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CANADIAN Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XI.

TORONTO, AUGUST, 1894

No. 8

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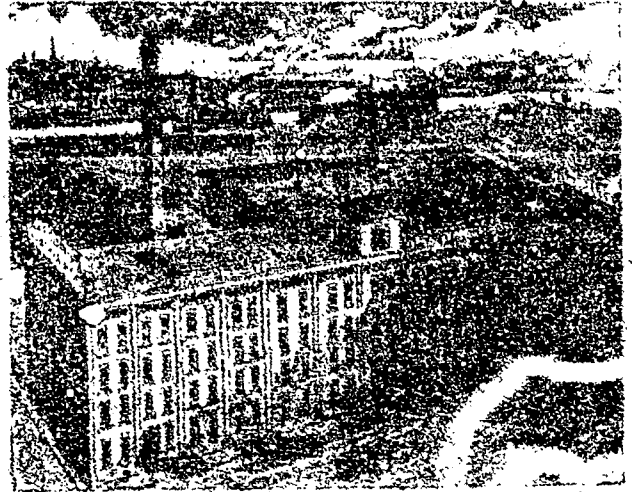
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CANADIAN Journal of Fabrics

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TORONTO, AUGUST, 1894

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Canadian Journal of Fabrics

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

Subscription: Canada and United States, \$1.00 per year; Great Britain,
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Offices 62 Church Street, Toronto, and the Fraser Building, St. Sacrament
Street, Montreal.

NOTE.—All remittances and business correspondence should be addressed
to the Toronto office, and all correspondence connected with news or editorial
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THE CANADIAN TEXTILE DIRECTORY

A Handbook of all the Cotton, Woolen and other Textile manufactures of Canada,
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ARTIFICIAL SILK.

Some time ago we gave an account of the Chardonnet process of making artificial silk, and reference has been made to other processes of making substitutes for silk, none of which have proved a commercial success. There is now a great deal of talk in England over the latest invention in that line, but whether this achievement of the chemist's art will rank alongside the marvelous fibre spun by the silk worm is yet to be demonstrated. Its success or failure, however, will soon be demonstrated, for a company has been formed at Bradford with a capital of £108,000 to exploit the new process, which is the invention of Dr. F. Lehner, of Zurich, Switzerland. Many samples of the silk have been shown in Manchester, Bradford and other places, and it is said to be as fine in appearance as any China or Italian silks. The operations of the silk worm are so interesting and mysterious, and its products so delicate and beautiful, that most people will feel skeptical as to any artificial production taking rank beside them, but should it prove a success, Canada stands a good chance of taking a prominent hand in it, for the raw material from which it is evolved is wood pulp, of which we have enough to supply all human wants while the world stands. The silk can be made from cotton or jute waste, but should it come into use on a commercial scale it will probably be found that the pulp of the mulberry tree, from which the silkworm itself digests its wonderfully glossy fibre, will prove most suitable. The new company recently invited the representatives of the local press, who describe the process

and who pronounce the colorings of the silk to be excellent.

The following account is given of the process by an English paper:—The basis of the material is cellulose, which is the product resulting from "digesting," or treating by acids and alkalis, all vegetable fibres, such, for instance, as wood, flax, cotton and jute. By combining the cellulose with nitric acid a nitrate is formed, and if a small quantity of sulphuric acid be also added the latter combines with the water, and, to use a well-understood chemical phrase, "splits off." The highest nitrates of cellulose are explosives, and are insoluble in alcohol-ether. It is these nitrates which in various forms of modern explosives are familiar as cordite, tonite, etc. The pyroxylin nitrates or lower nitrates are less explosive, and are soluble in alcohol-ether. Ordinary pyroxylin dissolved in alcohol-ether (equal parts of alcohol and ether) is gelatinous in character, but wanting in viscosity. In other words, it will not, though a semi-fluid, flow freely. It is, in fact, not unlike good melted fish-glue. (Everybody knows from experience how in drawing the brush from a glue-pot, as the glue is getting cold, long strings of fibres may be produced.) A solution containing, say, more than 7 per cent. of cellulose is, however, too gelatinous to be readily workable, and in the Chardonnet artificial silk process enormous pressure is resorted to in order to force the material through orifices sufficiently fine to produce a fibre capable of being spun. It is at this point that Dr. Lehner's special treatment of the pyroxylin comes in. By the addition of dilute sulphuric acid to the alcohol-ether solution he breaks down the nitrate into bodies of different physical but of the same chemical character, and consequently is able to obtain a 12 per cent. solution that is perfectly fluid and workable.

When, by these chemical methods, the fluid is prepared, mechanical contrivances for converting it into a textile fibre come into play. The machine employed is a modification of the ordinary flyer spinning frame. The fluid—a muddy, yellowish substance—is contained in a glass jar, from which it is conveyed through pipes to a row of small bent glass tubes, each having an extremely fine nozzle or orifice. These tubes are arranged in a shallow trough of water, the orifice being beneath the water level. As the fluid leaves the nozzle the water removes 60 per cent. of the solvent, and the fluid immediately coagulates and is drawn off in a remarkably fine filament of brilliant lustre, and, when

dry, of great tenacity. Half-a-dozen such filaments are gathered together and spun precisely as silk or wool is spun, only without the drafting arrangement, and at a speed in accordance with the twist required. In passing through the spinning frame it rapidly dries and becomes quite solid, and in the process of drying the remainder of the solvent is removed. The yarn on the spools is said to be practically indistinguishable from tram silk, except by microscopic or chemical examination. It is, however, in this condition, when perfectly dry, a highly inflammable substance, and it therefore requires to go through a third process—that of denitration—in which by a well-known treatment by ammonium sulphide the nitric acid is extracted, after which, when the yarn is again dried, it is practically non-inflammable. Chemically the yarn when denitrated approximates very closely to silk itself.

From the fibre produced in the manner described, yarn, furniture, fringes, and braids, brocaded silk handkerchiefs, pongees, gimps, and sewing silks, have already been made. The appearance of the materials is satisfactory, and the Lehner artificial silk process has apparently a great future before it. We say "apparently," because the material, though pleasing to the eye, has yet to stand the test of time. Will the attractive cloths exhibited of late at Manchester and Bradford wear well? Can they be stored for any length of time on the shelves of the wholesale or retail houses, and will they resist the injurious chemical forces and products of combustion which are likely to attack them in such establishments? Is the material fitted to bear the risks of distant transportation in bales or cases—the handling and pressure during the packing process, and the influences of climatic changes? Will the regularity of the fibres, in warp and weft, of which a number go to make up a strand of yarn, be preserved after wear or washing, and are the colors likely to be injured by any of the influences to which reference has been made? These are questions we would ask, but not for the purpose of soliciting an answer, because no answer can be given until experience has supplied the necessary information.

THE ANTIPODES.

The recent intercolonial conference at Ottawa has already had one good effect on the Canadian mind. It has stimulated enquiry as to the sort of people our cousins of the Australian, South African and other British colonies are, how they live, what their resources are, and what influence they will exert, in comparison with ourselves, on the future of the Empire. The trouble with Canada, as with the United States, is that the very solidarity of commercial interests, language, and social connections makes our minds too self-absorbed, we have become narrowed by our continental isolation, we are, in fact, too parochial. The Canadian travelling, say in London, picks up a morning paper and reads long despatches or letters from India, from Australia, from Egypt, from Turkey, from France,

Russia, Germany and Austria, and is surprised perhaps to find Canada only as one of these in dividing the attention of the world. He realizes this with a feeling of humility that, after all, his country is only a parish in the province of the world's news and the world's doings. Seated there he feels that he is in the heart of the world, and unconsciously his mind broadens to an interest in what is going on in India, Africa and Europe, and when he returns to Canada he begins to feel that the Canadian who is solely absorbed in his own doings and surroundings, and fails to appreciate what is going on in the great world outside of his own country, is becoming narrowed in mind and heart. This, perhaps, is largely the fault of the Canadian and American press, but the result, whether the fault of the people or press, is as we have stated. Now the colonial conference has taught us that we are simply one of a family of peoples growing up under one empire, and having common aims and ambitions, and each developing special resources and national characteristics that will make us a necessary counterpart in the great empire that seems destined, under Providence, to impose and proclaim the millennial peace upon the world. Of this great future compact the United States seems most naturally to form a member, though in what shape the union will be must be left to the wisdom of our descendants to determine.

Descending from generalities to facts, it is promising to note that already our newspapers, merchants and manufacturers are taking quite an interest in Australian affairs and are learning something thereby. Those, by the way, who wish to post themselves on the recent progress and the public movements in the colonies, will be both entertained and instructed by reading Sir Charles Dilke's "Problems of Greater Britain," published a year or two ago as a supplement to his earlier book, "Greater Britain." A very useful book also is one by G. R. Parkin, a Canadian, dealing with the British Empire generally. Our readers are aware that Australia has suffered very keenly during the past two years from a depression, the result largely of speculation and over-booming the country. But like ourselves, the country has great recuperative powers and the people do not sit down and cry over spilled milk. Speaking of Australasian trade prospects, the Melbourne *Draper and Warehouseman* states that the buoyancy which the people of those colonies are showing under the year's crisis is remarkable. Men who had lost one employment at once devoted their energies in other directions, and there was a general determination to make the best of the situation. The great difficulty is, of course, the persistent fall in prices of their produce; it is bad enough to be working off old obligations, but when this has to be done in the face of the steady fall in all they have to sell, it requires a stout heart to face the problem. Work and thrift are the orders of the day, and everyone is racking his brains to find means for increasing his production and lowering his expenditure. The severity of the fight is well shown by the fact that Australasia has, during five years, increased the quantity

of wool produced by 465,000 bales, or 32 per cent., without receiving a single penny more money for it. The woolgrowers of Australasia have had to depasture 24,000,000 more sheep, pay interest upon the cost of the necessary improvements, and the working and shearing expenses of the sheep, and have had to bale up, pay land carriage, railage and freight to Europe on 465,000 bales of wool more in order to barely keep up the gross return.

While deriving all the comfort they can from a contemplation of the fact that their efforts are appreciated in London, and that a revival of confidence must sooner or later follow, they want no return to the reckless borrowing policy of the past. The fall in value of their produce means that they can purchase less gold with a given quantity of it, and it is in gold or gold value that interest must be paid. It follows, therefore, that they are compelled every succeeding year to send a steadily increasing quantity of their wheat, wool, etc., in payment of the interest on their debt. Such facts are not without a bearing upon the policy of some provinces and municipalities in Canada.

It is a peculiar fact that while the finest merino wool in the world is grown in Australia and the Cape, in quantities unprecedented in the history of the world, there has heretofore been practically no woollen manufacturing carried on in either South Africa or Australia. Most liberal bonuses have within the past five years been offered in Cape Colony, Natal, and the Transvaal, but so far as we have learned this policy has resulted in only one factory in each of the latter, and only two in the Cape. In Australia of recent years the situation appears different. The making of tweeds and flannels is assuming considerable proportions, and is being extended. In Victoria the industry is reviving after a depression of some years, and the mills are hardly able to fill their orders. They are now making a good deal of cloth for the wholesale clothing trade, which shows that the industry has worked its roots and branches in the soil, as it were. In Tasmania and New Zealand the industry, though not large, is expanding. In the latter colony, though the business only began about twelve years ago, there are mills in several of the large towns. A fact of importance is that the quality of the colonial cloths is rapidly improving. With the skill and pluck which the Australians are known to possess, and with the finest wool in the world at hand so cheap and in such quantities, it would seem surprising to Canadians if our colonial cousins there can not only supply their own wants in the next quarter century, but export cloths to the rest of the world. The world has been astonished to see how the Southern States of the American Union, after being content for three-quarters of a century to grow raw cotton and manufacture none, has now become a great region of cotton manufacturing; and there need be less surprise at the Australian colonies achieving a like distinction in woollen manufacturing, because the question of the training of skilled labor does not present the same difficulties in the antipodes as it did in the Southern States.

An American exchange says ball bearings are used on some of the new style knitting machines, with a result, it is claimed, of higher speed and more even motion.

MANCHESTER has committed herself thoroughly to the new ship canal, and every effort is being put forth to make it a success. It is stated that the saving in freight on raw cotton to the manufacturing district where the bulk of the raw cotton is used, amounts to 4s. to 7s. per ton. To most mills the saving equals the entire port charges at Liverpool, the amount of which was long a standing grievance to mill owners.

POLYSULPHINE is a reagent now extensively used on the continent in the scouring of wool. It is made by treating a solution of calcium polysulphide with excess of sodium carbonate. It is mildly alkaline, forming emulsions with oils and fats. In this way it acts rapidly in wool washing, combining with the suint and leaving a pure white absolutely uninjured fibre; indeed, the wool has a softer feel than when treated by the ordinary process. The method is said to be the most economical one yet hit on.

THE American cotton manufacturers appear to have approached, or to be approaching rapidly, a crisis in their trade. Reports from the New England manufacturing centres show that the market is overloaded in nearly every direction, but production still goes on regardless of weakening prices and slack demand. The colored mills are closing down or working short time, but the Fall River mills, to the indignation and consternation of the trade, have gone ahead as if nothing had happened. A collapse in the market is feared.

A NEW idea in underwear is being shown in London, in the shape of finely woven silk and wool combination garments, made on the "plating" method—that is, with a surface of silk and the back of wool, giving them all the appearance of pure silk, with the comfort and hygienic advantages of pure wool. They are of the finest texture, but are nevertheless exceedingly durable, for the silk and wool are of the best quality and the garments are woven double wherever extra strength is required. The colors are cream and dainty pink, they wash perfectly, and last but not least, they are quite inexpensive.

In conversation with a representative of this journal, Robert G. Trenholme, of the Coatcook woollen mills, says he has noticed during the last few years a perceptible improvement in the wool of the Eastern Townships. The native sheep have lately been crossed with Oxford and other Down sheep, and the result is very beneficial from the manufacturers' standpoint. Mr. Trenholme recommends a cross between the Leicester (which may be called the native sheep of most of our provinces) and the Shropshire Down. The result of this cross is the production of a fleece which is at once heavier and more compact, while somewhat finer in fibre. This cross, he says, makes a very hardy sheep, which yields better mutton as well as better wool.

THE American Umbrella Trust, following the Hair-Cloth Trust and a number of other monopolies, has come to grief, and the business is in the hands of the receiver. It was capitalized at \$8,000,000, but it could not prevent other concerns starting, and the business depression hastened its inevitable end.

A NEW technical school is being established at Oldham, in Lancaster, Eng., and a textile machinery firm has offered to present the institution with an outfit of cotton manufacturing machinery. The progress of technical schools in Great Britain during the past ten years is remarkable. Canada has not awakened out of her sleep in this matter yet; but it is time those interested in textile matters in the Dominion bestirred themselves before they are entirely distanced in the race. If we had a first-class technical school for woolen manufacturing there would be less reason to wail over the flooding of our markets by foreign manufacturers.

THE "greening" of blacks is a great difficulty with dyers and its remedy is obscure. Dr. Kiemeier, in a treatise on the subject, says: Greening is an essential quality of aniline-black, and is brought about by the action of acids consequent upon formation of nigraniline salt or through sulphurous acid consequent upon reduction into emeraldine. Sulphurous acid, as contained in the atmosphere, and emeraldine formation, we cannot well exclude. Green nigraniline salts can only form through free acid adhering to the fibre from the dye-bath or yielded gradually from salts liable to voluntary decomposition or to decomposition by nigraniline base. A thorough rinsing and neutralizing of dyed goods will be the only preventative. It is well known that congo red can to an extent be protected against the reddening action of atmospheric carbonic acid by purposely charging the dyed fibre with free alkali; such a step might retard greening, from whatever cause, perhaps as effectively and more economically than forced accumulation of a heavy deposit of color.

THE wool interests of New York are agitating to make that sea port the great *entrepot* of America for raw wool. The agitation is considered timely in view of the passing of the new tariff which will make wool free. With free wool there will be a sudden and large expansion in the importation of foreign merino wools such as Cape, Australian, Buenos Ayrean and other grades, and the New Yorkers think their market will eclipse Boston, and will become the greatest wool market of the continent. To make it so they wish to establish wool auctions, like the colonial auctions and those in London, and a company is proposed to build a wool exchange. In the future no doubt a great portion of the Australasian wool will come to America from the Pacific—for some time to come by the Canadian route, preferably—and what is used in eastern mills could be most conveniently distributed from New York, while western mills would import direct, or get supplies from warehouses in San Francisco. But what we should

most like to see in Canada is more direct importations by our large manufacturers from the Cape and Australia. Why should we pay tribute to the foreign shipping trade when cargoes of wool and hides could be brought direct to St. John, or Halifax, or Montreal?

THE electrolytic reduction of indigo was first practically demonstrated by Goppelsroeder, and was hailed as a great achievement by the indigo dyers, who recognized at once the advantages of a vat that would not become silted up with sediment, as is the case in the ordinary process, thus causing an objectionable interruption to the working. The prolonged electrolytic treatment of indigo, however, causes a further change in the dyestuff, leading eventually to its total destruction, and on this account the idea was abandoned. Recently, J. Mullerus has pointed out that although the reduction of indigo cannot be satisfactorily effected in the cold, the operation can be more successfully accomplished at the boiling temperature. Goppelsroeder himself suggests the following treatment, which he has found in every way to work satisfactorily: The cloth to be dyed is impregnated with the indigo in a finely powdered condition; it is then immersed in a solution of caustic soda or lime, and passed in contact between two copper plates, forming electrodes, in a vat. When the current is sent through these plates the indigo in the cloth is reduced, and on subsequent exposure to the air the cloth becomes dyed a fine blue.

THE trouble with the education given in these days is that so much of it is of a kind that is never brought into practical use when the child starts out in his life calling. Countries like Germany, England and France, that have developed this technical school system, are relatively outstripping Canada and the United States in industrial and mechanical progress, and are making every month some fresh inroads into our markets in evidence of that progress, while we in Canada plod along with the stereotyped national boast that we have "the best school system in the world." When shall our public instructors wake up to realize that they are laboring under a delusion which is telling on the industrial prosperity of the country? This thought occurs to us as we read in the *Warehouseman and Draper* the following item: "Henry Bannerman and Sons (Lim.), Manchester, are just issuing to some thousands of schools, for the purpose of giving object-lessons to the children, a packet of cotton. Each packet contains eleven samples, one being the raw material taken from the bale as it arrives from America; the remainder are from the respective machines, showing the cotton after undergoing each of the ten processes of manufacture, until it becomes a perfect piece of cloth ready for the dyer. A briefly explanatory, plainly-printed card is attached to each sample, and enclosed is an ably-written work on the manufacture of cotton, by J. Mortimer, which will prove an invaluable guide to the schoolmaster." This is interesting, not only as conveying a good suggestion for an advertisement, but as showing a comprehension of what is needed and what is appreciated in the education of the young in England.

