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Canadian Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVII. TORONTO AND MONTREAL, NOVEMBER, 1900. No. 11.

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CONTENTS OF THIS NUMBER:

EDITORIAL NOTES.

France is endeavoring to bring about a universal system of numbering yarns and threads, but the organizing committee have been met at the outset by the objection that various measures and systems prevail in France itself. Spinners at Fourmies and Reims employ their own number, those at Sedan a different one, and a third is used in the Elboeuf district. The committee have invited the Chamber of Commerce in the manufacturing centres to examine and recommend the adoption of resolutions, proposed for the different textiles, based on the metric system, as follows. For wool, cotton waste, silk and jute, the number to be that of the number of metres contained in a gramme weight, this would give the number of thousand metres in a kilogramme or a thousand grammes. The length of the hanks to be fixed at 1,000 metres, with decimal subdivisions. For silk the number would be determined by the weight in grammes of 1,000 metres. For linen yarn it is proposed to maintain provisionally the English mode of numbering until an arrangement can be come to with England. A modification on these resolutions proposed is to assimilate jute to linen, as the numbering is already the same for the two textiles. The motive of this proposal is a good one, and an international system would do much to facilitate the interchange of knowledge, and promote trade, which cannot be accomplished under the present variety of measures.

Statements published by the United States Bureau of Statistics would appear to show that, working through a period of depression, the United States woolen manufacturers have so reformed their methods, that they have not only reduced the imports of foreign woolens to less than a third of what they were in 1895, but that they have doubled their exports of woolen fabrics in the same time. To be sure, the figures of their exports are very small, but the fact that any increase at all has been achieved, is of some significance to those studying the course of the American textile trades in recent years. These figures show that during the eight months, ending 31st August, 1900, the imports of woolen manufactures amounted to £2,518,000, against £8,472,000 in the eight months of 1895, and £6,155,000 in the corresponding eight months of 1896. The average annual importation of woolen manufactures during the decade from 1890 to 1900 has been £5,208,000, the highwater mark having been reached in the year 1895, when the total was £8,472,000. Since that period the importations have constantly decreased until in the years 1898, 1899, and 1900, they reached their lowest level, averaging during the eight months of each year only £2,292,000. On the other hand, the exports of woolen manufacturers have slowly but steadily increased, advancing from £56,000 in 1890; £98,000 in 1895; £128,000 in 1896; £30,000 in 1897, and £150,000, in 1898, to £185,000 in the eight

months of 1900. The details, as to the destination of the exports of woolen manufactures for the present year, are not yet available, but from an examination of the official report for the fiscal year 1899, it is seen that American carpets find their chief foreign markets in Great Britain, Canada, Mexico, and the Orient; dress goods go chiefly to England and Mexico; flannels and blankets to Hawaii, China and Hong-Kong, Canada and Chili; clothing to Canada and Hawaii; and miscellaneous manufactures of wool to Canada, Miquelon, England, Australia, the West Indies, Germany, France and Denmark, in the order named. It is probable that, with the exception of carpets, a large part of the trade with Canada is due to the demands of the Yukon, the shipping cities of the Pacific Coast being so accessible to that region. While the United States sends odd shipments of textile fabrics to Canada, Canadian woolens are also being shipped to the United States in increasing quantities.

Of all the States in the American Union, Massachusetts has had the reputation of being foremost in legislation for bettering the condition of the mill operative, and Dickens, in his "American Notes," was struck with the contrast then existing between the condition of the Old Country factoryhand and his American brother. When the South recently started in competition with the North, in cotton manufacturing, it was feared by some that the absence of almost any sort of regulation among Southern operatives, restricting hours of labor, or ages of children employed in mills, would result in the extinction of many Northern mills. The Boston Journal of Commerce does not fear this. As regards the effect on Massachusetts, it says: "The laws which this State has in regard to the employment of child labor are most excellent ones, and although they have heavily handicapped our mills in their competition with the Southern mills, where children can be employed indiscriminately, we believe that they have done much towards making the Northern mill operative a more intelligent laborer, and one who can turn out better production than would have been the case had those laws not been in existence."

Speaking of Southern cotton manufacturing, the mills of the Sunny South are still multiplying. In Alabama, Arkansas, Georgia, Kansas, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Texas, and Virginia, there were 480 mills in operation in 1899—1900 being an increase of 36 over the year before, while there are 84 new mills now completed or under construction, and to be in operation at the beginning of the new year. Besides these, there are 53 mills projected by organized companies, who are making actual preparations to build. The 617 mills to be in operation in 1901 will be able to consume 2,000,000 bales of raw cotton per year, or about half the amount consumed by the entire Union.

This increase in the consuming capacity of the Southern mills will still further restrict the proportion of American cotton available for export, and will stimulate the interest which other manufacturing countries, such as Great Britain, Germany, France, etc., have in extending the area of cotton cultivation in new regions of Africa, Asia and the islands of the Southern Hemisphere. From an international standpoint, the need of extending the area of cotton growing in new regions of the earth is very urgent, and the industry offers great opportunities for profitable employment. Such an extension is needed, not only as an additional insurance against a shortage of cotton in the United States, in unfavorable years, but each new cotton land settles into the growth of a staple peculiarly its own, and this peculiar staple becomes specially adapted for the manufacture of certain lines of goods. For instance, Texas, Sea Island, Egyptian, Indian and Caspian cottons all have their uses for the production of special classes of goods, and without these special varieties the cotton manufacturing world would now feel like a cart with a broken wheel. Hence it is desirable for this reason, if no other, that new fields of cotton with their own distinct qualities, should be brought under cultivation. It is interesting to note that cotton growing in Asiatic Russia is rapidly extending. In the Fergan territory there are this year five cotton districts, aggregating 187,000 dessiatines, or 504,000 acres, an increase over last year of more than 16 per cent. In the Samarkand territory are four cotton districts having a total of 23,600 dessiatines, or 63,963 acres; or about the same as last year; in the Trans-Caspian, 9,392 dessiatines (25,358 acres), an increase of over 30 per cent.; while there are increases in the Caucasus and Trans-Caucasus. In Egypt, as new areas of land are being brought under irrigation, from the waters of the Nile, cotton-growing is being extended, and what is of more importance, Upper Egypt and the Soudan under British rule, is destined to become a great cotton country. The climate is very suitable, and cotton where planted has generally yielded a fine staple. British Burmah is a candidate for cotton, and parts of China will also grow it.

An experiment, of more than passing interest, in this field of industry, is the effort now being made to grow cotton in German South-West Africa. This is the territory which the supineness of the British Government and the Cape Government, combined, permitted to pass from British sovereignty about 1880, although no blame can be attached to the German Government for the method they took in the acquisition of the territory. This is generally an arid region, though capable, under artificial irrigation, of growing

not only cotton, but many other sub-tropical products. It is now proposed to introduce American negro cotton workers in this territory, and the German Government has made a contract with Booker T. Washington, head of the celebrated negro industrial school, at Tuskegee, Ala., to send out a number of his young men, with cotton plows, wagons, and implements to work these new fields. The experiment is worthy not only of British commendation, but of British imitation, and fortunately there is good opportunity for such imitation. In the northern part of Cape Colony, and a considerable part of Bechuanaland, stretching west towards the German boundaries, are large tracts of "Karoo" lands, which are known on the older maps as the Kalihari Desert. These lands are sterile at times, only because of the uncertainty of the rainfall, but they are really most fertile, and two or three days after a rainfall, the so-called desert becomes a vast garden of wild flowers and verdure. All is wanted to make the desert literally blossom as the rose is to conserve the rainfalls, and store the water in dams as is being done now to some extent in the Cape Colony. Cotton has been grown experimentally in Natal and the Transvaal, and if it can be grown in German South-West Africa, it can certainly be grown in Bechuanaland and northern Cape Colony.

An article in another column, quoted from the Canadian Engineer, and written evidently just before the elections, should set some of our boomsters to thinking—especially those interested in the textile and kindred trades. It is frightful to contemplate the presumption of some people, who would rob the Giver of all Good of the credit of the prosperity with which this country has been blessed, and bestow that credit on the political gods of their own creation. Time will bring its own punishment of this idolatry, and in no branch of business more certainly than in the textile trades. Already the rumbling of this tidal wave is heard from Germany, and another wave is rising in Great Britain. From many parts of Germany, we have reports of depression in the manufacturing industries, especially in the textile mills of Rhenish Prussia, and Saxony, where thousands of looms and hundreds of thousands of spindles are idle. This is partly ascribed to over-production, and partly to industrial disturbances caused by the China war, but whatever the cause the result will be a back-wash of competition of German goods with those of other countries—including Canada—on a lowered level of prices. This back-wash will affect British goods, and will accentuate the depression now threatening some of the textile industries there, and so we will get the wash from the second wave. The British worsted and other manufacturers, now shut out of the United States market to such an extent as they have been by the McKinley tariff, will have to sell in other markets, and these other markets can only be increased by concessions in prices. So long as the boom can be kept up here by public works—voted out of public funds, which should be reserved against the coming years of hard times—this depression may not be severely felt, but the textile trades are so situated as to feel its full force when it does come—especially the woolen, worsted, knit goods, and carpet trades. This is not a prophecy of evil—it is a forecast of the rise and fall of the tide of commerce, which can easily be calculated upon experience of the past. When the depression comes, let the idolators referred to call upon their gods to go on doing the miracles they now claim to have performed.

BREAKERS AHEAD.

The Canadian Engineer, for November, sounds the following note of warning to the thinking men of the Dominion:

By the time this number is in the hands of our readers, the political destiny of Canada for some time to come will have been committed to the keeping of either the present Government or a new Conservative administration. The Canadian Engineer is not a political Journal, but one thing it feels called upon to urge, and that is that no matter which party comes into power, men of influence in all classes should protest against the reign of wicked extravagance that has begun in the management of Dominion affairs. What would be said of a workman, who, having good wages in the summer, but none in the winter, was to live up to his wages as fast as he earned them, till all his earnings were gone before the first fall of snow, with no coal or wood laid in for the winter. He would be called an improvident fool with no pity or care for his family. Yet that is what our rulers at Ottawa are now doing. Industrial prosperity and expansion come in cycles, and Canada, having enjoyed three or four years of it, has already passed the summer solstice of its industrial activity. For some months past, the process of contraction has set in in Germany and France, and is beginning to be felt in some departments of manufacturing in Great Britain. It is only a question of a year or two before the same painful pinch will be felt in the United States and then in Canada. We hope that, as in the case of the last depression, it will not be felt so poignantly in Canada as in other countries—but felt in some degree it assuredly will be, and the present surplus of Dominion funds, now so light-heartedly flung right and left on needless railway bonuses, and political public works, will then be unavailable for works that would maintain the balance in favor of the unemployed, or for any other wise purpose, such as the reduction of taxation, or the national debt. While it is not good to prophecy of coming evils too often, it is folly to shut our eyes to the evidence of past experience.

Caution, care and conservatism should rule the plans of individual firms, as well as the Government for the coming two or three years. While we have nothing to say against new enterprises starting in lines that are inadequately represented, or not represented at all, or businesses intended to cater to the wants of our newly-settled districts, those who are plunging into lines of industry already equal to all the requirements of the country should remember the advice of Artemus Ward—pause and take a big think.

TEXTILES IN ENGLAND.

The Bradford correspondent of the Textile Manufacturers' Journal writes of trade in woolen goods: The introduction of a small percentage of cotton into woolen goods for cheapening purposes is probably one of the oldest methods of adulteration practised in the trade. The presence of the cheaper fiber is, however, generally seen or felt to a degree that greatly affects the value of the cloth, and although the adulteration is made in various forms, the difference is felt at once by any person accustomed to handling woven goods. Lately an o'd form of combining cotton with wool has been revived, but the skill of the modern designer has produced a much more successful effect than has ever been obtained before. The new goods are being made to a large extent in the Huddersfield district in the form of Saxony suitings, and our Scotch manufacturers, who in many instances are practically developing the Yorkshire trade in their own district, are trying to make the same goods.

Pattern of Saxony Suitings.—A pattern which I am sending to the New York office of this paper is one of these Saxony suitings, which, if examined, will be seen compares favorably with all-wool goods in both appearance and handle. The cloth is an ordinary woolen build woven with mixture yarns on a two-and-two twill ground checked with hopsack. A check and overcheck are also supplied by coloring on neat subdued lines. The chief arrangement is in the yarns, which are composed of twist of a single woolen and a twist of sing'e cotton yarn. The cotton beds into the soft twisted woolen to a large extent, and becomes entirely hidden in the fulling process, which brings out the woolen and covers up the cotton. The addition of the cotton greatly strengthens the cloth and prevents it losing its shape. Of course, the presence of the inferior fiber is soon apparent after the cloth has been in wear some time; but, all things considered, the fabric is of a fairly serviceable make, and looks well.

A Worsted Coating.—Another pattern is a worsted coating of hopsack weave, which illustrates well the subdued type of coloring which is in demand in the West End, London, and better-class markets. This cloth is a good example of an even checking—that is, the crossing being of the same intensity as the striping, without the warp yarns being the same as the weft in color. In this case the warp (irrespective of the overchecking) is composed of white and steel mixture yarns, while the weft is black alternated with black and white grandrelle.

Description of Pattern.—I now purpose to give a description of a few patterns which are free-sellers and very fashionable among our clothiers, and as they are of very simple construction, they might be made to advantage by United States manufacturers. One pattern represents the old hopsack (two-and-two), it being a worsted suiting, which in addition to neat coloring has a very effective yet undecided checking. The well-known star effect which takes one of the corners and one-quarter of the check, is obtained by warping and weaving four threads black and four threads color. The opposite corner of the check is three by three in both warp and weft, while the remaining corners are necessarily combinations of three-by-four. The first effect is the only definite one, and it would be too definite if it stood alone. The other effects would appear vague and purposeless if not placed in combination with the first and central effect. The required weight of cloth is obtained by an eight satin warp back.

