

CANADIAN Journal of Fabrics

THE JOURNAL OF THE
Textile Trades of Canada.

Vol. XII

TORONTO, FEBRUARY, 1895

No. 2

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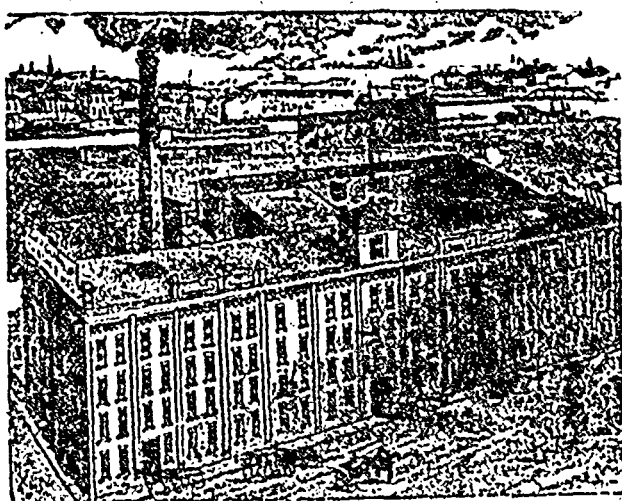
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A Journal devoted to Textile manufactures and the Dry Goods and kindred trades.

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THE MANUFACTURE OF RIB MITTENS.

To make a ladies' rib mitten on a 20 or 21 gauge flat-rib machine, each division should be about 80 frame needles wide. Use about 2-40s or 2-42s, stock of good quality, and as free from knots or lumps as possible. This is important, as, being for outside wear, any defect in either the yarn or knitting is more readily observed than it would be in an undergarment. Commence with a three or four course welt, then four courses of plain rib, another welt, two plain courses, four royal courses, two plain, four more royal, two plain, welt, four plain, fourth and last welt followed by about 80 plain courses, which will complete the wrist portion of the mitten. In making the welts be sure that they are not made too slack and that it is properly thrown over into the fabric

each time, thus making them clear and distinct from each other. The necessity for this is evident when we remember that the welt side of the fabric is the "face" side on rib mittens. Having finished the wrist the next step is to make the hand. It is necessary that this portion of the mitten should be wider than the wrist, and in order to accomplish this result, a change is here made to a royal rib stitch. (As most knitters are aware, this is done by the simple process of impressing the machine needles every alternate course.) This gives us a fabric of sufficient width for the hand, and at the same time the increased thickness of the royal rib fabric offers to the more sensitive hands and fingers an extra protection against cold. Make sufficient royal fabric to extend to the tip of the fourth finger, say about 120 royal courses, then make 18 courses of plain, the sixteenth course being a slack one for the purpose of gathering the ends. This will complete the fabric from which the mitten is finally shaped.

To facilitate the separation of the mittens, a draw thread is sometimes run in previous to making the first welt on each mitten. This is easily done on a frame where there are two carriers, as the second carrier is used to make two courses of fine thread at the end of each mitten of sufficient strength to allow the last one to be cut at each end and drawn out, thus separating the mittens without cutting, thereby getting rid of cut welt, and leaving the end of the fabric clear and straight for the end gatherer. To form the thumb, we cut down the fabric about 27 ribs from the selvage, more than half the length of the royal. Of the narrow portion thus formed, cut off the end about one-third its length. Cut the thumbs from alternate sides of the mitten, in order to get right and left hand. They are then sent to the end gatherer, who will gather up with a needle and wool the finger ends at the slack course. The thumb portion they will rove down until it is only two-thirds the length of the royal, when they will gather up the ends of it. From the end gatherer they go to the seamer, who seams them up, after which they are inspected and mended.

They are then washed, dyed or bleached, according as desired; after which they are boarded and placed in the drier for a short time. From thence they are taken to the finishers, who examine them and pair them up, tacking each pair together at the finger ends and the bottom of the wrist. Tie them up in dozens and

ship, or, if it is desired to add to their appearance, place them in neat cardboard boxes holding one dozen each.

Such is a rough outline of a ladies' ribbed mitten and how it is made, as given by "Rib Rotary" in the *American Wool and Cotton Reporter*. Of course it can be varied in many ways, as the knitter will at once perceive. If it is desired to make a superior class of mittens he can do so by putting in silk welts and stripes in the wrist portion, or, if his frame is suited to the purpose, he can put in a more fancy rib than the royal. He can then indicate the various sizes by the number of stripes, decreasing one stripe each size. Where an assortment is desired, it is usual to make three or four sizes of infants', small misses', misses', small ladies' and ladies'. The infants' sizes can be made about 60 needles wide, the misses' sizes on 72, and the ladies' sizes on 80. In varying the length, take care that the proper proportions of plain and royal are retained. The silk ribbed mittens are generally hand seamed, and the dozens tied up with silk ribbons. It is a question whether it would not also pay to tie up the wool mittens with ribbon, as appearances go so far nowadays. The foreign manufacturer finds it pays to finish off the goods in an elegant manner, and why should not the domestic one?

SHODDY.

Shoddy formerly meant only the waste arising from wool during the manufacturing process. To day, however, it has a much wider significance, and the term shoddy is applied to an almost unlimited range of fibrous substances obtained from all sorts of textile materials. Woolen rags of all descriptions, no matter how old or worn, are now a valuable commodity to the manufacturer. Improved machinery, combined with the results of long and untiring experiments by manufacturers of woolen and worsted goods, has brought the manufacture of shoddy into an exceedingly important position in the textile field, and large quantities of this re-manufactured fibre are universally introduced into all varieties of woolen cloths as a substitute for pure wool. The employment of this fibre must necessarily tend to diminish considerably the cost of the fabric, and as the practicability of producing an attractive article at a comparatively low price is thus clearly demonstrated, the trade is largely augmented by the use of this material. Although much can be said against the too liberal use of shoddy, the fact is indisputable that, if it were not used in textile fabrics, the result must invariably be an increase in the cost of the fabric to the customer.

Many of the millions who are now able to purchase a woolen garment which is cheapened by the introduction of a limited amount of shoddy, would otherwise be compelled to go without it if nothing but pure wool was used; for in the latter case the cost of the material must of a necessity be far in excess of that of the garment containing shoddy.

We may show that the much-despised shoddy is of

great practical use in numerous ways in the fabrication of woolen cloth. During the period between 1830 and 1835 the value of what were previously regarded as useless woolen rags was discovered. Since that time this industry has been making remarkable progress, until at present many thousands of pounds of the fibre procured from woolen rags is daily consumed by the mills.

A microscopical examination of a handful of shoddy will usually reveal the presence of particles of cotton, silk, and sometimes many other fibres in combination with the wool. This is caused by the great variety of material which constitutes the main portion of a bale of rags from the junk shop or the street. Clean rags from the tailor's shop, of course, produce far different results. For this reason they are preferable to rags of any other class. The shoddy fibre cannot compare with the pure wool fibre in uniformity or regularity of structure, or in any of the essential features which are characteristic of wool as a good textile fabric. Nearly all the fine, delicate scales and serrations so prominent in the wool fibre are lacking in that of shoddy. For this reason the felting and fulling properties of the latter are seriously diminished, if not wholly destroyed. The microscope also reveals a great dissimilarity in the diameter of the shoddy fibre, which is probably due to the constant wear and tear to which the exposed portion of the original fabric has been subjected while being used as a garment. The absence of the serrations may likewise be attributed to this cause. It may also be stated that the fibres are partially stripped of their scales and natural serrations by the mechanical operations through which the rags must pass, in order that they may be reduced to a fibrous condition; and the constant friction of the grinding and carding processes to which the material is submitted must in the end result in the serious mutilation of the fine, delicate structure of any natural fibre. Human skill is not capable of producing a machine so contrived that its mechanical action on the material is not plainly indicated by broken and injured fibres. To reduce the rags to a fibrous form, they must be ground between powerful steel-toothed or pointed cylinders, the action of which must inevitably break and tear the fibres while forcibly separating the filaments from each other. Therefore the substance will necessarily be short in staple, and possess a decided tendency toward brittleness. The lack of elasticity and durability will be easily detected.

Shoddy is manufactured of soft woolen and worsted rags only, such, for instance, as the clippings which come from the tailor's shop. This class of rags is always preferable, for the important reason that clippings from the tailor are generally clean and soft. It is essential, however, that they be fullled but little, for the less they have been felted and matted, the less grinding will be required to separate the fibres. When shoddy rags are required, one of the fundamental considerations is the condition of the material in this respect. In addition to tailor's clippings, such stock as castaway woolen knit garments and stockings, which have been

but moderately fulled, are acceptable as a shoddy material. This class of stock usually arrives at the shoddy mill in a clean condition, and, therefore, does not require an elaborate preparation previous to subjecting it to the action of the grinding and separating or picking machinery. The clean woolen clippings from the tailor's shop never call for any other preparation than a little oiling, while the knit stock probably needs both washing and oiling. These processes being completed, the material is ready for the grinding operation, which is accomplished by a system of powerful steel-pointed cylinders and rollers.

The method of operation is as follows: The rags or material to be ground are fed on to a table or feed sheet which conveys them to two fluted rollers, on emerging from which they are forcibly seized by the rapidly revolving teeth of a main cylinder. This cylinder contains about 1,500 strong, sharp, steel teeth, frequently turning at the rate of 750 revolutions per minute. This high speed of the teeth of the cylinder results in tearing the rags apart and separating the threads and fibres in such manner that the whole is finally reduced to a soft, woolly condition, and apparently possessing many of the qualities of a good textile fibre. The result of this violent action of the steel teeth upon the tender fibres of the material, however, has already been shown.

The shoddy picker is so arranged that it discharges the product from the cylinder as fast as it is ground. The discharge or receiving pipe is connected with a stock house. The action of the cylinder is such that it creates a strong current of air, which carries the light substance along to its final destination. From this point the stock is taken to the carding machine and submitted to its action. It is essential that the clothing be coarse and open in order to secure the best results. This operation greatly tends to give a softer and more wool-like feel to the staple.

FINISHING MATERIALS.

The demands made of the finisher are numerous and varied. Some goods he is required to make very stiff and at the same time lustrous, while others are wanted with quite an opposite finishing effect. Endeavors have been made of late years to impart a woolly feel to cotton, in fact, the fabric is required to have the feel and appearance of wool, which it does not naturally have. Expert finishers are constantly trying experiments in this direction, and in many instances have been highly successful. It cannot be said, however, that heavily starched fabrics are no longer wanted. Quite the reverse, for in many instances they are becoming indispensable, says the *Textile Mercury*. It is not the present purpose to enter fully into the subject of finishing, but to briefly mention the general merits of several of the more important agents or materials used in the finishing processes.

The starches have always been the most important finishing agents, and of these there are several kinds—potato, corn and wheat starch, etc. Potato starch im-

parts a hard feel to the fabric, and, owing to its containing some quantity of gluten, it is generally employed for filling with china-clay, and is always used by the finisher when he desires a greater degree of stiffness in the cloth. Corn starch also imparts a full hard feel, but wheat starch produces a full, mild feel. The finishing characteristics of flour resemble those of starch. Dextrine, glucose, and glue are agents of the second grade, and are only occasionally employed. China-clay is principally used as a filling agent for light cloths.

Of the agents used for neutralizing the rough feel of china-clay and starch alone, and which besides producing hardness, are also intended to produce lustre, the animal fats (especially tallow and lard) are the most important; then come palm oil, cocoanut oil, bees' wax, paraffin oil and soap. Tallow makes a full, mild feel, with lustre. Palm oil may be had bleached or unbleached; and if in the latter condition it is orange-colored, and increases the mildness and lustre of the fabric. Cocoanut oil imparts an appearance similar to that obtained with palm oil, although it is less effective when the quantities are compared. Lard gives a silky, soft feel, but must be used only in small quantities and with great care. The thorough boiling of the starch and the lard are indispensable. Soap produces mildness and lustre, wax and its several products harden and gloss the fabric; and stearine produces a nice, agreeable feel.

Chloride of magnesium is used with china-clay, especially in England; and, on account of its property of absorbing moisture from the atmosphere, it prevents the dusting of those fabrics containing an extra quantity of china-clay, but it is not safe to use it for linings, such as moire, which are to retain their watered effects. It must be employed carefully, because the fabrics finished with it are inclined to become soft and limp, and lose their finish almost entirely when kept in a moist storeroom.

Of the artificial finishing agents to be recommended in small quantities as additions to the different finishing masses, there is senegaline, which is starch disintegrated by soda-lye and again neutralized by hydrochloric acid. This preparation is extensively used in Germany, where it enjoys a great reputation. Under normal conditions senegaline is a transparent substance, which dissolves completely when boiled in water for five minutes. It unites readily with all finishing agents, is neutral, and does not attack the colors. A continued storing and low temperature make it harder and opaque, and when in this condition it requires to be boiled a little longer than usual. When incorporated in the fabric, senegaline is distinguished by a nice, elastic and soft feel, and does not dust. It imparts an excellent lustre, and is used to great advantage in fabrics that require finishing in the calender. It prevents the breaks in goods strongly filled with china-clay.