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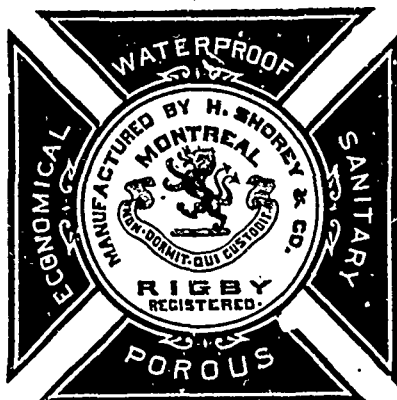
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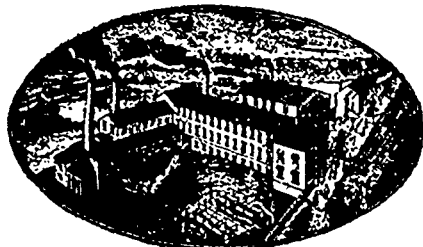
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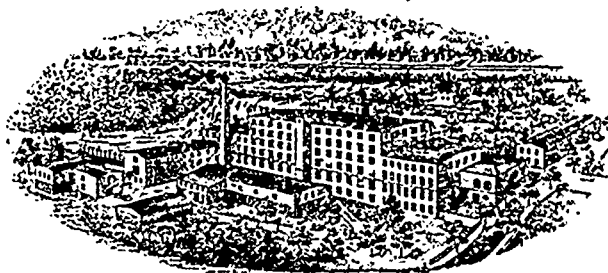
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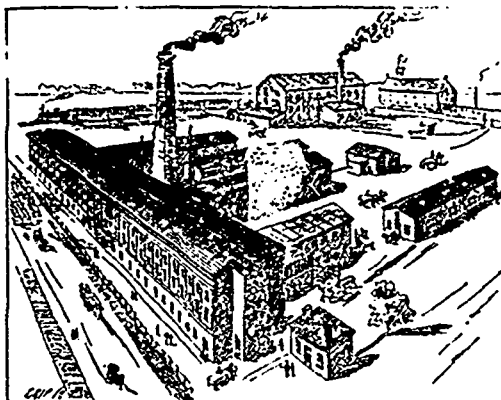
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COMPARISON OF WOOLS.

The official tests, comparing the characteristics of the different wools shown at the late Chicago Fair, have been published, and the result is not without interest to the Canadian wool manufacturer. Wools were shown from almost every wool producing country in the world, though the reports we have seen make no reference to Canadian wool.

It is well known that the mother land of the merino sheep, now most valued for its fine wool, is Spain; but it is instructive to learn that of all lands where the merino sheep now thrives Spain has made least progress of all. Apparently the average quality of the Spanish merino has run down, while that of most other merino sheep raising countries has gone ahead more or less. The report on this subject in the *Manufacturers' Gazette* says: "Only two exhibits of Spanish merino were offered to the judges, one from a Transhumante flock, which is pastured in summer in the mountains in the north, and in winter in the valleys several hundred miles to the south. The fleeces were rather small and light, but of good quality, yet showing that while serious deterioration has not occurred in the breed in that country, there has by no means been the same advancement that has marked the history of the breed in other countries."

After referring to the wool products of other countries, the report goes on to say that the fat tail sheep of Asiatic Turkey, which was the only kind of wool not merino offered from foreign countries in any serious quantities, proves to be coarse and weak, occupying in every quality the bottom of the scale. The table shows that the Down wools are finer than the long wools, as a rule, and this might be expected, but on the other hand, the long wools are generally stronger, as shown by the ultimate resistance. The strength of the merino appears to be about an average of that of the Down wool, but as regards its modulus of elasticity it stands next to the top of the list.

In making the lists below recorded all the figures for each sex in the different breeds and for each country were brought together and averages deduced from them. In a similar way general averages were determined for each breed in the several countries without regard to sex. These averages show the relative position occupied in each case.

FINENESS		
Breed.	No. of Sample.	Thousands of inch.
Merino	321	0.887
Hampshiredown	24	1.137
Southdown	41	1.166
Dorset Horn.....	6	1.192
Shropshiredown	77	1.321
Cheviot	5	1.339
Oxforddown.....	35	1.384
Lincoln	6	1.407
Cotswold	37	1.413
Fat Tail.....	11	1.620

ULTIMATE STRENGTH.

Breed.	No. of Samples.	lbs. per sq. inch.
Cheviot	5	32,834
Cotswold	37	31,593
Lincoln	6	31,499
Oxforddown	35	28,751
Dorset Horn.....	6	27,120
Shropshiredown	77	27,037
Merino	295	25,667
Southdown	41	24,551
Hampshiredown	14	24,241
Fat Tail.....	11	10,191

MODULUS OF ELASTICITY.

Breed.	No. of Samples.	Moduli.
Cotswold	37	84,272
Merino	295	80,974
Shropshiredown	77	79,745
Southdown	41	79,604
Cheviot	5	77,725
Lincoln	6	76,719
Hampshiredown	14	75,021
Oxforddown	35	94,761
Dorset Horn	6	61,408
Fat Tail.....	11	59,108

During the past decade there seems to have been deterioration of the fineness of the merino wool, but an increase in the strength and elasticity. Larger frame, larger fleeces, hardier constitutions, and consequently heavier fleeces produce coarser and stronger wool.

The following table shows how the products of various leading wool countries compare, not only as to qualities of fibre, but as to weight of fleece. It will be seen that, generally speaking, the larger the weight of fleece the coarser the fibre. The table will be interesting to preserve for reference:—

Country.	Weight of fleece. lbs. oz.	Length of staple. in.	Fineness. Thousands of in.	Strength. lbs. per sq. in.	Elasticity. Moduli.
Argentine Republic..	4	2.70	0.860	22,096	68,619
Cape Colony.....	7 1	3.99	0.7405	27,617	87,197
New South Wales ..	11 6	4.50	0.7675	25,582	80,516
New Zealand		4.27	0.8454	28,056	92,106
Russia.....	14 9	2.12	0.850	25,070	82,495
Spain	5 6	2.74	0.878	20,059	76,676
Uruguay.....	8 5	2.67	0.797	24,180	77,789
Victoria	9 0	3.52	0.7524	25,498	84,694
United States	13 14	2.85	0.887	25,667	80,974

THE SWEATING SYSTEM.

The City Council of Toronto a short time ago discussed the alleged presence of the sweating system in that city. Mr. Edgar, at the instance of the Trades and Labor Council of Toronto, stated that he had himself made investigations into the existing state of things, and had found that in certain Jewish tailor shops hands were employed in filthy dens at wages varying from \$1.50 to \$3 per week, some of them working fifteen hours a day. From what some other members of the City Council said, it looks, however, as though this evil had been exaggerated, and we sincerely trust this will prove to be the case. At any rate there ought to be a thorough and impartial investigation. Canada ought to be the last country in the world to admit into its cities such a crying evil as the sweating system,

where all that is best in human nature, both in the employer and the employee, speedily becomes stamped out as though in an atmosphere permeated with poisonous gases. In London, and other old and overcrowded centres, it has obtained almost unavoidably a terrible hold upon a large section of the industrial world, more especially in this same line, the clothing trade. But even there, where the social conditions of the masses are so much more favorable to the spread of such a pernicious system, strong efforts have from time to time been made to stamp it out. These efforts have not always met with great success, as Charles Kingsley, if he were to come to life again, would no doubt feelingly admit, but perhaps if it had not been for "*Alton Locke*," the evil would have reached even vaster proportions than it has already attained to, and so his exertions need not be considered to have been thrown away. At any rate, since Kingsley's time, the Government have appointed more than one "Commission" to enquire into the facts of the case, and no doubt these commissions, however slow they may be in practical results, will at last hit upon some method to put a stop to sweating in its more terrible phases. Toronto, and Canadian cities in general, should be careful. It is much easier to prevent disease, either a physical or a social one, than to cure it when it has once obtained a foothold. Let a commission be appointed to investigate the facts in Montreal, Toronto, and other industrial centres.

THE *Knitters' Circular* of Leicester, Eng., reports that aluminum threads are being applied to the heels and toes of stockings, to improve their wearing qualities. This has the merit of real novelty, at least; which cannot be said of many of the so-called "new ideas" introduced in the hosiery trade. But we do not expect aluminum-heeled socks and stockings to make much impression on the Canadian market, as an article of winter wear, unless each pair were provided with a self-generating electric current as a preventative to chills.

To give an idea of the constant growth of the textile manufacturing capacity of the world, we may note that during the past six months Great Britain exported to other countries textile machinery to the value of £2,613,788 sterling, of which India alone took £402,715. Of course some of this is sent out to replace old style machinery, but when we add the quantities that must be exported by Germany, France, Holland and other countries, we may well pause and ask, What is to be the result of this enormous increase in the spinning and weaving capacity of the world's textile centres?

A CORRESPONDENT suggests that as the mulberry trees grow well in British Columbia, the silk-raising industry should be started there. It is a natural thought, but we advise our correspondent not to spend money on it. Hundreds of thousands have been spent at various times in the States on this idea, and many States have given public aid to such efforts, but none have ever paid commercially. In silk-raising countries the industry

is carried on by women whose wages seem to be in inverse ratio to the remarkable skill and patience they show, and the difficulty in America is in competing with such conditions. Even this year the American Congress has passed a bill to establish five experimental silk-growing stations, with a bonus of \$7,000 a year for each station, but the silk manufacturers take no stock in the idea.

UNDER the system of rebates allowed by the McKinley tariff to American manufacturers who ship their goods abroad, it is possible for our neighbors across the line to sell their products in foreign countries at prices which would not pay at home. It is under these conditions that the export of American carpets to England, referred to in a recent number, has begun, and an American correspondent claims that these shipments are increasing. In the second half of April last, for instance, shipments were made from the States to eight different British ports, including London, Manchester, Glasgow and Dundee, and the aggregate for that fortnight was 789 rolls valued at \$27,144. A considerable quantity of these goods have come to Canada also, as our readers are aware, and, when the trade and navigation returns are made up for this year, it will be interesting to note the exact extent of their developments.

A CORRESPONDENT of *Die Centralblatt für die Textil Industrie* desires to know the opinion entertained of a method of destroying the felting capacity of wool, recently used in France, and in the reply to his inquiry it is stated that it is difficult to say what value can be attached to the method, as it has only very recently become known. The inventors think, however, that it will entirely destroy the felting capacity of all woolen yarns to be used for hosiery. The method consists in using the combined effect of aluminum salts and steam. The former have already been used together with soda for the same purpose, with only partial success. The woolen goods, the shrinking capacity of which was to be neutralized, were entered in a bath of sulphate of alumina, and when completely saturated with this fluid the goods were then passed through a soda bath. The experiments of utilizing steam for the shrinkage of woolen goods are not new, but the combination of the two methods is new, and the assertion that this method will effectually annihilate the felting capacity, without impairing the fibre, is entirely new. Such a condition has heretofore only been produced by destroying the fibre at the same time, or almost destroying it, with strong alkalies, thus completely robbing it of its most valuable properties. For this reason the value of the method is doubted. The felting is based upon the pliability of the wool fibres—a property so well known to every fuller—and it is difficult to see how aluminum salts and steam are able to destroy this property. The inventors assert, however, that the yarn, according to their treatment, is to be saturated with a solution of aluminum salt, after which it is stretched tightly and then exposed to an energetic steaming; and they claim that the method also has the same effect upon cloth.

THE MACCLESFIELD SILK TRADE

Manufacturers still report, says the *Macclesfield Courier*, that the silk trade was never in a worse condition than at the present moment, both hand and power looms are doing next to nothing, and, to use the words of one of our principal manufacturers, "Throwsters are in a deplorable state, and don't know what to do." The slightest gleam of hope, however, is welcome, and it is with pleasure that we record that manufacturers are at length looking forward with anticipation in the hope of doing a fair autumn trade. May their hopes be realized, both for the sake of the employer as well as of those—of whom, unhappily, there are too many—who are almost starving for a crust. The autumn trade usually opens out in August, and we understand that manufacturers have made large preparations for the manufacture of fancy goods, and the general belief is that in the not far distant future trade will be much brighter—at any rate in some departments. Unfortunately the plain silk trade of Macclesfield is lost to us on account of foreign competition. Owing to the closing of the American markets a large quantity of Japanese handkerchiefs have been thrown on the London market, and have been disposed of by the dealers at very low prices, thus materially interfering with the Macclesfield fancy trade.

One cannot hide the fact that in the midst of the general depression much poverty exists, although if it must be seen it must be searched out, for one trait of the working classes of Macclesfield is that they do not parade their poverty before the world. They would rather live on a crust than plead for charity from their neighbors, and there cannot be a doubt that many of late have been living, to use a common expression, "from hand to mouth." Notwithstanding this the Relief Association has not been called upon to dispense their relief to the extent that would have been expected, seeing the straits to which many of the inhabitants have been put, or it may be that the association has singled out, very properly, the more deserving cases instead of assisting those who do not use the relief afforded as they ought to do, or who by their past imprudence have brought upon themselves their present impoverished condition. Be that as it may, there were only 13 cases before the committee on Monday. Turning to the cases which come before the Board of Guardians, however, we find here a great increase in the amount of outdoor relief granted. This week the total sum distributed to applicants was reported at the weekly meeting of the board to amount to £91 13s. 8d. against £82 7s. 8d. in the corresponding week of last year. Last week it was reported at £90 10s., against £82 12s. in the corresponding week of last year; and the week previous the sum granted was £92 11s. 6d. against £82 11s. distributed in the same period last year, or on an average about £10 per week of an increase when compared with the same period last year, and this in addition to an increase of about ten persons per week admitted into the house during the last few weeks, compared with the number in the house at the same period last year. Had the serious depression taken place in the winter instead of summer, no doubt the poverty would have been much more apparent, and employers and employes alike will undoubtedly look forward to a revival in the staple trade with much satisfaction, and its speedy realization will be heartily welcomed.

COVERT CLOTHS.

These cloths are generally made of double-twisted yarns, both in warp and filling, and are woven very close. The first labor is of course the burling, and on this, as well as any other kind of cloths where the weave is to show up more or less after being finished, care is the first requirement. The mending process comes next, and requires the same amount of care, for the absence of any threads is sure to show in the finished product. Supposing that the burling as well as the mending has been properly performed, we are now ready for the fulling. After the goods are put in the mill the ends should be properly sewn together with fine stitches. This is all the more necessary, as large stitches are very apt to streak the goods for a yard or more from each end, making the cutting of

remnants one of the chief occupations in the finishing room. Sewing machines are sometimes employed, but a fine hand-sewn seam is to be preferred.

We are now ready for our calculations in fulling, and shall have to take into consideration all the loss the goods are likely to sustain in the process, and provide for it, so that they will come out right as to weight in the end. As these goods vary in weight according to the notion or requirements of the buyers, no particular weight need be taken; and it will be sufficient to state that after the percentage of loss is estimated as nearly correct as possible, it will be easily to figure out the amount of shrinkage the goods are to receive. A yard is to be marked off on the end of the cut, about a yard or so from the seam, and this is shrunk to the required length. This makes it easier to examine the goods, as it will be unnecessary to measure the whole cut. These goods ought to run between two and a half and three hours in the mill, and the soap used on them should therefore be made with this end in view. About 4 oz. hard soap and 2½ oz. of alkali to the gallon will be found to give a soap which will meet the case in every particular. This soap is manufactured, says a writer in the *Textile Manufacturing World*, with the object of making it unnecessary to add soap in the washer. As soon as the goods come from the mill they should be run into the washer, but if this cannot be done at once they should at any rate be opened out, so that they may cool off, for it will not do to let them lie in a heap while warm, as they are apt to stain or become cloudy. While the colors may be all that can be asked, it will often be found that the heat combined with the alkali in the soap will work harm if air is not allowed to get to the goods.

When the goods have been run in the washer and properly sewn together they should be given about three barrels of warm water at 100° F.—that is, for four pieces. Let run in this for ten minutes, open gates, and draw off the heavy dirt; then add three more barrels of warm water, and run twenty-five minutes; then open gates and turn on cold water and rinse thoroughly. Much depends upon the stream of water at command; but no matter how good the supply, forty-five minutes is none too much for rinsing. The goods are then taken to the rolling machine and plate stretcher (if one is at hand), and tightly and evenly rolled up. Lay them down flat and let lie till next morning.

Although the dyeing to shade of the above-mentioned material does not directly pertain to the questions asked, it stands in close relation to them. The low price of the fibre material only permits of the employment of the cheapest methods, and attention must principally be directed to find out whether it is possible to strip, mordant, and dye the material in the same bath which may be done in the present case. After the material has boiled for 1½ hr. in the bath, the dye to produce the desired shade is added. Alizarin yellow is used for yellow and alizarin red for red, and both of these colors fix admirably in these baths and give very fast colors. Patent blue, cyanine, or a little brilliant alizarin blue are used for blue, and in place of the patent blue an acid violet, fast against chrome, and which is a little cheaper, may be used. Generally, however, a small quantity of patent blue will suffice for yellow olive, which, since the bath is sufficiently acid, is fixed well, and is fast against washing.

If less acid is added to the mordant, which is not by any means an error, if above-mentioned alizarins are used, an improvement is made by adding acetic acid. When it concerns the stripping of lighter colors, the mordant is decreased, and in this case the employment of patent blue becomes more favorable.

The employment of sulphuric acid was mentioned but in some dyehouses an acid is used for stripping colors which acts much more energetically than the former—namely, nitric acid. It is an energetic oxidizing agent, but nitrates the material at the same time—that is, changes its chemical condition. It is well known that indigo is readily converted thereby into a yellow nitro body, which is also the case with several other dyes. Great care is necessary when using nitric acid, and it is not safe to use more than 3 per cent. by weight. Whenever possible its use was avoided.

Foreign Textile Centres

MANCHESTER.—The market here affords small matter for comment. Although the official quotation for cotton continues at 3½d., it is expected that a reduction must shortly be made; indeed, surprise is expressed that this has not already been done, and in many quarters opinions are freely offered that 4d. will not be again realized this year. It must, however, be remembered that the stock in Liverpool is about 60,000 bales less than last year at the corresponding period, and certain to decline for some weeks, while prices are ¾d. per lb. lower. If short time be resorted to, and its claims become daily more urgent, the price of cotton must decline as the prospects of supply increase. Meantime trade in all departments is dull. Yarns for home trade and export continue in poor demand, and quotations are reduced without any satisfactory result. The cloth demand is insufficient to take off production. An improvement in Calcutta inquiry is hailed with delight, although no great volume of business has followed yet. Some orders in shirtings have been booked for Bombay and Madras. The China market has not been altogether hless, but closes quietly. South American markets are in languid condition just now, and financial matters far from satisfactory. The Levant merchants still await further details respecting the result of recent earthquakes. The home trade department has done some moderate buying during the week, and former orders are being more rapidly executed. The production of cloth is being largely curtailed on various pretences, the usual summer holidays proving of valuable assistance in this direction to both the spinning and manufacturing industries.