Checked Worsted Suiting.—Another is a checked worsted suiting woven on the face with a two-and-two twill reversed every two ends. It is a double cloth, and the backing portion is exactly the same weave as the face. This design is not to be recommended for fine worsteds, but the color effect is pretty and neat. The ground of the check is warped and woven four threads black and four threads mixture yarn in each of the cloths, and the checking is obtained by interspersing threads of half the number between each pair. In this manner the warping and wefting for each (face and back) become: 4 black and 4 mixture, 7 times; 2 black, 2 mixture, 4 black, and 4 mixture, 3 times; and 2 black and 2 mixture. A dark-colored, single-thread overchecking may be introduced by substituting such a thread in place of one of the black ones in the ground pattern.

A Worsted Pattern.—One more is the representation of a worsted pattern which is practically the same as the groundwork of the preceding one. The face cloth is the same weave, namely, two and-two twill reversed every two ends; and the warping and wefting are four black and four color throughout. The required weight is attained by means of an eight-satin backing cloth, which gives a much nicer handle than the previous pattern, where the back and face cloth are the same weave. Good effective designs could be obtained on this principle by having, say, a dark blue or similarly colored thread substituted for one of the black threads about every sixth pattern, and a brighter colored say ruby or similar shade, inserted in a similar manner every eighteenth pattern. Similar threads shou'd be inserted behind these in the warp of the backing cloth. The small weave of this and the previous pattern is very suitable for subdued effects, for it produces practically no discernible effect itself; there is no appearance of twill or diagonal, and any tendency to show stripiness with the "cut" of the reversed twill is lost by the colored warping.

Trousering Cloth.—A neat trousering pattern is shown in another cloth which is very much like others of the same style, but has a faint, almost imperceptible broad stripe effect visible every four narrow stripes, which adds greatly to the appearance of the cloth. The face warping is three black and three grandrelle throughout; the face design is two-and-one twill, and the invisible overstripe is produced by reversing the twill every twenty-four ends. The effect of this twill is very similar to that of a satin weave, without having the loose ends of such a weave to contend with. As this twill is only suitable for comparatively light-weight worsteds, the weight is increased by a back cloth of six-end irregular satin, a thick woolen weft being employed in the backing.

Trousering or Suiting.—Another is a worsted trousering, very suitable also as a suiting during the present fashion of stripes for this purpose. It is the usual two-and-two twill with eight-satin back, warped one-and-one, except where the stripe is formed by two ends of the dark color coming together at each side of the light thread. The stripe is split by a black end being inserted in place of the usual ground color, and this system can be varied for the production of other effects.

Three-and-Three Twill.—One more is a three-and-three twill herring-bone, single-cloth, worsted trousering. It is really an old style made in an improved manner, for the warping is carefully arranged so as to give a diminishing effect toward one side of each of the twill stripes. This is obtained by having

ends varying in degrees from the lightest shade used to the darkest, and these ends used in conjunction with the black weft give a tapering appearance to the twills. Grandrelle yarns are used for the warp, one of the twists (a medium shade) being the same throughout, and the grading being obtained by twisting this common color to the diminishing shades employed.

Design and Coloring.—The last pattern is a solid cloth worsted trousering, composed of three-and three twill, alter-

nated with the design given below. It is warped end-and-end throughout, but although one series of alternate threads is regular in every case, its companion thread is changed as the stripe varies. The unchangeable thread is the medium shade, while its fellow is sometimes lighter, and in other cases darker. This is a good design and good system of coloring if used judiciously, but a loud, common-looking fabric is produced if too great contrast of shade is employed; and as the range of contrast is very limited, it is a somewhat risky style for the designer.

The proposal of a further stoppage of buying American cotton well into October has been sanctioned at a general meeting held in Manchester. The urgency of a stoppage of machinery is forcing itself on the attention of almost every Lancashire manufacturer. Indeed, it is becoming a matter of necessity, firms having no alternative but to stop their machinery. The directors of several companies have given instructions to purchase no more cotton, which means that when the supply on hand—and that is very limited—is used up, machinery will be allowed to stop. With few exceptions, twist mules are more or less stopped, and these are being added to from day to day. A host of mills are only working up the orders on their books, many of these being at prices considerably below those now ruling, thus indicating that a serious loss is being sustained. The low grade of the present stock of cotton is also causing trouble, and it may prove a serious matter to firms who are taking the risk. Most employers and managers decline to jeopardize their good name in the market to keep their mills going during the present crisis, and, therefore, are prepared to await the arrival of the new crop. Further, stocks of twist yarn are accumulating at some mills, and appearances are in the direction that losses will be sustained on these yarns when they are sold. Generally speaking, weft mules are well engaged, but another couple of weeks will effect a great change at many concerns. As previously stated, a few firms have been fortunate in anticipating the course of events in the cotton market, and consequently they have good and cheap cotton to use. Except on the ground of general policy, these firms cannot be expected to allow their mills using American cotton to stand idle. If they do so, the trade as a whole will admire their self sacrificing spirit. But the difficulty of bringing about unanimity has still to be met with.

Uniform Stoppage.—There is a strong feeling in some quarters that a uniform stoppage should be agreed upon. That is, all firms using American cotton should close their mills simultaneously. By doing so, it is contended that a greater check will be put on the doings in the cotton market than can come about through spasmodic stoppages. Not only this, but every firm toeing the line at one and the same time will cultivate a confidence of spinners in each other, a state of things that has been sadly lacking in many movements initiated by spinners in recent years. Present sacrifices must turn out to the ultimate benefit of the trade. If spinners do not obtain some command over cotton they may depend upon it they will become its slave. If they go on working and using up the substance, their prodigal policy will give them a lean year. If those who merely handle cotton before it reaches the spinner are allowed to hold the throttle valve of trade, we may rest assured it will be regulated to their own benefit, and not to the advantage of users. Therefore, on the ground that delays are dangerous, spinners should act quickly and decisively. They must stop their works at once, allow American cotton to accumulate, and in such quantities as will make them masters of the situation. The position resolves itself into this—it is becoming a fight for mastership. A 12-days' stoppage of all the Lancashire spindles using American cotton will mean only some 120,000 bales. True, it is something, but not sufficient to accomplish the purpose indicated. Of course, account must be taken of the stoppages which are taking and have taken place for some time. Consumption, in fact, wants reducing by half a million bales That will give the trade a lever. Under these circumstances, it is suggested that not only should the mills stop twelve days in October, but that they should work short time until Christmas, some say to save gas. One proposal that meets with favor is that the mills should stop Saturdays. Commencing daily at 8 and ceasing work at 5 is perhaps the best way of curtailing consumption and improving the spinners' position, and probably with the least loss. This system would mean two hours per day, excepting Saturday, or a reduction of 11½ hours in a working week. Anyhow, spinners ought to be desperately earnest in the matter. The crisis is a serious one, and the difficulty needs grappling with firmly and with determination.

THE MERCERIZING OF COTTON.

(From The Textile Mercury).

When a survey is made of industrial processes, one feature cannot fail to strike home, in consequence of its frequent recurrence, that is, how a process may be discovered, be possibly brought into use, and then be dormant for some time, until another inventor appears on the scene who, by possibly noticing a little point that had escaped the attention of the original inventor, shows that the process possesses new potential features that at once cause it to become a commercial success. Such is the case with what is known as the mercerizing of cotton John Mercer, one of the fathers of the English calico-printing industry, in the course of his experimental work found that strong solutions of caustic soda had a peculiar action on cotton and the vegetable fibers, causing them to swell up and become fuller in the feel and to acquire greater absorptive powers for dyes. At the same time, considerable shrinkage in the length of the fiber takes place; of this more will be said presently John Mercer conceived great possibilities for the industrial applications of his discovery, which was patented by him in 1850, but these possibilities were not realized and for forty years the process lay dormant. Then Horace Lowe found that the shrinkage, which was in the way of the application of mercerizing, took place at a certain stage of the process, and that by subjecting the cotton to a tensile strain at this stage the shrinkage could be prevented. Lowe's discovery supplemented that of Mercer and covered a point not observed by the latter Still, Lowe's observation did not carry the mercerization of cotton to a practical success, and it was left to Thomas and Prevost, within the last few years, to observe that when cotton was mercerized and treated while in a state of tension it acquired a luster approaching that of silk. This observation at once caused the mercerizing of cotton to become a practical success, and the silky lustering of cotton is now largely done for the purpose of preparing beautiful and cheap textile fabrics.

It is intended in the present series of articles to describe the various methods of mercerizing cotton from John Mercer's time to the present, with particular reference to the machinery which is employed for the purpose. John Mercer employed a solution of caustic soda of 60 to 70 Tw. If cloth was to be mercerized, then he used either an ordinary calico printer's padding machine or a cistern containing guide rollers, so that the cloth passed several times up and down in the liquor contained in the cistern. In the latter case he found that a weaker caustic could be employed than with the padding machine, and one of 40 to 50 Tw. was used. After passing through these machines, the excess of caustic liquor was squeezed out of the cloth and allowed to run back into the cistern or machine; the cloth was then run through water to wash it; secondly, through weak sulphuric acid, to neutralize any alkali that might have been left in; and finally through water to thoroughly wash it. In the case of yarn, the hanks were steeped in the caustic soda liquor at 40° to 50° Tw. for a few minutes; the hanks were then wrung out, washed, soured with acid, washed with water, and dried. Caustic potash could be used in place of the soda, and there was no material difference in the results obtained from the two alkalies, so that as caustic soda is less than half the price of caustic potash the former was much more economical to use.

Mercer found that he could get a certain amount of action with caustic as low as 20° Tw. in strength, but then, in order to obtain the full effect, he must allow the cotton to remain longer in the bath. He found, however, a strength of 40 to 50 Tw. worked the best, the operation only taking a few minutes at the ordinary temperature. As stated above, weaker liquors can be used, but then the treatment must be prolonged However, there is a limit to the active strength of the caustic; a bath at 10° Tw. has little action, and even if cotton be immersed for from 40 to 50 hours in such weak liquor there is little mercerizing effect, while if still weaker liquors are used the mercerizing effect is nil. The cotton takes up soda from the liquor to a very considerable degree. After use a liquor of 60° Tw. will be only about 40° Tw., so that in practical working, if it be desired to maintain an active working strength of 45° to 50° Tw., a liquor of 60° to 65 Tw. must be used to replenish the mercerizing liquor. This absorption of the alkali shows that the cellulose of the cotton fiber takes up caustic soda, and more recent researches show that soda-cellulose is formed, which has the formula $C_6H_{10}O_5Na_2O$. The subsequent washing operations caused the elimination of this alkali; but it is a notable circumstance that the cotton increases in weight by the operation of mercerizing, this increase being on the average 5 to 5½ per cent. In the process of washing the soda is eliminated and water takes its place, a hydro-cellulose of the formula $C_6H_{10}O_5H_2O$ being formed.

Gladstone obtained a soda-cellulose by treating the alkalized cotton with alcohol, which eliminated the excess of alkali. The soda-cellulose thus obtained was found to be decomposed by water and carbonic acid.

The operation of mercerizing rather tends to strengthen the cotton fiber than to weaken it. The increase in strength is rather remarkable, and may reach 50 per cent. Thus a cloth which before mercerizing would break with a weight of 25 lb., would after mercerizing require a weight of 40 lb., to break it.

SCOTCH TWEED INDUSTRY.

The U.S. Consul at Edinburgh gives his views of the depression of the Scotch tweed industry, which has prevailed in Galashiels, Hawick and Selkirk for the last three years, and has now reached a critical stage. In Galashiels alone, he says, a number of firms, employing between 400 and 500 hands in all, have gone out of business, and their factories are idle. As a result of the bad trade since 1897, in that town there are nearly 500 workmen's dwellings empty, and the population has decreased fully 2,000. The firms that are still operating find it well nigh impossible to do business at a profit. The causes of the present bad condition of the trade are said by manufacturers to be (1) overproduction, (2) foreign tariffs (3) the displacement of tweeds by flannel suitings, (4) the extreme fluctuations in the price of wool, and (5), foreign competition. The last named reason is one which the tweed manufacturers have been compelled to recognize only within the past year or two. Several countries that formerly were large consumers of Scottish goods have become considerable producers of the same kind of fabric. This is particularly true of the United States, where the home-made cloth is keeping out the foreign article. Some of the Scotch mill owners profess confidence in a revival of their trade, while others regard as extremely gloomy the outlook for an industry which has been going down in a time of general prosperity.

For THE CANADIAN JOURNAL OF FABRICS.

VENTILATION IN TEXTILE MILLS.

BY W. B. SNOW, BOSTON.

In no class of manufacturing buildings has the adaptability of the Blower System been more carefully considered than in the textile mills; and yet this is but natural when the perfection of all appointments in such structures is considered. The general similarity of construction in buildings of this character has greatly facilitated the standardizing of details in connection with the heating, ventilating and moistening system.

Modern mill construction, as exemplified in the textile mill, is generally considered to be evidenced in brick walls, numerous and large windows, wooden floor framing consisting of large timbers extending across the mill at intervals of about 10 feet, supported by the walls and by wooden columns, the floor being of 3 or 4-inch plank with 1-inch top finish. Such construction is simplicity itself.

The uniform size and arrangement of the machines within such a building naturally compels the preservation of straight and ample passageways between the individual machines, as well as around them next to the walls Evidently there is no practical opportunity for the introduction of heating flues anywhere within the building, because of their serious interference with such uniformity. But the brick walls present a most convenient location for flues of the requisite area.

In one of the forms adopted, such flues, projecting outward from the building, as illustrated in the view of the Pelzer Manufacturing Co.'s cotton mill are placed along one side of the structure only, and at intervals of 40 to 70 feet, according to the character and construction of the building. In the basement, or ground floor, nearly midway of its length, is located the apparatus, usually of the type known as the three-pulley rig, so arranged that the fans may be driven by the mill engine during the day, and, if necessary, during the night by the special fan engine provided for the purpose.