Of the oils used for finishing, turkey red oil is preferred to all others, and it answers well for softening the fabric. A point of the greatest importance is the process of boiling the starch, and yet the opinions of many finishers differ widely, some advocating the continuance

of the boiling for at least 15 minutes, no matter if the paste is sufficiently thick sooner, and others advising to stop the boiling as soon as the starch begins to thicken. For cloths intended to be calendered heavily without becoming too limp, the starch has been boiled by the writer for some time; but for other cloths that were to be filled largely, the boiling was shortened.

The finishing mass may be boiled in wooden or copper kettles, either with direct or indirect steam. A mass composed of several ingredients—for instance, different fats, wax, china-clay, etc.—is to be boiled as follows: First mix the china-clay in luke-warm water; add the fat, soap, wax, etc.; pour the mixture into the kettle, and boil until you see that the different substances are entirely amalgamated. Then reduce the temperature of the mixture to 122° F. by adding cold water. The starch is to be prepared meanwhile by dissolving in it lukewarm water and passing it through a sieve, after which it is poured into the mixture in the kettle; then the mass is brought to a boil, and stirred diligently. Many finishers boil the china-clay separately and then incorporate it with the starch, heat the mixture to 122° F., add the proper quantity of fat, and boil the whole thoroughly.

For grey and black linings, especially of light quality, for which a good filling is the principal requisite, it is not necessary to use starch of first quality; but if it is used, it is to be mixed with a little china-clay. A few establishments in Northern Bohemia finish black and grey mollinoes handsomely by using for the purpose the best wheat starch or prime potato starch, without any addition of china-clay, or only a trifle—at the most 10 lbs. china clay per 80 lbs. starch. This procedure requires larger quantities of fat and soap for toning down the stiffness, and largely increases the cost of finishing.

Excellent starching machines for light goods that require a great amount of filling may be purchased, two and three cylinder machines being used for the better grades of cloth. Friction and various other kinds of machines invariably cause the fabric to shrink in breadth, and it is therefore well to place the cloth in the tentering machine before dyeing it, so as to force the breadth, after which the goods are starched. During use the finishes are to be always kept in a thick, viscid, fluid condition, and the fabrics must invariably be starched only on one side.

CANADA AND NEWFOUNDLAND.

Up to the time of writing the members of the Dominion Government have refrained from saying much about taking Newfoundland into the Canadian union. If this is because they desire to keep the question as far as possible out of party politics, their reticence is very wise, but we trust their silence may not be because they are opposed to the union. If Newfoundland joined Canada it would be a good thing for Canada, and a better thing still for Newfoundland. We do not suppose the union would prove to be immediately profitable from a commercial standpoint, although

the transference to us of so large an amount of trade as the Island can give us, coupled with the development of enterprises that would naturally follow the incorporation, might soon make up for any loss of revenue from carrying on the Government of the colony. It is in the value of the latent mineral and other natural resources—large sections of which have remained to this day unexplored—that its chief value to us would be. The advantages of the union from the standpoint of the Newfoundlanders would be both directly and indirectly of the first importance. The island would still be a part of the British Empire and its national continuity would be maintained—indeed, it would be more essentially a part of the Empire than at present. Canada would make the interests of the Island its own, and there is nothing at present visible in which the true interests of the Dominion would not also be the interests of the Island. The union would instil into the Islanders better ideas of self-government, of commerce, of education, and let us hope of public life; while it would result in the development of sources of wealth as yet undiscovered in the Island, and the establishment of new manufactures and industries which would give a much better and much to be desired distribution of comfort and wealth among the population. The people of Newfoundland are an honest and hardy race, and their maritime instincts fit in with the genius of Canadians. They are the "hardy Norsemen" of the American continent, and in the future evolution of the American nationalities will give us the maritime supremacy for which nature has fitted us. Geographically, as well as ethnologically, Newfoundland should be one with us. Such a union, while desirable for its own sake, would be an important step towards that larger federation of the Anglo-Saxon peoples which will include the American Union.

The manufacturers of light woollen goods, including flannels, are reported to be very busy just now, though there is a general complaint about prices. Reports from the markets of heavy Canadian goods are not so encouraging. The cotton mills are busy.

The textile interests in the Old Country appear to have a good deal of power. The Lancashire members of Parliament have made arrangements whereby the question of duties on cotton goods imported into India will become one of the crucial tests as to whether they will support or whether they will vote against the Government. In Lancashire the feeling on the subject is naturally very strong, as the county has such immense interests at stake, and it is a simple question of bread and butter for the mill hands. Upon the attitude, therefore, of the local members of Parliament and candidates for election depends the safety or the obtaining of their seats, as the case may be. This is why many apparently well informed people are of the opinion that this question of Indian duties may easily lead to a severe political crisis in which the Government may easily be ousted from power.

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Owing to the death of George La Rue, one of the partners in the wholesale dry goods firm of Thibaudeau Bros., Montreal, notice of dissolution of partnership has been given. The business will be carried on as usual by the surviving partners, under the same name as heretofore.

C. J. McINTYRE & Co., Montreal, dealers in dry goods and small wares, have assigned at demand of A. Macdougall & Co. Liabilities about \$30,000. The principal creditors are. Cook, Son & Co., London, \$2,069; James Hearth & Co., Leicester, \$1,196; Jabez, Johnson, Hodgkinson & Pearson, Manchester, \$1,157; Montreal Cotton Company, \$1,066. Wm Aunney & Co., Manchester, \$1,065. Stewart, Moir & Muir, Glasgow, \$1,059; Kakka, Rothenstein & Co., Leeds, \$1,020; Wm. McLaren, Sons & Co., Glasgow, \$1,013; A. A. MacDougall & Co., \$2,467. Blaiklock Bros., indirect, \$1,500.

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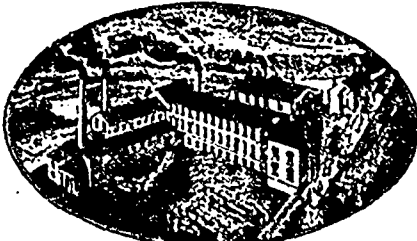
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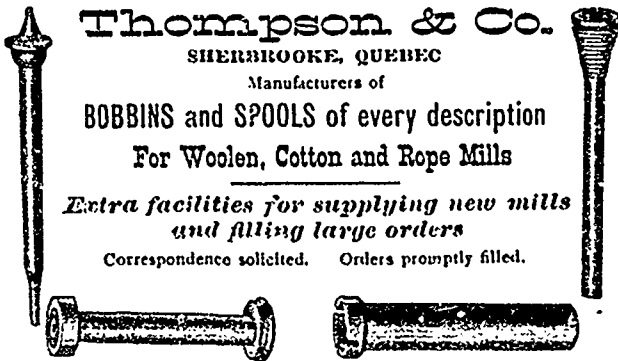
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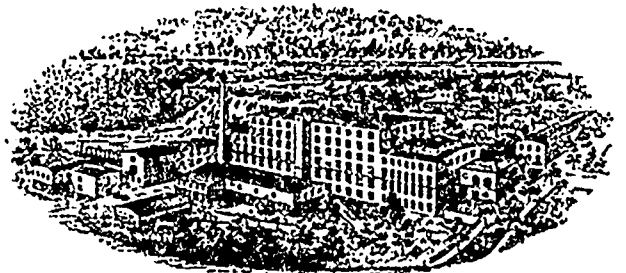
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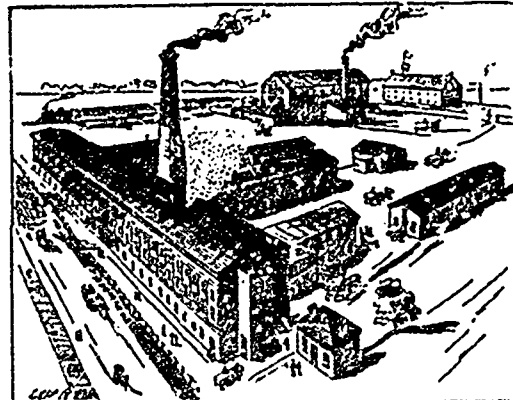
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CLOTHING WOOL AND COMBING WOOL.

Commercially speaking, wools are divided, says Charles Vickerman in the *Textile Record*, of Philadelphia, into two great classes—clothing wools and combing wools, or short wools and long wools, and the fabrics woven from them were formerly termed woollens or worsteds, according as one or the other was employed. But we can no longer draw the line in this way between the two great branches of the wool industry, for wools that are called combing wools are now very frequently used for woollen goods, and wools that are sold as clothing wools are frequently used for combing. Formerly long wools only could be combed when combing had to be done by hand, but since the successive improvement of the combing machine by Donisthorpe, Lister, Heilmann, Noble and Holden, any free, firm stapled clothing wool of $1\frac{1}{2}$ inch staple can be combed.

The real distinction between worsted and woollen does not lay in having a long wool for the one and a short wool for the other; you can comb almost any wool that it suits your convenience or requirements to comb, or you can take any of the so-called combing wools, and use them for clothing purposes—the distinction is not in the wools, but in the two distinct modes in which the wool is worked, or manufactured into yarns. Take identically the same wool, and follow out certain modes of working, and the result is you have a worsted yarn—follow out certain other modes of working with the same wool, and the result is you have a woollen yarn.

I will approach the consideration of the structure of the woollen thread from the negative side, and show, first, what the woollen thread is not, that we are not entitled to call any thread we can manipulate out of wool a woollen thread in certain senses, because a worsted thread is made of wool, and yet we don't call it a woollen thread, we very properly call it what it is, a worsted thread. We must designate yarns according to the modes in which they have been produced. But some at this point may now be ready to ask: What is a worsted thread, and what is a woollen thread, as you say the distinction is not in the wool? I will try to answer both these questions, and in order that we may realize to our own minds more distinctly the difference in question, I will first show as rapidly as I can what the woollen thread is *not*, that we may see more clearly *what it is* by the contrast. We will take a lot of wool, say fourteen bales, and in order that there may be no mistake as to our starting from exactly the same point, and with exactly the same material in each case, we will turn the wool out of the bales, and make a square pile of it upon the floor of the wool-room, making a layer of each, so that the whole may be of uniform quality when taken down off one end. Having our pile of wool fairly mixed and fairly divided again into two equal portions, you see clearly that there cannot possibly be any difference in the material to begin with, and any resulting difference in the end must be wholly ascribed to the difference in the processes employed in converting the

one portion of the wool into worsted yarn and the other portion into woollen yarn.

Let us proceed, then, with that portion of wool that is intended for manufacturing into worsted, in order to show in the first place what a woollen thread is *not*, and then afterwards point out by contrast, and more in detail, what a woollen thread is.

The first operation is *sorting* the wool into two or more qualities and taking out the short wool, technically termed "*shorts*" or "*brokes*." The short wool has to be taken out for reasons that will appear presently. After *sorting*, the wool is next taken and *scoured*, to rid it of its natural grease or yolk, then partially dried; it does not answer to have the wool thoroughly dried as when preparing for woollen yarn, and at many places it is not put on the stove or drying machine at all, but run through a pair of very powerful press rollers out of the warm liquor and forwarded at once to the carding engine. From the carding engine it is doffed in a rope sliver and formed into a large ball; several of these balls are placed in front of a *gill-box*. The gill-box is a narrow trough or box with a pair of drawing rollers at each end, and across the bottom of which, transversely, are placed rows of *gill pins*. The object of pulling the sliver through these rows of gill pins is to roughly force the fibres into a form parallel to each other, just as you force portions of your warps into parallel order by pulling the warp through a fine raddle. The gill-boxes serve the purpose of *raddling* the slivers and compelling all the cross fibres to fall into rank, and march in order with the regiment. The slivers are crossed and re-crossed by being put up eight or ten at a time, and passed sometimes through two and sometimes through three gill-boxes, before the slivers are fit to send to the combing machines.

I may here say that the object of carding the wool is to break up the natural arrangement of the fibres of the wool in which it grows upon the sheep's back, that is to say, to break up the natural arrangement in order that the fibres may be arranged artificially into textile threads. The object of carding is the same whether we intend to convert the material into worsted or woollen, viz.:—to break up the natural "*tufty*" form in which the wool grows upon the sheep's back, to bring it into a complete chaotic state in order that we may be able to subject the fibres to any artificial arrangement we may determine upon, according as we may want to convert the carded wool into worsted or into woollen thread. Prior, however, to the commencement of this artificial arrangement, another process has to be gone through at this point with a view to worsteds, viz.:—that of combing, to get out the noil. The term is from the Latin, and means "*knotty*," or "*not do*." I have just said that the combing has to be performed in order to get out the noils, and the noils is that portion of them that is short, curly and knotty, and which will not do for worsteds, and has to be sold as waste along with "*shorts*" or "*brokes*." After combing, the top or sliver is again passed through gill-boxes to get the straggling fibres

again into their ranks, after which it goes to the *drawing frame*, and then the *roving frame*, till it finally reaches the *spinning frame*—here the roving passes through a pair of strong iron rollers, and thence through two or three sets of carrier rollers of much lighter build, and then finally through the front rollers, each set of rollers running quicker than the set preceding it, thereby elongating or drawing out the roving to the requisite degree of fineness, and as the finely attenuated sliver emerges from the front, or final set of rollers, it begins to receive the twine necessary to give strength and firmness, and when it has descended to the spindles and has been wound upon the bobbins, the manufacture is completed, and it is a worsted thread. The result is reached by two simple processes, conducted continuously, and following each other consecutively. First, the sliver is drawn out to the requisite degree of fineness by means of rollers; then, secondly, the twine or twist is given afterwards as a separate and succeeding operation.