NOTTINGHAM.—The lace trade has been a little brisker this week, and a fair amount of business has been done in some varieties of cotton lace and insertions. Manufacturers are busy preparing patterns, but few really new goods are yet being shown. The silk branches are without improvement. Tatting, Irish trimmings, Swiss embroideries, and such goods are slow of sale. In the making-up department hands are not busily employed. As regards ruchings and frillings, only certain specialties are wanted. The lace curtain trade shows no animation, and both makers and finishers are inadequately employed. A moderate business is being done in plain nets at about late rates. Some classes of cashmere and merino hosiery are selling tolerably well, and a steady demand prevails for woolen underclothing, but cotton goods are dull.

BRADFORD.—There is a good deal of activity in the wool market, and prices show an upward tendency. There is a good inquiry for English goods, but although prices have advanced staplers are reluctant to sell at the rates offered, as they assert that the quotations in the country are against this market. The tendency of cross-breeds is still upwards, and a good business is being done in these descriptions. The position of merinos is improving, and the demand for them has increased. Both alpaca and mohair are firm. The yarn market displays no new feature. Merchants are more inclined to do business, but in face of the advancing tendency of the raw material spinners show a reluctance to book far ahead. Both for home and abroad the volume of business is greater, and producers demand increased rates. The piece trade does not show much change for export, and the home trade improves slowly.

LEEDS.—The woolen cloth trade has been slightly brisker during the past few days, and with the settlement of the American tariff a more hopeful feeling will prevail. The number of orders booked has not increased to any appreciable extent. Ladies' dress goods and mantlings continue to be produced in great quantities. In worsteds there is considerable more business passing. The wholesale clothing trade remains very inactive. The only department which has been doing an ordinary trade is the "special" one, a fair demand having existed for ordinary and holiday suits. The business passing in waterproofs is increasing, most preference being shown for goods of a light woolen texture. Tweeds are mostly preferred for men's ready-made suits. Trade as a whole is getting brisker in the heavy woolen district. Stocks at the warehouses have been considerably cleared during the past few days,

and in some cases repeats for goods have come to hand. On shipping account there is more doing at Batley and Dewsbury in winter goods, and orders arrive to about an average extent. Shoddy is being shipped in large quantities to the Continent. Soft rags sell well, but mungo rags are neglected.

HUDDERSFIELD.—Business in this market continues dull, and only a few buyers of importance have been in attendance at the market. Though the colliers' strike in Scotland and the moulders' strike in the north of England, with no immediate prospect of a settlement, are having a very depressing effect upon the woolen trade of the district, and repeat orders for most classes of goods are falling off, it is said that during the past week orders for fine goods, both plain and fancy, have come in very well from London, and that in some parts of the provinces fine, medium, and low goods are in very fair demand. There is moderate activity in the shipping trade, with a fairly good inquiry for fine and medium goods for Belgium, France and Germany. Wools have been selling very slowly.

LEICESTER.—The *Knitter's Circular* says: The cold weather of the earlier part of the month was a cause of alarm to more than agriculturists. The shop keepers, London merchants and our trade throughout, experienced almost a stagnation from that cause. The present change has given a stir that is welcome, and hopes are great that it may continue. The hosiery trade of the north reports no change. In Nottingham and district, manufacturers are only moderately employed, there is no great demand for either cotton or worsted goods. Blacks and tans in cashmere and merino are the principal selling lines in hosiery. Natural vests and combinations are subjected to keen competition, and prices are very low. Fancy embroidered silk and cashmere stockings are just now in fair demand. In Leicester and district, trade is slightly on the improve. The Scotch L. wool shirt and pant department are busier; other departments have no change worthy of note. The principal event of this district is the consideration of the town and county labor question. Considerable difference exists in the prices paid in town and county for similar articles, thereby giving those who have factories in the country an advantage over town manufacturers. That this exists to too great an extent is well known, and meetings of manufacturers and workmen and their representatives have been held with a view to modifying the existing difference. Nothing as yet is settled. The manufacturers are drawing up a revised price list, to be submitted to the workmen for consideration; but we fear this will be a difficult question to settle to the mutual satisfaction of all interested.

GLASGOW.—A quiet tone prevails in the Glasgow cotton yarn market, there still being a holiday among merchants. There has been little or no changes in the rates, although they are still in buyers' favor. Trade continues very quiet in the South of Scotland woolen districts.

DUNDEE.—In consequence of the holidays, and all the mills and factories in Dundee being closed, there was no business done in Dundee market last week. Merchants and others interested in the trade have, however, been visiting the district in consequence of an extraordinary development of affairs in the market. All interest has been centred in the apprehension of Ernest Hassberger, a well-known Dundee jute merchant, on a charge of forgery.

MELBOURNE.—For bagging the demand is quiet, and only small sales have been made during the past week. The uncertainty of the Calcutta market materially influences forward sales. The latest cables from the latter report firmer prices. Corn sacks to arrive are quoted at 4s. 6d. Sales of bran bags at 3s. 3d.

LYONS.—The silk goods market is not in a very satisfactory condition, and the placing of further orders for fall will soon be out of the question, it being too late to make deliveries in time. Some business for orders on short delivery has been done, but long delivery orders are few. Buyers from Paris are not discouraged and expect a good season, but for Great Britain and the United States the manufacturers consider that the fall season is lost, as not much can be expected from those quarters. Although business in the last twelve months has not been very satisfactory, it does not appear that the actual consumption of silk fabrics has decreased.

in that period. The unsatisfactory conditions that prevail cannot therefore be ascribed to a lessened consumption. The decline in value of nearly everything made of silk, owing to the low price of the raw material, is the chief cause. Holders of goods have derived little benefit, therefore, from the year's trading, and are more conservative, declining to take any risks until the basis of value will permit of trading being done at a profit. The ribbon market is doing well. Moiré ribbons find buyers. In check effects the demand is satisfactory. Velvet ribbons are not in heavy movement at present, but prospects of a good demand are shown, and in this expectation manufacturers are making them for stock. A demand is reported for black satins from stock in the medium and cheaper grades. Yarn-dyed satins in colors are not doing as well as piece-dyed satins. Gaufré satins are in better demand.—*Dry Goods Economist*.

CALCUTTA.—Old-crop baled jute is finished, as far as balers are concerned. In new crop the season has opened with sales of about 12,000 bales at Rs. 34-8 to Rs. 35 for crack marks. Home telegrams report sales at £12 5s. In loose jute fair business continues to be done by mills both in lots offering in mofussil as well as from the local bazaar. Prices in the bazaar are unchanged. A little forward business has been done in new crop for August delivery, and there are further buyers at about Rs. 6 for good Naraingunge assortment and Rs. 5-6-0 for average quality of Serajunge Desal, but there are no sellers. At Naraingunge the market has been firm. With reference to Serajunge, a good demand continues for old crop in that market, and prices have advanced one to two annas. Imports have fallen off considerably. New crop: Only a few maunds have come in during the week; these have been taken up at five to six annas above previous rates. Madaripore: Imports of new to the extent of 250 maunds came in during the week. The jute is, however, immature and wet. Crop prospects continue favorable; little import, however, is expected for a few weeks yet. In ordinary jute butts the old crop has been cleared by sales of 100 bales at Rs 9 for shipment, and about 1,500 bales at Rs. 10 to mills.

CREFELD.—The demand for home consumption by retailers is slow, and very little is being done by wholesale houses or manufacturers. The distribution of silk fabrics by the home retailers has not been as good as it should have been in the second half of the spring season, and has given cause for some disappointment, which has resulted in unwillingness on the part of buyers to operate heavily. From England, the advices are much more encouraging, and the almost entire apathy which formerly ruled has made room for a much more hopeful feeling. Orders received from England form a pleasant relief to the otherwise general dulness. Velvets and plushes are doing fairly well for the home market, some of the manufacturers being able to keep production well up to meet the home demand; but the facilities of production of the pile fabric industry are such as to make the absence of the export orders keenly felt. For the United States absence of demand still continues, and the velvet industry does not seem destined to feel the benefit of the American demand this season.

ZURICH.—When nothing is expected everything that comes may be considered clear gain. In the middle of the dead season the market has shown more activity than was expected, both large and small parcels having found buyers for ready delivery. The demand has been fairly well distributed on all goods produced here. The outlook for fall is good for the Zurich industry, fashion being favorable to what may be called the specialties of the production of this district. The business that has been done was not so very spontaneous as not to need the assistance of lower prices; in fact, it has been done principally with low prices as an inducement.

MILAN.—The news of the strike disturbances in the United States sufficed to put a stop to the rather lively demand for raw silk that had prevailed, and activity has not since been regained, although demand is not absent, fair transactions being made for Lyons, Crefeld and Switzerland. Some large lots of organzine have been purchased for Switzerland. Prices are steady, but show no further advance.

THE COTTON CROP.

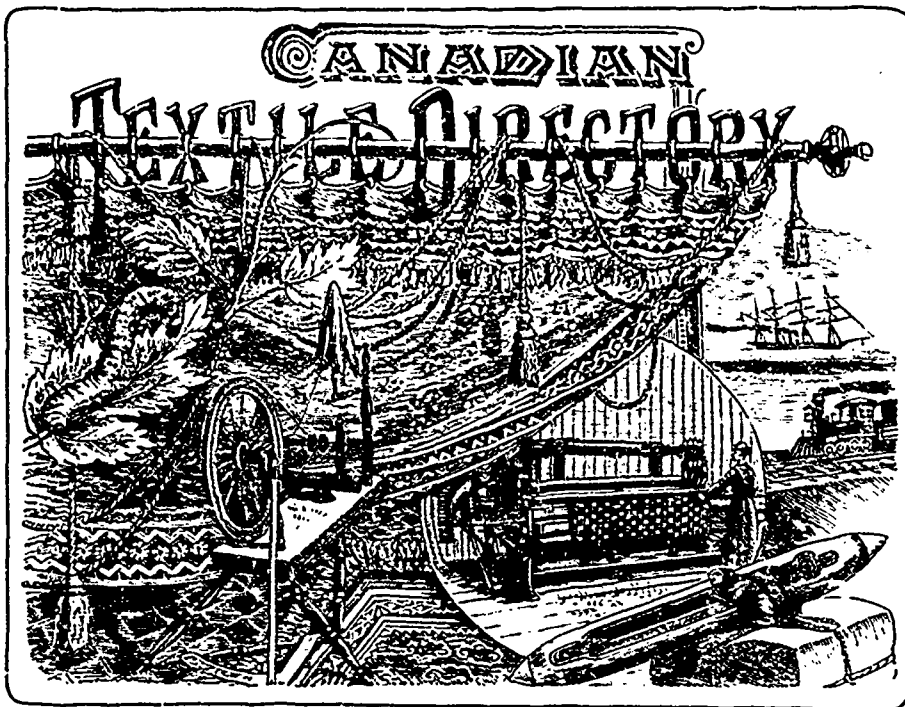
It becomes apparent, says one of the cotton brokers in their circular just issued, that the supply of cotton in the hands of American spinners has been reduced to a lower point than for many years past, as their appearance in this market under the circumstances surrounding trade conditions could not be looked for unless this was the condition of their reserve supplies. Many of the New England mills are running upon short time, or have closed for the customary summer repairs, with the intention of not reopening until some improvement is manifest in trade conditions. It is evident that had American spinners taken last year's supply of cotton, the cotton market at the present time would practically be bare of stocks, and it is therefore to be expected, with a settlement of the troubles throughout the country, that the revival in trade, which was in progress in June, will recommence, and that the requirements of the American spinners for the ensuing year will be greater than for the past season, as they are absolutely without any stock of raw material.

Accounts of the growing cotton crop received from the South are of the most flattering nature, the Government reports fully sustaining private advices which have been received from time to time, and it is thought that the prevailing depression in trade and a continuance of these good crop advices, have caused a large quantity of forward shipments to have been sold upon the European markets. The recent rains in Texas have broken the drouth in that section, and although the rainfall in the Atlantic States has been excessive, it seems to have ceased, and altogether the conditions at the present time could scarcely be more favorable, excepting in the State of Georgia. Naturally these conditions, and the dulness which has pervaded the cotton market during the past six months, intensify the bearish feeling in the trade, although the price is so low that with the exception of the forward shipments which have been sold to Europe, it is believed the short interest is smaller than for a long time past.

SPITALFIELDS—PAST AND PRESENT.

It is interesting to note that part thirty-one, just issued, of Green's "History of the English People," contains an engraving of the House of a Huguenot silk weaver at Canterbury, as well as a *fac-simile* reproduction of the medal commemorating the Revocation of the Edict of Nantes, 1685, from the original in the British Museum. The house is a typical illustration of the silk factories set up by the refugees in England—the shop window on the ground floor, over this the living room, where the weaver wrought at his trade, higher up the attic, through which, by a crane, raw material and bales of goods were drawn up to be stored. In Spitalfields and Bethnal Green some of the weavers' houses still exist, with their long glazed upper windows, where the loom and shuttle were once busily at work. A walk through this part of London recalls many a past episode when French was heard in the streets, and when various industries were being perfected by the refugees, who indeed gave to many crafts a widely-extended impetus. The Spitalfields silk industry is now unfortunately at a low ebb, and many of the weavers have taken their skill further afield. The immediate neighborhood, however, is still a refuge for men and women who have been driven by persecution across the seas; but these speak Yiddish instead of French, and are in the main, though quite as industrious, certainly not in many respects so desirable as residents.—*Warehouseman and Draper*.

The statement of the affairs of James Eaton & Co., dry goods retailers, Yonge street, Toronto, who have assigned, shows total liabilities of \$132,348, and assets of \$122,650, a nominal deficit of \$9,698. The heaviest Canadian claim is that of Doull & Gibson, of Montreal, while \$70,000 is due a Glasgow house. This is a different concern to the T. Eaton Co., whose business is also on Yonge street. Mr. Eaton, jr., went to England to see what arrangements can be made with old country creditors. A meeting of creditors was held and adjourned till the 7th inst.



THE "Canadian Textile Directory" is a reference book comprising all manufacturers and dealers in the textile trades of the Dominion. It embraces Cottons, Woolens, Print Goods, Carpets, Silk, Jute, Flax, Felt, Rubber, and Asbestos Goods, Clothing, Men's Furnishing (Haberdashery), Ladies' Wear, Buttons, Feathers, Job Dyeing Establishments, and Laundries; Furniture, Upholstery and Upholsterers' Supplies; Sails, Tents, Awnings, Window Shades, and Wall Papers; Manufacturers and Dealers in Hats and Furs, Paper Mills, Dealer in Raw Wool, Furs, and Cotton, with principal Dealers in Dyestuffs etc.

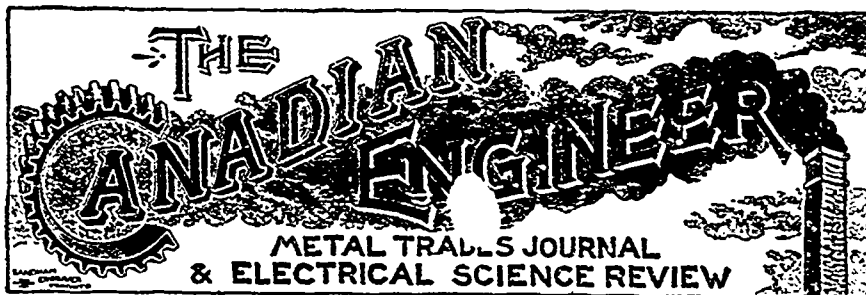
It gives lists of all Manufacturers' Agents, Commission Merchants, and Wholesale and Retail Dealers in the Dry Goods and kindred trades of Canada. Also, Statistics, Tables of Imports and Exports, Customs Tariffs of Canada, Newfoundland and the United States, the Canadian Boards of Trade and Textile Associations, and other information. The Third Edition includes also the Trade of Newfoundland.

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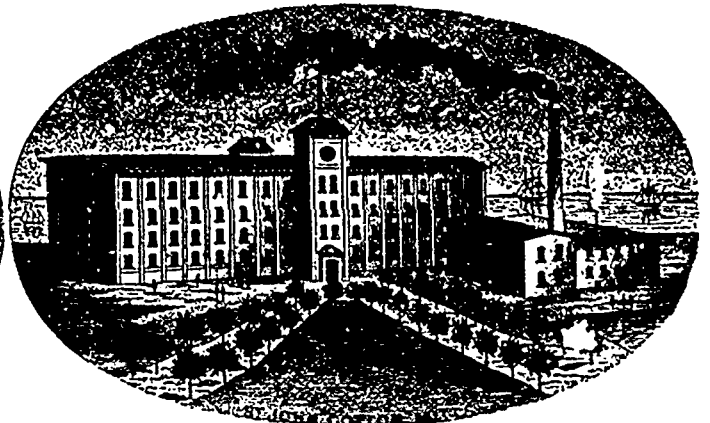
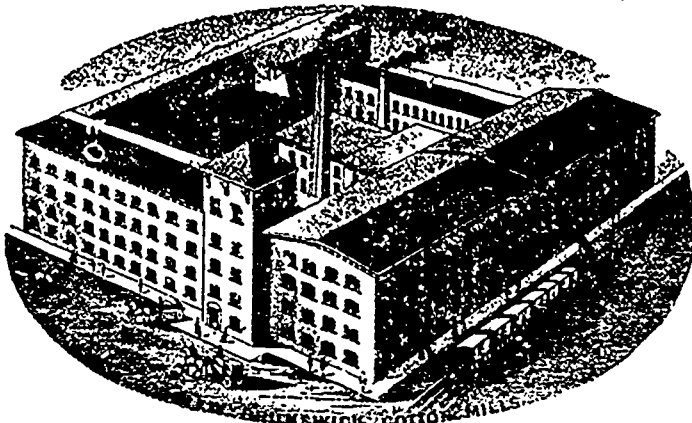
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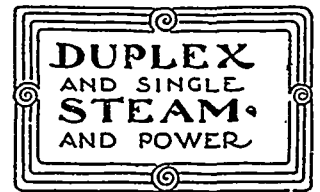
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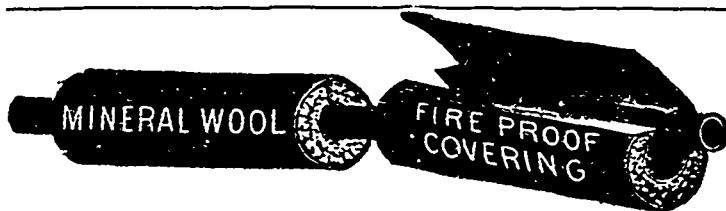
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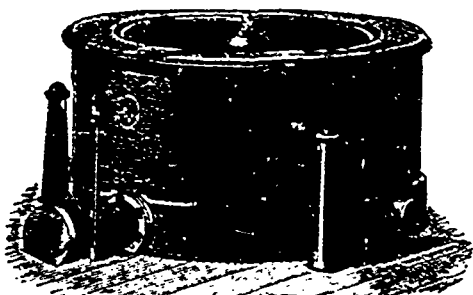
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Textile Design

The following new procedure of obtaining weaves is the invention of N. Mockel, principal of a private school of textile design at Aix-la-Chapelle, Germany. It is called by the inventor the "Method of designing new weaves by four changes," and is excellently suited for the construction of granite weaves at present so popular for cheviots, cassimeres and worsteds. The new method of designing weaves consists in placing any one or more weaves four times into each other; every time (of the four times) turn your point paper 45°; place the original weave always upon the uneven number of rows of squares horizontal and vertical only.