Extending along the floor upon which the apparatus stands, or beneath it, if desired, is a brick duct formed upon one side by the wall of the building itself. This duct, in its most approved type, forms in section what is known as a quadrant arch, as shown in Fig. 2. Connection from this duct is made with each pilaster flue, the duct being gradually reduced in area as air is thus discharged from it.

The flue, as will be noted, is also decreased as it extends upward, to compensate for the air delivered to the various floors. Its general construction must be evident in Fig. 2 At a sufficient distance below the floor beams, to avoid weakening the construction, outlets are provided from this flue into each of the floors.

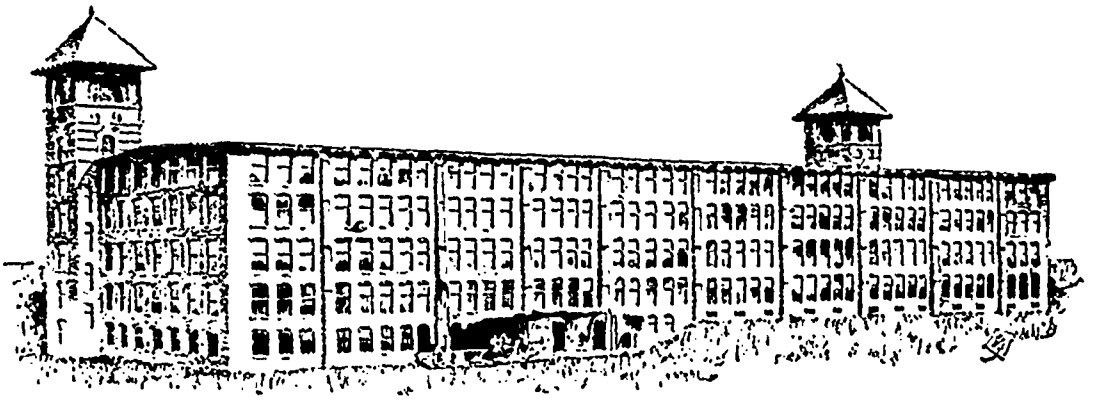
Each opening, in turn, is fitted with a special damper. This consists of a cast-iron frame bricked into the wall, and sufficiently strong to prevent weakening the same. Pivoted at the top of this frame, and swinging inward, is a sheet-iron plate, serving the double purpose of

damper and deflector, and adjustable by a worm on the end of the vertical rod acting upon a gear upon the damper axis to move it to any desired position The rod extends down to within easy reach of the operative.

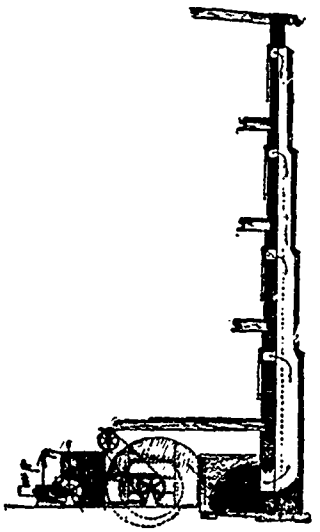
Evidently the result of such an arrangement of the Sturtevant System in connection with a building of the character described is to provide the most excellent opportunity for successful heating from one side of the building only. The smooth ceilings, without beams to interfere with the movement of air directly across the building, make it possible to fully supply the side farthest from the flues, while the moving pulleys, belting and shafting which intervene, fortunately present just enough opposition to sufficiently break up these air currents and thoroughly mix the air throughout the room. Although, conditions permitting, it is usually advisable to place the flues upon the least exposed side of the building and discharge the air toward the colder side, nevertheless, in practice, the effect of location of flues is seldom perceptible in such a structure. The entire subject of heating ventilating and moistening mills is exhaustively treated in a special catalogue, by the B F. Sturtevant Co , Boston

TEMPERATURE AND HUMIDITY IN WEST WEAVE SHED, PACIFIC MILLS LAWRENCE, MASS.

DATE.	Time.	TEMPERATURE.					HUMIDITY.
		East End.	Middle. Floor.	Middle. Head High...	Middle. Ceiling.	West End.	
1889		Degrees	Degrees	Degrees	Degrees	Degrees	Percent
Feb. 7	9 15 a.m.	70	70	70	71	68	65
Feb. 7	1 15 p m.	68	69	68	70	66	64
Feb. 7	6.15 p m.	70	71	71	72	66	66
Feb 8	6.45 a m.	70	69	71	73	66	61
Feb. 8	2 45 p m.	73	74	75	76	72	68
Feb. 9	7 25 a m	70	69	71	72	66	75
Feb. 11	10.30 a m.	68	68	69	68	68	75
Feb. 11	5 30 p m.	72	72	73	72	69	63
Average ..		70 12	70.25	72.25	71.75	67 64	67.12



The apparatus placed in the basement near the centre of the building, discharges the air into a duct, usually quadrant in form. running along one side of the building, and communicating with the bases of the flues These flues are generally of the construction shown in the detail, Fig. 9, and add but little to the cost of the building. Each opening or outlet is provided with a special form of damper, which serves the double purpose of deflecting the air toward the room when open, and of preventing admission when closed.



IG. 2

The large amount of moving machinery, pulleys, shafting and belts in such a building serves to thoroughly break up all air currents and effectually distribute the air. The equality of temperature maintained is evidenced by the accompanying average results and readings taken at random from a record kept at the West weave shed of the Pacific Mills, Lawrence, Mass. The mill was 180 feet long and 70 feet wide. The west end was entirely exposed to the sweeping winds from the Merrimac River, while the east end contained the lighting plant and heating apparatus. The openings for air admission were only five in number, on each floor, placed along the south side of the mill, and aggregating 3 37 square inches area per 1,000 cubic feet of space.

COMPARATIVE COST AND RUNNIN EXPENSES FOR HEA ING, VENTILATING AND MOISTENING SYSTEMS, GLOBE YARN MILLS, NOS. 1 AND 2, FROM OCT. 15, 1888, TO MARCH 15, 1889.

Cost of Introduction.	No. 1.†	No. 2.‡
First cost heating and moistening system....	$4,600 00	.....
First cost heating, ventilating and moistening system	.....	$4,000 00
Cubic contents, cubic feet.....	1,103,852	1,316,520
Average temperature.....	70°	78°
Cost of system per 1,000 cubic feet	$4 17	$3 04
Ratio.....	100	73
	137	100

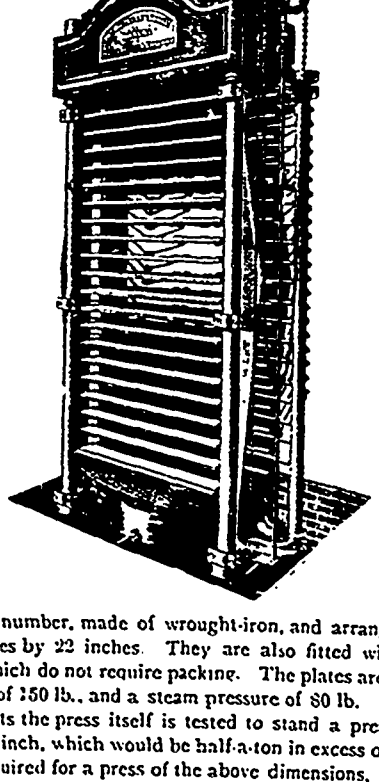
Running Expenses.	No. 1.	No. 2. •
Coal burned for heating	317,100 lbs	.....
Coal burned for moistening.....	58,500 lbs.	.....
Coal burned for both heating and moistening	375,600 lbs.	.....
Coal burned for heating, ventilating and moistening	.....	286,900 lbs.
Coal burned per 1,000 cubic feet	340.26 lbs.	217.92 lbs.
Ratio	100	64
	156	100

†Overhead direct radiation and Garland moistening system.
‡Sturtevant System of heating, ventilating and moistening.

An important advantage of the blower system in the textile mill lies in the opportunity presented for moistening the air so as to offset the serious effect of the frictional electricity generated by the motion of belts, pulleys, running stock and machinery In a direct heated mill the moistening arrangements are frequently very expensive. An interesting comparison of first costs and running expenses in two nearly identical mills belonging to the same corporation is here presented Mill No 1 was heated by direct radiation, and a complete independent moistening system was introduced. In Mill No. 2 the blower system was installed for the combined purposes of heating, ventilating and moistening The cubic contents of the latter building was the greater, as was also the exposure Nevertheless, the first cost of the system per 1 000 cubic feet was only 73 per cent. of that in the No. 1 mill, while the temperature maintained was much higher, with a fuel expenditure of only 64 per cent. of that required in Mill No. 1. Although the air supply was taken from the building, the natural leakage was so great as to provide ample ventilation.

AN IMPROVED HYDRAULIC CLOTH PRESS.

Textile manufacturers will be interested in the cloth press here with illustrated which is specially designed to meet the requirements of the cotton and woolen trades. The press, which is built by Wm. Whiteley and Sons, Limited, of Huddersfield, Eng., consists of a series of hollow wrought-iron plates and is usually made with a ram, 12 inches in diameter, and having a lift of 4 feet 6 inches. The table is 45 inches long by 24 inches wide. The supporting pillars are of wrought-iron 4½ inches in diameter. The cylinder is of cast steel capable of withstanding a pressure of 4 tons per square inch, and is fitted with a gland to allow of the leather being renewed without the necessity of removing the ram or any of the plates. The hollow steam



plates are 21 in number, made of wrought-iron, and arranged to take in cloth 42 inches by 22 inches. They are also fitted with metallic elbow joints, which do not require packing. The plates are tested to a water pressure of 150 lb., and a steam pressure of 80 lb. In addition to the above tests the press itself is tested to stand a pressure of 3½ tons per square inch, which would be half-a-ton in excess of the working pressure required for a press of the above dimensions. The press in its complete state is fitted with feed and exhaust pipes, division plates for spacing purposes, and an improved lifting gear, which greatly facilitates the raising of the plates.

The makers will be pleased to furnish interested parties with further particulars on application.

TO RENDER WOOL UNSHRINKABLE.

Jules Auguste Joseph Florin, Dyer, and Henry Louis Lagache, Engineer, of 27, Rue Nationale, Roubaix, have taken out a patent for treating wool in any condition by chlorine or its derivatives and compounds by which it loses all its characteristic qualities, and notably its capacity for felting The loss of this latter quality is absolute if the chlorinating has been sufficiently energetic to ensure that pure wool materials, after having been treated, are unshrinkable. Hitherto wool fabrics or woolen goods which have been called unshrinkable are not possessed of this property. But if the treatment with the chlorine or its derivatives which is applied to the wool in any of its conditions, that is to say, raw wool, combed, carded, spun, woven, or manufactured wool, etc., before or after dyeing or bleaching, does render the said wool unshrinkable, it at the same time makes it dry, rough, hard, "papery" making it similar to pasteboard to the touch) and therefore partially useless This invention has for its object to restore to chlorinated, unfeltable, and unshrinkable wool, its other natural properties such as elasticity, suppleness, softness to the touch, in a word, to soften it and to thus obtain wool analogous both in appearance and touch to ordinary wool, but being in addition unshrinkable. The processes for chlorinating wools are numerous and generally consist in treating solutions of calcium hypochlorite with an acid or in directly employing chlorine gas itself. According to the proportions of the agents employed the transformation will be more or less complete, and wool becomes absolutely unshrinkable with 12 per cent. of calcium hypochlorite and an equal proportion of acid. By reason of the more powerful affinities of chlorinated wool the latter is capable of attracting, when cold, the bases of a number of salts of weak acids, such for example as the basic mineral salts and organic salts, acetates, oxalates, tartrates, citrates, sulpho-cynates, etc., in such a manner as to form new combinations which give a touch quite different from that of chlorinated wool, the modification depending upon the nature of the base of the salt employed. In particular the salts of aluminum, zinc, tin, chrome iron, have the property of considerably softening chlorinated wool so as to render it at least of equal quality to natural wool. The salts of the alkalies and alkaline earths from the following acids, that is to say, aluminates, zincates, stannites, and stannates can be also employed for the same purpose. The reaction can be effected simply by immersing the materials treated in a bath of one of the salts above mentioned; for example, a bath can be employed which is obtained from 125 parts by weight of acetate of alumina at 10 deg. Be. and 2,500 parts of water to 100 parts of wool. The reaction can be quickened by heating the bath to a temperature more or less high. At the end of a suitable interval, generally quite short, the wool is washed. The wool at first preserves its rough touch, but after a time, especially when left exposed to the air, its softness gradually completely returns to it. The bath is not exhausted, and for another operation can be renewed so as to have the same richness as at first. The chlorinated wool energetically retains all substances which it meets, and in particular acids and washing does not elminate them; this should be taken note of, as the presence of these acids hardens the wool especially in soapy baths, which are often employed before or after finishing or dressing. It is, therefore necessary to eliminate these acids by treatment with a suitable weak alkali such as soda, potash, ammonia, lime, magnesia, etc., caustic, carbonate or bicarbonate. This treatment can be applied directly after the chlorinating or the softening process. For example this neutralization can be effected with about 50 grammes of crystalized carbonate of soda per kilogram of wool.

Louis Drexler, late of Philadelphia, is now boss dyer at the Toronto Carpet Mnfg. Co.

