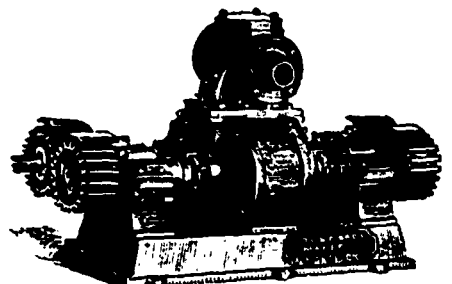
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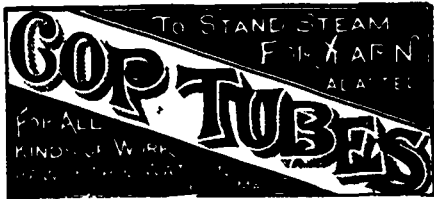
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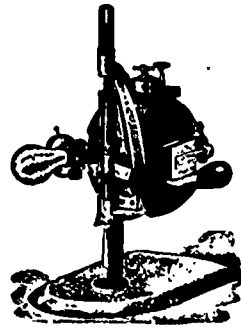
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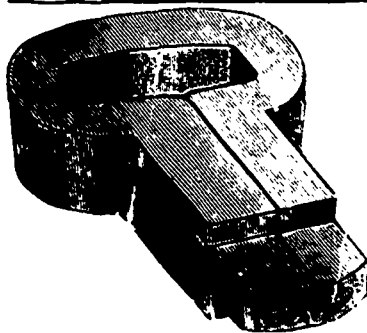
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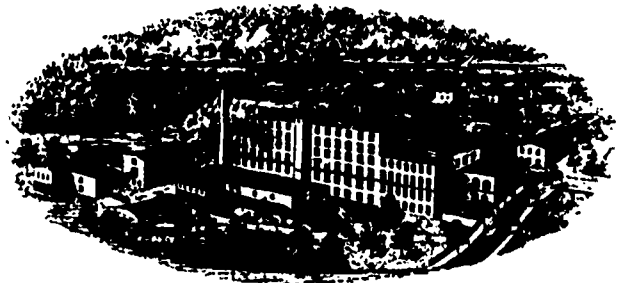
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The following are the values in sterling money of the exports from Great Britain to Canada for March, 1900 and 1901:

	1900.	1901.
Raw wool	£ 6,393	£ 3,392
Cotton piece goods	69,418	58,802
Jute piece goods	14,173	14,649
Linen piece goods	20,376	14,040
Silk, lace	1,036	538
Silk, articles partly of	5,386	5,561
Woolen, fabrics	40,623	31,475
Worsted fabrics	53,137	46,451
Carpets	45,718	32,774
Apparel and slops	38,521	32,749
Haberdashery	19,434	15,477