THE spring millinery openings in Toronto are to be held on the 26th, 27th and 28th inst., and the Montreal openings on the 5th, 6th and 7th of March.



MR. JAMES A. CANTLIE.

THE dry goods trade figures well in the commercial councils of the country. Many dry goods merchants are to be found on the committees of councils of the boards of trade for 1895, while the boards of three leading cities this year have wholesale dry goods merchants as their presidents. E. B. Garneau, of the firm of Garneau, Sons & Co., is president of the Quebec Board of Trade; Stapleton Caldecott, of Caldecott, Burton & Spence, is president of the Toronto Board of Trade; and James A. Cantlie, of the dry goods commission firm of James A. Cantlie & Co., has been elected president of the Montreal Board of Trade. Mr. Cantlie, who has devoted a great deal of time to the interests of the board for the past two or three years, is a native of Banffshire, Scotland, and came to Canada in 1863. In the early years of his business career in Canada he was connected with the firm of which Sir George Stephen, now Lord Mount Stephen, was head. Mr. Cantlie is a shareholder in a number of textile manufacturing concerns.

It has long been thought that ramie would eventually prove to be one of the most valuable of fibre plants, and for some time past experiments have been undertaken in order to render the various processes through which it is necessary for the leaf to pass before the fibre is turned out in a finished condition, sufficiently cheap for it to be produced on a commercial scale.

Now we hear that these experiments have borne fruit, and that a plant is being got ready for operation in Albany, N.Y., for the purpose of manufacturing yarns, fringes, cloths and even gloves from this new fibre, ramie. The factory, it is said, will have a capacity for consuming ten tons of the raw material every week. Part of the process employed in bringing the fibre to its final beautifully white and glossy appearance will consist in submitting it to heat and chemical action, it will then be stripped and begummed, and afterwards bleached without the aid of chlorine or other deleterious agents. The strength of this fibre is said to be greater than either flax or silk, and apart from its use as a complete fabric, it will no doubt be largely employed for mixing with other fibres in fire hose, rope and other products requiring strength and durability.

THE coming great Cotton States Exposition at Atlanta, Ga., will have one novel feature at any rate, namely, a negro building to be built by a negro firm of contractors and all negro hands. Competition was open to all contractors, and the lowest tender was sent in by negroes, who thus won the contract on their own merits. This will no doubt be sufficient to give to the Exposition the greatest interest amongst the colored population of the South. It certainly looks as if the Exhibition is to be a great success altogether. At first the State exhibits, which the projectors of the scheme wished to make a very important feature, seemed rather slow, but during the past few weeks a number of States have begun to take active interest in the Exposition, especially those in the South. Amongst those States which have in the past failed to appreciate the importance to themselves of good representation at international and inter-state exhibitions, but which are now about to redeem their character in this respect, is Florida, whose beautiful and peculiar products are to be fully represented. The Indian River Railway, lately completed as far south as tropical Lake Worth, will have separate representation, and Mr. J. E. Ingraham, the widely-known land commissioner for the East Coast, has just been appointed by Governor Mitchell special commissioner for the State exhibit. From all reports, the interests of Florida, which is now attracting such wide attention to itself, could not be in better hands. Many other States will no doubt shortly follow this enterprising example.

JOHN MACDONALD & Co., Toronto, write us that there is no truth in the item in our December issue stating that they were making a cut in their employes' salaries; and we accept the firm's denial. It is now said that the real sinners were another firm in wholesale fancy dry goods and millinery, who solicited the other houses to follow their lead in a general cut in wages. We say "sinners," but the word is used in a Pickwickian sense, for we do not see any crime in asking employes to share with employers a reduction of income in a time of depression. Scarcely a wholesale dry goods house in Canada has had anything to the

credit of profit and loss during the past year, and some have not even held their own. Assuming that wages previously paid were liberal, it would be only reasonable that clerks, travellers, and employes generally should be willing to accept such reductions in their salaries as would enable the heads of their houses to regain some small profit in the year's transactions, or at least to carry on business without a loss. We would go further, and say that such a readjustment ought to come as a voluntary proposition from the staff of a house, once they understood the situation, rather than as an ultimatum from the firm. We frequently hear of the greed or tyranny of the conductors of wholesale houses, but we do not realize the amount of selfishness, carelessness or indifference that prevails among employes—both men on the road and men in the office. How many travellers have made personal sacrifices either in the work they have done or in the matter of hotel luxuries on the road during the past year, because of the reduced volume of trade that has gone to their firms; or how many clerks in the office have made up in extra work or in extra economies in their own sphere in order to help to equalize the heavy outflow of cash and the light inflow of trade that may have been going on during the past year? Out of each hundred employes how many can come forward with satisfactory evidence on this point? The fact must be confessed that the heads of mercantile houses possess no monopoly of the sins of greed, selfishness or indifference. A certain average of these faults is to be expected in the nature of things, but a plan of escape from their worst effects may be found in the principle of profit sharing. In that plan the very selfishness inherent in human nature leads to economy and mutual consideration in times of depression; and while employes share in the effects of the "lean years," they also share in the fatness of prosperous years as a matter of course.

BRITISH TEXTILE TRADE WITH CANADA.

The following are the values in pounds sterling of the exports of wool and textile fabrics from Great Britain to Canada for Dec. and for the eleven months ending with Dec., as compared with the same periods of the previous year:—

	Month of Dec.,		Twelve mos. ended Dec.,	
	1893	1894	1893	1894
Apparel and slops	£12,937	£19,552	£338,091	£298,305
Haberdashery	9,042	5,713	252,483	144,647
Wool	613	1,011	22,310	14,317
Cotton piece-goods	45,052	62,842	515,711	431,259
Jute piece-goods	8,686	8,916	137,863	99,040
Linen piece-goods	10,656	9,088	139,406	111,637
Silk, lace	8,007	3,739	41,080	32,023
" articles partly of	3,233	4,965	70,990	47,788
Woolen fabrics.....	10,413	13,947	343,977	255,525
Worsted fabrics	50,650	35,356	661,949	463,873
Carpets	12,685	9,988	227,607	162,123

The great decline in the exports from Great Britain to Canada for last year, compared with the one previous, hardly needs pointing out.

MOHAIR.

Mohair is the name of a certain goat, the fleece of which possesses a beautiful lustre. The goat gives its name to its fleece, and this again gives the name to a dress-goods fabric. The mohair goat was originally confined to Asiatic Turkey, but the demand for the fleece was so great over thirty years ago that the original feeding ground was found inadequate, and attempts were made to climatize the goat elsewhere. The only successful attempt was that made in Southern Africa, where a considerable quantity of this fleece is now raised. Some little is grown in the United States and Mexico, but the lustre, which is the chief attraction in mohair, is very poor in these fleeces. The best mohair is still grown in the valleys of Asia Minor, where the rich pasture ground along the rivers gives the most nutriment to the goat, and the rich alluvial deposits of soil prevent the fleece from coming into contact with the limestone of the rocks in the higher grounds. Cape mohair is a very strong competitor, and progress is yearly being made in its growth in that region. The fleece is long and of about the same quality as the quarter-blood domestic fleece. Of all hair grown on the back of an animal it possesses the most lustre, and when properly managed and converted into goods specially desired to show off its bright properties, it is as lustrous as silk.

Mohair is exported from its ground of production in large bales, chiefly to Liverpool, and is there bought by manufacturers of every nation to be converted into goods. The initial stage of the process of its manufacture is very similar to that of wool. It is first sorted into qualities, but this operation is much more difficult than that of sorting wool. The qualities found in the mohair fleece are not as regularly placed as in a fleece of wool, and it consequently requires more care to gather these respective qualities together. Its color is chiefly white, but there is a fair proportion of mixed black and white fleeces, and brown and black fleeces.

The sorting of mohair is attended with some risk to health, for the fleece of the dead animal is often put in the same bale with the fleece shorn from the living animal, and as the former is of a poisonous nature, the sorting has produced a very fatal malady, which is known as "wool-sorters' disease." This poisons the blood, and while it is not always attended with the same symptoms, the arms, legs and body of the afflicted generally swell to unusual dimensions, and the blood is thoroughly vitiated. So far this disease has baffled medical science, and all persons afflicted with it soon die. Its attacks are rare; yet in England, where the mohair is chiefly manufactured into goods, the factory laws enforce strict regulations regarding its sorting, based on sanitary and disinfectant precautions. After being sorted the hair is thoroughly washed, and there all fears of its danger to health ends. It is next combed, drawn and spun into yarn exactly in the same manner as wool, and is ready for the looms.

Some time ago mohair dress goods were very popular, and are yet sold to a limited extent. These are made out of a good cotton warp or chain, with filling made of mohair. They are dyed and finished very much in the same way as alpaca pieces.

Mohair is to-day more extensively used in the construction of pile fabrics, which, as regards the material forming the pile, are commonly known as mohair plushes. These are very popular in the upholstery trade, and have in a large measure replaced hair-cloth-covered goods. They are woven on a pile loom, which is perhaps the most ingenious textile invention of modern times. A pile is produced by cutting the mohair warp or chain, so that this cut may form a down on the surface of the piece. It is done in various ways, but a description of two will be sufficient.

The first way, and the way that produces the most regular and even pile, is by means of what is known as a wire-loom. A mohair wire-loom is similar to a pile carpet loom, and the pile face is produced in the following manner: A wire-loom has two warps or chains. In the case of a mohair plush one of these warps or chains is made entirely of mohair, and this warp stands in the loom above the other warp. The bottom warp is cotton and forms the fabric of the cloth. The mohair warp forms only the mohair pile of the face. The filling is cotton, and this filling, together with the cot-

ton warp, forms the fabric and the strength of the cloth, just as the mohair warp forms the pile of the cloth. The two operations go on at the same time, and as the cotton warp and cotton filling weave up the fabric, a wire is thrown through the mohair warp just in the same way as a cotton thread is thrown through the cotton warp. This wire retains its place until the mohair warp has been bound in the fabric of the cloth by the cotton warp and filling, and until other wires behind it have repeated the same process. A part of the mechanism of the loom then grasps it and draws it out, and as it has a sharp edge this edge cuts the mohair warp on the face and produces the pile. The weaving of pile mohair by this process is slow and consequently expensive, and is going out of date.

Another method adopted in making mohair plush weaves two pieces at once. In this case there are always three or more warps or chains, two—the top and bottom—of cotton, and the others mohair, which are run between the cotton warps. The filling is again cotton, and this and the cotton warps make a fabric having a double shell of soundly-woven cotton binding the mohair warp firmly in the centre. As the weaving proceeds a sharp knife runs across the piece in the centre, on every fourth pick of the shuttle, and divides the two pieces, thus cutting the mohair which forms the pile. A very ingenious contrivance in the shape of two little rollers covered with fine emery dust grinds the knife on its return from each journey, and thus keeps it sharp.

The pieces being woven and the pile produced, the next process is to present the pile in the best possible shape. This is a very difficult matter, and requires a great deal of experience and care. The goods are dyed, steamed and subjected to great heat, and in this condition are beaten by men with sticks so as to bring up the face. The intricacies of finishing plush are too mysterious to warrant description, subject as they are to a great deal of the rule-of-thumb. Few, however, have any idea of the ingenuity displayed in the preparation of a piece of mohair plush before it is ready for the upholsterer. —*Dry Goods Economist.*

GERMAN TEXTILE INDUSTRIES.

The factories are to be found in nearly all parts of the empire some branches of the trade having existed in their different centres since olden times. The woolen industry has been highly developed in Germany for centuries past. It occupied itself principally with the production of cloth, for which the home-grown wool formed an excellent raw material, and early procured for these articles a world-wide renown.

The woolen manufacture of Rhenish Prussia, which still holds the chief position, had already attained importance in the twelfth century, and even then exported its products. A little later this industry extended to Brandenburg, Saxony and Lusatia, and reached there, also, a high state of perfection.

The change of fashion, which has for a long time past neglected plain cloth in favor of fancy patterns, has greatly diminished the importance of the home cloth industry and obliged manufacturers to turn their attention to other articles. This alteration was brought about by the large quantities of wool which for some decades has, in ever-increasing proportion, been brought from foreign countries, especially Australia, Argentina and Cape Colony, to the manufacturing countries; wool which, however, has not the short, curly quality of the Electoral sheep, suitable for the production of cloth, yet forms an excellent raw material for various products of the woolen industry. The German manufacturer has conformed to the change of fashion, and is to-day one of the greatest consumers of sea-borne wool.

Among German woolen productions are particularly to be named cloth, buckskin, and materials for men's suits and overcoats, as well as for ladies' mantles in all the diverse kinds and qualities demanded by fashion. Some of these are exported direct, others are made up by the great ladies'-mantle makers and are largely exported.

The principal centres of this industry are the towns of Aix-la-Chapelle, Düren, Eupen, Leenep, etc., in Rhenish Prussia, as well as the provinces of Brandenburg, Silesia, Saxony, Lusatia, with numerous places excelling in their own particular productions,

among which are to be mentioned Berlin, Cottbus, Spremberg, Schwiebus, Forst, Sagan, Sprottau, Sommerfeld, etc.