Foreign Textile Centres

MANCHESTER.—The Manchester cotton market still continues to be in a curious state, says the correspondent of the Warehouseman and Draper. There are plenty of good-sized orders on the market, and many manufacturers eager to book them, but the question of price is not settled without much difficulty and delay. The many fluctuations of the raw material have much to do with the uncertainty prevailing, consequently buyers take good care to be sufficiently low in their orders, so as not to be "left" if any drop occurs. No one quite knows what is going to happen, and there are still many opinions as to what the crop is going to be. The Indian market is sending many enquiries, but these are difficult to arrange. A fair miscellaneous demand is taking place for the various smaller markets. For China there is still nothing said about business. Yarns are difficult to sell. Spinners stick to their prices where they have still plenty of orders to execute, but those needing business are compelled to take what is possible to get from buyers or go without. This week (Nov. 3rd), has seen a lot more spindles and looms started throughout the county, and it is generally considered that the pinch is over for this season. The general outlook of the cotton trade is fairly good, and given plenty of good and cheap cotton there should be a reasonable amount of prosperity before the trade. The correspondent of the Draper's Record says: Boumphrey & Co. are showing samples of cotton grown in the Soudan. I am glad to hear of it. The greatest centre of cotton production in the world is dependent for most of its supplies upon the United States and Egypt—sources of supply which can scarcely be regarded as British. The endeavors to grow cotton in British territory have not, as a rule, been of much advantage to Lancashire. The Soudan, however, is looked upon by many authorities as a centre which might, with judicious supervision, produce an abundance of the "bread of life," without which Lancashire spindles would starve. Queensland, too, seems to possess in some of her sweet river valleys the climate and the means necessary for the production of good workable cotton fiber.

BLACKBURN.—A marked improvement in the cotton trade is reported here Many weavers, who have been playing for warps, have returned to work. There are still eight mills representing eight thousand looms, standing idle from various causes.

BRADFORD.—The arrangement amongst the brokers in London, to curtail the colonial wool sales there by a week, seems to have had the effect of improving the competition for all really good wools, both in merino and crossbreds, but faulty lots are still a good deal neglected. Although both the American and Continental buyers have competed much more keenly lately for the very best greasy merino wools, and in some instances have paid rather high prices for these, British buyers have throughout this series of colonial sales taken an unusually large proportion of the wool actually sold. The rates for both combed merino tops and yarns here have for some time past been actually lower than the prices at which tops and yarns could be produced from wool purchased in London at any part of the present sales, so that there is little reason to expect any further reduction in the price of any class of merino manufactures. Business in all classes of manufactures made from fine merino wools is only recovering very slowly from the disastrous effects of the great rise last year, and the subsequent fall this year, in raw material; but some business has now been obtained at low prices. The prices of crossbred colonial wools are keeping quite firm in London, and Yorkshire seems to be quite prepared to deal with all the long stapled wool suitable for combing purposes, which will be offered at the present series, but consumers are only prepared to absorb the wool if prices are kept at their present level, which is very near to that which obtained before the advance set in towards the end of 1899. As the cost of dyeing and coal and other expenses have increased very considerably, it is not possible yet to produce such goods as cheap worsted dress goods serges at the very bottom prices of the early part of 1899, but somehow or other manufacturers have been able to approach very nearly to this point with their quotations. The prices of raw mohair and alpaca are keeping quite firm, but there is little movement in these materials. In manufactured piece goods there is an improvement, as makers of plainer classes of Bradford dress goods are gradually getting their machinery more fully employed with orders for the spring season, but there are still complaints that orders are placed with considerable hesitancy, and that fabrics of a very varied character have been ordered, a fact which gives the impression that no distinct tendency in fashion has yet been determined on. Although we have been told that the time of the extinction of the "blouse," as a popular garment, is near at hand, the orders given for the coming spring season certainly do not seem to corroborate this view, as both makers of fancy mercerized cotton blouse cloths and silk striped delaines have all sold unusually large quantities of these very beautiful fabrics for the coming season. A good many orders for both colored and black, plain and figured, mohair dress fabrics have been placed, and should repeat orders follow in anything like the same ratio as last year, the makers of these bright dress fabrics will be kept busy. There has been in the last week or two quite a small batch of suspensions amongst the smaller firms of worsted spinners in this district; the main cause of the trouble appears to have been losses resulting from the very large drop in the prices of wool which occurred in the earlier part of the present year.

LEEDS.—In the Leeds trade business is still very irregular, as some factories, which have got work from the Government on uniforms, are busy, and some others, who do a large home trade in the North of England, are also well employed, but there are other factories where shorter hours have been resorted to. There is little change to report in reference to any of the woolen trade districts, but both in Huddersfield and Leeds makers of good class woolens for the home market are better off for business, and the prospects are considered better. In Dewsbury and Batley an attempt is being made to form a combination amongst some of the more important woolen manufacturers, with a view to prevent undue cutting of prices and a more concerted system, both in reference to buying and selling, and a meeting with this object was held, with Mr. George Sheard, of Batley, in the chair.—Draper's Record.

BATLEY.—The following trade report for October was adopted by the Chamber of Commerce. The staple trade has on the whole been fairly satisfactory, though, compared with former years, it is not quite up to the average. The mild weather is having a great tendency to limit the demand for winter goods. There is still, however, a marked absence of bulk orders. Cotton and cotton warps still rule very dear, though, speaking generally, these commodities are slightly easier to buy than last month. For wool and worsted warps, prices rule very much as last reported, spinners being unable to induce users to give particulars for future requirements. There is a more lively interest in iron and engineering. Enquiries have been more common, and considerably more orders have been and are being placed. There appears to be a tendency to easier quotations, though these are so slight that the effects may not be realized for some time. Shoddy

and rags vary little from list reported, rags being only in moderate demand.

KIDDERMINSTER.—Here and there a few looms are idle, but as a rule the carpet trade is busy, with pressure in places to complete urgent orders. The outlook is distinctly encouraging for it is evident that stocks are low, and buyers are quite well aware that prices are as low as they will be. Locally, the yarn trade is flat. A few enquiries are made for contracts, but buyer and seller do not come together easily. New business is quiet, following a time when manufacturers have supplied themselves pretty freely. Consumption, especially of woolen yarns, is fair. Worsteds for the Continent and the North are going out in fair quantities, and help to keep the spinners employed.—Textile Mercury.

LEICESTER.—The hosiery trade is quiet, as far as choice cashmere fabrics are concerned, but good lambs'-wool underclothing of all kinds is in strong demand. Cardigan jackets sell as fast as manufactured, and all stocks have been cleared out. The yarn market is steady, with a good consumptive demand for worsteds and lambs'-wool yarns, which are being largely used up. The export trade, however, is small, and new business is difficult to secure. Fancy knitting yarns are in good request, but cashmeres are still weak and irregular in price.

NOTTINGHAM.—There is no quotable change in the prices of lace, curtain, or hosiery yarns. The higher counts are firm in value, and orders are being placed to an average amount. For ordinary lace yarns, the demand is slow, and buyers look for concessions. Orders for merino and cashmere yarns are carefully placed, the market being still unsettled and uncertain. Bobbin nets, point d'esprit, and mosquito nets are firm in value, and there are no stocks. Fancy millinery laces are not in buoyant request.

SCOTCH LACE TRADE.—Principally owing to the high price of cotton, the Ayreshire lace manufacturers were compelled seven weeks ago to put the whole of their looms on half time. It was expected by that time that prices would have reached their normal level, but, in spite of the fact that rates are still high, it has been decided at a meeting of makers, at Kilmarnock, to revert to the old system. The new rule came into force recently, but only a few of the factories started on full time. Business is not as brisk as it might be.

DUNDEE.—October closed with a continued and general demand for all jute goods, which keeps all the spindles and looms busy In consequence, jute has retained its value. The fall, which buyers hoped for, has not taken place. Indeed, in good qualities the price to-day is higher than at the end of September. Still, it is manifest that the crop is not only good in quality but also large. The fact, however, is that the new arrivals come upon a very large market. This is a very different state of things from that existing in recent years. The accumulating of several seasons made buyers very independent. It is not so to-day. Every one buys a little, and steady, if small, buying is the sure way to sustain a market. Yarns are also still firm at 1s. 9d. for 8 lb. cop, and 1. 9d. to 1s. 9½d. for 8-lb. bundles. Good yarn in 8-lb. is 1s. 11d. per spindle. Common, 10½ oz., 40 in. hessians are in active demand, and it is difficult to get prompt delivery. All kinds of jute cloth sell freely and at prices slightly against the buyers. Flax excites much attention. The price is now quoted at £33 for K Riga, sold eighteen months ago at £18. All other kinds are in proportion It is quite out of the question to try to take costs out of it. Even at the advanced quotations for yarns spindles are being stopped and some mills run short time. Unfortunately, in the usual linen trade, even in the face of this state of the flax market, there is only a languid interest in buying. Governments give out orders and they alone sustain the trade. The whole situation is critical in the extreme. It begins to dawn upon the most sanguine that in the linen trade a much higher range of prices must now be current than has been usual for a long time. Flax yarns are firm, but it is extremely difficult to effect sales at the rise asked. Tows being also 30s. dearer on the week, tow yarns are dearer. The trouble is to get sales at anything approaching the recent rise in the values of the fiber. The fancy jute trade is more active and the winter trade promises to be good.

GLASGOW.—There has been a slight revival in the South of Scotland tweed trade. A fillip was certainly much needed, as the majority of the factories have been quiet for many months. Although orders have improved a bit, they are anything but plentiful.

BELFAST.—While not much change is apparent in this linen market, there is a gradually hardening tendency. Flax is likely to be very scarce and dear, which will have the effect of further advancing yarn prices. The spinning branch is steady, orders coming forward regularly at full current rates. The manufacturing end is quotably unchanged; business is about maintained, but with little further expansion. White goods for home markets are selling a shade better, and the tone has improved. The export trade is rather better than maintained. The United States are sending in a little more business, and advices are more encouraging. Cuba is doing a trifle more, and the Canadian and Australian demand is satisfactory. Trade with the Continent is a fair average one.

LYONS.—The Dry Goods Economist, New York, reports as follows on the raw silk trade at Lyons: The Lyons market has lost its feverish activity, demand being entirely for spot parcels. The conditioning figures for the week ending October 18th were 136,436 kilos, against 131,277 kilos the corresponding week of 1899. Prices remain unchanged and firm. In European silk the demand is fair, and the prices realized show no decline. Holders who have been able to dispose of some of their silk are now better able to carry what they still have. This makes them more confident and less disposed to make concessions. Levant silk is also firm. In thrown silks subsequent developments show an improvement both in the demand and in the values. Throwing rates are hardening and throwsters have more work on hand. The cocoon market is also very firm and ten francs per kilo is now the price for dry yellows in Marseilles. In Asiatic silks business for spot silk is fair. The stock of Japan silk in this market is not very large, but prices here are lower than the equivalent of Yokohama values. In Canton silk the demand is steady at good figures, and in China silks business is moderate, but at full values. Tussah silk is firm and the supply from Asia is coming forward slowly. Waste silk is quiet. Schappe yarns are fairly active at firm prices.

CALAIS.—The reports from Calais show that the local trade has been slow, and Caudry speaks quite as badly of itself. It is clear—absolutely clear—that Calais does not hold the position it possessed, say a dozen years ago. The silk end of the trade has been shattered seriously; St. Gall and Plauen have damaged the business of the town most seriously, and Calais must now plunge into the cotton sections of the trade for help in its days of tribulation. In Caudry an idea seems to exist that goods of a superior character ought to be produced for the benefit of the town. In Calais the idea seems to prevail that the local machines would benefit the community more generally if they were employed in connection with the production of lower-priced textiles.

CHEMNITZ.—The Chemnitz market is quiet. Hosiery

manufacturers cannot report any improvement. Prices offered for new contracts are below what producers can book at, and there is no business in consequence. The high prices of cotton have also seriously interfered with the regular trade in merino underwear, and buyers have kept out of the market in anticipation of a drop in values. Cashmeres are still slow in demand. The export trade is very disappointing for the time of the year. Good black hose continue to sell well, and manufacturers are under contract for some time for home consumption, but the American output remains below the average for the time of the year. Knittings are still doing well in fancy goods for next spring. The fabric glove trade is also in fair activity. Fine grades meet with most favor, mostly in fancy colors for the summer season.

THE PATENT MEDICINE MAN.

Editor CANADIAN JOURNAL OF FABRICS.

Your Patent Medicine article is all right. I always felt sure that patent medicine advertisements either did not pay, or else local advertisements paid abnormally, for the difference is too great. The newspapers will find some day that the advertising agencies will "do" them. Already, paint, boot and bicycle houses, are placing their advertisements through these, and insert local agents' names. Thus local men get the benefit of the "foreign" cut rates. Yours truly, F. B.

Galt, November 2nd, 1900.

MISTAKES ALL ROUND.

The following is the judgment of the New York Post on the Valleyfield trouble: The course of the Valleyfield strike in Canada affords an example of pretty nearly all possible mistakes of workmen, employers and local authorities. The owners of a great cotton mill refused the apparently reasonable demand of a handful of common laborers for higher pay, because of the tone in which it was presented. The workmen declared war by seizing the coal-sheds, ceased building a new mill, and stopped the old one. Timid local authority intervened to encourage the strikers with an offer, promptly rejected, of corporation work to the strikers at the wages ($1.25), demanded of the mill owners. The militia were then called out and serious affrays occurred between the troops and workmen. This so stirred the indignation of the operatives generally, who had apparently no grievance of their own, that they too, some 2,500 of them, struck in a body, and so the matter stands. What is wholly exceptional about the strike is that the local labor union appears to have had no hand in it at all. It is simply bad blood, starting with a small body of workmen, and spreading to a large one It seems indeed, to be a case where good leadership and good organization on the part of the workmen might have averted violence and suffering, as better judgment on the part of the employers might have kept them from embittering their workmen.

CANADIAN FIBER PLANT, DYE PLANT AND WOOL.

In his last report Harrison Watson, curator of the Canadian section of the Imperial Institute, London, says: Mention should again be made of the very excellent scientific and research laboratories attached to the Imperial Institute, where much original work in connection with the examination of unfamiliar products is carried out. Among Canadian products investigated was the sweet clover fiber (referred to in the last number of the Canadian Journal of Fabrics). This grows in abundance, even to the extent of being a nuisance, in Quebec and other parts of Canada, and until recently has been regarded as possessing no commercial value. At the request of the Hon. Minister of Agriculture a thorough examination of specimens supplied was made, and although in the absence of adequate previous preparation of the fiber it was only possible to arrive at general conclusions, these gave considerable promise of the fiber possessing some practical possibilities and consequent value. The matter will doubtless be followed up.