A 4 × 4 weave, i.e., a weave repeating on four warp threads and four picks, if used for foundation, will thus produce a new weave repeating on

{ 8 warp threads and
 { 8 picks
 since 4 × 4 = 16 × 4 = 64
 and 8 × 8 = also 64.

A 6 × 6 weave, i.e., a weave repeating on 6 warp threads and 6 picks, if used for foundation. will result in a new weave having

{ 12 warp threads and
 { 12 picks.

For its repeat, since

6 × 6 = 36 × 4 = 144
 and 12 × 12 = also 144.

If an 8 × 8 weave is used for the foundation the new weave will repeat on 16 warp threads and 16 picks, since

8 × 8 = 64 × 4 = 256
 and 16 × 16 = also 256.

If a 10 × 10 weave is used for the foundation the new weave will repeat on

{ 20 warp threads and
 { 20 picks
 since 10 × 10 = 100 × 4 = 400.
 and 20 × 20 = also 400, etc., etc.

Only weaves repeating on an even number of warp threads and picks are made use of.

For a better explanation of the procedure the accompanying six examples are given.

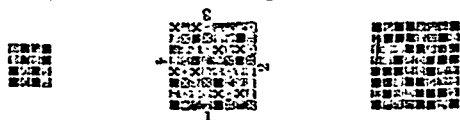


FIG. 1a. FIG. 1b. FIG. 1c

Fig. 1a shows the foundation weave, being the common $\frac{2}{2}$ 4 harness warp rib, which in Fig. 1b is in view marked below the weave by 1 shown by ■ type in view marked below the weave by 2 shown by ▣ type in view marked below the weave by 3 shown by ⊠ type and in view marked below the weave by 4 shown by × type.

In Fig. 1c a reproduction of Fig 1b is given, in one kind of crochet type, to give the student a better illustration of the complete one repeat of the new weave.



FIG. 2a. FIG. 2b. FIG. 2c.

Fig. 2a is the common $\frac{2}{2}$ 4 harness twill used in the construction of the new granite weave Fig. 2b for foundation.

Construction exercise No. 1 is shown by ■ type, construction exercise No. 2 is shown by ▣ type, construction exercise No. 3 is shown by ⊠ type, and construction exercise No. 4 is shown by × type.

Fig. 2c is a reproduction of Fig. 2b in one kind of type.



FIG. 3a. FIG. 3b. FIG. 3c

Fig. 3a is the common $\frac{2}{3}$ 6 harness twill, and which is used for the foundation of the new weave, Fig. 3b.

Type ■ shows the placing of this foundation weave accordingly to number 1.

Type ▣ shows the placing of this foundation weave accordingly to number 2.

Type ⊠ shows the placing of this foundation weave accordingly to number 3.

And type × shows the placing of this foundation weave accordingly to number 4.

Fig. 3c is a reproduction of Fig. 3b in one kind of type.

At Lisburn, near Belfast, a textile firm employing 2,500 hands recently gave notice to the employees that they would not be required on Saturday. They had been giving the Saturday half holiday, and trade being slack they decided to shut down altogether on that day. This was only following the experience of a number of other firms, who found the half day's work on Saturday rather unsatisfactory. It is a question in the minds of many philanthropic employers of labor whether a nine or ten-hour day for five days of the week is not better for the workman or workwoman than an eight-hour day for the six days of the week.

THE many friends of the firm of Carlisle Bros. & Co., St. Catharines, will hear with regret of the death of W. A. Carlisle, one of its former partners. About two years ago Mr. Carlisle went to the Canadian Sault, where he was with Dunbar & Sullivan, canal contractors. He was riding along the canal with his bicycle when he fell from his wheel into the water and was drowned.

It is stated that a well-known firm of cotton spinners in Bolton, England, who had intended building an additional mill, have abandoned the idea, and that it is an open secret that the capital meant for the purpose has been invested in a mill in France, where the directorate is free from what is described as the undue action of trade unionism, and where labor is cheap, with a corresponding better return for the money laid out. A good deal of Bolton money has been invested in French cotton mills of late years.

FINISHING MELTONS AND CHEVIOTS.

Goods with a melton finish, in which may also be classified the numerous cheviot imitations, often receive a very insufficient treatment in the finishing operation, which is limited generally to drying after the final washing, clipping off the long hair ends, pressing and steaming. In view of the present increased demand, as regards softness, smoothness and elegant appearance in these goods, the manner of treatment referred to no longer meets the requirements, and the manufacturer is forced to adopt another and at the same time more complicated method. The principal object is to make the cloth soft and smooth. While napped goods have a softer feel and become smoother in the teaseling operation, the finisher must endeavor to replace the several manipulations of the latter by those appropriate for producing the softness and smoothness of unteased goods.

It is a general rule to be very careful in the use of strong fulling or washing lyes when dealing with woolen goods, and this rule applies with still greater force to unteased goods, especially when it concerns a heavy-weight cloth that is to be fulled. By the employment of a strong soda lye in washing, the finisher often produces a permanent hardness which cannot be removed afterwards from the fabric, even by a forced teaseling. On the other hand, the cloth must be perfectly clean. Soap and oil residues invariably make it hard in the final finishing (pressing and steaming). A clean washing of the wool and an easily saponifying wool oil are the best preventives. For the final washing of meltons and cheviots the finisher must at first use warm water, and only when all the dirt is dissolved and the greater part of it has escaped can he finish washing with cold water. The addition of a little ammonia is advisable. Cloth to be dyed in the piece should always be treated after washing with a solution of fuller's earth in urine.

As regards the precautions necessary for obtaining the requisite smoothness, attention must be mainly directed towards preventing creases. These, it is true, can never be avoided altogether, especially when the cloth is passing in rope form in the washing machine and fulling mill. The best safeguard is to frequently open the cloth and shift the creases. Other correctives are the smoothing or stretching machines, as well as the steam lustring, either wet or dry. There are a number of styles of stretching machines. One kind is built like a simple gig, the drum of which, in place of being mounted with card slates, has a number of small, obliquely standing metallic buttons, whereby the cloth is stretched and kneaded at the same time. Nearly all the different styles seek not only to smooth but to soften the cloth. But the loss of the nap is sometimes quite important, as it is often scraped and worn off. These apparatus are, therefore, principally used for heavy and harder goods, for which they are quite well adapted.

Light weight, and more especially goods of a cheviot character, are generally smoothed in another manner. When they issue clean from the washing, they are firmly wrapped, full breadth, upon rollers, pains being taken to stretch them out as broad as possible, in which condition they are left for twenty to thirty hours, changing the ends of the rollers every six hours, so that the water remains equally distributed. The cloth is then unwrapped and dried. It receives a slight lustre thereby. If the creases are more pronounced, the cloth is first dried and stretched smooth, then wrapped up and laid in water of 122 to 135°F., in which it is left for twelve or fourteen hours. After this it is cooled off and unwrapped, usually the cloth is then smooth. Should it have become somewhat hard from the wrapping, it is entered into the washing machine and rinsed for a short time with a fuller's earth solution and then with clean water.

Another kind of wet-smoothing is the mixed lustring, which serves at the same time to produce a lustre which, however, is obtained with greater difficulty, on account of the want of nap of this kind of goods. The wet, well-opened-out cloth, is wrapped upon the steam lustring cylinder of the apparatus specially constructed for this purpose, and while the cylinder is constantly rotating, steam is admitted until the cloth is thoroughly and uniformly penetrated by it. If a greater lustring effect is desired, steam is permitted to pass through the cloth for ten or twelve

minutes longer. To retain the softness, however, it is better not to cool the cloth upon the cylinder by water passing through it, but to unwrap the cloth while still hot, and to allow it to run for a short time in the washing machine with a fuller's earth solution, and then to rinse it clean. It is suggested that this mixed lustring might now be frequently employed for finishing many kinds of melton and cheviot goods. It imparts lustre, smoothness and a soft feel to them, and contributes not a little towards a condition of cleanness, as such goods in a wet state invariably contain some dissolved residues and impurities, which are blown out by the steam.

Piece dyed goods are submitted to this process either before or after dyeing, according to the degree of fastness of the color. A number of artificial dyes are changed somewhat by the mixed steam lustring, or the colors bleed. For instance, it will affect naphthol black, brilliant black and other dyes which are otherwise very fast on piece goods. The goods to be dyed in any of these colors must, therefore, be steam-lustred before dyeing. The vat-dyed imitations of cheviots, however, had better be treated after dyeing and rinsing. It happens occasionally that either one or both sides of meltons and cheviots must be raised in order to obtain a more desirable softness or to cover an unduly protruding twill. This is best done in a gig with rotating teasels, or in a card gig, as this treatment preserves the melton or cheviot character of the cloth. This style of treatment is to be preferred, to that of teaseling the cloth in nap, in one direction, even if only a little. The raised fibres must be shaved off again, except those intended for covering the twill. The less this kind of goods is teased, the more pains must be taken to have it equally moist in the teaseling. It is better to have it a little too moist than too dry, as in the latter case it is apt to become striped.

Before drying the cloth, says the *Industrial Record*, it is whizzed in the hydro-extractor. While drying it is to be stretched in length and breadth sufficiently to make it smooth. After drying, the loose fibres lying on the surface are to be clipped on, for which one or two cuts are sufficient. If the fibres lie on tightly, which is most frequently the case in steam-lustred goods, it is well to let the raising brush run along during the first cut. The goods raised partially, for the sake of producing softness, require a more thorough shearing to get them smooth again. Special care should be taken not to come too near the bottom of the nap, as this might be shorn threadbare. If both sides are shorn, the back must always be taken first, because if the face were shorn first it would always be roughened again by the back brush when shearing the back. By taking the first-mentioned precaution the brush only interferes with the back, which is of no consequence.

The opinion is sometimes advanced that sharp and well-standing shearing machines are not absolutely necessary for goods with a melton finish. This is an error, however, for even with unteased cloth the operation of the cutting gear is easily recognized, and meltons and cheviots shorn in sharp cutting machines have a much smoother appearance than would otherwise be the case. They will, indeed, assume a certain lustre, which is never the case when working with a dull cutting gear, which only squeezes off the fibre, in place of clipping it off. Special care is to be paid to remove the clipped-off, short flocks from the meltons, as they are apt to cling to the face. In napped goods, these fragments are usually removed thoroughly by the constant brushing. Unteased goods, however, must be brushed off well with the whisk broom, as the surface would be roughened again by brushing it.

Pieces that are lustred dry for obtaining lustre and a firm feel are pressed hot twice after the shearing, then steam-lustred, again rinsed in the washing machine, then wrapped upon cylinders, and left standing from ten to fifteen hours. The cylinders are to be turned around from time to time. Both sides are shorn one additional passage after the drying, and the wet lustring may be dispensed with in such cases.

The last operation is making the cloth ready for the needle, which is performed in various ways, according to the character of the cloth and the desired effect to be produced. If it is to have a little firmness, place it overnight in the screw press, and then steam

upon the steam lustring cylinder until the steam issues through everywhere. If the cloth is wanted a little looser, it is to be unwrapped at once and cooled when open. If it is desired to be boardy or firm, let it stand for a while upon the cylinder. Pieces that are to be soft and loose are pressed in the roller press, and then passed once or twice over the open steaming apparatus. Light or loose cloth is generally stretched out strongly by the roller press, and for this reason the plate press is suited best for this kind of cloth.

THE PROCESS OF BLEACHING.

By the term "bleaching" is understood the destruction of colored ingredients to be found as impurities in and upon different colorless fibrous material. The bleaching process is most generally based upon the condition that the material to be bleached more fully resists certain chemical agents which are used for bleaching than does the coloring substance. But since a thorough power of resistance cannot be relied on, the bleaching agents must be employed with very great care, in order not to impair the strength of the material to be bleached. The vegetable spinning fibres consist of colorless cellulose, but before the bleaching process they also contain resinous and wax-like besides the colored ingredients; the retted flax contains pectinic acid, etc., while the yarn and cloth are filled with substances such as glue, dextrine, starch (from the sizing), fat, dirt, etc. These impurities envelop the coloring substances, and render them impervious to the action of the bleaching agents, and it is, therefore, necessary to first cleanse the fibres, although it is advantageous to alternate the cleansing and bleaching process, and highly diluted liquors are invariably used, so as to prevent the fibres from being attacked.

The oldest bleaching process is the grass bleach, in which the fabrics are spread out upon the sward and wetted by rain, dew, or water sprinkled on them, and in which moist condition they are exposed to the action of the air or direct sunlight. Both light and oxygen exert a simultaneous action by forming ozone, but, more correctly speaking, peroxide of hydrogen, by which the coloring ingredients are destroyed. Much more rapid than the grass bleach, however, is the action of the chlorine bleach, in which process weak solutions of chloride of lime, hypochlorite of soda, or other hypochlorous acid salts are made use of, and the process is finished with a weak acid bath after the chlorine bath. The hypochlorous acid dissociates in the fabric, and forms oxygen and hydrochloric acid, which latter liberates again hypochlorous acid. The opinion that the chlorine bleach strongly corrodes the cloth is unfounded, considering the present rational method of treatment. Danger can only be anticipated if an unduly strong chloride-of-lime bath is used, or if it is permitted to act for too long a time, especially with the co-operation of air and light. Again, if the acid is not completely washed out it will concentrate in the drying fabric and corrode the fibre. If cloths in general are not so strong to-day as they formerly were, it is not due to the action of the chlorine bleach, but to the present method of harvesting and preparing the fibre, and to the spinning and weaving processes.

Repeated experiments have been tried for bleaching with chlorine developed electrolytically, but no great success has been achieved in this direction. On the other hand, peroxide of hydrogen has recently been extensively employed. It attacks the cellulose and forms oxycellulose, more especially in the presence of metallic oxides, for which reason a weak acid bath is first employed to remove the latter. An addition of magnesia has a very favorable effect in bleaching with peroxide of hydrogen. Sulphurous acid enters into colorless combinations with a number of dyestuffs, from which the latter can be recovered again unchanged by the use of dilute sulphuric acid, vapors of hydrochloric acid, chlorine, by heating, etc. Other dyestuffs, again, are not bleached by sulphurous acid. Many—for instance, the yellow pigment for silk dyeing—are destroyed only because under the influence of light the oxygen of the air present, besides the sulphurous acid, effects the decomposition of the dyestuffs. This circumstance explains the reason why goods bleached with sulphurous acid often turn

yellow again. The sulphurous acid frequently renders soluble only the coloring substances, so that these can be expelled by the subsequent cleansing baths. For bleaching wool and silk, a solution of hydrosulphite of soda, obtained by treating bisulphite of soda with zinc, has recently been recommended. The sulphite of zinc and sodium is permitted to crystallize and the diluted mother liquor is used.

The bleaching of cotton commences with a cleansing process, the purpose of which is also to remove the fat adhering to the cotton. Caustic soda, resin soap, soap, lime, and acids are employed in a number of different ways. According to one method the cotton is drawn through a soda solution in a washing machine, after which it is put in a basket-woven wagon of tinned flat iron and entered into a bucking kettle, and while the cotton is being constantly wet with weak soda solution, it is treated with steam at a pressure of about one atmosphere, and is afterwards washed with hot water. The cotton is then entered into the bleaching machine, through which it passes at a speed of 60 metres per minute. It is first conducted through water, then squeezed between rollers, after which it enters into a 0.4 per cent chloride-of-lime solution. It is squeezed again and then entered into a chamber with carbonic acid (or weak hydrochloric acid), and after this follows a washing with water and 0.1 per cent soda solution, wherein the material is beaten by rollers, and after repeated squeezing it is constantly sprayed again with water. The cotton, then passes through a hot soda solution, is again washed, passed through open air, and repeatedly subjected to the same treatment, and finally made ready in an ordinary washing machine. According to the size of the apparatus, from 2,000 to 5,000 kilos, cotton can be thoroughly bleached in from 18 to 20 hours. For bleaching cotton with peroxide of hydrogen the material is entered into cold, weak, sulphuric acid, in which it is left for some time, and after which it is boiled for six hours in a bath of caustic soda, soap, peroxide of hydrogen and calcined magnesia. It is then washed, treated with acid, washed again and dried. A very nice white is obtained in this manner.

In bleaching linen and hemp, a much larger quantity of impure substances is to be removed than in bleaching cotton, and it is therefore necessary to use a larger number of baths, which are alternated with grass bleaching, although it is also possible to advantageously use grass bleaching and chlorine bleaching, or else the latter alone.

Jute cannot be bleached in the customary manner with chloride of lime, because it enters with this in a chloric combination, which forms hydrochloric acid afterwards in the printing and steaming of the fabric, and this acid turns the fibre brown, and finally destroys it. The chloric combination also fixes the lime, whereby the fibre is made rough and brittle. The fabric is therefore washed with water glass, borax or soda, and bleached in hydrosulphite of soda with a trifling excess of carbonate of soda, in order to prevent the formation of chloric combinations. It is afterwards rinsed with water and entered in diluted hydrochloric acid with a little sulphurous acid, and this treatment imparts a pale cream color and a soft lustrous appearance to the fabric.

Vegetable substances may also be bleached in a manner similar to yarn and fabrics, and for this method a gaseous chlorine or chlorine water is often employed. This method is used especially in paper mills, in which the rags or the pulp are bleached.

Wool and silk do not resist the action of alkaline lyes and chlorine, and are therefore cleansed with soap, soda and ammonia, and bleached with sulphurous acid. The fabrics while moist are suspended in a chamber, in which sulphur is burned, and are exposed to the action of the gas for twenty-four hours. A hydrochloric acid bath follows next, and in case of insufficiency the processes are repeated. The sulphurous acid is often generated by heating sulphate of iron with sulphur. It is then washed in water and led through pipes into the chamber. Much more uniform than the gaseous sulphurous acid is the bleach with a saturated aqueous solution of sulphurous acid, in which the fabrics are left immersed for four hours. For producing such a

solution, sulphurous acid is conducted into the lower part of a coke tower, in which water drops down. The aqueous sulphurous acid is best used at 77° to 100° F, and since the gas is more soluble in cold than in warm water, it is necessary to dilute the saturated solution sufficiently so that no gas escapes in heating. A solution of bisulphite of soda is also employed. The wool treated with sulphurous acid is entered into a weak soda solution and afterwards washed thoroughly, and, if necessary, the bleaching process is repeated.