In addition, the manufacture of dress materials partly of pure wool, partly of wool mixed with cotton, is of conspicuous importance. The centres of this industry are Saxony, Silesia, Rhenish Prussia, and Alsatia. Gera and Greiz have not only preserved their old renown in the production of merinos and cashmere, but manufacture combed wool materials in excellent qualities for ladies' and gentlemen's garments, which are exported to all parts of the world. For colored woolen dress materials Alsace, with a highly developed industry which occupies a leading position in matters of fashion, and also Glauchau and Meerane, must be mentioned.

In materials for furniture, Chemnitz, as well as Elberfeld, is pre-eminent. The manufacture of furniture plush (Utrecht velvet) is carried on in Rhenish Prussia and Westphalian Elberfeld, Viersen, Mulheim on-the-Rhine, and Bielefeld. The shawl industry has its principal seat in Berlin and the Bavarian Voigtland, and exports to all foreign ports, whilst the manufacture of fancy cloths, woven and crocheted shawls, hoods, etc., supplies the market of the world from Berlin, Liegnitz, Apolda, and other places.

Berlin is further noted for a specialty, viz., the manufacture of plush for cloaks and caps. Articles of this kind, which are almost exclusively made here—especially imitations of fur—are exported to all countries.

The carpet industry boasts of a high development, and produces Brussels, velvet-pile, tapestry, and Axminster qualities. Of considerable importance is the manufacture of Oriental carpets in knotted work, which are made in excellent qualities and patterns, and are largely exported. As centres of manufacture we may note Schmiedeberg in Silesia, Cottbus, and Hanover.

The spun materials employed in the woolen industry (combed and carded wools) are for the most part produced in the country itself. The industry of combed wool spinning has largely expanded, conforming itself at the same time to the preference shown of late years for combed wool materials. Dyed zephyr wools (Berlin wools), aided by the remarkable achievements of the dyeing trade, form an important article of trade and export.

The importation of foreign dressed and undressed wools amounted in 1891 to 153,650 tons, added to which the home production was about 24,400 tons, so that, deducting the export of 24,400 tons, the consumption of wool in Germany amounted to 153,650 tons. The number of spindles in use for combed wool is estimated at 1,600,000, and for carded wool at 2,000,000. The whole export in woolen manufactures amounted in 1891 to 29,750 tons, the value being 228,000,000 marks.

The German cotton industry is highly developed. Germany possesses about 5,500,000 spindles, and in 1891 worked up 237,000 tons of cotton. The importation of foreign textiles amounted in 1891 to 15,870 tons, chiefly in fine qualities. As specialties in this branch we may mention the manufacture of sewing and knitting cottons, in which Saxony, Bavaria, Baden and Alsatia greatly excel. Turkey red cotton forms an important article of export.

The cotton spinning manufacture not only produces nearly all the material necessary for home consumption, but also exports largely. Plain tissues such as calico, shirtings, etc., are principally manufactured in Bavaria, Alsatia and Silesia. In the first-named are to be mentioned the district of Suabia, and that of Neuburg, with its principal centre of Augsburg. For velvets and velveteens are to be named Linden, near Hanover. Ettlingen (Baden) and Berlin, whose productions may be classed among the finest of the Continent and are largely exported.

The weaving of the colored goods, which includes articles for men's and women's clothing, is most flourishing. Alsatia, Rhenish Prussia, and Westphalia, as well as numerous districts in Bavaria, Würtemberg, Saxony and Silesia, are important centres of this industry. The manufacture of nansook, muslin, flannelettes, piqués, sateen, colored stuffs for table-cloths, bed covers, dresses, and aprons, is very important, and works largely for exportation.

The bleaching, dyeing and dressing of cotton goods, which are greatly in demand, stand on a high level. The white and colored

stuffs for linings, shirtings, chignons, etc., are admirably made and find buyers in all parts. In Alsatia, Silesia and Bavaria bleaching and dressing are important industries. Printing is one of the most important branches of the German cotton trade. The productions of Alsatia in the domain of printed stuffs for furniture and dresses are world-renowned, its manufactures being superior both in beauty of pattern and neatness of execution, and have a ready sale in all countries. Another chief centre of printing is the Lower Rhine, especially the towns of Elberfeld and Dusseldorf.

The whole export of cotton goods amounted in 1891 to 27 700 tons of the value of 147 millions of marks, and that of plain and pattern goods to 17,000 tons, of the value of sixty millions of marks.

The linen industry in Germany is of great antiquity. Favored by an extensive cultivation of flax, it not only supplied the wants of the country but exported large quantities of thread and linen to other countries. In spinning, the spinning jenny has almost entirely supplanted the spinning wheel, and the mechanical loom is coming more and more into use, although the hand loom still forms an important factor in this branch. There are about 273,000 spindles, 30,400 thread spindles, 13,500 machine and 150,000 hand looms.

The principal districts for this branch are Silesia, Westphalia, Saxony, Bavaria and Wurtemberg. Silesia has numerous branches of the linen industry which are carried on both by machine and hand looms. Its damask weaving is most excellent. The manufactures of Bielefeld are of old repute. Wurtemberg has taken as its specialty the imitation of the handweaving of Iceland, the textures are beautifully and closely woven, and are generally of the best materials.

The productions of linen weaving are varied, cloth for shirts and bedclothes, towels and handkerchiefs, tablecloths in jacquard and damask, huckaback, bed-tick canvas, etc., and half linen half cotton goods in numerous assortments. Great attention is paid to the designs. An important article of export is damask table-linen.

The export of linen goods amounted in the year 1891 to 3,200 tons, of the value of 19½ millions of marks.

The manufacture of under-linen is carried on extensively, more especially in Berlin and Bielefeld. It produces ready-made shirts, collars, and cuffs, and is capable of exporting largely. The export in 1891 amounted to 1 360 tons, of the value of nine millions of marks.

The jute trade has largely prospered in the last ten years, and has in use about 70 700 ordinary spindles, 2,000 thread spindles and 3,600 machine looms. In 1891 no less than 82,000 tons of raw material were worked up.

The German silk trade has its centre in Rhenish Prussia, particularly in the district of Crefeld, and is a great factor in the trade of the country. Its productions are well known in all parts of the globe.

The most varied fabrics are produced; black and colored materials of the heaviest qualities for dresses, as well as the thinnest for linings; pattern silks for dresses; fancy trimmings in pure and mixed silk, sateens; materials for umbrellas, cravats, and clerical robes, plush, black and colored piece velvets, and ribbon velvets. In most of its products Crefeld holds the first position amongst competing countries. Of late the machine loom has been used more and more in this trade. In the districts of Crefeld in 1890 there were in use for piece and ribbon velvet 3,104 machine and 7,893 hand looms, for silk stuffs 2,484 machine and 14,263 hand looms. In these districts the turnover in these articles amounted to 93,000,000 marks.

Besides Crefeld the silk and velvet trade is noted in Elberfeld, Viersen, Gladbach, Mulheim-on-Rhine, Bielefeld, as well as in Frieberg in Baden, and in Upper Alsatia. The export of pure and mixed silks amounted in 1891 to 146,000,000 marks.

Hosiery is of great importance in Germany, and large quantities are exported. The chief places for this trade are Saxony, with Chemnitz as the centre of a great trade, as well as Middle-Franconia in Bavaria, and the district of the Black Forest in Wurtemberg. The manufacture is carried on in large separate establishments, which are equipped with the latest machinery. The trade is assisted

by the excellent native engineering shops, wherein are made the best machine looms.

The export in cotton hosiery in 1891 amounted to 6,600 tons, of the value of 43,000,000 marks, in woolen hosiery to 4 000 tons value 36,000,000 marks.

The trimming industry is brought to great perfection and excels as well in staple goods as in novelties. Barmen enjoys a great reputation for its ribbons, cords, laces, galloons and other articles, whilst trimmings for ladies dresses, etc., are made in accordance with the changes of fashion in Berlin, Annaberg, Buckholtz and other places. There were exported in 1891 cotton trimmings to the value of about 19 million marks, in woolen trimmings 16 million marks, and in pure and mixed silk 10 million marks.

The lace industry has more especially its seat in Saxony, where it forms an important occupation of the women of the country and produces the various descriptions demanded by fashion. The different kinds of lace made are Mantilly, Mechlin, guipure, and Valenciennes. In addition there are made from cotton as well as silk, capes, pellerines, parasol covers, veils, and similar things. Machine-made lace and embroidery are principally made in Plauen, and are largely exported, the manufacture of curtains is also carried on to a large extent.

A LETTER FROM PARIS

Retailers are complaining, and with some reason, of the dullness of trade. The frost came too late to create any important demand for winter goods, and, moreover, it lasted too short a time. The sudden changes, such as we have experienced of late, are never beneficial, they create a feeling of instability in the minds of the public, and make people shy of launching forth into expenses that may be rendered useless by the rise or fall of the thermometer. One can rail against the weather, and few persons deprive themselves of the pleasure of doing so in spite of the vanity of it. Perhaps it is almost as vain to deplore the tendencies of fashion, nevertheless, some slight good may come of it in the end. Continual change in fashion is certainly not advantageous, but hardly anything can be worse than the present condition of things, namely, the *status quo* which admits of all sorts of novelties being taken up without any being set aside to make room for them. It is frightful to contemplate what an extraordinary amount of stock retailers must now lay in to be able to keep up with the demands of some go-ahead customers, while those to whom unnecessary change means unnecessary expenditure, are content to wear what they have, and so economize largely, thanks to the inertia of *la mode*.

The consequences of this state of things are likely to be felt very seriously during the coming season. It would be of infinite service to retailers if the fashions for spring were more clearly defined, if the big couturiers and milliners were to strike out some new path that could be followed by all. But this they will not do, and perhaps it is hardly surprising. It is war to the knife between the drapers and the dressmakers; the former have done great injury to the dressmakers by setting up work-rooms on their own account and absorbing a great deal of the business, and the latter cannot be expected to harbor particularly friendly feelings towards the men who have supplanted them. It is the one effort of their lives to contrive styles and invent shapes that cannot be easily copied wholesale, and to leave everyone as much as possible in the dark with respect to their future intentions. And who can blame them? Doubtless they are often victims of their own measures, and the floating instability of fashion affects them also, though to a lesser degree than their rivals, while their reluctance to allow outsiders—and especially those connected with the press—to penetrate the mysteries of their preparations, loses for them many opportunities of attracting the attention of the public to their establishments.

As we near the close of one season and approach another the dilemma increases, and the difficulty of deciding any matter with safety becomes greater. One thing seems very certain, the prospects of silk are extremely good. The very marked reduction in the prices of silk materials must bring them into more ordinary use. For the same reason, also, the demand for fancy goods—woolens

interwoven with a certain amount of silk—will be increased, and also that for fanciful admixtures of all sorts. It must not be imagined, however, that all-wool goods are losing ground. Custom has ordained that for ordinary wear out of doors silk is not applicable (as the principal material of a costume), whereas the immense improvements made in the manufacture of wool and cotton fabrics and of cotton fabrics made to look as much like wool as possible, will tempt the public more and more—that portion of it to which cost is of moment—to set aside their old prejudices against them.

The price of all-wool goods is maintained almost at the old figure, whereas silk has lost in value, therefore in making up ready-made models the retailer will naturally be induced to combine the two, as better effects are thus obtained at a slight increase of cost. We shall see a great many of these costumes made with plentiful trimmings of silk, full fronts, yokes, plastrons of all sorts on the bodices, borderings, panels, etc., on the skirt. The braiding machine will be brought into play, and for the earlier months of the season, at least, braiding, embroidery and spangles will be in high favor. Lace will be more in demand than ever, and in all kinds, the craze for Brussels application has led to various attempts being made to improve the manufacture of imitation lace of this sort, and very successfully. The machine embroidered net of the better sort may be easily mistaken by ordinary eyes for real Brussels.

There is no matter of more importance to the retailer than color, and every indication that may be a guide to him in the selection of materials for the coming season is of value. I am therefore glad to be able to say positively that Parisians are beginning to show a very marked partiality for every shade of violet, mauve, lilac, and pearl grey. This partiality is particularly evident in silk dress materials, trimming silks, and millinery generally. Shaded and glazed effects are often obtained by the admixture of these colors with others—dull green, light brown, dark blue, etc. It does not make matters more easy that each line of goods has its special scale of coloring. Thus delicate pompadour tints are in high favor for brocades and other figured silks, while for plain and printed surahs and satins, gauzes and crépons, bright tints of rose-pink, salmon, golden yellow, maize, fuchsia, red, mauve, turquoise blue, and fresh spring green have the lead. These are now used for evening frocks, and also for making smart blouses, chemisettes, cravats, collarettes, and the like, and later on they will be required for smart costumes.