At the moment, at the desire of the Government of Ontario, a very thorough examination is being made of the Staghorn Sumach with a view to ascertaining to what degree it possesses tanning properties, and there are continually matters arising in connection with which the assistance of the department is valuable.

At the request of an Ontario house, samples of Canadian wool were placed before one of the largest wool importing houses. Unfortunately their opinion as to the value of the particular sample on offer was not encouraging. In view of the probable development of the wool industry in Canada, it may be mentioned that supplies are disposed of at the wool sales held in London at regular intervals, and one or more houses of high standing and great experience would be willing to act for Canadian shippers if suitable consignments could be shipped.

LITERARY NOTES.

Ernest Seton-Thompson the Canadian artist, naturalist and author, is to contribute a series of most interesting articles to the Ladies' Home Journal. They may be called an autobiography of the author of "Wild Animals I Have Known," as they will recount his experiences and encounters with all sorts of voracious animals that inhabit the American wilds—the most interesting features of a life filled with exploit and adventure. The articles will be illustrated by Mr. Thompson's own drawings of his friends of forest and plain.

Words almost fail us when we attempt to write of the artistic beauties and literary attractions of the November Century Magazine. The pictures embellishing Maurice Thompson's charming sketch, "My Winter Garden," are marvels of color printing, and these and other illustrations in colors and in black and white have to be seen to be appreciated. This number begins the Century's 31st year, and the new features make quite an epoch in its remarkable history. Julian Ralph, whose graphic pictures of the Boer War have thrilled readers of the London papers, adds greatly to his reputation in a descriptive article headed, "A Yankee Correspondent in South Africa." Kipling, Churchill and many other great names are on the roll of those who will fill up "the year of romance" for this great magazine.

The Canadian Magazine for November commences Vol. XVI., and has more than the usual variety of contents. James Bain, librarian of Canada's best public library, tells us a good many things not commonly known about the principal libraries of the Dominion. The article concludes with a list of the libraries, from which it appears that out of a total of 512 public and institutional libraries in Canada, Ontario has 439, Quebec, 41; Nova Scotia, 9; New Brunswick, 6; British Columbia, 5; Manitoba, 4; Prince Edward Island, 2, and the Territories, 1; besides which there are five Government libraries. These 512 libraries have a total of 2,420,577 volumes, of which total a little more than half are in Ontario. A great deal of contemporary political history is to be found in A. H. U. Colquhoun's story of "Eight General Elections," and another good article is a sketch of A. G. Racey, the Canadian cartoonist, with samples of his work, by F. Clifford Smith. The December number will have a number of colored illustrations, and will make a handsome Christmas gift to send to Canadian friends at a distance.

The literature prepared by the Hon S. A. Fisher, Minister of Agriculture, for circulation in the interests of Canada at the Paris Exhibition is the most creditable yet sent out from this country to any world's fair. These publications consist (besides the pamphlets on the forest wealth of Canada, the game and fish of Canada, etc., referred to before), in a handbook of 168 pages, well illustrated, and containing all sorts of information, with two pocket maps; and a book, entitled "The Women of Canada." The first named is compiled by George Johnson, Dominion statistician, and the last named is the joint work of the ladies prominently associated with the National Council of Women of Canada. In the 442 pages of this book, 36 lady writers are represented, and they review the work of Canadian women in every sphere of life, from literature to laundry work. Photo-engravings are given of a number of the contributors, and the cover is as chaste a piece of engraving and printing as has ever been turned out in a Canadian book. This literature was distributed in Paris under the direction of Auguste Dupuis, the secretary of the Canadian Commission, who has acquitted himself of an onerous task with credit to himself and the country.

No. 11 of the Educational Review's readings in Canadian history has been issued. The contents of this number are: Newfoundland of to-day, by Rev. M. Harvey; Canadian nobility of the French Epoch, by F. G. F. deFronsac; Geological History of the Bay of Fundy, by Prof. L. W. Bailey; the First Martyr of the Canadian Mission, a poem, by W. O. Raymond; Responsible Government, by Dr. James Hannay, and the Captivity of John Gyles, by Victor H. Palsits. Under the wise editorship of Mr. Hay, these pamphlets should have a wide sale among Canadians who value the history of their own country. Published by G. U. Hay, St. John, N.B., at 10 cents per number.

The October number of the Newfoundland Magazine is the best of that interesting new periodical yet issued. "Sea Devils in Newfoundland Waters" is an instructive sketch of one of the remarkable fish to be found off the coast of Newfoundland. H. W. LeMessurier gives a readable account of Newfoundland's past trade with Spain, while D. W. Prowse entertains us with a bright sketch of grouse shooting. The fiction and poetry of this magazine is much above the average. The subscription to this excellent periodical has been reduced to $1.50 to foreign subscribers, or $1 to domestic subscribers. It is not apparent whether Canadian subscribers come under the domestic rate, but in either case subscribers will get more than their money's worth.

The Imperial and Asiatic Quarterly Review for October has three instructive articles on the Chinese question, and three equally instructive articles on India, one dealing with the religious aspect of Indian education, one with Indian agriculture, and another on the land policy of India. There are also a number of letters and notes on India and Africa, with articles on Central Africa and Uganda. Published at the Oriental Institute, Woking, Eng.

A NEW IDEA IN LOOMS.

Since looms were first driven by power every mill has had a large bill for lug straps and picker sticks. The picking motion on a loom has been changed and simplified, some rods being shortened and leverage decreased, and power and wear decreased, but loom builders have clung to the same lug strap and stirrup strap idea. On most every loom motion, both cotton and woolen, changes have been made to cut down expenses, where expenses could be cut down, or to make some part or motion lighter running, and thus make a saving in power.

Let us analyze the picking motion of a loom. We have first, the picker ball attached to the shaft, and revolving with it, which hits the shoe and forces it downward. This shoe is fastened to the side of the picker bar, which bar at its opposite end from the shoe has an upright lever, which, as the ball hits the shoe, and the shoe gives the bar a half turn, is drawn in suddenly and with much force towards the loom. Now, right here is where our idea comes in. This last lever, as it is jerked in, gives the picker stick the necessary motion for throwing the shuttle across the loom by means of a wooden arm and leather strap. The leather strap, called the lug strap, is bolted to this wooden arm, so that it forms a loop, which loop goes around the picker stick, and is held in place on the picker stick by means of another looped strap, called the stirrup strap, which encircles the lug strap.

This stirrup strap is made fast to the picker stick by means of a long screw. Now anyone who is at all familiar with a loom knows with what force, hardly tremendous, but really great, the picker stick throws the shuttle across the loom, and he knows, too, that the strain and friction causing wear on the lug strap at its point of contact with the picker stick, is also great. Now, on a loom running full time the life of the lug strap is anywhere from six weeks to three months, its life depending to a great extent upon the fixer keeping the motion smooth and even, and upon the speed of the loom. Each lug strap costs about 20 cents, and with an average wear of eight weeks in a mill, with 200 looms, the expense for lug straps would be in the vicinity of $40. This is not the only expense caused by this antiquated method of lug and stirrup straps.

As we have said, the lug strap is held in position by means of the stir up strap, which is screwed to the picker stick. It can be readily seen that this screw in the stick decreases the strength of the stick, so here also is another chance for breakage, the cost of which can be set down to this lug and stirrup strap idea.

An overseer in a leading mill has for a long time been experimenting with a device of his own invention to do away with bad features of the lug and stirrup straps, and in doing this he has also added new and good features to this part of the loom motion. In place of the looped lug strap he has substituted a lug strap made of two pieces of two and one-quarter-inch leather. These straps are bolted together behind the picker stick, not tightly. On this bolt are a series of large leather washers. This series of washers form a soft cushion to throw the picker stick forward. From the bolt back of the picker stick a metal arm extends down to a casting which is attached to the rocker casting. This first casting has a slot in which this metal arm is fixed, but allows it to be moved upward or downward, thus decreasing or increasing the throw of the picker stick and shuttle without changing any other part of the loom; that is, without being forced to change a stirrup strap, as one is not used at all with this lug strap. As there is no stirrup strap used, the necessity of screw holes, a cause of breakage, is obviated, and the bother of changing the stirrup strap every time the power is changed is done away with. When the picker stick is to be removed, if the stirrup strap is used, the screw has to be taken out, but with this new arrangement it can be slipped right out. With this motion, then, we save wear of lug straps, for this two-piece lug strap practically never wears out; no stirrup straps are used, thus doing away with the screwholes in the sticks, and there is therefore a saving of money, ease in adjustment, and the improvement is also easier on all the picker motion parts.—"Textile Student" in American Wool and Cotton Reporter.

WOOL OILING EMULSION.

A Philadelphia correspondent, referring to the article in October number on "Spinning Wool in a Wet State," sends us the following formula for oiling wool: 25 gallons of lard oil, 2½ pounds olive oil potash wool oil soap, 38 gallons water and 1 quart liquid ammonia; thoroughly dissolve the above until it is a smooth emulsion. The results from the above recipe are most satisfactory, independent of the economy.

MAKE UP OF A GOOD WOOL FLEECE.

In the recounting the qualities which a soap manufacturer expects to find in a fleece the wool grower may take a hint which will lead him to be able with greater success to meet the market's demands, and in just the proportion in which he manages to fulfill these demands, will his profits accrue. It will always be found by those whose business it is to handle wools as they come from the animal, that the best all round wools, those which work best and truest under all general conditions, are those that grow on animals that are well covered with fleece from the eyes to the feet. The hardier the animal is the stronger and better is it able to withstand storm and cold, and the better it can do this the better and fuller will its fleece become. The two things are hand in hand. A good fleece, strong, firm and full, always means a hardy sheep, and a hardy sheep means a strong, full fleece. Now the sheep that is well covered with such a compact and dense fleece is the sheep that the woolen manufacturer wants, and he wants it just because it means a good workable wool. It must be remembered that it is not the additional weight of wool that good breeding in this direction may bring about on head and legs and body, for the difference in weight will after all amount to out very little, but it is the difference in the general quality of the wool itself as a whole, in its strength and value, that appeals to the manufacturer and especially meets his needs. Wool growers are well aware of this fact, and so they strive as much as possible to avoid the barefaced and barelegged varieties and produce well-covered, full-fleeced animals. When we come to the fiber itself the qualities that call for attention are length and strength of fiber, and fineness of form. In a fleece that suits, these qualities of fiber must be right, or it will certainly fall in value. The length and strongness of fibers are affected in various ways. Excessive exposure of the flock, absolute neglect, sickness, weakened vitality, are all conditions which will tend in this direction. In order that these qualities may be present in a fleece, it is also essential that the animal be not too aged. It is a well-known fact that after four years the essentially valuable qualities of the fleece and fibers are in danger of declining.

Another quality that helps very materially to render a wool of value to the manufacturer and finisher, is its softness or pliability. A soft, agreeable fiber is worth considerably more than a fiber that is harsh and hard, and it will work up into a finer cloth, and receive and retain a much richer finish than wool that is hard and brittle. It is of the utmost importance that the growe. keep an eye upon this quality of his production, as carelessness here is sure to lead to the surest loss and decrease in profits.

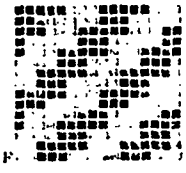
The quality which we call softness for want of a better term, is usually greatly influenced by the natural secretions of the animal's skin. A soft wool is thus connected with a healthy, pink or yellowish skin, while a bluish ashen skin is the accompaniment of a hard, harsh wool. The skin secretion which tends in the direction of the softness of fiber is the material which is called yolk. Yolk also affects the color and luster of the fiber, and so is of considerable importance in the wool economy. Yolk is made up of soapy matter, largely potash and animal oil, and when it is present in liberal supplies the growth of the fleece is enhanced, the life and strength of the fibers are conserved by reason of the lessening of friction in the fleece, and the general tone of the wool is decidedly improved.

To effect a good and continuous production of yolk in the growing animal the feed must be carefully watched, adequate shelter must be provided, and no exposure or excess of any kind must ever be allowed. Yolk is also decreased by alkali, which is often present in the soils over which the animals pasture and graze, and this must be carefully watched and guarded against.

If it is desired to force the secretion of yolk and animal oils, it can be done by artificial means. If the animal is kept in a high temperature apartment or enclosure, if it is kept blanketed and confined in warm, closed quarters, these oils will form, and the fineness of the fiber will be consequently enhanced. Clear, transparent yolk is a great help in the production of a valuable wool, but in the effort to get at this result, it is not to be permitted to overstep the mark so that the yolk becomes thick and gumlike. These qualities act in the opposite direction, and impair the wool for the manufacturer's uses.—"Textile," in American Wool and Cotton Reporter.

DESIGN FOR OVERCOATING.

The Textile Recorder gives the following design for an overcoating in mixture shades of worsted, winter weight. The design is a flexible one, producing a soft handling cloth which has little tendency to glaze or shine under hard wear. It is also suitable both for serge or fine qualities, with half-rough finish.



Warp: 2-30's mixture.
5508 threads,
68 inches wide in loom,
8 or 16 healds, straight draft,
Reed 6-13½'s.
Weft: 2-30's.
88 picks per inch,
10 per cent. shrinkage in fulling,
Half-rough finish,
51 inches wide,
25 ounces weight per yard.

DYERS' CHEMICALS AND DYEWARES.

Copper sulphate, known also as "blue vitriol" or "bluestone," is the most important salt of copper that finds use in the dyehouse, although there are a number of others of greater application for special purposes. Bluestone, as it is commonly called, comes into commerce in bulk, generally packed in barrels; and the contents are of a fair degree of excellence, not only as regards purity, but also condition. As a rule the crystals are of good size and well defined.

The method or process whereby bluestone is manufactured is to treat roasted sulphide ores with sulphuric, leaching out the soluble matters with warm water, and precipitating the copper upon clean scrap iron. When nearly all the copper has been deposited from the solution the metal is removed to another vessel and dissolved in fresh diluted vitriol, evaporated

to the crystallizing point, and then allowed to stand until the bluestone has been deposited. The crystals are then fished out, thrown on a draining board or table to dry, and finally barreled.