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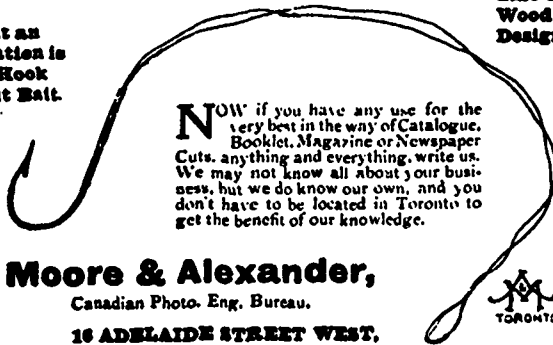
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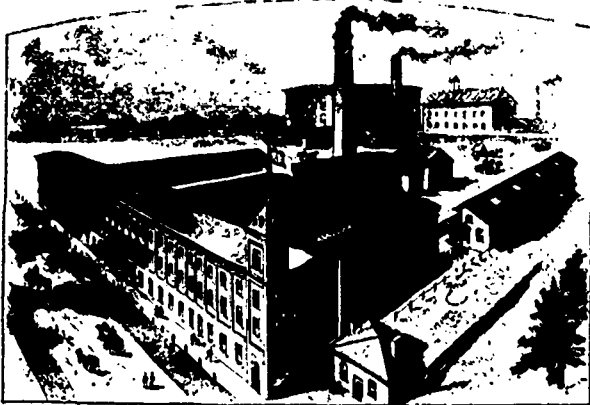
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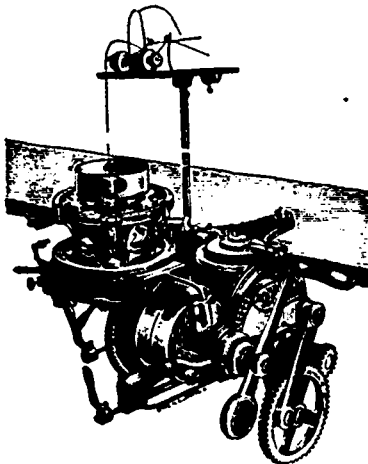
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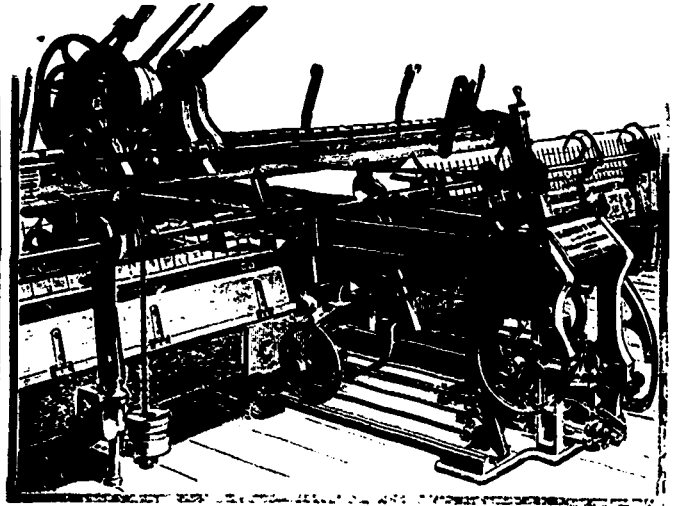
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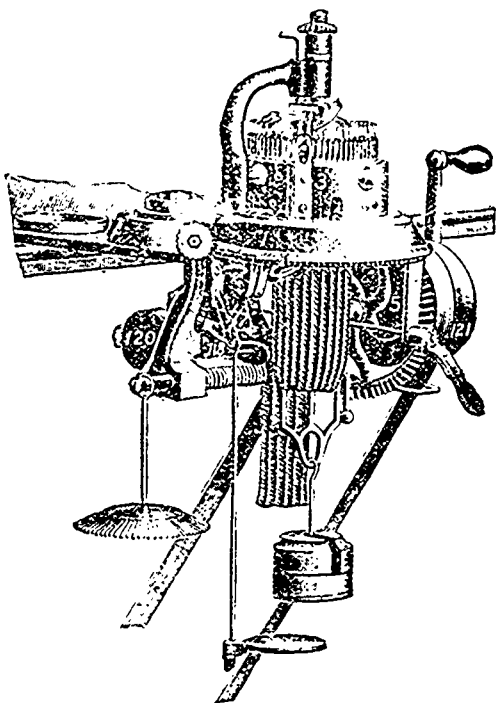
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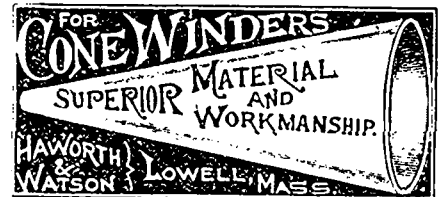
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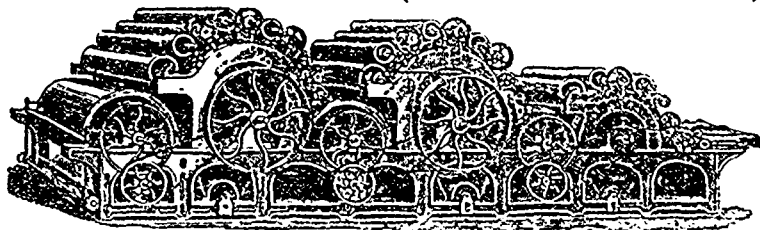
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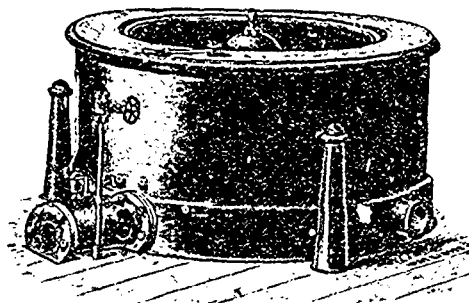
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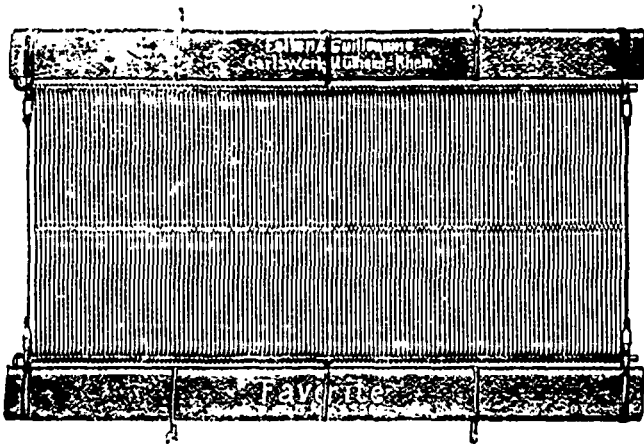
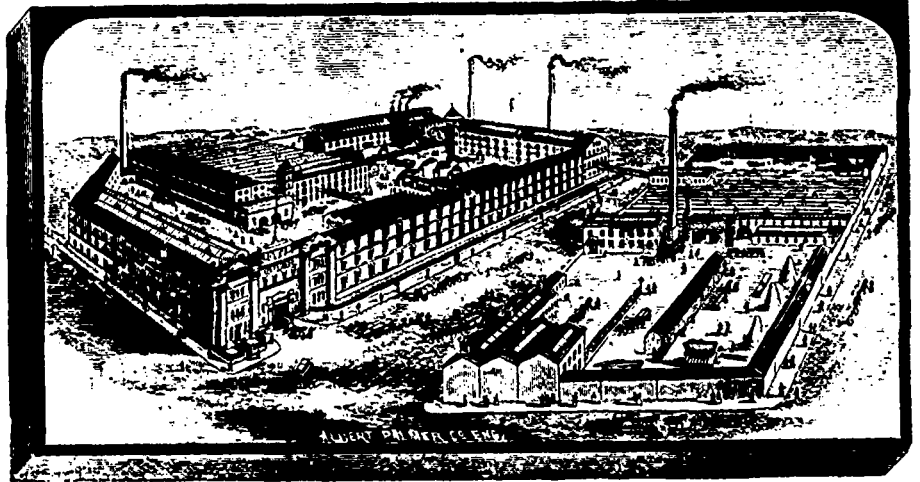
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