The muslins and cotton crépons, the cambrics, and also the mousseline de-laines, which promise so well for the coming season, include a more varied style of coloring, now assuming delicate pompadour hues, now brighter shades. So far as the thicker woollens are concerned, light browns, fawns, beiges and greys, with rather bright dark blue and green, will predominate largely among plain fabrics; those which exhibit small, ill-defined patterns have a preponderance of such colors relieved by the introduction of bright positive tints. There is a growing tendency towards plaids and checks, which are likely to be worn very much between seasons. They are provided in a great variety of combinations, and include very dull harmonies as well as brilliant contrasts, and must be described as ultra-fanciful plaids, tartans hardly counting at all, and then only in mixtures of green and blue, sometimes with crossed lines of bright yellow. Many of the checks are produced by the crossing of rather narrow stripes with narrower lines—arrangements which are extended to ribbons.—*Warehouseman and Draper.*

THE CHANGE IN WOOL PROCESSES.

Since the days when Leipzig Fair ruled the prices of fine merino wools and superfine Silesian often commanded as much as three shillings and sixpence per pound, great and many changes have been witnessed, both in the supply, the prices, and the use of this staple article of commerce. The high prices of this class of wool were due to its suitability for the manufacture of broad-cloth, superfine flannels, shawls and other costly goods, including the felt for covering the hammers of pianofortes. The inherent qualities of the Silesian wools were great, and their manipulation a pleasure

to the workers, who took great pride in the handling of such magnificent stuff. Skilled hands put forth their best efforts, and the knowledge that their handiwork was often destined for the nobility and the courts of Europe induced them to put out their very best efforts in the production of fabrics without a rival.

In those days shoddy was almost unknown, and mungo scarcely invented, and manufacturers' ideas then were to produce the finest goods possible, knowing that a price in proportion was always certain. On these lines the foundation of many a princely fortune was then laid. Hand labor predominated, and as much depended on the worker as on his implements, which were crude compared with modern inventions. Yet the trained skill of these workers was of such a high order, and their diligence and patience so great in their employment, as to render their productions the best in the world of their class, the admiration of all countries, and the fore-runners of a commerce of the first magnitude at the present day.

With reference to their methods of manufacture, we have an opportunity of comparing their first processes with those of the present day. Wool sorting, for instance, was then, as now, done by hand—a process of manual labor apparently beyond the skill of the inventors to abolish. We cannot say the same of the next process—wool washing, or wool scouring, as then termed. The leading makers of machines for this process have succeeded admirably in turning out an increased quantity at less cost, but in the present writer's opinion they have scarcely yet succeeded in excelling the work of the old hand process. This point is, of course, open to some question, but it is significant that Dyers prefer hand-scoured wools for their delicate shades and bright tints, because they say they are more free from yolk and yield greater brilliancy of color.

The Belgians are noted for their carded wool yarns and their wool-washing establishments. Their system of washing is a combination of the two. The wool is first soaked in a solution of ammonia, then passed through a machine containing hot water and soda, and finally passed through a flushing tank or cistern which is supplied with a good stream of water by centrifugal pumps. On the face of it this seems a very elaborate system, but when we consider with what class of wool they have principally to deal, the necessity for all this treatment is at once apparent. Wool from the River Plate form the staple article of these carding and spinning establishments. This wool is surcharged with grease and to the extent of 60 and often 70 per cent., and, singular to state, this condition is said to be deliberately contrived at by the growers and flock masters. It is said that when shearing time comes round, men and dogs are employed to chase the sheep, under the heat of a broiling sun, until they are in a state of profuse perspiration, they are then caught and rolled in sand, and afterwards shorn. Certainly no other class of wool arrives in such a heavy condition, which lends very strong color to the statement.

The Belgians, in order to cleanse these wools thoroughly, employ soda as a scouring agent very extensively, and also bring chemical knowledge to bear upon the process, so as to combine the fat in the wool with the soda, and thereby produce saponification. In this manner the fat becomes one of its own cleansing agents. Still, the sand remains to be contended with, and it is here where the value of the flushing tank comes in. The fat or grease is afterwards recovered from seak tanks—after the manner of recovering oil—and subsequently used for making gas. This system of scouring is admirable and very effective for this filthy class of wool, but, after all, this drastic process leaves the wool hard and crisp, and would be the ruin of the fine Silesian wools previously quoted. In the two classes—Silesian and River Plate wools—we find the two extremes of quality, the finest and the lowest of the merino breed. We also find the two extremes of condition in the clips, the one requiring the strongest scour, the other the mildest. The Silesian wools are very easy to scour, and the old process of a soaking pan and flushing cistern is the best. The scour formerly used was simple and inexpensive—viz., 75 per cent. water, 25 per cent. urine or diluted ammonia, heated to a temperature of 120 or 130° F. Wool soaked in this during ten or fifteen minutes, and then flushed once or twice in the cistern, left the Silesian wool in better condition than the most elaborate process could accomplish.

The low temperature oblates milling, the mild scour does no harm to the fibre, and the flushing leaves the wool clean, free, and open.

Prepared in this manner, these wools improve in every subsequent process of manufacture, and appear at the best in the finished goods. They will spin to an enormous length, and when blended with 10 per cent. of combed silk, cut into short staple of $1\frac{1}{2}$ to 2 in. in length, will make an extremely fine yarn, suitable for the finest Indian gauze or cashmere shawls. Goods made in this manner gained the first prize medal at the first exhibition in 1851, and for the maker an appointment to Her Majesty, who did not disdain to include them amongst her Royal wearing apparel. Fortunately, samples of these exhibits are still in existence, and might be seen, by arrangement, at the offices of this journal.—*Textile Manufacturer.*

HER MAJESTY'S LAUNDRY.

The Royal Laundry, or, as it is more generally known, the Queen's Laundry, is very pleasantly situated on the borders of Richmond park, about ten miles from London; in fact, the garden and ground on which it stands were a portion of the park itself. The keeper of this lodge has no sinecure, for there are few of the private establishments of royalty more difficult to obtain permission to see over than this, says a writer in the *Lady*.

From the entrance gate a drive, bordered on each side by lawns and flower beds, sweeps up to the residence of the superintendent. This gentleman, it need not be said, is an expert at his business, and has had the establishment in his charge fitted up with the latest and most approved machinery and appliances. Every item of material used is thoroughly tested as to its qualifications, the soap and soda analyzed, and every precaution taken that each is of the purest possible nature.

The laundry itself is a square, ivy-covered building, with a wing projecting from one side. It has no pretensions to architectural beauty or appearance, but its interior has been designed for the special purpose for which it is fitted. In this the personal linen of Her Majesty is dealt with, and no stranger, under any circumstances, is permitted inside its walls. On either side of a stone passage are large cupboards, which are thoroughly ventilated, and stored with the various kinds of soap used. The carbonate of soda and ordinary Scotch washing soda are kept in chests in this same passage.

The soiled linen arrives from the Royal Palaces in great white square baskets, and is taken in hand at once by the sorters, and compared with the lists that accompany it. The personal linen of members of the Royal family is sent and returned in wooden boxes with brass plates, on which are engraved the names of the owners and numbers, thus "The Queen, 5," or "H R H the Princess of Wales, 3." These are taken to a sorting room kept specially for them. Two washing rooms used for the household and table linen lead from the general sorting room. From the rinsing tub everything goes immediately into the wringing machine, which revolving at the rate of 700 revolutions a minute, delivers the articles very nearly dry. Across the passage is the mangle and press room where daily great piles of table cloths, towels sheets etc. are dealt with. The greater portion of the articles are neatly marked with red cotton, "A.R.I.," with the initials of the palace they belong to under, thus "O. H.," "B. C.," or "B. P." Some, however, are marked with a stamp.

Towels form by far the largest number of items dealt with, and, when Her Majesty is at Windsor, several hundreds of dozens a week go through this establishment, and all the household linen dealt with is from the Queen's establishment alone, for though all the personal linen of the members of the Royal family is cleansed there, so as to secure the greatest amount of safety from any infection, the household linen of the different branches is sent principally to private firms. Drying and ironing rooms are on the first floor. That devoted to the former purpose is elaborately fitted with slides over the furnace, but is principally intended for use in wet or wintry weather, as there is a splendid drying ground attached, and adjoin-

ing this is a large corrugated iron shed, with open ends, and sides formed of revolving shutters, for use on showery days and damp nights. In the ironing department we find a rule in work that seems strange, involving, as it does, much extra work and expense—everything here is thoroughly dried before it is ironed. Of course, the patent ironing machine saves a good deal of the extra labor, but the scores of flat-irons speak eloquently for themselves of their share of the work.

The royal table linen is of the finest substance, and is specially manufactured. The designs woven in are very handsome and elaborate, the Queen's monogram predominating, with roses, shamrocks and thistles among the armorial bearings. It is also made in sets, each tablecloth having a number of serviettes to match in design, etc.

One large room is devoted to calender work, and here all the enormous quantity of chintz covers for the palaces are dealt with. Adjoining this is the important room where everything is thoroughly aired before being returned. The department in which the personal linen is cleansed only communicates with the other buildings by a door, which is always kept locked, and the key is in the possession of the superintendent, and the most stringent rules are in force regarding visitors, even for members or servants of other departments of the royal households.

Even in royal establishments linen will wear out, and whatever may be done in the houses of the princesses, the Queen herself periodically superintends the throwing out of worn articles at her palaces. As she is seated in the linen room at Buckingham Palace, each thing is held up before her and condemned or passed, as the case may be. If the former, its destination is at once fixed—either a hospital or some other charitable institution—and it is certain to reach that destination as soon after it is cleared from the books of the palace as possible.

NEW VEILINGS.

In spite of the fact that an eminent oculist says that every dot in a woman's veil is worth a guinea to his profession, dots are more fashionable than ever, says the *Textile Mercury*. There are dots in every kind of veil—big dots, little dots, dots close together, and dots far apart. The most popular and stylish veils have self-colored dots, but these by no means occupy the field. Variety is the spice of merchandising as well as of all other conditions, and fantastically colored and dotted veils are sought after by many women. Chenille dots have their votaries, as have those of metal and jet, the latter being made usually of a gelatine-like substance.

The latest thing is the Brussels net with embroidered dots and a lace border, about an inch in width, across the bottom. The finest grades in these veils cannot be bought by the yard, but come in patterns, and, like all novelties, they come high. Very desirable ones, though, are obtainable by the yard.

A desirable veiling for winter is of crêpe. There are blues, browns, blacks, and whites. The latter is by far the most becoming. Indeed, no other veil is so highly effective and becoming as this.

Grenadine veils are new and pretty, and will undoubtedly have a big run in the spring. The Tuxedo, so fashionable last season, is in evidence again, but with the addition of a multitude of dots. A new veil is dotted and bordered with several rows of velvet the same color as the dots. In fact, these border effects are a leading idea for spring. American importers are showing them largely among their samples for next season.

One very chic thing is the beauty-spot veil. The net is of white, while the dots of black chenille are as large as a good-sized pea, and quite far apart. This veil looks well when worn with either large or small dots, and is usually of double width, covering the entire face, and gathered full under the chin.

A FIRE broke out a short time ago in the premises occupied by the Toronto Fringe and Tassel Co., on Front street, the damage done being about \$7,000; partly insured. The company's former premises were burned down only a few months ago, and the work of putting in a new equipment of machinery had only just been completed.