For bleaching with peroxide of hydrogen, the peroxide is mixed with water and ammonia, in which the bath wool is left immersed for ten hours. It is then taken out, and without being washed taken to a well-ventilated drying chamber, heated to 70° F. or, what is still better, dried in the sunshine in open air. To obtain a purer white, the wool must be blued feebly with indigo carmine, or, better still, with methyl violet.

Raw silk is first degummed by treatment with soda, soap or carbonate of ammonia, after which it is well washed and passed through an acid bath. It loses thereby more than 25 per cent, and to avoid this great loss, it is frequently washed in a diluted and heated mixture of hydrochloric and nitric acids, until it has become grey, when it is quickly and carefully washed. The loss in this process is at most 18 per cent, but the product, the supplied silk, is proportionally more inferior. In both cases the cleansed silk is bleached with gaseous, more frequently with a solution of sulphurous acid, and then washed, and a reddish or bluish tone is generally finally imparted to it with annatto, indigo carmine, or aniline blue.

Vegetable fibres, wool and silk, can also be bleached with permanganate of soda. The cleansed material is entered into a solution of manganate of soda, after which sulphate of magnesia or chloride of magnesium is poured in. The generated permanganate of soda has a bleaching effect by surrendering oxygen, while brown manganese oxides precipitate upon the fibre. For removing these oxides the material is entered into a bath of sulphurous acid, which forms a protosulphate of manganese and is easily washed out.

Horse, cow and calf hair are bleached in the same manner as wool. Wood, also, can be bleached, but only with sulphurous acid. Ivory is bleached in a mixture of oil of turpentine and alcohol, which has been exposed in a bottle at most one-half full to the rays of the sun for several days.

The work of bleaching is exposed to but few dangers, for the workmen soon become accustomed to the vapors, and the diluted chloride-of-lime baths can hardly be taken into account, although they are more disagreeable in their effect in the vicinity. Dirty waste water must be thoroughly cleansed with lime, and it is, therefore, well to locate bleaching establishments below settlements on the same stream. Odors must be drawn off by good ventilation, although in establishments recently built their immediate removal has been provided for.

The grass bleach is an ancient method which attained perfection in the eighteenth century, and it was used with such great skill in Holland, Bohemia, Silesia, etc., that nearly all the linen woven in Scotland was sent to Haarlem to be bleached. Berthollet taught the factory bleaching with chlorine water in 1785, and James Watt, Henry, and Boneuil introduced the method into England, but found great opposition, as was the case everywhere else. It was observed that the fabric entered into chlorine water frequently became yellow, and in order to prevent this the cloth was boiled with alkaline lyes. In 1792, Berthollet discovered the chloride of potash, which can be handled with much less trouble than chlorine water; but his discovery was eclipsed by the discovery of the chloride of lime by Tennant, in Glasgow, in 1798. At first Tennant employed the milk of lime treated with chlorine, but as early as 1799 he received a patent for a bleaching powder. The chlorine bleach was on the point of being abandoned by being carelessly used, and only when the processes were performed with more care did the new bleaching process take a renewed hold, first by being employed for cotton fabric, and much later for linen. The

bleaching process, however, was promoted most largely by the introduction of machinery. The bleaching with permanganate of potash was discovered by Tessié du Motay and Maréchal, in 1866. —*Industrial Retord.*

STRIPPING COLOR FROM DARK RAGS.

What is the method for reducing dark rags or dark shoddy yarn to a medium light-yellow olive by boiling with chromate of potash and acid? In what proportion are these agents employed, and what acid is best to use? How long is boiling to be continued? These questions are answered by a German contemporary as follows: When the wool material is treated with bichromate of potash, the latter surrenders a portion of its oxygen to the former, and reddish to greenish-yellow chrome combinations are precipitated upon the fibre. The organic dyes already upon the material are in large part changed or destroyed, although not all to the same degree, which shows that the question as to what kind of dyestuffs preponderate on the material must be considered. Wood colors can be destroyed much more readily by the oxidation with chromic acid than alizarin dyes, and many anilines are also less fast than the alizarins. Indigo is most thoroughly destroyed by the following mordant: For 100 lb. wool 5 lb. sodium bichromate (which is generally used at present for this purpose, in place of the much dearer potash salt), 3½ lb. blue vitriol (sulphate of copper), and 3 lb. of sulphuric acid, 66° B.; boil in this from 1½ to 2 hours. If the quantity of dye upon the fibre, which will be considered as unknown, is large, the following decoction may be used, but anything stronger cannot be employed: 5 per cent. sodium bichromate and 4½ per cent. sulphuric acid, 66° B.; boil for 2 hours. This quantity of acid, which is theoretically too high, practically ensures the best success, as it liberates the entire quantity of the chromic acid, and forces it to act with energy upon the material, while, on the other hand, the bisulphate of sodium is generated. At a subsequent boiling the quantity of the chromate, as well as that of the acid, must be diminished.

To use an organic acid, such as oxalic acid or tartaric acid, for the present purpose, would be a mistake, for two reasons: (1) The cost would be increased unnecessarily; and (2), in the presence of one of the acids named, the chromate does not act so energetically upon the wool material, or rather upon the dyes upon it, since a part of the oxygen surrendered by the chromate oxidizes these acids in place of the dyestuffs, which it is intended to destroy. In stripping colors it is not advisable in all cases to use more than 5 per cent. sodium bichromate, as the fibres become harsh in feel, in consequence of the large quantity of chrome combinations which they absorb, and perhaps also by reason of their oxidation.

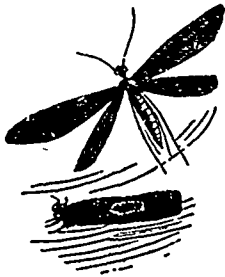
The plates should not be put on any harder than necessary to take out wrinkles, or else they will have to be stretched out again on the stretcher to make them wide enough. This may be unnecessary on goods requiring an excessive amount of felt; but as a usual thing it is better to run goods natural and have as little stretching as possible. Next morning the goods are unwound, and they are then in prime condition for the gig. On the gig commence with old work, and go into the felt as easily as possible. When about half gassed, take the goods to the cropping shear and give them a good cropping. The better and evenner this work is performed, the better the goods will look. While it is of great detriment to the goods if they are cropped too low, it is equally bad not to go low enough for if they are not sheared low enough the benefit is not obtained, and the labor spent is practically wasted. They should be cropped to within three or four notches of where they are to finish. After returning them to the gig, employ somewhat sharper work, and try and raise the remainder of the fibres; after about half-an-hour's work thus put in (the sharpest work you have, or breakers), finish up one way for about twenty or twenty-five minutes.

The next process depends entirely on the stock used, for if the stock contains many burrs, burr or speck dyeing becomes necessary, and this must be done now. After speck dyeing the goods go to the wet gig, where they receive four runs and are then wound

tightly on rolls and stood on end over night. In the morning they are carefully unrolled and put in the extractor, and from there go to the dryer.

In drying it is well to have a brush attached to the dryer so that all the fibres may be properly straightened before they dry, for if they are not dried that way no subsequent process will be able to straighten the nap, and it will be necessary to return them to the wet gig. When the goods come off the dryer they must be looked over on the back for knots, and then given a good steam brushing, when they are in condition for the shear. The shearing depends upon the taste of the buyer, some preferring a longer nap than others, but they should at any rate receive a good many runs to square the nap properly. The more runs they get, the better they will look; in fact, it never pays to hurry the shearing on face goods, for one of the great beauties of the finish is a good, even nap. After shearing and specking they are inspected, brushed again with steam, and are then ready for the press. Press face down or to the bed, and apply plenty of steam after pressing so as not to leave any glaze. This is what is termed the water finish, and on fancy colors is much to be preferred to the steam finish, as it will be possible to get out the goods with about one-tenth the allowances and remnants usually made on the steam-finished goods.

CARPET MOTHS.



Now is the time when the thoughts of carpet dealers and housewives turn sadly to moths and carpet beetles. In the good old days when camphor was sold at a reasonable price, it was the first resource of most housekeepers in their struggles against these villainous vermin, but in view of the extremely high cost of camphor nowadays and the ridiculously low price of carpets, it seems advisable to select some less

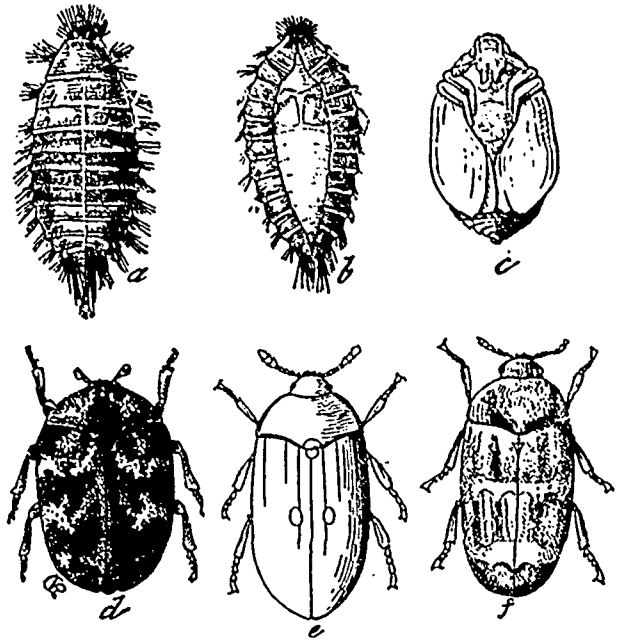
precious article as a protection against those insects whose appetites work such havoc among woolen floor coverings.

Moreover camphor, however liberally used, is not regarded as a certain protection.

Among the substitutes for camphor, which are less expensive and more efficacious, are: Benzine, corrosive sublimate, kerosene oil and carbolic acid. It is said that corrosive sublimate is the only sure defence against the Buffalo carpet beetle. In utilizing this drug, take a wide-mouthed earthen jar, pour into it two quarts of boiling water and dissolve in this one teaspoonful of corrosive sublimate. As the solution is poisonous the jar should be plainly labeled and kept carefully covered. When possible it should be used out of doors, and applied with a small whisk brush kept for this purpose only. Gloves should be worn in using it, and care taken to prevent any of it touching the face or eyes. In applying it to rugs or carpets the best method is to hang them over a line, then dip the whisk into the liquid, shaking it nearly all off against the inside of the jar, then carefully brush the rug over with the right and wrong sides without using enough of the solution to make the fabric wet. It is sufficient to slightly dampen the outside. The liquid will not injure any textile fabric however delicate.

Benzine or kerosene oil will always kill the insects if it can be brought into contact with them, and the mere odor of benzine will kill the larvae. When it is evident that a house has become infested the carpets should be taken up and all the cracks and crevices in the floor and under the baseboard filled with benzine, a hand atomizer being used for the purpose. The carpets should also be beaten and then lightly sprayed with benzine. The cracks should then be filled with a mixture of plaster of Paris and water, which will soon set and form a hard substance which the insects cannot enter. In the case of a stock of carpets the benzine spray alone is generally sufficient to kill the insects. The benzine evaporates quickly and leaves no odor, but in using it one should remember that it is very inflammable, and that no light should be brought near it.

It has been recently discovered that besides the ordinary clothes or carpet moth, *Tinea pellionilla*, and the Buffalo bug or beetle, *Anthrenus scrophulariae*, there are two more species of insects, *Attagenus* and *Megatoma*, which prey upon carpets. Figures a, b, c



and d of the illustrations presented herewith represent the Buffalo beetle in the various stages of its existence, e is the species *Attagenus*, and f represents the *Megatoma*. The ordinary clothes or carpet moth, as known in this country, is shown in the cut at the head of this article. The species *Attagenus* is black with a straight ashy patch of hair at the three posterior angles of the thorax, and one rather larger on the disk toward the middle of each elytra or false wing, which is the salient feature of the beetle family *Megatoma* is raven black with a small patch of silvery gray hair at the posterior angle of the thorax, and two transverse crenulated bands of the same color across the elytra. The Buffalo bug differs from these two species chiefly in color, the fully developed bug d being white, black and scarlet, the latter color being confined to a stripe down the middle of the back.—*Carpet and Upholstery Trade Review*.

THE weight of ostrich feathers exported from Cape Colony during the past ten years has reached a total of about 1,700,000 lbs. In order to preserve a monopoly in ostrich farming, the Cape authorities fixed the export duty on adult ostriches of £100, and at £5 for each egg. An effort is about to be made by the French to domesticate ostriches in Algeria, and with this object in view an endeavor is being made to secure a number of the birds from breeders at the Cape.

In John Wanamaker's dry goods establishment in Philadelphia there are close upon 15 acres of floor room. The electric light installation comprises 550 lamps, each of 16 candle-power, and 472 arc lights of 2,000 candle-power each. Coal to the average quantity of 20 tons daily is required for the 11 boilers which keep seven steam engines and 16 dynamos going, turn fans for ventilation, and fill reservoirs for providing hydraulic power for 11 elevators. There are 77 pay-places, connected by over 30,000 feet of brass tubing with the central cash station, and 60 two-horse wagons are regularly employed in the delivery of goods, with an increased number at holiday seasons. There are 53 separate departments and 11 "factories," and from 3,500 to 5,000 employees. "according to the season"—a wide margin. "Five reception rooms provide comfort to the throng of daily buyers and visitors. . . . A restaurant seating 800 persons at once is conducted in a most satisfactory style. Four tons of ice are used daily, over 25,000 oysters are served on a busy winter day, and in hot weather 1,600 quarts of ice cream disappear daily."



W. R. ALLEN.

Readers of this journal will remember that in the Queen's jubilee year, 1887, J. D. Allen, eldest son of Joseph Allen, managing partner of the British American Dyeing Co., carried away the highest honors in the theory and practice of dyeing at the Yorkshire College, Leeds, and subsequently, in the same year, at the City and Guilds of London Institute. He took first position in each subject at both the College and the Institute. It was very creditable that a Canadian should have taken these honors against the best talent of the various schools of technology in England, but further honors have been in store for Mr. Allen's family. W. R. Allen, the second son, has returned home to Montreal, by the "Lake Ontario," having passed in the examination in the department of technical chemical dyeing in Yorkshire College. In a class of twenty seven, Mr. Allen took the third position, the fourth man being over thirty-five points below him, and the first man being only five points above him. Since his return word has been received that in the technological examinations at the City and Guilds of London Institute, in which he competed, he carried off the highest honors, having won the first prize and the silver medal, the highest awarded, together with a special £2 prize given by the Dyers' Association of London. When it is known that the honors of this Institute are open to those who have graduated from the Schools of Technology of London, Leeds, Bradford, Manchester, Huddersfield, Edinburgh, Glasgow, Dublin and other technical colleges, and that the best technical talent of the United Kingdom is drafted from these colleges, we realize that the distinction is a very high one, and we are proud that it has fallen upon a young Canadian. If, as we presume, these institutions are open to students from any part of the world, the honor to our gifted young friend is all the greater. Mr. Allen, jr., returns to England in September to take his Honors Course in the same colleges. Mr. Allen has a third son who has chosen the business of a dyer as his life calling, and we understand that it is his intention also to put him through the same course of studies, and we trust with equally gratifying results. A portrait of W. R. Allen is given above. Mr. Allen may well be proud of his boys.

PROGRESS IN THE DYEHOUSE.

Within a decade, says an exchange, there have been a great many new methods of dyeing introduced that expedite the work and get out better looking goods than some of the old and slow ways of doing would.

The aniline scarlets have so completely displaced cochineal that we hardly think of ever having had such a dyestuff as cochineal in the drug room. Many of the younger dyers have never seen cochineal and they only know it by name, as some of those who are in the prime of life only know weld and quercitron. The improvement of the latter method over cochineal is not so much a saving of time as it is a saving of expense and the attainment of a sure method of securing a desired result. The manufacturers of aniline dyes have so improved their product that those colors are made so that they may be dyed in half an hour and they will stand fulling, the action of light, and will not be discharged by a sulphur bleach.

In the aniline dyes we have the improvement in the red dyestuffs that can be added at the boil. When these colors were brought out they contained no blue and we were forced to use the extract of indigo. The reds that they possessed could not be added hot nor could they be used in small quantities. The dyer was obliged to use archil extract and this changed so much in hot pressing that it was a very uncertain matter to match a color with archil. More than this, the extracts of archil became so much adulterated that the very thing that the dyer was trying to avoid, aniline red, was used, and the goods came out uneven.

There are now at least two red coloring matters that are adapted for making the red of compound shades. They are chromotrop and archil crimson. Both of them can be added in small quantities, and both go on evenly if added at the boiling temperature. If either of them should get to be a little uneven, that can be made all right by adding a small quantity of Glauber's salts and boiling for half an hour. Indigo extract is almost a thing of the past in the dyehouse where progressive methods are the order of the day. Its place is more than filled by the blue dyestuffs that have replaced it. Indigo extract was always a very uncertain coloring matter to use. It always boiled lighter as the boiling was continued, and it sublimed if the cloth that was dyed with it was pressed hot; this decreasing of the depth of the blue made matching to a shade a matter of guess work more than skill. The blues that replace the extract of indigo are called cyanine blue and patent blue. These are, so far as the dyer is concerned, the same thing, for they produce the same shade and behave the same toward the other dyestuffs that are used. They give brilliant colors as the purest indigotine that is made from the best indigo. They do not vary in coloring strength, as extracts of indigo are sure to, and they do not change with hot pressing. They are much cheaper to use than the article which they replace. They hasten the work, because the dyer can proceed with his work with more confidence if he can employ a dyestuff from which he gets uniform results, and they save all of the re-dyeing that had to be done because the pressing was either hotter or harder, and the goods had to be returned to the dyehouse through no fault of the dyer.

Dyehouse work has been expedited by the use of extracts in the place of the dye woods. In most cases it is cheaper to use the extract than it is the wood itself. This may seem an extravagant statement; it will be said that somebody gets paid for making the extract, and the user might as well pay for it himself as pay another for doing the work for him. This would be true if the user had the advantage of location and the experience and capital to use in the business that the extract maker possesses. The competition is so keen that the profit that is made on extracts of wood is reduced to a minimum, and as the extract maker has the advantage of being at tide-water and of getting offers of the best wood in large quantities, it will be seen that he can produce the extract and deliver it at the dyehouse for less than the dyer could get wood enough to make its equivalent.