Spirits of Turpentine.—Testing spirits of turpentine is very simple The article should have a sweet odor, characteristic of the pine tree aroma, not too pungent or sour, nor should it smell of petroleum, not even faintly. When drawn from a faucet or spigot it should not foam to any extent, or at least the foam should disappear quickly and not froth, as in coal oil. A drop of turpentine placed on a piece of white paper should evaporate without leaving a visible mark in five minutes; if not evaporated in 8 minutes, it may be put down as fatty, and if a greasy stain remains after fifteen minutes, adulteration with kerosene oil must be looked for. At any rate, the article is unfit for use as spirits of turpentine. The specific gravity test with the Beaume hydrometer is a pretty safe guard, when coal oil or benzine is used as an adulterant, the proper range being 0.863 to .867 at 60 degrees F. If lower than 0.863 adulteration with coal or benzine is likely. An admixture of resin spirit cannot be detected by this test and can be determined only by an expert analyst. However, color, odor and slow drying will be sufficiently indicative of its presence.

Palm Oil.—When palm oil is melted over a dilute solution of nitric acid or a weak solution of saltpetre and sulphuric is slowly added, the oil is rapidly bleached, but not in a permanent manner, for, when mixed subsequently with the lye in the soap pan, the color again appears. The coloring matter of palm oil is destroyed by sulphuric acid used in the proportion of 4 to 6 per cent. to the melted oil. The use of oxygen for bleaching, derived from sulphuric acid and manganese, was first introduced by Michaelis. He mixes palm oil with 1-16 part of its weight of finely powdered manganese, adds to the mixture half its weight of boiling water and with constant agitation slowly pours concentrated sulphuric acid to the amount of 1.32 of the weight of oil upon the mixture; the mass is then allowed to cool. The solidified fat generally has a greenish hue, but becomes white in a short time by the action of air and light.

Solvents.—The great objection to the use of solvents is partly the want of proper appliances for carrying on continuous scouring. The wool scourer wishes to put his dirty wool in at one end of a machine and get clean wool out of the other end; this is done in the ordinary soap process, but so far the machinery is not yet properly devised for the solvent methods. The inflammable nature of the solvents and the necessity of preventing fires, the escape of the solvent vapors into the atmosphere, and disadvantages to work people are difficulties which must be overcome before a very successful machine can be constructed. Then the nature of the solvent requires a good deal of consideration. Carbon bisulphide would be best, but the drawback is that the wool scoured with it will turn yellow because of the decomposition of a small quantity of the bisulphide in the process, the sulphur which is liberated combining with the wool fiber to form yellow compounds. Next to carbon bisulphide, benzol and toluol are the most satisfactory solvents, as they are not too volatile and are easily distilled away from the wool fat or oil and removed from the treated wool. The ordinary petroleum spirits, benzoline, and shale naphtha, owing to their containing particles of relatively high boiling points, which makes it very difficult to remove the last traces from the cleaned wool and also to distill them away from the fat and oil removed from the wool, are not so satisfactory in use. It is possible that those portions of the spirits which are volatile below the boiling point of water could be used with advantage; only care would be required in the operation.

Sulphate of Barium.—Sulphate of barium was patented as a sizing ingredient in 1856 by Leigh It is a mineral called heavy spar, which is found in large veins in Staffordshire and in mountainous districts among limestone and metal ore. The native sulphate is one of the heaviest earthly substances, it a specific gravity of from 4.4 to 4.8, and this, together with cheapness, is the reason why so many commercial articles adulterated with it It is prepared in several ways, but g erally by grinding and sieving, and sometimes by a subsequ washing with dilute sulphuric acid to remove the color. T material can also be produced artificially by mixing a solut of a salt of baryta with sulphuric acid. It is a white pow which is sometimes crystalline, sometimes amorphous, but ways insoluble in water. For sizing it is too rough, and not readily fixed upon the yarn.

Blue.—Ultramarine (usually called "ultramarine blue," ultramarine red, green and yellow are known) is the colori matter ordinarily used in removing the yellow tinge from pap This color may be thrown into the beating engine in a d state, or it may be dissolved in water and a stated amount the resulting solution added to the contents of the beati engine. For extra nice work it is well to rub up the blue wi enough glycerine to make a moist mass, then thin with wat In this way no lumps will appear and break when the pap passes through the calendars. Ultramarine blue is sometim mixed with Prussian leather. Under certain conditions, th may make little difference in the result, but under other cond tions serious trouble will result, for the reason that a col obtained with Prussian blue is affected, and even complete discharged by even dilute alkaline solutions; therefore th presence of bleach, or of lime, kills the color formed wit Prussian blue, either in whole or in part, thereby making sometimes impossible to obtain the required shade. Ultra marine blue, on the other hand, is not affected by alkalies, bu is discharged very readily by even dilute acids. In fact, ali alum will kill the color in some samples, while others ar affected to a less degree.

Among the Mills

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

Joseph Simpson's Sons knitting mill, Toronto, has ceased running overtime.

Francis & Brazeau are making an addition to their woolen mill at Pakenham.

Manager Grantham of the Imperial Cotton Co., Hamilton, has removed his family from Yarmouth, N.S., to that city.

Kenneth W. Harvey, formerly of New York, is the new boss finisher at mill No. 3 of the Penman Mnfg. Co., Paris, Ont.

R. Davey, for 16 years finisher at the Waterloo Woolen Co., is now boss finisher at the Standard Woolen Co., Toronto.

Alexander Morse, late boss weaver at the Lambton woolen mills, Lambton Mills, is now boss weaver at the Hawthorne woolen mills, Carleton Place.

The Auburn Woolen Co., Peterboro, recently put in a new Kitson dryer, and a Sargent wool washing machine. They are now running night and day.

The Smith Wool Stock Co., Toronto, have ordered at the Paris Exhibition a new type of shoddy picker, which has some noteworthy features. It will be noticed on being installed.

F. R. Hart, James A. Parker, Boston, Mass; James Scott, John D. Wood, R. D. McGibbon, Montreal, Que., have been incorporated as the Canadian Baling Company, Ltd., to manufacture machinery for compressing and baling hay, straw, cotton, jute, hemp, pulp, cordage, flax, wool, hair, etc. Capital, $1,000,000.

A. M. Remie, formerly of Sherbrooke, is the new boss weaver at the Chambly woolen mills.

The Perth Woolen Co. has installed a new drier, costing over $2,000. This will be used in the felt mill, in which department, the Expositor says, the company has orders for several months ahead.

The marriage took place on November 6th at Montrose, Penn., of Stanley T. Willett, Montreal, son of Brock Willett, of Chambly, to Miss Elizabeth Dubois Lusk, daughter of Wm. D. Lusk.

Dick, Ridout & Co., Toronto, have been granted registration at Ottawa, of a trade mark in horse collar canvas; and H. Lennard, of S. Lennard & Sons, Dundas, has registered a design of a shirt gusset.

Robert Mann has given up his position at the Excelsior woolen mills, Montreal, and is now boss finisher at the Cornwall Manufacturing Company. James Garvin, of the Gillies mill, Carleton Place, Ont., is the new boss spinner at the last named mill.

Fred. Ferry, of Hillsboro Bridge, N.H., and R. J. Tatham, a former assistant superintendent of Dundee Woolen Co., in Passaic, N.J., have purchased a woolen mill at Canning, Ont., and will manufacture knitting yarns, under the name of Canning Woolen Co.

Miss Margaret Carlyle, one of the Ontario factory inspectors, reports a steady demand for female labor at good wages. She states that owing to the marked improvement in sanitary conditions in factories, many young women formerly employed in stores are engaging in factory work.

The business of M. Staunton & Co., Toronto, wall paper manufacturers, has been turned into a stock company, under the name of Stauntons, Ltd. M. Staunton, T. A. Staunton, E. G. Staunton, V. C. Staunton, G. Staunton and Harriet A. Staunton, are the shareholders. The capital is $200,000.

Alex. Willis, sr., Alex. Willis, jr., J. W. Willis, Aboir Willis, Golden Grove, N.B.; S. W. McMackin, H. N. Sharp, St John, N.B., are applying for incorporation as the Golden Grove Woolen Mills Co., Ltd. Head office, Golden Grove, N.B.; capital, $25,000.

F. G. Lander, wife and child, have arrived from England by the steamship "Vancouver," of the Dominion Line. Mr. Lander comes out to Sherbrooke as superintendent of the Dominion Carpet Company. The Examiner says he has had a wide experience in the manufacture of high class carpets and rugs.

A. W. Brodie is to resign the management of the Hespeler mill of the Canada Woolen Mills Co., and while retaining his interest in the concern will move to Toronto. It is understood that Mr. Brodie will be succeeded by C. W. Beal, the present secretary-treasurer of the mill. A change is to be made in the lines of goods made at this mill.

T. du Tremblay, P. A. Potvin, A. du Tremblay, Roberval, Que.; A. E. Vallerand, A. Robitaille, M.P.P., C. A. Paquet, Quebec, Que.; V. Filteau, St. Etienne, Que.; J. L. Francoeur, A. M. Deschene, M.P., St. Roch des Aulnais, Que., have been incorporated as La Compagnie de Pulpe de Peribonka, to erect pulp mills and electric power works on the River St. John, Que. Capital, $30,000.

In last issue mention was made of the candidates for parliamentary honors who were connected with the textile trades. Of those who ran, two woolen manufacturers were elected, namely, Bennett Rosamond, of the Rosamond Woolen Co Almonte, and James Kendry, of the Auburn Woolen Co., Peterboro. Of those in the wholesale dry goods trade mentioned last month only W. R. Brock, of Toronto, was elected.

Newlands & Co., Galt, are running their knitting mill overtime.

The Wellesley, Ont., flax mills have opened for the winter with 15 hands employed.

The Charles Turnbull Co., of Galt, have added a set of cards and two mules to their machinery.

The Penman Mnfg. Co. recently added two new mules to the spinning capacity of one of its Paris mills.

G. C. Mackey has gone from Methuen, Mass., to become finisher for the Globe Hat Company, Montreal.

A new engine is to be put in the Gillies woolen mill, Carleton Place. The looms have been broadened by a local machine firm.

Mr. Burrows, recently from England, is successor to C. L. Owen, as superintendent of the Trent Valley Woolen Co., Campbellford.

P. & P. Griffin, Toronto, are rebuilding their new hair cloth factory, which was burnt before completion. The new factory will contain 40 looms and will be operated by steam.

On the eve of the recent marriage of H W. Lundy, manager of the Anchor Knitting Mill, Almonte, that gentleman was presented by the employees with an address of congratulation, printed on white satin, and accompanied by two handsome easy chairs.

Work on the building to be occupied by the Western Canada Woolen Mills, Medicine Hat, N.W.T., is being pushed on rapidly. The factory will be two storeys high, costing about $10,000. The machinery has been purchased in the Eastern States. Phillip Whelan, formerly of Paris, Ont., will be manager of the new mill.

J. S. Miller, Isaac Hilborn, M. Meichel, J. P. Luckhardt, Elmira, Ont., and Mr. Kimmel, Berlin, Ont., are the incorporators of the Elmira Felt Co., Ltd., referred to last month. The capital is $40,000. A new three story building is being erected, and the company expects to have their plant complete and to start work by about the first of the year.

The other evening a number of friends of William Haworth, who recently severed his connection with the Merchants Cotton Company, St. Henri, Montreal, assembled to extend a hearty farewell previous to his departure for Providence, R.I. The chairman of the evening was William Lemessurier. After the toast of "Our Guest," the chairman called upon Wilmer McLaurin to show some practical proof of the company's sentiment, and in well chosen language he asked Mr. Haworth's acceptance of a handsome marble timepiece, surmounted with a bronze statue.

Thos. B. Waddington, North Portal, Assa.; F. H. Hesson, J. R. Clark, Wm. Zirk, J. Elliott, E. L. Christie, W. F. Wilson, G. R. Caldwell and E. Evans, of Brandon, Man., have been incorporated as the Manitoba Felt and Yarn Works, Ltd., to make felts of all kinds, boots, rugs, horse-blankets, etc., and to manufacture yarn and woolen goods. Capital, $30,000; head office, Brandon, Man. We presume the new company will take up what is left of the plant of the insolvent firm of Senkheil Brothers, whose works were partially destroyed by fire about three years ago.

After a conference with General Manager White, head of the Dominion Cotton Mills Company, the employees of the Kingston mill have signed an agreement, which provides that every employee shall be given two weeks' notice prior to discharge; that absence from work for one day without permission of the foreman or without giving notice, or a doctor's certificate, shall make the employee liable to discharge, and the forfeiture of two weeks' pay. It is further provided that no hand is to join a labor organization without giving the company two weeks' notice.

Hamelin & Ayers have put into the Lachute woolen mill a new set of cards.

Thos Tweed and A. C. Hawthorne are local directors, and Philip Whelan, manager, of the Western Canada Woolen Mills Co., at Medicine Hat, referred to in last issue. Of the $125,000 a little over $20,000 was subscribed in the town, which grants a ten year's exemption and other privileges. The mill is 120 by 60, two stories, costs about $10,000, and will make tweeds, blankets and flannels.

The American Wool and Cotton Reporter man has paid a visit to Almonte. He has this to say of the Rosamond mills: There have been two sets of drawing, combing and twisting added to the capacity of the Rosamond woolen mills Almonte, Ont., Canada, during the past year This mill is taking out its narrow looms and putting in all broad looms. It has got one of the most substantial and well built and equipped mills in Canada.

An Ontario manufacturer writes to ask us, What is the latest and most improved device yet constructed for spinning woolen yarn, and where and by whom made? Our correspondent has asked a hard question. This distinction is claimed by at least five large makers of woolen machinery in Great Britain, and by perhaps as many firms in the United States, not to speak of Germany, France and Belgium, where high class woolen machinery is also made. The illustrated catalogues of these makers give details of their machines, and each explains in detail why their own machinery is the best. Many of the claims put forth are good, but they depend upon the special work the machines are applied to and the conditions under which they work.