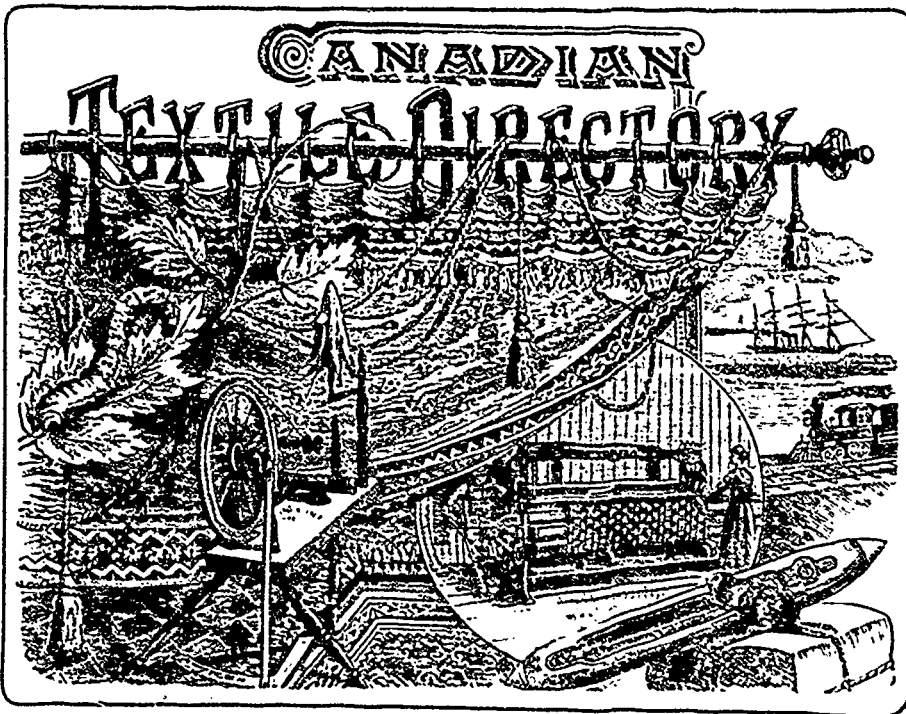
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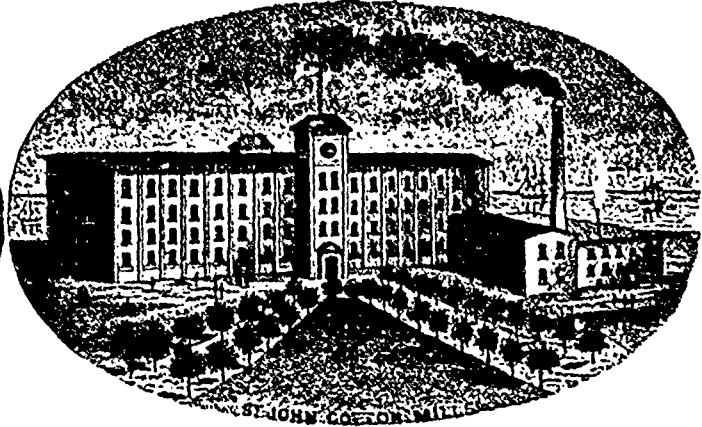
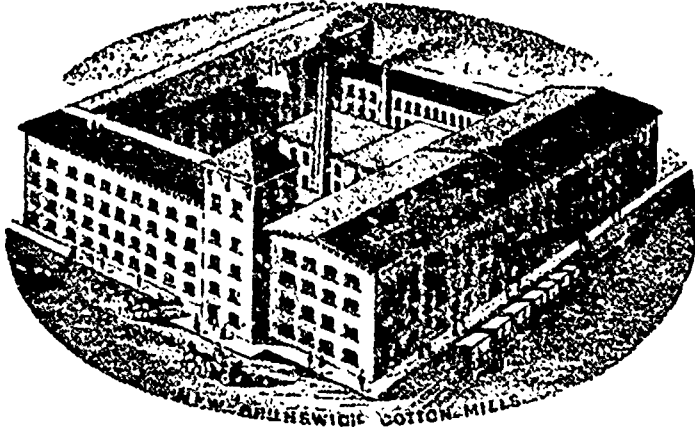
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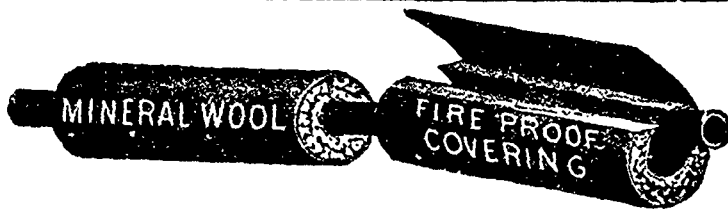
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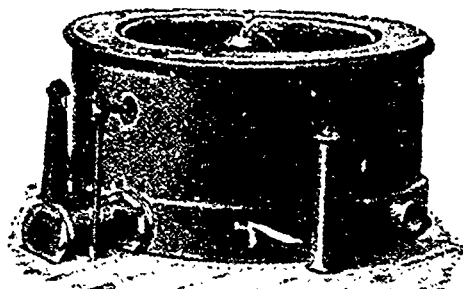
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36 ends per inch.

36 picks "

3 ends in a reed

12's slay

68 inches wide in the loom 22 ozs to the yard

56 " " when finished

Mill to width

Soft velvet finish

Straight Draft.

Warp: -

Woven: -

6 ends Black 2/30 s woolen.

6 ends Black 2/30 s woolen

6 " Stained "

6 " White "

6 " Black "

6 " Black "

6 " Stained "

6 " White "

6 " Black "

6 " Black "

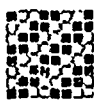
5 " Stained "

5 " White "

1 end Crimson "

1 " Crimson "

No. 436. 2,048 ends.



32 ends per inch.

32 picks "

4 ends in a reed

8's slay.

64 inches wide in the loom. Straight Draft.

56 " " when finished.

Finish soft and mellow.

Weight 24 ozs.

Warp: -

Woven: -

8 ends Brown 2/24's woolen

8 ends Black 2/24's woolen

3 " Olive "

3 " Stained "

twisted to untwisted
spun silk (rough).twisted to untwisted
spun silk (rough).

1 end Crimson 2/24's woolen.

1 end Crimson 2/24's woolen.

THE GERMAN LINEN INDUSTRY.

The growth and development of the German linen industry during recent years is a matter to which perhaps insufficient attention has been paid in this country, and a general account of some of the leading features may prove interesting. The quality of many classes of German goods has long had a prominent name, but we have been accustomed to consider the manufacturers, as a whole, much behind us in their efforts to adapt themselves to modern requirements, and to adopt all the advantages which the power-loom offered. The advance made in this direction, however, during the past fifteen years—say, almost since the prosperity consequent on the recovery after the Franco-Prussian war—is too important to be ignored, and the position meantime has undergone a complete change. Spinning mills and power-loom factories have been erected in all directions with a degree of success which offers to be permanent. The newest systems and methods are readily adopted, and German goods are competing with Irish and Scotch in many markets where there was scarcely any competition to be feared in former times. This competition is especially severe in regard to the United States trade. When one considers the immense German population in America, the position held by many of them, and the success they have attained as industrial, frugal, and law-abiding citizens, it is easy to imagine the natural outlet for the real productions of "the Fatherland," and many firms have made a specialty of cultivating this trade with good result. It is a thing scarcely known either in Scotland or Ireland that one firm will undertake the sale of the whole export production of a factory from year to year. Agencies are abundant, but there are few, if any, works where one cannot go in and buy what is required either for home or foreign account. It is the case, nevertheless, that many continental manufacturers are so well employed that they will undertake no business outside of their fixed connection, and this seems to work very satisfactorily for both parties.

The natural tendency of the Germans in America to buy German goods does not account, however, for the whole success which

their manufacturers have achieved. They have, on the one part, studied public taste to a great degree, and also the public have come to appreciate the excellence of their goods in quality and design. In doing business, color design and general effectiveness play an important part, and it is here that our continental arrivals are most formidable. The excellence of their bleaching and dyeing is undoubted. The artistic nature of their designs and the high quality of their hand labor, which they have both cheap and abundant, are sources of strength to them in meeting the various wants of customers, and cause our manufacturers no small trouble in present times, when competition is so keen.

Bielefeld has been called the Barnsley of Germany. The people pride themselves in making goods almost too good for general use, and too expensive for anybody to buy. The quality of even their common articles is certainly relatively better than is obtainable elsewhere. The price may be higher, but the value is undoubtedly there. Times have changed considerably, however, with the introduction of steam power, and there is a greater variety in the goods now being manufactured, and the general excellence is perhaps not so conspicuous as formerly. Goods of the highest quality and design are, of course, still being manufactured, but the necessity for getting rid of a larger production has forced manufacturers into different channels, and has occasioned increased variations both in styles and qualities. It is significant of the tendency of trade that even in this ancient home of the linen industry manufacturers have been forced to some extent into union goods, and one finds not a few numbers half cotton and half linen. This, it is feared, will be an increasing feature in future—both on the score of cheapness and adaptability—to the detriment of the older and more durable, if less slightly, pure linen goods.

It is unnecessary here to give any outline of the older industry, its early establishment, the struggles with the counts and princes—some of whom fostered and others hindered the trade by heavy burdens—the entry of Bielefeld into the Hanseatic League just about the time of its collapse, etc.

The finest description of linen goods manufactured in Bielefeld are still made on hand-loom wrought by men, and it would convey a wrong impression were we to omit some reference to this branch of the industry. In addition to the various manufacturers already mentioned, there are a great number of dealers and merchants, collectors of hand-loom goods only (or combining this with power-loom manufactures), who are doing a very extensive business, both for home and export. All round, the town is studded with little homesteads, which have accommodation for one, two, three or four damask or jacquard looms. The system of work varies with different firms. In a few cases the looms belong to the workers, who hire out their labor to certain merchants, who supply the yarns. Generally, however, the looms belong to the merchant or manufacturer, who supplies his own designs and yarns, and puts his own weavers in possession. Good weavers are thus promoted to the charge of more than one loom, and where there are three or four looms there is a master weaver or overseer. The qualities of these hand made damask goods are most excellent, and will match the best productions of Belfast, Barnsley or Dunfermline. Special attention is paid to designs, and with a richness of art and feeling for nature which we are slow to follow, unless in the highest qualities. Geometrical patterns are made in great variety and in good effect. A Grecian pattern is Grecian, and Moorish is Moorish, and where floral designs are wanted, some consideration is had to a natural combination. One does not find trees growing out of a solid square, or ferns spread over a chequer board like so many chess men. The German manufacturers do not expect to gather "grapes of thorns or figs of thistles." A style in much favor at present is the "Rococo" of the time of Louis XIV., and is very rich, elegant, and effective.

For a long period Bielefeld has been famed for a particular class of work, viz., "wappentücher," literally weapon cloths. These are cloths specially designed with the armorial bearings of the different counts, dukes, and kings of Germany, and, when one considers the number of the petty courts and royalties to be supplied, it can be readily understood that there is here a distinct field for industrial enterprise. Whether they all pay cash or take long credit

we did not feel it our duty to inquire. This branch is almost monopolized by two or three firms, however, who to all appearance thrive on it.

The working hours in the factories are 60 per week—a ten hours' day. They start at five o'clock in the morning and work right on till one, with a break of about 20 to 30 minutes for breakfast. For dinner the time extends to about an hour and a half, as many of the workers have great distances to go to their homes. Then work is resumed until six or seven o'clock, with a similar break of 20 to 30 minutes during the afternoon. The arrangement varies at different works, but the total working week is the same. Only in one factory is there a free Saturday afternoon. The firm have made a special arrangement with their workers to curtail the long intervals, so as to allow them freedom on Saturdays for working on their vegetable gardens and bits of land. This arrangement is giving satisfaction, but has not yet been followed by other employers, although the workers consider it a great boon even although still doing their 60 hours. With the hand looms it is different. The men are almost entirely on piecework, and it would be impossible to give any details of their hours. Some of the best weavers, however, are said to make what, in Germany, are considered good wages, and from the appearance of their homes they seem to live in some degree of comfort. Perhaps the rearing of pigs for the famous Westphalia hams brings in an additional pittance. Into the wages at the factories we cannot enter fully. The hours are longer than here, of course, and the wages seem as a whole lower. From information gathered from different sources the average wage of a factory weaver is from 10s. to 12s. for the 60 hours, but there are good hands who earn the maximum, and indifferent ones who reap only the minimum.

THE AUSTRALIAN WOOL SEASON.

Fuhrmann & Co., Ltd., Melbourne and Sydney, report to the CANADIAN JOURNAL OF FABRICS as follows, under date 21st December, 1894. The period elapsed since the date of our last summary (23rd November) has been one of great activity, and catalogues have been large and attractive. Competition has been vigorous throughout, but the course of the market must be described as somewhat irregular. Towards the end of November the cables from London announced a firmer tone, and during the first week of December our market showed a palpable improvement. A large show of light-conditioned, well-grown and free greasy East Riverina wools elicited brisk bidding and owing to a keen competition from English and American quarters, coupled with larger operations for French account the choicest parcels readily fetched an extra farthing, and prices for shafly light wools must now be quoted as reaching nearly the highest level of the season. Soft and fine greasy wools have been relatively scarce, and without an actual rise being quotable for these qualities, the prices paid showed great steadiness owing to a lively competition by German representatives. Average greasy fleeces, as well as all sorts of greasy pieces and bellies, have been more or less ruled in buyers favor. Lambs' wools, too have been somewhat easier, except light and free superior lots, which enjoyed a brisk demand for American and Scotch accounts.

There has been a steadily falling market for cross bred wools of almost every description. At the beginning of October good cross-breds sold at relatively high prices as compared to merino wools, but a weakness soon set in, which has since developed until some descriptions are now 2d. per lb. below the best rates of this season and even at these low values inferior and faulty crossbreds are difficult of sale. Secured wools, of which little has been offered lately, has not excited much competition, and prices have been somewhat irregular especially for faulty descriptions. The total business done so far in our three colonial markets shows the following results:—

	1894.		1893.		1892.	
	Offered.	Sold.	Offered.	Sold.	Offered.	Sold.
Melbourne—						
Geelong.	294,700	257,000	291,000	268,300	292,200	261,400
Sydney..	335,200	270,700	317,200	265,700	268,200	237,800
Adelaide..	79,300	63,400	68,400	62,100	60,000	53,100
	<u>709,200</u>	<u>590,100</u>	<u>676,600</u>	<u>596,100</u>	<u>620,400</u>	<u>552,300</u>

A number of clips hitherto shipped to London have been disposed of in the colonial markets, and fairly good catalogues are promised for the next month, which will virtually close the Melbourne season.

NEW DYESTUFFS.

Wm. J. Matheson & Co., Limited, of New York and Montreal, call our attention to a sample card with dyeings, which they are distributing to the trade, illustrating another very valuable addition to their list of diamine colors, namely, Diamine Brown B. Pat'd. This, one of the latest additions to the list of diamine browns, is a direct dyeing dark brown dyestuff, and should fill a still existing want, owing to its excellent fastness to light and its great covering power. The shade of Diamine Brown B., the yellow cast of which when looked at across the surface (overhead) makes it very valuable for the production of full and dark browns, is only obtainable thus far by combining cutch and logwood.

Diamine Brown B. dissolves in hot water readily. When the solution is cold a portion of the color precipitates, but will dissolve on warming.