In the field of the cotton dyes the improvements that make it possible to hasten the work are even more noticeable than they are in the field of woolen dyes. Take the substantive dyes as a case in point. They save hours every day; many colors can be finished and sent out of the dyehouse in quarter of the time that it would take to mordant them in the old way. These colors have revolutionized the art of cotton dyeing, and they have made the manufacture of the cheap knitted top shirt possible. They are the easiest to dye of all the colors that we have, and from being the most difficult fibre to handle cotton has become the easiest to do. These dyes may be worked by a novice, and they yield colors that will match nearly all the colors of the rainbow.

One of the greatest of the discoveries in regard to the dyeing of cotton is the diazotizing and developing of the color on the fibre itself. This not only makes it possible to do immense quantities of work in a short space of time, but it also makes it an easy matter to get fast colors where it was impossible to get a fugitive color by any of the old ways. The essential principle of this process is fixing on the fibre of a substantive dyestuff, then diazotizing it and developing it to another color upon the fibre itself. This makes an

interesting process to follow out, and it is a subject of never decreasing interest to see a bright red spring from a yellow, or a rich black from a blue, in what appears to be clear water.

There seems to be a tendency to do away with the preparation of wool, and at this writing it appears to be successful. The idea is to boil the dyestuff, alizarine or other official dyestuff, on the wool, and then add in the same kettle a solution of fluoride of chrome and boil the mordant and the dyestuff on the wool together. The colors produced in this way, or at least most of them, seem to be as fast to washing and fulling as when they are prepared with bichromate of potash; they are in every case brighter than the prepared color, and at least half of the steam and time are saved. When this system of dyeing shall be perfected we will do fast colors on wool with the same ease that we now dye the diamine colors.

A NEW PRODUCT FOR OILING WOOL

E. Godschau, a Frenchman, has patented a substitute for oil, to be used instead of oleine, olive oil, or other fatty matters in the oiling of wool. It consists of a mixture of soap water, glycerine and carbonate of potassium. Soap is used because it imparts viscosity to the water, and facilitates or promotes the adherence of the fibres to be treated to each other. Glycerine is a neutral body, soluble, in any proportion, in water. It dissolves the soap and deliquescent salts, and maintains in the wool the necessary moisture, whilst it is being made into yarn. Glycerine remains fluid at the lowest temperature, does not evaporate on exposure to the air, and is not susceptible to rancidity or spontaneous combustion. By its employment the fibres of the wool are moistened, lubricated, and rendered flexible and supple, without being charged with grease, and they are preserved from all change. These qualities facilitate the carding, combing and spinning of the wool. Carbonate of potassium is a deliquescent salt, and is added to further maintain a state of humidity in the fibres, whilst it also increases the ductuousness of the mixture and renders it more consistent. Being very soluble in either water or glycerine, it renders the mixture more soluble in water at ordinary temperatures and gives it a greater homogeneity. It also prevents any remaining traces of mordants, having insoluble bases, from forming insoluble soaps with the soluble soap contained in the new substance, by transforming them into soluble carbonates. The constituent parts should be employed in the following proportions: Fifteen parts of soap, twenty-four of glycerine, and five of carbonate of potassium for each hundred part of water, but these proportions may be considerably varied, without departing from the spirit of the invention. Among the advantages to be gained by its adoption are increased solubility in water at ordinary temperatures, the immediate impregnation of the fibres, and a saving in cost, as compared with the usual oil or grease. In the fulling operations, an economy of time is effected, and alkaline substances and soap are also saved, as there is no necessity for extracting surplus grease or oil. The fibres or the cloth manufactured from them are capable of receiving brighter and fresher colors, and are much improved to the feel. As there are no unsaponified portions of greasy matter employed in the oiling, there will exist no irregularities in color after dyeing, thus obviating any necessity for the repetition of the operation. The risks of fire and disagreeable smells are very much reduced. In use, the compound of glycerine soap and carbonate of potash is dissolved in water at ordinary temperatures, and the wool is treated with it in the same manner as with the oily matters commonly employed.

Editor CANADIAN JOURNAL OF FABRICS:

DEAR SIR,—YOUR JOURNAL OF FABRICS at hand, and wish to say that you more than deserve credit for publishing such a valuable paper of high order and select character; every man connected with weaving, etc., etc., should subscribe. Wish you success. Yours sincerely, J. ERNEST TRUDEL, Hedleyville, Que.

HUTCHISON & SON, dry goods merchants, Alliston, Ont., have assigned to Henry Barber & Co, of Toronto. Liabilities about \$15,000, most of which is due to Toronto merchants.

ENGLISH TEXTILE MACHINERY EXPORTS

The returns as to the exports of textile machinery during May and the first five months of the year are of an interesting character. The figures show that, despite the extreme depression in the United States and Indian markets, machinists have been able to slightly exceed the gross sales of last year, owing to the larger business transacted on the continent and with those outlets included under the heading of "Other Countries." This heading, remarks the *Textile Mercury*, includes Japan and China both of which have made rapid strides of late years in cotton manufacturing on modern lines with the aid of the best English machinery. Compared with last year, it will be observed that trade has nearly doubled, over £220,000 worth of machinery having been shipped already this year. This fact is an eloquent tribute to the progress being made by the cotton industry of the farther east, whose future expansion is destined to prove a source of considerable profit to English machinists, and, it is to be feared, of much embarrassment to English manufacturers and spinners. This year, so far, nearly £2,200,000 worth of textile machinery has been exported from the United Kingdom out of total exports of machinery and mill work amounting to a little over £5,500,000. There is material for much reflection, not altogether of a consolatory character, in the following details respecting this vast foreign trade in spinning and weaving plant.

TEXTILE MACHINERY EXPORTS.

	May.	
	1893.	1894.
To countries in Europe.....	£284,990	£318,581
" United States.....	51,856	11,136
" Countries in South America	36,918	40,890
" British possessions in South Africa	74
" British East Indies	60,119	69,817
" Australasia	73	222
" Other countries	44,163	60,416
Total	£478,119	£501,166
	5 months ending May.	
	1893.	1894.
To countries in Europe	£1,059,732	£1,387,635
" United States.....	248,910	82,419
" Countries in South America	165,982	116,419
" British possessions in South Africa	1,588	172
" British East Indies	472,206	352,146
" Australasia.....	1,458	895
" Other countries	120,745	223,899
Total	£2,070,621	£2,163,585

CONCERNING the domestic manufacture of linens, which was among the acquirements of which our Canadian grandmothers were proud, C. S. Lebourneau, writing in the *Sherbrooke Gazette*, says: There is another product of the soil which was very beneficial and of great advantage to the people, which I had almost forgotten, that was flax, from which they made their linen clothing, also sheets, pillow cases, towels, table linen, handkerchiefs, in fact most everything where cotton is used to-day. There were men that went round the first of winter getting out the flax, preparing it for the wheel, when the women took it in and made it into cloth, which they were proud to show their neighbors when they came on a visit. This was a great blessing to them at that time. Well I can remember the linen sheets, as they were about like ice on a cold night to get into. They had what was called a warming-pan with a long handle. They put coals in it, shut down the cover, and ran it between the sheets in very cold weather before getting into bed, to take off the chill. But they soon got to making blankets for the winter. The old grandmothers made some very fine dimity, such as table linen, towels, handkerchiefs, etc., which showed great skill in their handiwork with the inconveniences they had to do with. Some of these their descendants have preserved to-day as old keepsakes.

The Curtis Regulator Co.
 MANUFACTURERS OF
Engineering Specialties

STEAM WATER PUMP, DAMPER REGULATORS
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Office and Manufacturing
 Beverly St. Boston.

General Agencies:
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 CHICAGO, 218 Lake Street MINNEAPOLIS, 210 S. Third Street

WILLIAM CRABB & CO.

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

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

CROMPTON LOOM WORKS.
 WORCESTER, MASS.
 LOOMS FOR EVERY GRADE OF WEAVING.
PERFECTION IN WEAVING.
 OF WOOLENS OBTAINED BY THE CROMPTON.
CLOSE-SHED LOOMS.
 "1893" HIGH SPEED WOOLEN & WORSTED LOOM.. WORLD'S FAIR MEDALS.

Established 1848.

A. EICKHOFF
 Manufacturer and Dealer in
 Hatters', Furriers', Tailors',
 Glovers' and Shirt Cutters'
KNIVES AND SCISSORS.

Knives for all kinds of business always on hand and warranted. All kinds of Cutlery ground and repaired.

No. 381 BROOME STREET,
 Between Broadway and Bowery,
NEW YORK CITY

**MILL AND PLANT
 FOR SALE**

The managing partner, and the only one of the company with any experience in the business, died last year, and in consequence we have decided to sell the mill. We make both underwear and hosiery. Plant nearly new and in good condition. Also, a 10 h.p. engine. This is the only mill of its class in the Maritime provinces. We will supply all information on application.

THE YARMOUTH HOSEY MFG. CO.,
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 Manufacturers of
WOOLEN AND WORSTED YARNS
 For Hosiery and other work
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 MACHINE.**

Now that you are repairing heating coils and steam pipes, you can save time, labor and money by using a

**Morse Valve Reseating
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and replacing your steam valves in position. We will send you a machine subject to thirty days' trial.

Thousands of machines in use.

Darling Brothers,
 RELIANCE WORKS
MONTREAL, QUE.

VERY CONVENIENT.

**PENCIL
 POCKETS**

to hold Pencils, Pens, &c., in the vest pocket. In Plain Leather, Calf, Russia and Morocco Leather. Light & Pliable
 Prices—10, 15, 20 cts. each.

— Sent by mail at above prices.

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 Stationers, Blank Book Makers
 and Printers
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MONTREAL

The Leading American and
 Leading Canadian

PIANOS...
 PARLOR ORGANS
 CHURCH and CHAPEL ORGANS

Among the Mills

The Coatcook Knitting Co. are running half time now Thorold, Ont., knitting mill has closed down for some weeks. The work of building a woolen mill at Selkirk, Man., is to be proceeded with at once. Harry King, boss weaver at the Kingsville, Ont., woolen mill, is leaving for Michigan.

The Brodie Mills, Hespeler, which were closed down in all for five weeks during repairs, are now running again.

The Montreal Silk Co. have decided to rebuild their factory which was destroyed by fire a month or two ago.

Wilcox & McCosh, woolen manufacturers, Canning, Ont., are quitting the manufacture of blankets and going into yarns.

Lewis & Pearson are very busy just now at their carding mill at Bobcaygeon, Ont. The business is increasing every year.

J. L. Cockill, manager of the Streetsville, Ont., woolen mills, has rented a cottage in Lorne Park, for a summer residence.

John Livingston, of the Listowel, Ont. flax mill, has returned home after a two months' trip to England and the continent.

Galbraith & Co., woolen manufacturers, Guelph, Ont., have effected a compromise with their creditors of 50c. on the dollar.

John Allen, an employee in the Marysville Cotton Mill, fell into a boiling dye vat one day this month and was fatally injured.

Kingsville, Ont., woolen mills have been closed down for some time owing to the scarcity of wool. They are now running again, however.

John McKay has set up a Newcomb carpet loom in Kirkfield, Ont., and will carry on a carpet weaving industry. His present capacity is 100 yards a day.

Gemmell's woolen mill at Perth, Ont., was broken into by burglars last month. They cracked the safe, but fortunately all money had been taken out beforehand, so they had their pains for nothing.

Brodie & Co., Hespeler, Ont., have finished blasting in the race under their mill, and it only now remains for the tail race to be deepened as far as needed to greatly increase the power.—*Galt Reporter*.

The Coatcook Woolen Mills Co., operated by Messrs. Trenholme & Armitage, are running steadily and turning out very substantial goods in pure wool tweeds, etoffes and flannels for local consumption.

A fire broke out last month in a cotton bin at the Hamilton cotton mill. It originated in a quantity of wet cotton which had been placed in the bin for the purpose of drying. The mill hands extinguished the blaze before much damage had been done.

William Sturgeiss, a spinner in the Halifax cotton mill, was shifting a belt, when accidentally another belt was thrown off the pulley, which then recoiled and knocked him fifteen feet away. He was so severely injured that he died next day.

We regret to hear of the death of Robert Gemmell, of the Perth woolen mills, which occurred last month after an acute attack of diarrhoea. Mr. Gemmell was born in Scotland 55 years ago, and had been a resident of Perth over 60 years.

The short hours now being observed in the New Hampshire and Massachusetts cotton mills is resulting in a good many of the French Canadians leaving for home. The merchants of a good many of these textile towns complain that numbers of the French Canadians have left without settling their bills.

Charles E. Stanfield, knit goods and tweed manufacturer, of Truro, N.S., has had a good steady year. A sample of Mr. Stanfield's homespun and Halifax tweeds shown in Montreal last month was very much admired by men in the trade. These goods are manufactured entirely of the native Nova Scotia wool, which is noted for its strength.

Tom Stevens, a young man employed in Humphrey's woolen mills, Moncton, fell into a vat of boiling water. His legs and hips were terribly burned, but he is expected to recover.

Jas. Rosamond founder of the well known woolen mills in Almonte, Ont., died on the 5th inst. in the 60th year of his age. Mr. Rosamond was well known in the country and highly respected.

The Charles Turnbull Knitting Co., of Galt, who have recently put in considerable new machinery, are succeeding very well with their napped shirts and drawers, which have been one of their popular specialties this year.

H. W. Karch, manufacturer of textile machinery, Hespeler, Ont., paid a visit to Montreal, Sherbrooke, and other places in Quebec this month. Mr. Karch reports a good year's trade, notwithstanding the general depression in business.

The new woolen mill established at Campbellford, Ont., by John Routh, late of Cobourg, is now in working order. Mr. Routh is an old manufacturer, and reports good prospects. At present he operates one set of cards, of tweeds, flannels, etc. The mill is run by water power.

The Paton Manfg Co., of Sherbrooke, have just finished some repairs to their dyehouse, and have built for their own use some new fulling mills. This company have their own machine and repair shop, and thus provide themselves with a good deal of their own supplies.

Richard Vause, whose woolen mill at Glencoe, Ont., was destroyed last month by fire, will probably rebuild in that town, although he has received several good offers to go to other points. About \$600 was subscribed within a few hours to assist him to rebuild in Glencoe. The loss amounted to \$5,500, the insurance being \$2,600.

The Dominion Cotton Co. asked that the present water rate at their Windsor, N.S., mills, viz., \$250 per year, be allowed to remain unaltered for a term of ten years. The town council decided that the present rate should be continued for five years, they not feeling justified in making the arrangement for a longer period of time.

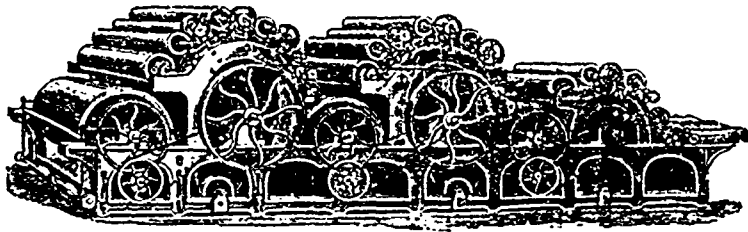
A. M. Cruickshank has been trying to obtain an injunction restraining the Waterloo Knitting Co. from going into voluntary liquidation. His application was quashed by Judge Lynch, but this judgment was reserved for review, or, in other words, the matter will not be finally decided for some time.

Among recent English visitors to Canada was George Haldsworth, head of the well-known firm of Haldsworth & Co., dry salters, Kidderminster. Mr. Haldsworth is an ex-mayor of Kidderminster, and a number of Canadian textile manufacturers remember with kindly feelings his hospitable attentions to them while in England. On his latest visit to Canada and the States he found many who were glad to have the opportunity of reciprocating his kindness.

C. H. Wilby, the well-known dealer in rags and wool stock, Montreal, retired from business during the last spring, and last month set sail for England, with the intention of spending the rest of his days in his native place in Yorkshire. Mr. Wilby was a bluff, outspoken and honest man, and many people with whom he had business relations will hear of his departure with regret. The goodwill of his business has been bought by B. Spedding, late with J. K. Walker, who will carry on the business at the old stand.

The Toronto Industrial Exhibition, which is to be held from the 3rd to the 15th of September, will no doubt be the greatest fair of the present year in Canada, both in point of exhibits and in attendance of visitors. The grounds have been vastly improved since last year, and already most of the space in all the buildings has been applied for. A good programme of special attractions, both novel and interesting, will be provided as usual. Cheap excursions will as usual be run on all railways at rates in keeping with the times. This great Fair has now become one of the best and most popular educational and entertainment enterprises on this continent, and attracts visitors each year, not only from all parts of the Dominion, but from the United States as well, and those who have never been there would be surprised at its magnitude and attractiveness.

TEXTILE MACHINERY (New and Second Hand)



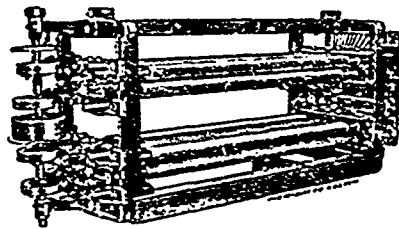
English Sales Attended.

CARD CLOTHING TETLOW'S
Stock in CanadaCondenser Aprons Buffed Surface
Plain & Grooved

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

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We manufacture Barker's Patent Noiseless
Fast-running Doffing CombBarker's Patent Double Apron Rubbing
Motions for Condenser Cards

*Are in successful operation on all grades of stock, being generally
adopted because they change carding and spinning
rooms for the better.*

James Barker, Cotton and Woolen Machinery

Second and Somerset Streets, PHILADELPHIA, Pa.

The Montreal *Herald* interviewed R. L. Gault recently, with regard to the closing down of the Cornwall cotton mills. Mr. Gault said he had heard nothing about it. He also said that owing to the general depression it might prove necessary to reduce wages, prices in some lines of goods having already been cut as much as 15 per cent.

John Moodie, jr., of the Eagle Knitting Factory, Hamilton, has purchased in England an electric road carriage, capable of carrying six to eight persons. It will run twenty miles an hour and has electric storage capacity sufficient for eighty miles. The cost is between \$500 and \$600. The vehicle is similar to an ordinary phaeton, but has smaller wheels which are provided with pneumatic tires.

On the 21st July the employees of the Hamilton Cotton Co. held their annual picnic. They filled the steamer "Modjeska" and went to Centre Island, Toronto, where they spent a most pleasant day in picnicking and athletic games. Each year the employees of this successful cotton manufacturing company have an excursion and picnic, the destination on each occasion being agreeably decided by a majority vote. This is the tenth annual excursion they have had, and each year they look forward to the event with a great deal of interest. The management wisely think that giving their hands such a treat is a pleasant duty, and it must be a satisfaction to them to note that they get a return for it in good feeling towards each other, and between employers and employees.