The $75,000 claims of Nicholas K. and Michael Connolly, Montreal contractors, against John Connor, were in court at Toronto this month The parties were in the binder twine business and controlled the output of the Kingston Penitentiary, besides having factories at Brantford and Montreal, the firm's name being the Continental Twine and Cordage Company. Partnership was dissolved in February, 1896. Connor admitted he owed plaintiff $75,000. He then assigned to plaintiff assets, $73,000. Whether the securities were realizable, defendant says he does not know, but the Connollys later brought an action for $75,000. When the matter came before Chief Justice Falconbridge the plaintiffs asked for judgment, and that a referee be directed to take accounts of partnership. The court granted the reference, but did not fix venue.

George Davidson, for many years secretary-treasurer of the Waterloo Woolen Company, is about to remove to Toronto with his family, where he will fill the position of secretary-treasurer of the Canada Woolen Mills, the name by which the recent amalgamation of leading woolen mills of Ontario is known. Mr. Davidson came to Waterloo in 1877, since which time he has filled his present position with such ability as to earn a strong claim to the more onerous and responsible position to which he has now been appointed. His removal will be a distinct loss to Waterloo. He took a very active interest in the educational and moral welfare of the town and was ever ready to lend his aid to every good work. He was for many years a member of the Public School Board, and latterly filled the position of secretary-treasurer of the board with great acceptance.—Waterloo Chronicle.

The much-wronged employees of the Streetsville woolen mill have at last got 50 per cent. of their due, since the mill closed down under the erratic regime of F. A. Clarry. In the wages settlement the men agreed to pay their own law costs. The action cost the shareholders $1,140, or enough to have paid the poor workmen their wages in full. But the men only got half of that amount—the lawyers got the rest. Why did these shareholders not meet the men on the basis of full payment in the first place? The tangled skein of this mill's affairs is not unravelled yet. Meantime Mr. Douglass, the manager, an able man who was brought over here by false representations is still without employment, as are a number of the other mill hands stranded in Streetsville. We commend their case to woolen mills wanting men.

Reference was made in last issue to the troubles at the Valleyfield cotton mills. After the calling out of more troops from Montreal, the death from fright of Mrs. Dion, wife of one of the citizens, and the arrest of eight of the ringleaders in the disturbances, matters gradually quieted down till it was deemed safe to withdraw the troops, upon the suggestion of the cotton company The eight ringleaders were taken to Quebec in charge of the provincial police, and imprisoned there on the 1st inst W. L. Mackenzie King, the new Deputy Minister of Labor, came and had a conference with representatives of the mill hands, when it was agreed that upon the departure of the militia the mill hands would all return to work. The men who had gone out after the trouble began stated that they did not quit work out of sympathy with the laborers on the new buildings who had struck for higher wages, but as a protest against bringing the militia there. There appears to have been no question of wages between the men and the company, and the position of the company was defined in the following telegram sent to Hon. Wm. Mulock in answer to his offer of mediation. "Your telegram received re strike at Valleyfield. There is no dispute between the company and their operatives, and no demand has been made by them on the company. They are not working, but for what reason we do not know. The demand for increased wages was made by men who were temporarily employed as laborers in the excavations being made for a new mill this week, which under any circumstances would have been stopped in about three weeks, and under the circumstances the company have decided to discontinue the work. There is nothing to arbitrate or settle between the company or any of their employees. The company appreciate your kind offer." It appears that the chairman of the Valleyfield Police Committee ordered the chief of police not to execute the warrants for the arrest of the rioters, and the mayor then appealed to the Attorney-General of Quebec, hence the intervention of the provincial police. Many citizens lay this trouble at the doors of the liquor sellers of the town, who supplied the rioters with all the whiskey they got, and it was said to be under this influence that the strikers got the rifles that were smuggled to them during the riot. The cost of the troops, which the town will have to pay, is said to be nearly $50,000.

—'Tis an ill wind that blows nobody good. The Boer war has brought extra business to the textile trades. Apart from the manufacture of Kakhi clothing, of which some Canadian firms have got a share, manufacturers of bunting have had an unprecedented demand, and the turnover in Great Britain and the colonies in the past year has been enormous.

—The old firm of William Child & Co., of Shelly, near Huddersfield, has gone under. The company had a reputation for their goods, viz., imitation sealskins, mantle cloths, astrachans, fur trimmings, and had an extensive foreign connection, chiefly in the United States and Canada. They have suffered severely during the last few years owing to change of fashion and bad trade. The trade creditors have little or no chance of getting anything, as it is questionable whether the assets will realize sufficient to pay off the debentures.

—The Draper's Record takes the case of the Army and Navy Clothing Co. of Toronto, as a text for another sermon on Canada's need of an insolvency law. After referring to the absconding of Mr Henderson, the liquidator, it says: "All this is most unsatisfactory, and considerable irritation is being

expressed by the British creditors. The conduct of the business of the Army and Navy Clothing Company was bad enough—it may be remembered that British consignments were hypothecated as soon as landed—and the least that creditors expected was a prompt and business-like winding-up. Instead, proceedings have been allowed to drag on for nearly three years. Surely it is time that Canada should set her insolvency laws on a sounder basis. There can be no doubt that the law, as it at present stands, acts as a drag on the commerce of the Mother Country with Canada.

—Climate exercises a very important influence on the quality of the wool produced by the sheep kept in different countries. Almost every breed of sheep produces wool to which certain qualities are peculiar—as, for instance, the hairy roughness of the Scotch Black-face, the fine staple of the Leicester, and the still finer quality of the famous merino wool. This difference in quality of wool is found to depend more upon the climate than upon the animal which produces it, as the same animals, when introduced into districts where the climate differs materially from that to which they are native, soon begin to produce wool of quite different texture. It is well known, for instance, among Shropshire sheep breeders that it is much more difficult to maintain a close fleece of wool upon animals of this variety bred in Ireland than of their native downs in England. It is the same with Black-faces, the coats of which are liable to be much "softer" in quality when kept in the milder climate than when those hardy mountaineers are obliged to rough it on the storm-swept hillsides of their native Highlands.

—A couple of years ago Sir Wilfrid Laurier met a deputation of shirt and collar manufacturers from Montreal, and promised certain tariff changes, which he afterwards repudiated and ignored. The interests affected afterwards formed an organization known as the Shirt and Collar Manufacturers Association of Canada. This association held a convention last month in Montreal when they adopted the following resolution. "That the present Government having seen fit to take away from the shirt and collar manufacturers of Canada the protection they had in their several lines of manufacture, notwithstanding the protests of this association, of members of Parliament, and of the press of Canada, and having since refused to grant any measure of relief from the injustice inflicted upon the shirt and collar industry, which injustice affects about eight thousand working people and a vast amount of capital, we, the Shirt and Collar Manufacturers' Association of Canada, hereby put on record our unqualified condemnation of the Government in connection with our respective manufactures, and declare that the Government of the day is unworthy of the support of this association and of its members."

FABRIC ITEMS.

The building for Grafton & Co.'s new clothing factory, Dundas, Ont., is nearly completed.

The Irving Umbrella Company, Ltd., Toronto, is increasing its capital stock from $25,000 to $100,000.

Karl Mueller has entered into partnership with William Cairnes, Waterloo, Ont., to manufacture gloves, etc.

C. W. Bremner, who was employed by John Calder & Co., Hamilton, for ten years, has taken a position with Coppley, Noyes & Randall, a new clothing firm in Toronto. Before he left he was presented with a handsome gold band ring.

The hat manufacturing firm of Dunnet, Crean & Co., Toronto, has been incorporated by R. C. Crean, G. C. Crean, and C. D. Warren, Toronto, under the name of the Robert Crean & Company, Ltd., to deal in and manufacture hats, caps, furs, etc. Capital, $100,000.

The new whitewear factory at Berlin, Ont., is going ahead in spite of the failure of the town to vote a bonus. The building is nearly completed.

The Beatty Manufacturing Company will shortly erect a new factory at the corner of King and Portland streets, Toronto, for their whitewear business.

Wm. Henry Knox, of Toronto, who recently died, left an estate valued at $40,000 in the business of the Canada Veiling Company, and $6,500 in real estate. It is willed to the widow and children.

W. E. Whitehead, for some time past traveler for the Toronto Carpet Manufacturing Co., has been appointed chief salesman for the reorganized Dominion Carpet Co., of Sherbrooke. Mr. Whitehead is widely and very favorably known in the trade.

Miss M. Lazarus, doing business under the name of The Royal Canadian Manufacturing Company, Montreal, has assigned, on demand of B. Rosenfield, merchant. The liabilities amount to $940, while the assets consist of electric motor, machines, office fixtures, and a stock of unfinished caps, in the store, 1,924 Notre Dame street. Mr. Rosenfield is provisional guardian.

E. J. Dignum and J. Monypenny, doing business as dry goods commission merchants, of Toronto, under the name of E. J. Dignum & Co., have changed the style of their firm to Dignum & Monypenny,

R. B. Hutchison, late of the wholesale dry goods firm of Hutchison, Nisbet & Auld, has taken his son, Harold B. Hutchison, into business with him as dry goods commission merchants, under the style of R. B. Hutchison & Co., with offices in the Carlaw building, Toronto. Mr. Hutchison is one of the oldest woolen men in Toronto, having been in the business for over a quarter of a century, and having always made a specialty of Canadian woolens. He was one of the founders of the old firm of Mills & Hutchison, Montreal, and was its expert buyer and salesman in its most successful days. The new firm will still make a specialty of Canadian goods.

AZO ALIZARINE COLORS.

Farbwerke vorm. D. Durand, Huguenin & Co., Basle, are of late endeavoring to introduce in the trade their so-called Azo Alizarine Dyes, desiring to take advantage of the advanced prices of various Alizarine colors on the part of the convention. Their circular says:

As some consumers are under the impression that these are true Alizarine Dyes, which could replace the ones brought on the market by the Alizarine factories, we hereby wish to declare expressly that these dyestuffs have nothing in common with the Alizarine colors, but are Azo dyes; we report below on some of these products:

Azo Alizarine Orange R R may be dyed on chrome mordanted wool, also in one bath with after treatment of chrome. The shade is somewhat brighter than is produced with Alizarine colors. We recommend against a dyeing of 3% Azo Alizarine Orange R R a combination of 2% Alizarine Yellow R W, ¾% Alizarine Red W A powder. The competing color is inferior to ours as regards fastness to fulling, potting, sulphur, acid and light.

Azo Alizarine Bordeaux W yields on chrome mordanted wool as well as in one bath, after chromed, shades similar to Alizarine Red W Y dyed on chrome mordant or in one bath. The shades produced with the competing color on chrome mordant are not very fast to fulling, potting and light, while the one bath shades are satisfactory as to fastness to fulling and potting, but their fastness to light is poor. Azo Alizarine Bordeaux W can, therefore, be used only where little value is

placed on fastness to light. 3% Azo Alizarine Bordeau W corresponds about to 12% Alizarine Red W Y.

Azo Alizarine Carmoicine—Against this we compete with Alizarine Red W A powder The former, dyed on one bath with bichromate potash, is of good fastness to fulling, potting and hot pressing, the fastness to light, however, is very poor. The dyeings on chrome mordant, aside from their slight fastness to light, are not fast to fulling and potting. Azo Alizarine Carmoicine could be used only at a very low price where fastness to light is of no importance. We ask you wherever you meet with these competing products, to enlighten customers in accordance with the above.

Alizarine Blue Black 3B powder, Alizarinreinblau B (Alizarine Pure Blue.—These two colors are being offered to wool dyers by Elberfeld; we report as follows:

Aliarzine Blue Black 3B corresponds in its general properties to their Aliarine Blue Black B already on the market; it is a trifle less reddish than the old sort. We recommend in its place, for two baths: Alizarine Blue N R, Alizarine Blue N G, Alizarine Brown O; for one bath: Alizarine Blue N G G, Palatine Chrome Brown W R, Alizarine Red W A powder. In price our substitutes offer a great advantage. As regards the fastness to light, experiments have shown that there is practically no difference between our mixtures and the competing product.

Alizarinrein Blue is similar to Elberfeld's Alizarine Saphirol B and S E; it posseses the advantage over these that chrome does not materially change the shade whereas Alizarine Saphirol turns duller and greener. The fastness to fulling is not very good, to the potting process and cross dyeing very mediocre, but to light it is very good; in regard to even dyeing, however, it is inferior to Alizarine Saphirol. The high price of this dyestuff will probably allow only a limited use. Bellhouse, Dillon & Co., Montreal, are agents for Canada.

THE WOOL MARKET.

On the closing days of the colonial wool sales in London, prices were firm in fine merino wools, and even extreme rates were paid for such as good greasy Victoria stock. Cross breds also sold well; Cape and Natal wools were steady at higher prices. Buying was pretty free, not only for the home trade but for the continent and America. The withdrawals amounted to less than 100,000 bales. Dealing with the European wool situation a correspondent of the American Wool & Cotton Reporter, writing from Leeds, says: "I find that the London brokers have done a good deal of circularizing among manufacturers, but the average wool buyer knows his business too well to be influenced by circulars. A good deal of nonsense is talked in these circulars about the improvement in the woolen and worsted industries, and a word of warning to your wool buyers on this point will prevent them being taken in by such stuff. One of these circulars says that the Roubaix and Turcoing crisis is over, but I have just visited both these centres of the worsted industry, and there is still a good deal of wreckage about which will take some time to clear up."