Cotton is dyed at the boil with the addition of 5 per cent. soda and 15 per cent. Glauber's salt, or with Glauber's salt only. The color is equal in fastness to washing to all similar products. Its fastness to light is even superior to that of our Diamine Brown M., which excels in this respect. Hot ironing and calendering reddens the shade temporarily.

Dyeings of Diamine Brown B. are not affected by diluted acids or alkalis. As Diamine Brown B. dyes very evenly, it is well adapted for shading purposes and the production of light colors, and it can be easily discharged with zinc dust or acetate of tin. It is not designed to be diazotised and developed.

By treating dyeings of Diamine Brown B. in a fresh bath at the boil for one quarter to half an hour with 2½ per cent. bluestone (sulphate of copper) and 2½ per cent. bichromate of potash, the shade is somewhat brightened and the fastness to washing is greatly increased. The color is not well adapted for wool and other animal fibres, and is not therefore well adapted for mixed goods.

CANADIAN FAILURES IN 1894.

Bradstreet's report of the failure statistics for the Dominion of Canada and Newfoundland during the past year is as follows: Ontario, 794; Quebec, 706; New Brunswick, 90; Nova Scotia, 111; Prince Edward Island, 7; Manitoba, 68; Northwest Territory, 12; British Columbia, 63. Total, 1851 Newfoundland, 22.

R. G. Dun & Co.'s report is as follows:

ONTARIO.—Manufacturing, 243 failures, with assets \$1,874,240, and liabilities of \$2,424,469. Trading, 577 failures, with assets of \$3,205,942, and liabilities of \$3,763,073. Other commercial, 6 failures; assets, \$79,954, and liabilities \$106,900, making the total of commercial failures 826, and assets, \$5,159,776, and liabilities, \$6,288,442.

QUEBEC.—Manufacturing, 175 failures; assets, \$1,858,688; liabilities, \$2,490,559. Trading, 479 failures; assets, \$3,643,611; liabilities, \$5,003,690. Other commercial, 10 failures; assets, \$44,355; liabilities, \$177,172, making the total commercial failures 664; assets, \$5,546,657, and liabilities, \$7,671,421.

BRITISH COLUMBIA.—Manufacturing, 17 failures; assets, \$176,873; liabilities, \$129,656. Trading, 61 failures; assets, \$870,200; liabilities, \$795,450. Total commercial failures, 78; assets \$1,047,073, liabilities, \$925,106.

NOVA SCOTIA.—Manufacturing, 21 failures; assets, \$78,500; liabilities, \$122,600. Trading, 95 failures; assets, \$313,627; liabilities, \$473,480. Other commercial, 1 failure; assets, \$1,000; liabilities, \$3,500. Total commercial failures, 117; assets, \$393,127; liabilities, \$599,580.

MANITOBA.—Manufacturing, 22 failures; assets, \$156,754; liabilities, \$159,869. Trading, 60 failures; assets, \$480,306; liabilities, \$448,115. Total commercial failures, 82; assets, \$637,060; liabilities, \$604,984.

NEW BRUNSWICK.—Manufacturing, 15 failures; assets, \$231,-

230; liabilities, \$568,425. Trading, 65 failures; assets, \$452,994. liabilities, \$883,287. Total commercial failures, 80; assets, \$684,224; liabilities, \$1,451,712.

PRINCE EDWARD ISLAND—Manufacturing, 1 failure; assets, \$1,620; liabilities, \$2,807. Trading, 6 failures; assets, \$38,196; liabilities, \$60,206. Total commercial failures, 7; assets, \$39,816; liabilities, \$63,013.

NEWFOUNDLAND—Trading, 2 failures with assets \$2,323, and liabilities, \$8,957.

The total failures for Canada and Newfoundland, then, are given as follows: Manufacturing, 494 failures; assets, \$4,377,905. liabilities, \$5,898,385. Trading, 1,345 failures; assets, \$9,007,191. liabilities, \$11,436,258. Other commercial, 17 failures; assets, \$124,952. liabilities, \$281,572, making the total commercial failures 1,856, assets, \$13,510,056. liabilities, \$17,616,215.

BRUSSELS IN CANADA.

Canada will have a body brussels factory, and that soon John C. Duckworth, the New England inventor, dead ere his prime, will have the honor of weaving the first brussels ever made in the Dominion of Canada. That is to say, the weavers giving Canada her first brussels will produce them on the Duckworth loom. The posthumous fame is Duckworth's. It comes about this way: Well-informed carpet men are aware that young John C. Duckworth, whom the late E. S. Higgins brought into prominence, invented and perfected a remarkable loom, each, for ingrain and brussels carpet. For ingrain no more effective shading loom was ever constructed. What its defects were we are not prepared to say. The number made was limited, but Mr. Higgins always contended that its execution was wonderful. Montague & White used a few of them in Philadelphia; but either from their intricacy, or cost, or something else, the Duckworth loom never came into general use outside the Higgins Mill, in New York city. What we have said of Duckworth's ingrain loom applies equally to his loom for body brussels. The latter was a marvellous machine, and the few used by Messrs. Higgins & Co. yielded a beautiful fabric. Within a month ten of the Duckworth brussels looms have been shipped from the Higgins mill in New York to Canada. They are in prime condition, and Wm. Talbot, who bought and shipped them to Canada, asserts that they will produce either common or fine body brussels in a manner to rejoice the Canadians. These looms ought to go into Canada free. As it is, they must pay 30 per cent. duty. However, they are going in there, notwithstanding the duty. We salute Canada! May she become the "seat," and the front seat at that, of a great brussels industry! Doubtless the town which comes down with the dust will get the industry. E. B. Bigelow, of New England, gave old England her first power brussels loom. John C. Duckworth, of New England, has given Canada hers.—*Am Carpet and Upholstery Trade.*

LITERARY NOTES.

Mrs. Traill's "Notes of an Old Naturalist" are the compilation of notes made during various periods of her long life spent in the Old Country and the New. We catch glimpses of the Old World life in early childhood in her first home, Stowe House, on the banks of the Waveny River, and near the old historic town of Bungay, Suffolk, of gleanings in the old garden and among the flowery lanes and woods near her later English home, Reydon Hall, but, more interesting to us, among the woods and fields of her adopted and much beloved country, Canada, where first she learned to study the wild flowers, the birds and wild animals, the forest ferns and mosses and grasses, now largely swept away before the march of civilization. These things she has chronicled, ever pointing to them as the works of an infinitely wise and great Creator. Staff in hand, we find her on the rocky islands of Stony Lake, seeking for new treasures of flower or grass, ferns or mosses; or quietly in her arm chair, pen or book in hand, as we see her in the portrait forming the frontispiece to the forthcoming volume, taken when in Ottawa in her 83rd year—now ten years ago—while superintending her book, "Studies of Plant Life in Canada." In such sketches as

"The First Death in the Clearing" and "Alone in the Forest," Mrs. Traill, in language full of pathos and beauty, gives the reader a vivid insight into the sorrows, the privations and the perils endured by the early settlers. Most interesting to the present generation are these chapters written by our author sixty years ago in the midst of the then almost unbroken forest that surrounded her new Canadian home. The new book is handsomely printed by Wm. Briggs, Toronto, and not the least entertaining feature of it is an introductory biographical sketch by Miss Mary Agnes Fitzgibbon, author of "A Trip to Manitoba" and "A Veteran of 1812," warmly commended in this journal some months ago.

The leading feature of *The Century* continues to be the "Life of Napoleon," by Prof. William M. Sloane, which, in the February number, reaches the topic of Bonaparte's first military success. After describing the rather shifty policy of Napoleon in relation to the Revolution, Prof. Sloane recounts the circumstances surrounding the famous pamphlet, "The Supper of Beaucaire," and then takes up Napoleon's decisive success at Toulon, and his appointment as a Jacobin General, thus covering, in all, the larger part of the period from the time of the expulsion of the Bonapartes from Corsica to the marriage with Josephine, which will be reached in the March instalment. The illustrations of the present number are from originals by David, Flameng, Lejeune, Jimenez, and other painters, together with drawings made especially by Castaigne, Pape, and others, after careful studies of the period. The narrative now rapidly approaches the first great campaign in Italy, which was regarded in later life by Napoleon as the greatest achievement of his career. Two articles of special novelty are: Mr. Victor Louis Mason's authoritative account of the new national armament, with many illustrations, *never published for the first time, and an account by Mr. R. Dorsey Mohun, U.S. Agent in the Congo Free State, of "The Death of Emir Pasha,"* including statements to the writer by men who participated in the murder of Emin. This account, told with much particularity, is a valuable addition to the history of African exploration.

THE absorption of the *Empire* by the *Mail*, now known as the *Daily Mail and Empire*, ought to be on the whole a gain to Toronto journalism. It was felt that there was one morning paper too many for the financial safety of the fraternity; and while the present combination ought to ensure solidity to the new concern, it is believed that the *Mail's* support of the Government will not be of that hide-bound sort which as often weakens as strengthens a government in the eyes of a community.

THE manufacture of machine-made embroideries in Eastern Switzerland is rapidly increasing, and now the value of the annual production is about \$20,000,000. About 24,000 hand embroidery machines are at present in use, the industry being carried on chiefly in the district of St. Gall. Steam machinery has been recently introduced, but it remains to be seen whether it will entirely replace the old-fashioned hand machines. A crisis in the trade was reached in 1872, owing to the competition of the lace workers of Nottingham and to the introduction into Germany of the one-needle chain-stitch machines, which brought about the production of an inferior product at greatly reduced cost. The embroidery industry of St. Gall after that became diverted gradually from large factories into the houses of operatives, where one or perhaps more machines were run for very long hours. The trade then fell into the hands of merchants, who furnished patterns and disposed of the goods turned out by the embroiderers at their homes. Since that time there have been two or three periods of serious depression owing to over-production, and in 1882 the "shuttle machine" was introduced, and this competed seriously with the older machines. A brighter feature of the industry has been the enormous increase in the number of lace handkerchiefs exported to America, as many as 700,000 dozen having been sold in a single year. In the meanwhile the prospects for prosperity in the future seem fairly good, the Swiss embroiderers being constantly on the watch for possible new designs and styles, and thus putting on the market a continued stream of pretty novelties.

Foreign Textile Centres

MANCHESTER.—The activity in the cotton market has continued and even increased. Spinners have been willing buyers, and brokers have let the raw material go without any material change in price. Quotations for "spot" continue, as for many weeks past, in the immediate neighborhood of 3d per lb. At present there is a lull in the prophetic department, and the estimate of upwards of ten million bales is generally accepted. It may be well to note that the bales are heavier this year than usual by nearly 10 lbs a bale, a fact which should be taken into consideration in crop calculations. Both yarn and cloth have to some extent shared the increased business of the last week or two. Yarns for home consumption have been more freely purchased, and export bundles have also been in fair demand. In cloth the orders have been very unequally distributed. Good China shirting makers are well in order. Favorite makes are engaged up to end of April. India, however, continues very quiet, and the compact to refrain from purchasing light goods in Calcutta is being well kept. This agreement does not expire for another month. Meantime, looms usually employed on these goods are idle. India shirtings are also in very slow demand. Mexicans have been extensively sold. The smaller markets call for no special remark. The home trade has scarcely commenced purchasing yet. In the waterproof trade more business has of late been done on colonial account, especially with Australia. Dark woolen prints have been in fair demand, but the sale of printed Melton overcoats has been unsatisfactory. Covert tweeds and worsteds have been cut up freely for some special make of overcoats. The silk manufacturers of this district have been busier lately with the silks, and they appear to be gradually regaining this trade, which was almost entirely taken from them some time ago by Swiss and German competitors, with their cheap makes with cotton backs, and the silk thrown upon the surface.

BRADFORD.—The prices of both mohair and alpaca keep firm, and there seems to be some hope of a revival in the local mohair industry through the growing use of braid for the ornamentation of ladies' dresses. Elaborately braided and embroidered gowns are one of the great features in the dress of to-day in fashionable circles. As both coarse and fine braids will be required when this fashion extends to the "million," it is difficult to appreciate how quickly it may affect the mohair industry, which is practically confined to the Bradford district. If, in addition to this, the taste for mohair and other lustrous dress fabrics, which is already evident in the United States, should extend to the continental and home markets, Bradford will soon be itself again. With the exception of the mohair branch above referred to, the general worsted yarn trade, both for the continental and home markets, is quiet. There has, however, since the commencement of the year been a good deal of sampling going on in yarns suitable for dress goods of the serge order in preparation for the coming winter season. There is a rather brighter feeling prevailing in the piece trade, and some of the home trade houses report the year as starting very well indeed, the most successful lines so far being quiet Bradford-made fancies. Better business is also being done in dress goods for Australia, which is reported to be slowly but surely recovering from the recent collapse. The purchasing power of Australia and the Cape must, however, be seriously crippled as long as the present abnormally low prices of wool and corn continue to rule. Should even a ten per cent. rise take place in the price of these commodities business would at once be greatly increased.

DEWSBURY.—In the heavy woolen districts of Dewsbury and Batley business is improving, and makers of low tweeds and printed goods are in some instances fully engaged for months to come. I find that the possibility of the United States taking good quantities of the better class fancy mantle cloths made in this district is being already borne out. Two firms have already received some good orders of these goods for that market. The extremely wintry weather of the last fortnight has improved the demand for better class blankets and rugs, as the stocks of both merchants and drapers are down to a very low point.