Amos Chatterton, an employee of the Slingsby woolen mills, Brantford, had a narrow escape from death a few days ago. After starting the shoddy picks he had just stepped back a few feet to slacken off a little of the power, when the cylinder burst and flew into a hundred pieces. The iron fragments penetrated the floor walls and ceiling, but by a miracle Chatterton was not struck by any of the pieces, or he doubtless would have been killed. When the accident occurred the cylinder went off with a report like the noise of a cannon, and the others in the factory thought that an explosion of powder had taken place. The cylinder was of English make and had been run for a couple of years in the wincey mill. No cause can be attributed to its bursting. Beyond the damage of about \$100 to the machine, no hurt was occasioned, and Mr. Chatterton received the congratulations of friends upon his providential escape.

Teacher—"I suppose, Mr. Leinstein, you want your son to learn arithmetic, addition, subtraction, and the rest?"

Mr. Leinstein—"Vell, he wants to learn plenty of addition, but a very little subtraction will do."—*Dry Goods Reporter.*

ANILINE BLACK ON HOSIERY.

An English exchange gives the following: The materials to be dyed are boiled out in the usual manner with soda, and afterward worked in a weak bath of acetic acid in order to neutralize any remaining soda; they are then rinsed and hung in a warm room until wanted for dyeing.

For dyeing, two solutions are made.

SOLUTION I.

33 pounds aniline salt
33 " " oil
33 " hydrochloric acid (18° B \acute{a} .)

Mix all well together, and, when the temperature has fallen considerably, add a mixture of 33 pounds chlorate of soda, dissolved in 11 gallons of water.

SOLUTION II.

Dissolve—

11 pounds copper sulphate
3½ ounces bichromate of potash
½ pint sulphuric acid (60° B \acute{e} .)

in such a volume of water as will give a gravity of 4° B \acute{e}

For use, solution I is diluted to 8° B \acute{e} , and 1 quart of solution 2 is added with thorough mixing. Into this bath the dried articles are immersed and well worked for about ½ hour, after which they are lifted out and allowed to drain, and are finally centrifugated. The hosiery is then subjected to the action of oxidation for about 2 to 2½ hours in a suitably constructed chamber, each piece being placed on a board. After oxidation they are worked for ¼ hour in a bath of bichromate of potash—3 per cent. on the weight of the material—the temperature of this bath being kept at about 100° F. This finishes the dyeing process proper, the subsequent operations consisting of rinsing and washing with soap, soda and a little ammonia, followed by a final rinsing and dyeing.

If the final operations are faithfully carried out there will be but little color left in the goods, which will show itself on rubbing. This is the one great drawback with much of the "fast-black" hosiery now on the market.

A suit is being brought in Halifax, N.S., to set aside the trust deed of Max W. Cohn, who carried on formerly a large clothing and dry goods business in Halifax. Mr. Cohn failed last October, with assets amounting to about \$30,000, and made preferences of \$20,000, one-half to Ungar Green, of St. John, and one-half to Mr. Glasel, of New York, on the ground that that amount was borrowed money. The Halifax creditors now declare these preferences to have been fraudulent.

W. H. STORRY & SON, of the Canada glove works, Berlin, Ont., recently established an agency in Australia, and they are preparing to form a similar one in Japan.

VILLENEUVE & FRERE, dry good merchants, Quebec, who recently failed, with liabilities of about \$36,000, have effected a compromise at 70 cents on the dollar.

A MONTREAL upholsterer named Rooney has just patented a combination bed and divan. The bed when folded up makes a very presentable divan for the drawing room.

A. C. BAILLIE'S dry goods warehouse at Pictou, N.S. was badly damaged by fire last month. Part of the stock was removed in time, but the damage will amount to nearly \$10,000; insured.

Be independent. Do not lean on others to do your thinking or to conquer your difficulties. Trust to nothing but God and hard work. Inscribe on your banner, "Luck is a fool; pluck is a hero."

At the International Conference of Textile Works, held at Manchester last month, it was resolved to invite the Governments of Europe and America to adopt measures legalizing eight hours as a day's work.

C. N. PERCIVAL, dry goods merchant, Smith's Falls, Ontario, has assigned to John Macdonald & Co., Toronto. Liabilities, \$19,500. The business was formerly carried on under the name of Percival & Craig, and met with difficulties a few months ago, when an extension was arranged, and it was decided that Mr. Percival should carry on the business alone. The latter, however, defaulted in the June payment.

YARNS in which a severe twist has been put will "kink" under nearly all circumstances. This may be prevented by steaming the yarns on the bobbins, as the steam has a tendency to remove that wiry, twisty character and leave the thread soft and smooth. Fixers often put a brush arrangement in the eye of the shuttle, and the friction on the yarn holds it so tight that kinking is prevented, though on the other hand tender yarns are sometimes broken.

THERE has been considerable discussion as to the price of the binder twine made at Kingston Penitentiary. The Premier stated in the House that it was sold at 6½ and 7 cents per pound and that this covered the cost of convict labor at 50 cents per day and the interest on the plant. This is the same price charged by the Consumers' Cordage Co., though it is believed that no arrangement has been made with them. The Government cordage is sent as far west as Owen Sound free of freight charge.

LAST month there was to have been an auction sale of the stock and assets of the late big Montreal dry goods firm known as La Compagnie Generale des Bazars. A large crowd of merchants and prospective buyers had already assembled, when it was announced that the sale had been postponed, or would not take place. Strange rumors are afloat concerning an alleged boycotting of the firm, it being stated that a circular was got up and signed by a good many of the storekeepers on St. Lawrence street to the effect that if the wholesale merchants ever again did business with Boisseau Freres, the former would be boycotted, as La Compagnie Generale had cut rates so extensively.

THE poor Heathen Chinese of Montreal is into hot water, or rather he is to be taxed to death for the cold water necessary to carrying on his calling. The Water Committee of Montreal city council have imposed a special water rate of \$100 on Chinese laundries, and of course the big steam laundry men are gloating. A tax of \$100, or, for the matter of that, a tax of \$300 on these big concerns, would make very little difference to them, but when imposed on Montreal's eighty odd individual laundries, the annual turn-over of which cannot exceed more than a few hundred dollars, the result seems likely to prove disastrous. Is not the new rating a cowardly blow at a defenceless class?

THE assignment of the Williams, Greene & Rome Co., Limited, shirt manufacturers, Berlin, Ont., last month, was a surprise to the trade. The firm is the largest in the shirt business in Ontario, and the liabilities are large. There does not seem to be much information forthcoming as to the affairs of the firm, but it is known that a year they got an indulgence of \$50,000 on their payments, and

they had met \$60,000 of these, but failed to meet the last payment due. This firm got a bonus to start a branch factory in Guelph but like a good many others who build on bonus, found that support a broken reed, and withdrew from Guelph without fulfilling the conditions of the bonus. The estate is in the hands of E. R. C. Clarkson, of Toronto, and the business will be continued meanwhile, pending a settlement.

A BOSTON despatch says: "Henry W. Darling, late president of the Bank of Commerce, has been elected treasurer of the General Electric Company. This company, which has a capitalization of thirty-five millions, is rapidly resuming its former standing, having liquidated entirely its floating indebtedness. In its restoration to its present condition Mr. Darling has taken an active part, and his elevation to the treasurership is a testimony to his success in this work." Mr. Darling was formerly a member of the wholesale dry goods firm of McMaster, Darling & Co, now McMaster & Co., and his restless energy and activity made the firm widely known then. Mr. Darling held political views which were not always popular, but he had the courage of his convictions, and what he has accomplished since he has gone to the States has borne out the opinion the writer had of his keen business instincts and energy. The United States is indebted to Canada for a great many men of such character.

CHEMICALS AND DYESTUFFS.

Business is not brisk, particularly among the woolen mills

Bleaching powder.....	\$ 2 00	to \$ 2 10
Bicarb soda.....	2 25	" 2 35
Sal soda.....	0 70	" 0 75
Carbolic acid, 1 lb bottles.....	0 25	" 0 30
Caustic soda, 60°.....	2 30	" 2 50
Caustic soda, 70°.....	2 60	" 2 75
Chlorate of potash.....	0 18	" 0 20
Alum.....	1 40	" 1 50
Copperas.....	0 70	" 0 75
Sulphur flour.....	1 75	" 2 00
Sulphur roll.....	2 00	" 2 10
Sulphate of copper.....	4 00	" 5 00
White sugar of lead.....	0 07½	" 0 08½
Bich potash.....	0 10	" 0 12
Sumac, Sicily, per ton.....	70 00	" 75 00
Soda ash, 48° to 58°.....	1 25	" 1 50
Chip logwood.....	2 00	" 2 10
Castor oil.....	0 06½	" 0 07
Cocoonut oil.....	0 06½	" 0 07

ENGLISHMAN, now residing in United States, thoroughly practical in the manufacture of Marseilles crochets, Marseilles quilts and Turkey red table covers, is desirous of meeting capitalists who are willing to put capital against experience, or would superintend new place in a stock company, if compensation is satisfactory. No objection to any location, and is willing to learn inexperienced help and guarantee better results than any other manufactured fabrics. Address P.O. Box 267, Beverly, New Jersey, U.S.A.

WANTED—By a Maritime Province mill—a piece sewer and mender. None but a first-class hand need apply. Good wages will be paid. Address Box 1, JOURNAL OF FABRICS, Fraser Building, Montreal.

A. KLIPSTEIN & COMPANY

122 PEARL STREET, NEW YORK

Chemicals and Dyestuffs

ANILINE COLORS OF EVERY KIND

SPECIALTIES:

Fast Colors for Wool Such as DRY ALIZARINE, ALIZARINE BLUE, GREEN, YELLOW, etc

Also CAUSTIC POTASH FOR WOOL SCOURING

WRIGHT & DALLYN, Agents - - HAMILTON, Ont.

RECIPES FOR DYERS

(From Foreign Sources)

Fawn Brown on Half Wool.—For 100 lb. of half-wool union goods. First treat the goods for ten minutes in a warm, weak soda bath, then rinse and pass into a dyebath made with:—

- 3 oz. Tabora black,
- 1 ½ oz. Nyanza black,
- 4 oz. orange T.A.
- 10 lb. Glauber's salt

Work at the boil for ¼ hour; then turn off steam, and allow the goods to remain in the bath for 20 minutes longer; then lift, wash and dry

Dark Brown on Wool.—For 100 lb. wool, prepare a dyebath with:—

- 2 ½ lb. sulphon dark brown,
- 4 lb. acetate of ammonia.

Work at the boil for ½ hour; then add

- 2 lb. acetic acid.

Work again ½ hour longer; then lift, wash, and dry.

Bright Yellow on Wool.—For 100 lb. wool, prepare the dyebath with:—

- 1 lb. nitrophenine,
- 30 lb. Glauber's salt.

Work at the boil for one hour; then lift, wash, and dry.

Pale Brown on Cotton.—For 160 lb. cotton, the dyebath is made with:

- 2 lb. Mikado orange 4 R.
- 3 oz. benzo fast grey.
- 20 lb. Glauber's salt.

Work at the boil for one hour; then lift, wash, and dry.

Maize Yellow on Wool.—For 100 lb. wool, prepare a dyebath with:

- 5 lb. acetate of ammonia.
- 3 oz. anthracene yellow C.
- ¼ oz. diamine fast red R.

Work for 20 minutes at the boil, then add

- 3 lb. bisulphate of soda

Work ½ hour longer, then wash and dry.

Leaf Green upon Cloth, Fast to Light and Washing.—For four pieces: Prepare a bath with 2 per cent. oxalic acid, 4 per cent. green vitriol, 2 per cent. bluestone, and the solutions of 3 per cent. fast green bluish, ½ per cent. fast yellow extra, and 1 ½ per cent. extract logwood liquid (Farbenfabriken), heat to 60°C., enter the wet goods, raise the temperature slowly, and boil 1 ½ hours.

R. SIMPSON & Co. are building a palatial retail dry goods store at the corner of Yonge and Queen streets, Toronto.

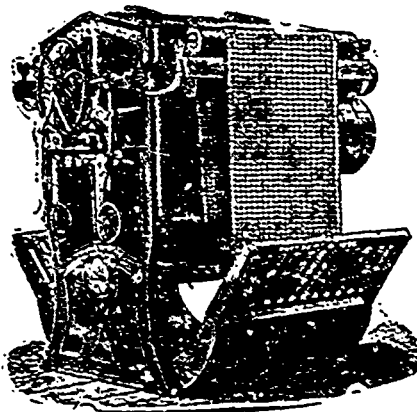
H. W. KARCH,
HESPELER, ONT.

MANUFACTURER
OF

**Woolen
Machinery,**

Fulling Mills,

Cloth Washers, Wool and Waste - Dusters, Drum Spool Winders, Reels, Spooling and Doubling Machines, Ring - Twisters, Card Creels, Rag - Dusters, Dead Spindle Spooler (For Warp or Dresser Spools), Pat. Double-Acting Gigs, etc., etc.

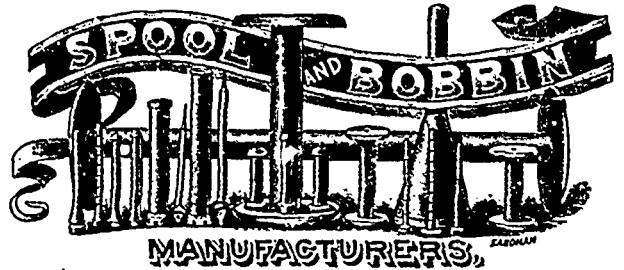


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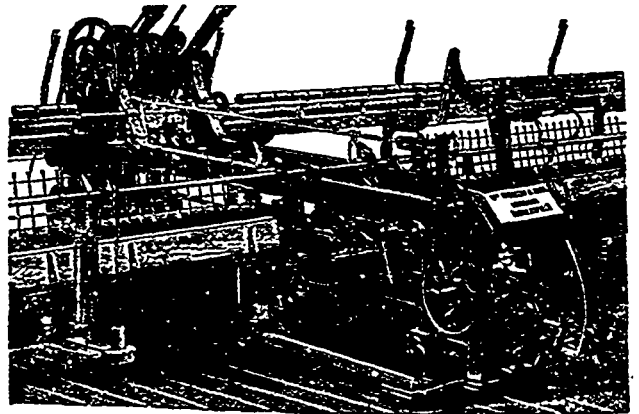
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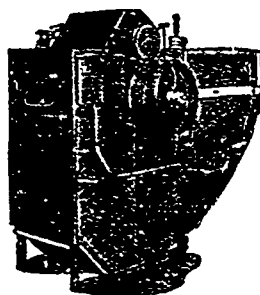
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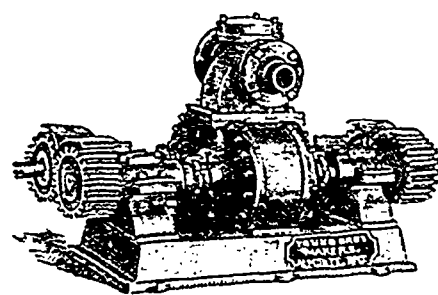
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LITERARY NOTES.

The fourth part of Allen and Sachtleben's series, "Across Asia on a Bicycle," is presented in the August *Century*, with 25 photo-engravings, and records the trip from Samarkand to Kuldja, the first considerable town within the Chinese frontier. Timothy Cole, the engraver, contributes to this number another of his series of engravings of the old Dutch masters, the example in this case being Quinten Massey's portrait of his second wife from the Uffizi. As usual, Mr. Cole's note accompanies his engraving. This number also contains the first of the selections from the unpublished correspondence of Edgar Allen Poe, edited by George E. Woodberry, the author of the life of Poe. This correspondence divides itself naturally into three parts, the first of which appears under the title of "Poe in the South," being the period of his relation with the *Southern Literary Messenger* of Richmond. The second paper will deal with Poe in Philadelphia, and the third with Poe in New York. The present part includes letters from Poe, and accompanying them are two drawings by Albert E. Sterner, illustrative of two of Poe's tales, "The Masque of the Red Death" and "The Fall of the House of Usher." The editor of *The Century* also reprints Mr. Cole's beautiful engraving of Poe published some fourteen years ago—the two sides of the face showing remarkably the dual nature of the man. Two newly-discovered portraits of Poe are to appear with the remainder of the correspondence. Following upon the article published a few months ago on Sir James' Simpson's discovery of chloroform as an anesthetic, *The Century* for August presents a paper, likewise from authentic family records, on Dr. Morton's discovery of anesthesia, an event which occurred a year before the discovery of the application of chloroform to anesthetic purposes. It is written by Mr. E. L. Snell, and includes a letter, part of which is printed in fac-simile, from Dr. Oliver Wendell Holmes, in which he states in the most positive terms his belief in the justice of the claim of Dr. Morton to the introduction of artificial anesthesia. Prof. E. L. Richards, of Yale University, well known in connection with college athletics, contributes to the August *Century* a seasonable article on "Walking as a Pastime," in which he urges upon the reader the practice of this charming recreation, and gives many practical suggestions which will tend to make its exercise of value to the walker.

The *Textile World*, published in Boston, comes to hand this month in magazine form, the old blanket sheet having been discarded. Our contemporary is improved in typographical appearance, and presents a fine monthly budget of textile information in a form that will be very convenient for binding at the end of the year.

The *Canadian Magazine* appears to be maintaining the good impression it made at the start, and the contents of the August number are varied and interesting. Among those of permanent value from a Canadian standpoint is another of those charming sketches of William Ogilvie's explorations in the far North-West. Mr. Ogilvie tells the most thrilling adventures in a natural and unostentatious style, which adds to the charm of his narrative, and we should like to see his series of papers reprinted in book form. We would suggest to the publishers that extracts from these should be printed for the convenience of the press in making quotations.

DOMINION BLANKET AND FIBRE COMPANY.

As announced last month, a meeting of the creditors of the Dominion Blanket and Fibre Company took place at the company's office in Montreal on the 24th ult., E. A. Small, of Montreal, in the chair. This company, whose mills are at Beauharnois, Que., was formed to take over the old woollen mill of Mr. Robert, which was then a small one, but had a valuable water-power privilege in connection with the property. This property was taken over by the company at what is now considered a pretty high valuation, and a new mill was erected and a considerable quantity of machinery purchased. Before the new building was finished a storm demolished it, and this accident not only caused considerable more

outlay, but was the means of losing a season's trade. When at last the building was finished and the new machinery installed, it was found that there was no capital left for manufacturing and the purchase of stock. Hence the meeting of creditors. The nominal capital of the company was \$250,000, of which about \$180,000 was subscribed. It was stated at the meeting that the company had paid about \$30,000 for the Beauharnois property, upon which Mr. De Martigny, of the Banque du Peuple, exclaimed, "Why, you could buy the whole of Beauharnois for \$45,000." (Laughter.) It appeared from the statement of affairs, presented by A. W. Stevenson, the accountant, that \$10,416 had been paid out for the patents of the Montreal Fibre Co., formed to manufacture paper clothing and paper linings for garments—an asset now considered of questionable value. Mr. Stevenson's statement of the company's position showed the following:

ASSETS.