Toronto.—This market is very quiet, and there has been no movement among United States dealers since the elections looking to a fresh demand for Ontario wools. Some months ago American dealers purchased from leading Toronto and Hamilton dealers Canadian wool, aggregating at least 1,500,000 lbs. Of these purchases about 600 000 lbs. are still stored in Ontario, and a like quantity lies in Boston This means that the purchases already made have not gone into consumption, and until this wool is consumed we need not look for much enquiry from American buyers. In various places in Ontario local dealers have wool in stock for which they paid 17 and 18 cents, but for which they are not now offered more than 16, so that there is scarcely any business in this line in the province. Quotations in Toronto are nominally 16 cents for fleece washed combing wools, and 9½ to 10 cents for unwashed.

In Winnipeg prices are nominally 8 to 8½ cents for unwashed, and 12½ cents for washed, but the season's clip has practically all been bought up already.

Montreal.—The Montreal wool market is more active within the last few days at a slight advance on previous quotations. Bottom having been reached fine wools are in more demand, and firmer by 5 to 7½ per cent. Cape wool quotations are 14 to 16 cents; Natals, 17 to 18½ cents; B.A. 30 to 35 cents; Canadian fleece is 1 to 2 cents a lb. better than previous quotations.

THE COTTON CROP.

Ellison's preliminary estimate on the world's cotton consumption, issued at Liverpool, and generally regarded as the highest European authority, places the world's probable consumption of cotton in the coming year at 10,382,000 bales. This is 617,000 bales less than last year's consumption. He says further that the visible and invisible supply at the end of last season on September 1 was 977,000 bales, against 2,882,000 the previous year, with a crop of American cotton this season of but 10,250,000 bales. With the indicated consumption of 10,382,000 bales, he says that a crop no larger than the figures named would mean calamity to the cotton trade, especially of England. A crop of even 10,750,000 bales, Mr. Ellison calculates, on the basis of his figures of consumption, would leave only about 370,000 bales towards replenishing the semi-exhausted stocks at the end of the season.

TEXTILE IMPORTS FROM GREAT BRITAIN.

The following are the values in sterling money of the exports of textiles from Great Britain to Canada for Sept, and the nine months ending Sept. of this year as compared with last:

	Month of September.		Nine months to September.	
	1899.	1900.	1899.	1900
Wool	£1,228	£3,193	£14,589	£33,336
Cotton piece-goods	40,688	44,971	412,211	536,269
Jute piece goods	7,320	9,580	87,645	111,583
Linen piece-goods	12,794	13,573	134,361	154,705
Silk lace	1,211	841	12,123	11,965
" articles partly of	4,558	3,708	40,496	45,186
Woolen fabrics	31,953	28,137	259,017	368,188
Worsted fabrics	47,494	36,615	447,336	498,397
Carpets	21,730	17,149	156,210	195,023
Apparel and slops	33,971	26,549	186,156	221,302
Haberdashery	20,448	12,967	134,993	132,425

Among British imports from Canada for Sept., 1900, is wood pulp to the amount of £25,546 against £8,530 for Sept. last year. The total shipments of Canadian pulp to Great Britain for the nine months of this year amounted to £160,004 against £117,539 for the like period last year.

DYEING KATIGEN COLORS.

All Katigen dyestuffs are of the same character, and are dyed and after-treated in the same manner. The following is a general recipe for dyeing Katigen dyestuffs. 5% sulphide of soda, 8% soda ash, 50 to 60% common salt or calcined Glauber's salt. These percentages are for full shades prepared with about 12 to 15 per cent or more of dyestuff, and for the first bath. For light shades and subsequent baths, the above quantities are to be reduced correspondingly. For Katigen Black a greater amount of sulphide of soda is to be recommended. For a 20 per cent. dye test, 20 per cent of this agent is to be employed. The quantities of color and sulphide of soda should be about the same, whereas those of soda and salt remain as given above. It is further to be recommended that all colors are dissolved together with the prescribed quantity of sulphide of soda, as then they are easier dissolved than in water only.

The fastness of all direct Katigen dyeings is as good as of those after-treated, so that it will not be necessary to after-treat at all in order to obtain better results in this respect; yet very often the same is done so as to get a more even and fuller shade. An exception to this general rule is Katigen Chrome Brown 5 G, which is much better in fastness to light when after-treated, and therefore this product only is recommended for after-treatment.

For the dyeing of loose cotton, the Katigen colors are mostly employed when dyed direct, as otherwise the material is not so good in spinning. For the after-treatment use the following: 2 to 3% bichromate of potash, 2% sulphate of copper, 3% acetic acid; and especially for black: 2 to 3% bichromate of potash, 2% alum, 3% acetic acid. By this latter recipe the shade is rendered bloomier and bluer than by bichromate, sulphate of copper and acetic acid. However, the alum gives the material a stiff handle, and where this has to be avoided the alum should not be employed, but more acetic acid taken.

Coriphosphine O.—This new product is extremely well adapted for the dyeing of all kinds of tanned as well as sumach tanned leathers, such as calf, goat and sheep-skin, as well as cowhides. It is also particularly worthy of notice for the dyeing of chromed leather, as on such material it produces very full yellow browns, which are just at present in fashion. Before dyeing, the chromed leather should be mordanted with sumach. Coriphosphine O is distinguished for its pure shade and good solubility. It has a remarkable affinity for leather, and covers the grain extremely well, and the shade is not altered when dried. It can be combined with any basic color, and especially with Leather Yellow O extra and Leather Blue B, whereby any desired Havanna or fashionable shade can be obtained. The color should be dyed at 95 to 105 deg. F., without the addition of acid, except in the case of hard water, when an addition of acetic acid should be made.

TEXTILE PATENTS.

The following are among recent Canadian patents, relating to the textile trades:

No. 67,975.—A loom, by Carl Herold and Richard Richards, Brunn, Austria. This is a circular loom with a weft beater having a curved extension on the upper side of the reeds, whereby this part of the reed remains constantly between any two threads or group of threads.

No. 67,979.—A loom, by J. A. Schofield, Bolton, Lancaster, England. This loom has heddle devices and reed mechanism arranged in sections and so constituted that a series of shuttles can be thrown simultaneously forward and back across the warp; these reed sections successively beating up the weft after each shuttle has passed its section.

No. 68,019.—Knit fabrics and the process of knitting the same, by George F. Sturgess, Inglenook, Leicester, England. This is a method of knitting, consisting of holding the end patterning loops during the progress of adjoining the fabric, elongating and projecting the loops from the body of the fabric to allow of their fibrous adhesion to the fabric, and fastening them by an independent loop across the fabric when necessary.

No. 68,031.—Process and apparatus for mercerizing cotton in form of hanks, by J. Klemeweiers, Solme, Crefeld, Prussia, Germany. This is a process for mercerizing cotton in the hank. A prepared liquor is forced by centrifugal action through the hanks in a hydro extractor, the hanks being placed around the casing of the machine in loose layers. The liquor is introduced in a hollow shaft provided with small perforations and fed while the machine is in motion.

No. 68,107.—A garment, by Jeremiah A. Scriven, New York, U.S.A. This is a method of manufacturing trousers by elastic insertions intended to reinforce the garment at the crotch. The wales or ribs of the reinforcing piece run at an angle to those of the other fabric.

No. 68,137.—A dressmaker's chart, by Victoria Robert, Levis, Quebec.

No. 68,157.—A fastening for fabric leggings, by Alexander McCutcheon, Markdale, Ont.

No. 68,180.—Stripping attachment for circular knitting machines, by D. F. Sullivan, and J. F. Cawley, Lowell, Mass., U.S.A. A stripping device for circular knitting machines. It has a rotary yarn cutter provided with blades which cut the finished portion of the fabric within the needle circle, and a holding device to hold the end of the thread after being severed by the cutter.

Nos. 68,209, 68,210.—Waists for women and children, by T. B. Fitzpatrick, Newton, Mass, U.S.A. They have a set of elastic strips intended to serve the double purpose of strengthening the fabric and acting as a pair of suspenders.

No. 68,258.—Baling press, by Charles Harrington and Ed Rawntree, Bartlett, Texas, U.S.A.

No, 68,265.—Calendaring machine, by I P Dillon and H. C. King, Lawrence, Mass.

No. 68,299.—Method of and apparatus for manufacturing inlaid linoleums and other floor cloths, by W. G. Thomson, Selby, York, England.

No. 68,411.—Awnings, by Charles H. Hansen, Racine, Wis., U.S.A. A device for letting out and taking in awnings by means of a roller and weight.

No. 68,429.—Overalls, by Robert J. Smith, Ottawa, Ont. A method of making overalls, provided with a semi-waistband and divided vertically at the back to permit the overalls to be drawn on over the trousers. The side seams are closed at the waist and open at the back, the opening permitting the overalls to be drawn over the trousers.

No. 68,524.—Suspenders, by Alfred M. Ziegler, Boston, Mass., U.S.A.

Nos. 68,538; 68,539; 68,540.—Apparatus for compressing cotton, by the Indo-Egyptian Compress Co., Boston, Mass., U.S.A. These patents cover a machine for compressing cotton and other fibrous material.

No. 68,554.—Manufacture of flexible tubing, and the covering of electric wires, by Henry J. Doughty, Providence, R.I., U.S.A.

No. 68,558.—Apparatus for cleansing fibrous material, by Amelia Ubbelonde, Celle, near Hanover, Germany. An apparatus for cleaning fibrous material by means of a bucket device and a stirring apparatus in combination with a sieve bottom.

TEXTILE PUBLICATIONS.

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

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

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

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

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

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

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

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

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

Woolen and Worsted Loom Fixing. A book for Loom fixers, and all who are interested in the production of plain and fancy worsteds and woolens; by A. Ainley..$1 00

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

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

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

CHEMICALS AND DYESTUFFS.

This being the last week of open Navigation, buyers are placing orders for their winter requirements. Advices from abroad report market strong with upward tendency Prices for next year are all higher.

Bleaching powder	$ 2 75	to	$3 00
Bicarb soda	2 00	"	2 05
Sal soda	0 75	"	0 80
Carbolic acid, 1 lb. bottles	0 50	"	0 60
Caustic soda, 60°	2 45	"	2 60
Caustic soda, 70°	2 60	"	2 85
Chlorate of potash	0 13	"	0 15
Alum	1 35	"	1 50
Copperas	0 65	"	0 70
Sulphur flour	2 00	"	2 50
Sulphur roll	2 00	"	3 00
Sulphate of copper	6 00	"	6 25
White sugar of lead	0 08	"	0 08
Bich. potash	0 11	"	0 12
Sumac, Sicily, per ton	75 00	"	80 00
Soda ash, 48° to 58°	1 30	"	1 40
Chip logwood	1 90	"	2 00
Castor oil	0 09	"	0 10
Cocoanut oil	0 10	"	0 11

—Owing to a law in North Carolina, prohibiting negroes from voting, they are emigrating from that State. The farmers are having a hard time to get the crop of cotton picked.

A. Klipstein & Company, chemicals and dyestuffs, 122 Pearl street, New York, N.Y., have taken the sales agency for a new dyeing machine and a process of coloring cotton yarn which are protected by letters patent granted to J. W. Fries, of Winston-Salem, N.C. This machine and process were elaborated by Mr. Fries in practical use on his own work, and have been in successful operation there for more than two years. The process employed in dyeing cotton yarn with Mr. Fries' machine entirely does away with the dyehouse, and saves many operations in the dyeing of colors in the long chain, the entire color being put on in one run. Further information concerning this machine and process can be obtained on application to the firm, or its Canadian agents.

—The extent to which aniline colors have displaced cochineal in dyeing is shown by the diminution of the latter product in Mexico. Ejutla and Miahuatlan used to supply two million dollars' worth of cochineal every year, and were well known in New York and other markets. Now, they have almost sunk into obscurity. When the gathering of cochineal was a Government monopoly, the price was as high as $5 a pound. It has been as low as 10 cents per pound, but the average price is now about 50 cents.—Fibre and Fabric.

—In his recent financial statement, Premier Seddon of New Zealand referred to the question of preferential duties in favor of the Mother Country, and of reciprocity with Canada, but did not make any specific recommendation. From the fact of this subject being mooted it is likely that it will form a live issue in the parliament of the new Australian Commonwealth. Such a reciprocity treaty would be of importance to the textile and paper trades, as Australia wants a wider market for its wool—which Canadian mills are using in increased quantities—while we have a market there for Canadian tweeds and ready-made clothing. Australia has no pulpwood, and as it imports nearly all its own paper there is a good field for Canadian paper and pulp.

—Since our last issue the Dominion Cotton Mills Co. and the Canadian Colored Cotton Mills Co. have advanced prices. Spring patterns of Magog prints are 5 to 10 per cent. dearer, making the advance on low grades about ¼c. per yard, and on higher grades about ½c. The rise in Canadian cretonnes is about ¼c. Shirtings and tickings have been raised ¼ to ½c., and denims ½ to 1c. The manufacturers announce that this is due entirely to the rise in raw cotton, which has gone up to 10 and 11c. as against 6 to 7c. last year.

—The area under flax in Ireland in 1898 was the smallest during the whole century, being 34,469 acres. As far back as 1812 Ireland had 118,390 acres in flax, and the highest record of the century was reached in 1870, when it was 194,893 acres. In 1894 it was 101,081 acres, but since then it has rapidly declined to 1898. In 1899 there was a slight recovery, the area sown being 34,989 acres. It is believed that flax culture will now revive since the creation of the new Department of Agriculture, under which improved and uniform methods can be pursued.

—For eighteen months a movement has been on foot in Bradford to form a combination of worsted spinners. The books of the various firms have been gone into by accountants, the promotion being in the hands of a committee, with Scott Lings, of Manchester, as expert adviser. Recently it was decided to proceed with the combination providing that firms representing 80 per cent. of the spindles engaged in the trade could be induced to give in their adhesion. It was further decided to take the stock of the firms interested as and from September 30th last, from which date the profits, in event of flotation, were to accrue to the combination. Final arrangements, it was anticipated, would be made early next month. It is now stated that the special stock-taking by the firms interested has not been carried out generally, and that it has been arranged, in view of unfavorable trade and general conditions, to postpone the whole matter for a further six months. The suggested capitalization is between £14,000,000 and £18,000,000.—Textile Mercury.