Stock on hand at Montreal, \$16,019.30; stock at Beauharnois, \$14,592.75; mill supplies, \$1,600; buildings, \$65,067.76; real estate and water-power, \$46,951.74; machinery and plant at Montreal, \$1,373.27; machinery and plant at Beauharnois, \$64,535.58; do, not posted, \$3,236.97; unpaid calls on stock, \$2,084.21; patents, \$10,416.71; outstanding accounts receivable, \$9,166.58; unexpired insurance, \$700; office fixtures, Montreal and Beauharnois, \$1,218.82; horses and wagons, \$357.21; cash on hand and in bank, \$34 77.

LIABILITIES.

Shares capital stock, \$112,800; R Mackay mortgage, \$75,000, on demand for interest to 15th October, \$2,256.16; Banque du Peuple, \$34,115.26; open accounts, \$28,664.75; privileged claims (rent due to August, 1894), \$425.

This shows a nominal deficiency of \$15,904.50.

Upon an explanation of the circumstances of the mortgage being asked for, it was stated that when the mill was blown down money was required which could not be obtained among the shareholders, nor could any one be found at the moment with the money on hand to advance. The \$75,000 was then obtained from Mr. Mackay, who charged them interest at the rate of *ten per cent.* It was the opinion that this burden should be lightened as soon as possible, and it was agreed that a deputation should wait on Mr. Mackay to ask him if some reduction could not be made in the rate of interest. The chairman stated that himself, A. H. Sims and two or three others had recently advanced cash to the amount of about \$30,000 out of their own pockets, in order to put the concern on a working basis, but it was found that even this was not sufficient to get going and turn out enough stock to get back their money. Mr. Robert, the manager, was of opinion that if the creditors would agree to give them six months' time he would be able to make headway and pay off the liabilities. It was generally conceded that if the concern were wound up now neither shareholders nor creditors would get anything out of it, and the opinion was further expressed that in the present condition of trade six months would be too short a time in which to realize on the assets of the business. After discussion it was decided by the meeting to allow an extension of time for one year; and the leading shareholders present voluntarily offered that in the event of a reorganization of the company they would be willing to cancel their stock in the present company for shares in a new concern. C. H. Wilby, who had supplied shoddy stock to the amount of about \$800, objected to a settlement without some guarantee of a specified dividend if the accounts were not paid in full. A resolution was drawn up and passed agreeing to pay interest at six per cent. on the now outstanding accounts. It was decided that a committee, composed of James Leslie, M. de Martigny and R. Campbell Nelles, be appointed to have oversight over the affairs of the company until a settlement was made.

J. B. GRAHAM, dry goods merchant, Trenton, Ont., has assigned to Frank Campbell, of Caldecott, Burton & Co., Toronto. Liabilities, \$12,000.

WATERPROOFING WRINKLES.

PROOFING FOR JUTE, ETC.

The widow of Emile Pierret has patented a process for waterproofing tissues, especially bags, of jute, hemp or linen. The composition is claimed not to stick nor to melt in tropical temperatures, nor to crack at 20° C. below zero. It is composed of artificial bitumen, that is, the residue of distillation of crude petroleum; of hard pitch, which is the residue of palm oil, which is used in the manufacture of candles; and of ground chalk. For the use in hot countries it is composed of 100 parts bitumen, 20 parts hard pitch and 18 parts chalk; for cold countries of: 100 parts bitumen, 10 parts hard pitch and 16 parts chalk. This mixture is melted in a separate vessel, and then filled into a basin which is heated by a furnace underneath. In this basin revolves a horizontal hollow and steam-heated steel cylinder, which dips into the mass. The cloth is carried from a cloth roller over several guide rollers over the hollow roller, where it is covered and impregnated with the mass, while a doctor removes the surplus and another steam-heated doctor distributes it evenly. Then the tissue passes a special roller which puts tissue paper upon the fabric, thence between two steam-heated callender rollers which press the paper down upon the cloth, and finally it is wound upon a drum for storing.

WATERPROOFING LINEN.

If linseed oil and rubber are not to be used, this is best effected with a sebacetate of alumina. For this purpose prepare a solution of acetate of alumina by dissolving $\frac{1}{2}$ kilo. alum in 20 litres of water and add $\frac{1}{2}$ kilo. sugar of lead; impregnate the linen with the clear solution, wring and hang warp to expel the odor of the acid; then pass broad through the solution of $\frac{1}{2}$ kilo soap in 20 litres condensed water. The first bath may be improved by an addition of 50 grm. glue, or of $\frac{1}{2}$ kilo. zinc sulphate, in which case, however, the soap bath must be made stronger. The latter may be partly made of resin soap, which is obtained by boiling $\frac{1}{2}$ kilo. light resin and $\frac{1}{2}$ kilo. soap crystals in 5 litres water and mixing with the hot solution of 0.7 kilo. soap in 15 litres of water.

WATERPROOFING FOR THE SOLES OF SHOES.

The compound is applied over the welt and insole, or over the seams, joints, peg holes, etc. Two and one-half pounds of wax are melted and three pounds of powdered talc, steatite, or soapstone are mixed therewith; four pints of rubber paste or caoutchouc (Brazilian gum) are then incorporated with the mass.

HOLFERT'S PROCESS.

According to Holfert's process for waterproofing fabrics, the materials are first passed through a bath of gelatine, then exposed to the action of formaldehyde in a gaseous state. The gelatine is thus rendered insoluble, and imparts water-resisting properties to the fabrics.

THE WORLD'S FLAX INDUSTRY.

According to Prof. Langowoy, a Russian authority, the following is the number of spindles and looms in various countries employed in the linen industry:—

	Spindles.	Looms.
Great Britain	1,168,793	52,187
Russia	412,588	12,284
France	400,000	18,821
Hungary	328,053
Belgium.....	307,940	4,755
Germany	270,000	11,000
Italy	43,000	772
Other countries	31,746	2,676
	2,962,120†	102,495

W. DARLEY BENTLEY, who lived several years in Montreal, and while there was energetic, though unsuccessful, in promoting trade between Canada and Brazil, is now in the States of Colombia. He has established an Anglo-Colombia with express offices in Bogota and other towns and has an express forwarding agency for parcels between the States of Colombia, the United States and Europe.

CAPE AND NATAL WOOL.

The total export of Cape Colony wool in 1874 amounted to 79,674,549 lbs; in 1878 it fell to 63 millions, and did not reach the output of 1874 till the year 1888, which saw the highest point, in 99 millions of lbs. Since then it has been about 89 to 94, till last year, when it fell to 83 millions.

These returns are not encouraging, for the Cape Colony is larger now than in 1874. The country now known as Griqualand East did not belong to the Cape in 1874. It is very hard, however, to obtain correct returns of farm stock and produce, and in export tables one is never sure whether it represents the Cape Colony only, or inland States, who export through the Cape as well.

One return gives the sheep at Natal at 923,977, and the wool export at 1,807,083 lbs.

Taking the Cape and Natal returns together, it does not look as though there is as much improvement in the breeds of wool-bearing sheep as one would expect.

THE NEW SILK CROP.

In Spain the yield is superior to that of 1893. France is satisfied with hers. The Levant, although the crop is somewhat retarded, will have as much silk as last year, if not more, and of very good quality. As to China, the estimates agree that the capacity for export will be as great as in the preceding season, which was an abundant one. Japan will have more silk than in the past campaign; that is, 50,000 to 55,000 bales for shipment to Europe and America. Canton will supply her usual contribution in reels and filatures, the ordinary tsatlees going to Europe. Of late there have been some rumors about damage to the Italian crop, caused by unfavorable weather and unsatisfactory condition of the mulberry leaves in a few districts. The fact seems to be that very little harm has been done, and that the supplies from there will be almost equal to those of 1893-94. In fact, the low prices of new and old cocoons, as well as of raws and throws, clearly indicate that the total is up to expectations, and perhaps in excess of such.

AMERICAN TEXTILE PATENTS.

The following list of patents granted by the United States Patent Office for inventions relative to textiles and textile machinery is reported for THE CANADIAN JOURNAL OF FABRICS by Glascock & Co., patent attorneys, Washington, D.C., of whom printed copies can be obtained for 25 cents each

GRANTED DURING JULY.

- E. Kay, Philadelphia, Pa., rub motion mechanism for condenser carding machines.
- J. E. Windle, North Grafton, Mass., cloth folding machine.
- F. Walton, London, Eng., machine for the manufacture of mosaic floor cloth.
- G. F. Hutchins, Worcester, Mass., loom warp slackening mechanism.
- J. L. Eck, Reading, Pa., circular knitting machine.
- J. O. Fryer, Chelsea, Mass., loom for weaving narrow fabrics
- G. O. Draper, Hopedale, Mass., spinning and twisting frame ring.
- G. H. Marsh, Paterson, N. J., spinning jenny
- J. Cromie, Camden, N. J., condenser or finisher carding machine.
- J. G. Powell, two patents, knitting machines.
- H. Stoll and F. Maercklin, Reutlingen, Germany, straight knitting machine.
- G. Segschneider, Yonkers, N.Y., loom pile wire
- F. X. Caron, Methuen, Mass., weaver's measuring device.
- H. H. Fefel, New York, overseam for fabrics.

HUDSON'S BAY COMPANY.

The annual meeting of the Hudson's Bay Company took place in London on the 16th ult. The report showed during the year a profit of £45,912 17s. 9d. had been made, to which should be added £29,116 8s., brought forward from last year. It was decided to declare a dividend of ten shillings per share, free of income tax, which will absorb about £50,000, leaving £25,029 5s. 9d. to be carried forward to next year. The furs sold by the company had, principally through the depression in all business throughout the world, met with a heavy fall of prices compared with last year, and they were also somewhat less in quantity. At the time the report was prepared full information had not come to hand by which a judgment could be made as to the probable quantity of furs likely to be received for sale during 1895, but it was expected they would be up to the average, and that there would be some improvement in prices.

THE WOOL MARKET.

In London, there being no colonial wool sales during August, the market there has been quiet, and the outlook has been more affected by the tendency of the market in the United States than by any large transactions at home. It was reported that about 400,000 lbs. of Australian wool was taken in July for the United States, and the Yorkshire manufacturers were making efforts to secure desirable lots. Cape wools were steady, and the latest reports to hand direct from Port Elizabeth (Cape Colony) to near the close of July, show there was a better feeling. There were considerable transactions reported in grease wools, and among other direct buyers were some Canadians or their agents who had picked up a few hundred bales. Mohair had taken a sharp, upward bound, and stocks were reported light.

The Boston papers report a boom in the wool market there, caused, no doubt, by the conviction that no matter what the outcome of the tariff may be the woolen manufacturers are going to make a fight for their life, and that there must be a general demand for stock. The *Boston Journal of Commerce* summarizes the situation thus: "This feeling that the tariff legislation might drop through, caused buyers to rush into the market and take up wool, in many cases thinking less about the price, but more of the endeavor to get the wool. All of the trade have felt the demand, and all could have sold large lines of wool, but with many of them their wool is simply out of the market. Reports of a similar character come from New York, and a general proportion of the wool on the seaboard is practically not for sale. Buyers, too, have recognized the fact that wool is really lower than it ought to be. Whether a tariff bill passes or not, it is now being generally conceded that wool has reached the bottom and must soon take an upward turn. It will go no lower, and the chances are all in favor of the price advancing, and advancing considerably."

Under the circumstances it is possible we will hear no more of the shipment of American wools to Canada, in which event prices for home wools ought to begin to show firmness.

In the Montreal market small parcels of Cape have been sold at 13 to 15½c. Buenos Ayres has been quoted at 26 to 30c. Quotations for home wools are: Canadian fleece, 17 to 20c., pulled, 20 to 21½c.; super extra, 23 to 26c.; North-West, 11 to 12c.

The *Winnipeg Commercial* of August 6th says that receipts are falling off now, most of the clip being in. Locally, wool is steady; 8c. is about the idea for ordinary unwashed fleece, and 6 to 7 for chaffy and burry wool. Pure Down would bring a little better, but there is very little of this class. A local dealer has purchased a lot of ranche wool at 63½c. in the west, which is considerably under prices paid earlier in the season for this class of wool.

In Toronto the interest of the trade has the past week centered in the United States tariff issues. While free wool will afford us a larger market for our product, it is not expected that any immediate improvement in values will take place. In one respect a distinct advantage has been gained; with a specific duty it was impossible for American dealers to take our low grades and unwashed wool;

for these we now have a market. There is but little demand from the mills. As the season advances receipts of fleece, of course, are becoming less. Prices remain unchanged, although some merchants report the feeling to be easier. One prominent house reports that they have all the stock on hand that they wish to carry, and rumor on the street says that they have bought in the neighborhood of 1,000,000 lbs. on hand.

TENDERS for the supply of clothing for Montreal firemen were opened by the Fire Committee last month. J. P. Nugent's tender for men's overcoats at \$17.95 was accepted, subject to the money being granted by the Finance Committee. The tenders for other articles were left open for consideration later.

THE diary of an old Scottish merchant, David Wedderburn, shows that in his time (circa 1600) it was the custom to send goods from what is now the centre of a great dyeing industry to be dyed in France. In his journal of December 14th, 1604, he says: "I inbriquet in the ship whereof James Jack is master under God 12 ells and a quarter braid thick blue wazit cloth and send the same with Alexander Bultie to Rouen to be littit, ayther tauny or else rusche browne. Sicklike I send hairwith with him ane narrow pece white cloth to be dyed fine scarlet to be my lasses waslecottes." And again, in 1613: "Send with Robert Auchinlech to Dieppe or Rouen, 4 ells 7 quarter-braid blue cloth to be littit of a sad and grave colour, the example I prenit on his commission, and has giffin him 12 shillings sterling to pay thairfir, and quhat mair or less we to compleat at meeting." And so this love of bright colors, as witness the tartans, led to the foundation of the great Scottish dyeing industry.

LAST month Judge Sicotte delivered judgment in the Montreal fur cases referred to in a previous number. The particular cases tried were those of Vineberg, Youngheart and Stearns, who were charged with having in their possession unprime skins—that is furs taken out of season. The defendants showed that the furs were not bought in the Province of Quebec, but at the Hudson Bay Co.'s sales in London, and that the animals were in fact killed in the North-West Territories, and therefore out of the jurisdiction of the Province of Quebec. The Judge, after referring to the wording of the Act, gave judgment for the defendants, but at the same time directed the attention of the provincial legislators to the need of such a revision of the Act as will define their jurisdiction and ensure a proper protection of our fur-bearing animals in the close season. The defendants in the present suit had apparently acted in good faith, and it was in their interests, as well as the public interests, to see that the game laws were honestly carried out. In the other cases, of J. B. Laliberte, Jas. Coristine & Co., and L. Gnarlinger & Co., the skins were confiscated and a fine of \$5 was imposed on each. Notice of appeal was given in the latter cases.

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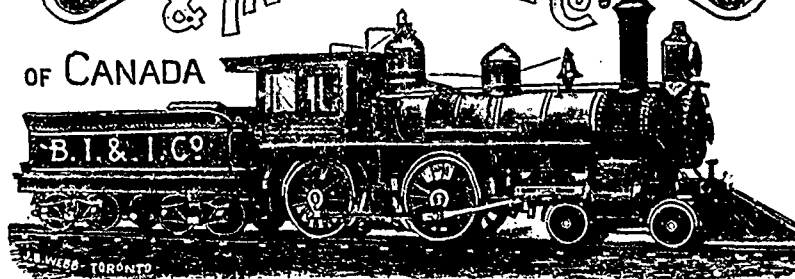
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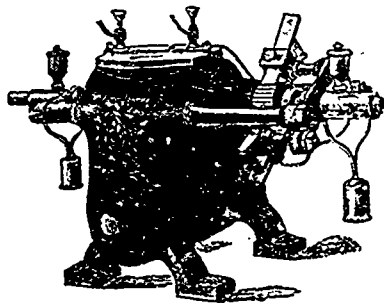
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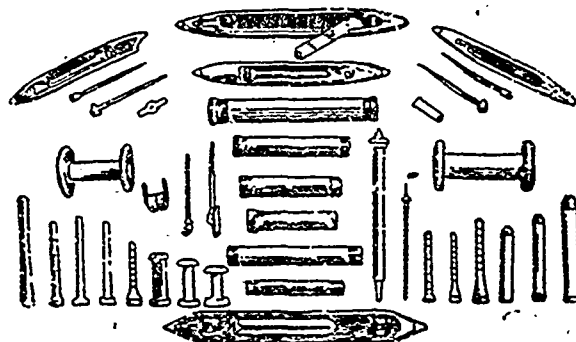
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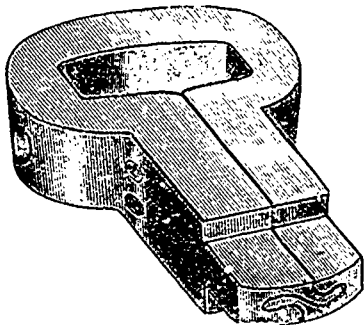
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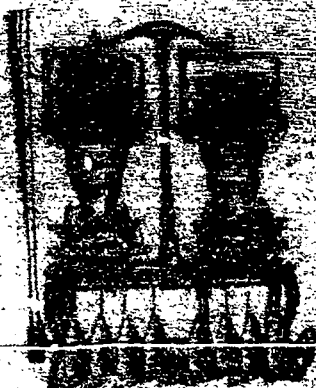
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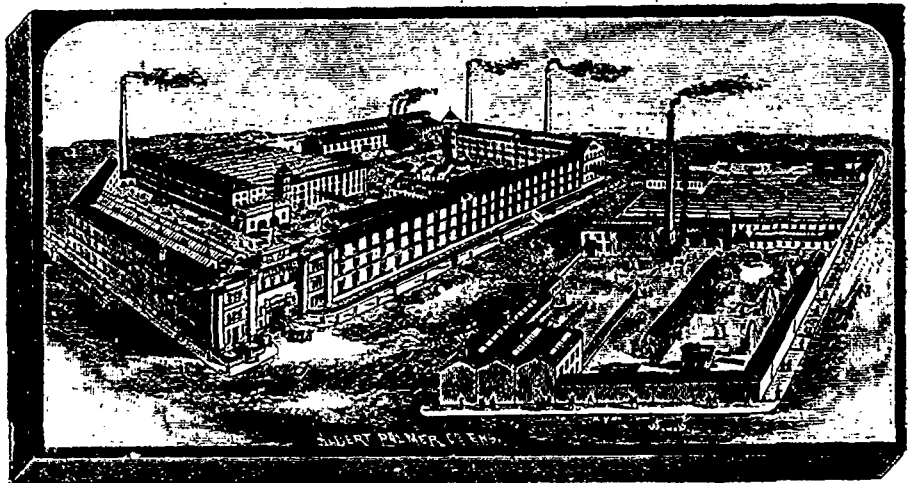
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