LEEDS.—Business in this district has not altered much, with a cheerful outlook for the new year. The better class of worsteds in both plain and fancy styles have met with increased favor, the demand for the United States having improved considerably lately, and a good business with that country is being looked for during 1895. In serges a large quantity of goods of various qualities are being sold, this make of cloth having been in such favor both for home consumption and export. In worsteds, serges, and woolen fabrics generally, suitable for the ready made trade, a fair business has been done, still, makers of these could turn out more goods if the demand warranted this, but the general slackness in other branches of industry has caused money in the hands of the working classes to be rather scarce, so that this branch in Leeds has been much affected during the past twelve months. In the finer and medium qualities of chevots and tweeds a moderate business has been done, and considerably larger than was the case in December of 1893. In mantle and dress goods, business keeps up fairly well. As regards prices, there is no change to note in any branch.

BARNESLEY.—Business on the whole has been fair, with a prospect of a cheerful character for the present year. Stock-taking has been the rule, and consequently orders have been fewer. In table damasks there is little new to note, and the same may be said of the demand for carpet, stair, and other coverings, as far as the home trade is concerned, but for export to the United States some fairly good orders have been booked, in fact, the demand for that country has improved considerably lately for nearly all classes of goods. In drills, business has kept up well, the chief demand having been for the various States in South America, whilst the call for other makes of fabrics for these countries is on the increase, and is expected to reach a considerable bulk early in 1895, as inquiries have come in freely. In domestic goods, there has been a quiet feeling, but it is not thought that there will be any falling off in demand for some months to come, and manufacturers are in hopes of a better trade in the near future. Hand-made goods are rather neglected, and it seems as if this branch would gradually be extinguished. Prices, although low, are moderately satisfactory.

LURGAN.—There is, though slow, a steadily increasing demand for all classes of linen cambric goods, both in woven bordered cambric handkerchiefs and in plain linen cambric for hemstitched handkerchiefs, the latter, in fine sets, are a good deal short of the present demand, and they will undoubtedly be scarce and dearer should demand improve as it has been doing, and looks at this time of writing. The demand for hand-loom linen handkerchiefs in coarse and medium sets is moderately good. The output from hand-loom at present is pretty fair, and before the Christmas holidays was very large. Power-loom manufacturers keep fully employed, and expect a good time shortly at advanced prices. Machine hemstitchers have been exceptionally busy, and have been working a good deal of overtime to keep pace with the orders. There is also a good deal being done in the apron and blouse factories. Linen embroidered goods, pillow shams, sheets, centre-pieces, etc., are in demand; hand-loom damasks, napkins, diapers, etc., are moderately active.

LONDONDERRY.—The state of the shirt trade here is shortly and easily described by the word satisfactory. Orders are coming to hand earlier than was expected, and there is some anxiety on the part of buyers for prompt delivery.—*Irish Textile Journal*

BELFAST.—The linen trade cannot as yet be said to show any very decided symptom of improvement. Linen yarns, indeed, have been in much better request, and some rather extensive selling has taken place within the last few days, but prices are little better. In that respect all that can be said is that the downward tendency of prices seems to have been very effectually checked. There are some who predict a substantial advance in yarn prices at no very distant date, but it has not begun yet. Prices of tow yarns are very firm and sales are easily effected at full current quotations. Foreign flax is the turn dearer, but prices of Irish flax remain unchanged. There is a fair prospect of steady and satisfactory trade in the leading branches of the woolen manufacturing industry in Ireland. Notwithstanding the dulness in the trade of the wholesale warehouses, both here and in the principal trade centres

across the Channel; during the whole month of December and part of November, causing an almost entire cessation of repeat orders for winter woollens, it is questionable whether the opening month of any recent year has found the Irish manufacturers occupying so strong a position as they do at present. The spring sales have been of an unusually extensive description, and the leading manufacturers have still orders before them that will keep them fully employed for a considerable time to come. Indeed, so fully engaged have they been, as a rule, up to the present, that in several quarters a good deal of complaining is heard as to delay in completing the first spring deliveries.

GLASGOW.—The South Scotland tweed trade is not showing much improvement, many of the factories being on short time. So far, confirmation orders have not been coming in briskly. A few makers have booked some repeat orders, but generally speaking manufacturers are not busy. Wool and yarn are still very low in price, and it is a trifle surprising that the demand for cloth is so unsatisfactory.

CALAIS.—English embroidery, in all-cotton and all-silk makes, has been well inquired for, particularly in butter colors, although the shades sought are darker. Bourdons of inferior quality are in limited request, and scarcely sell at all. For medium and better grades the demand is better. Chantilly for millinery and dress purposes only has a small sale. It is thought, however, that this staple article will not remain neglected for long, says the *Dry Goods Economist*.

MILAN.—The raw silk market is not active, but prices are firm holders showing little disposition to accept low offers. In greiges, as well as in thrown silks, buyers' offers at prices indicating anything like a concession have met with a refusal, holders being more willing to raise than to lower their demands. Cocoons are firmly held, all lots offered at 9 1-10 to 9 1-5 lire finding ready takers.

LYONS.—Business is beginning to increase and an improved demand is already felt. Manufacturers were, however, still well able to keep their looms at work on previous orders not to have felt the interruption caused by the holidays, as far as the looms are concerned. A good demand is reported for taffetas and failles for skirts and linings. Changeable taffeta is also liked for linings. In dress silks supplementary orders have been received for crystals and bengalines, printed silk and striped and checked taffetas. In light fancies, plain, gaufré and printed goods find good sale for ready delivery, and have also been ordered in advance. Colored embroideries on taffeta ground are in demand at good prices. Some attention is given to surah and merveilleux. A fair business is also being done in piece-dyed goods; in cotton-back satins, however, there is room for improvement. Black damasks have sold in good quantities. Colored damasks are being ordered for future delivery. Lanced effects on satin find buyers, as do also printed taffetas. Crepés are in good demand for ready and for future delivery. The looms are nearly all employed, empty looms being scarce. Prices of goods are firm, this circumstance and the higher weaving wages contributing to make them stronger. The velvet market is quiet, but production on the looms has not decreased, manufacturers working to refill their reduced stock. Ribbons are quiet, but firm. While there is little new business, many looms are working on previous orders. Checked taffeta ribbons are considered good. Velvet ribbons are quiet.

CREPÉL.—The demand for dress and millinery silks is slow at present, and the orders which manufacturers secured in the last two months of last year are coming near to completion without the re-asserting demand having yet started to fill in on the looms the place which the completion of the earlier orders will necessarily leave empty. Dyers are already beginning to feel that new orders are not plentiful and less activity prevails in the dye-houses. The quietness is more marked as far as staple goods are concerned, but fancies are no exception, and for these also production will have to slacken if new orders do not come in soon. Velvets and plushes continue slow, waiting the opening of the order season for fall. Black velvets in better qualities are doing fairly, but with the exception of these pile fabrics generally are slow. Manufac-

turers of velvet did not have a good year in 1894 and expect to do relatively much better in 1895. In order to keep their looms going some manufacturers are working on cotton velvet. More recently some have gone into the manufacture of cotton plushes, an article that is, however, not likely to meet with very high favor, although it has a very good appearance.

ZURICH.—The prospects for this season are very bright. Changeable, striped, and fancy taffetas are in the front. Cheap qualities of surah in colors and some changeable combinations find buyers. Small effects on black grounds and on colored glacé grounds are liked. Satin duchesse in black and colors and faille Francaise are in demand. This promises to be the best season for novelties seen for many years, and all in favor of the specialties made by the Zurich industry. The United States have ordered heavily for spring, and there seems to be a return of the good old times when the industry here could not produce enough for the New York market. But the industry has improved in so far that while formerly the business was almost entirely in the cheaper goods, a successful competition can now also be made in better grade goods.

PLAUBEN.—The local mills have been very busy lately, a number of American orders having been in course of execution. A good deal of business has been placed by buyers for millinery houses, chiefly for Bochsachtel and collars. There has been no inquiry for guipures. Embroidered tulle entredoux in 20, 25, 30, 40, and 50 centimetres seems to be the article on which hopes for the coming season are principally based. A number of designs have already gone out, and are found very delicate and pretty.—*Textile Mercury*.

KIDDERMINSTER.—The very serious state of the trade at Kidderminster, says the *Shuttle*, demands the most thoughtful attention of every one concerned. This is no time for recrimination between Labor and Capital, but rather for mutual sympathy and friendly co-operation. Every one, then, will be glad to read that the Weavers' Association are taking steps to see what can be done to retain some share of the tapestry trade, which has almost left this borough. No intelligent on-looker will blame the weaver for keeping up the price of weaving, and for resisting attempts to lower it. Even if the tapestry trade went to the North in consequence, it mattered but little so long as the weaving population remained fully employed at higher rates in making Brussels and Wilton carpets. But when matters come to such a pass that manufacturers all round are losing thousands a year, and men are walking the streets as firm after firm come to ruin, it is quite another thing. If weavers are out of work in Kidderminster, while those in the North are fully employed, something must be done to get a share of that employment. It is absurd to starve through sticking out for prices which it is now sure cannot be paid by the local manufacturers as long as their competitors in the North are getting the work done for less. Better by far accept the terms on which the tapestry weavers of the North are working. But now that the attention of the Weavers' Association is directed to this most real and urgent question, one feels sure that common sense and the logic of facts will prevail.

JOSEPH ROGERS' fur store in Winnipeg was last month badly damaged by fire. Loss, \$20,000. Insured for \$15,000.

E. E. W. MCGAFFY'S dry goods and tailoring establishment at Lindsay, Ont., was almost totally destroyed by fire a few days ago. Loss on stock between \$30,000 and \$33,000, fully insured.

A WRITER in *Remann's Fieber Zeitung* says that the quality of starch for use in the textile industry may be said to depend upon its capacity to form a paste, and then comes its purity of color and its freedom from small nodules. It must make a thoroughly homogeneous paste—that is, swell in boiling water into a thick, gelatinous mass. At first the paste is perfectly homogeneous, but afterwards it sinks and combines, begins to form lumps, and water collects on the top. The value of the starch for forming a good paste increases with the quantity of water it is able to absorb and with the length of time that transpires before it forms into lumps.

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PIANOS...

PARLOR ORGANS
 CHURCH and CHAPEL ORGANS

Among the Mills

Port Dover, Ont., knitting mills are working overtime

Palmerston, Ont., woolen mills are now in operation again

The Brodie Mills at Hespeler are rushed with orders and are working overtime.

Addison Moyer has secured a position as weaver in the Waterloo, Ont., woolen mill.

A new system of steam heating is being put in at the Collingwood, Ont., hosiery mills.

Merritton, Ont., cotton mill was shut for a short time recently, but is now running as usual.

Thorold, Ont., knitting mill, shut down a few days last month, owing to the explosion of a steam pipe.

The cotton mills at Hochelaga and Ste. Anne's are working full time with their average number of hands employed.

The Grand River Mfg. Company's flax mills at Elora have been consumed by fire. Loss \$4,000; insured for \$2,500.

A scheme is on foot, headed by a Philadelphia capitalist, to start a Brussels carpet factory at Brantford, Ont., to employ about 50 hands.

Jonathan Schofield, manufacturer of undershirts, Oshawa, has added a fine new double machine for fancy top shirts. It cost nearly \$1,000.

Robert S. Fraser reports that orders are coming in very freely from the woolen mills for the garnetted stock made at his new factory in Montreal.

H. W. and A. Lusby's morocco leather and wool factory at Amherst, N.S., has been destroyed by fire. Loss about \$3,000. Insurance, \$1,400.

Jas. Brown, manager of the Kingsville, Ont., woolen mills, was lately on a visit to Detroit, contracting to sell blankets in the American market.

The woolen mills of Grandrad & Co., Sherbrooke, Que., were closed down last month. Mr. Grandrad, jun., has been admitted a member of the firm.

Mr. Cole, of Doon, is thinking of establishing a shoddy mill in Guelph, if he can obtain inducements to do so. The factory would be run by electric power.

Brown & Co. are contemplating removing their woolen mill from Kingsville, Ont., to Leamington. They would bring about twenty-five families with them.

Kenneth Bessey an employe in the Merritton, Ont., cotton mill, was engaged one day last month in keeping the raceway clear of ice, when he fell in and was drowned.

The Dominion Suspender Co., of Niagara Falls, have received from their agent in Australia orders for over a carload of suspenders, in competition with English brace-makers.

Wilfrid Brosseau, who recently bought the hosiery factory of Montgomery & McGinnis, at St. John's, Que., has now 40 girls working on hosiery. The factory is under the superintendence of P. McGinnis.

The Toronto Web Co., manufacturers of elastic and non-elastic web, ribbons, etc., have just put in a new loom for the manufacture of silk belting. They have recently commenced the manufacture of neckties.

The Leamington, Ont., council has offered Brown & Wigle, woolen manufacturers of Kingsville, exemption from taxation, free water, and natural gas at 5 cents per thousand, if they will remove to the former place.

The Oxford, N.S., Mfg. Co. have added to their plant a fancy Knowles-loom. Other new machinery is now being put in, including a fan designed to force the wool from the mixing room on the ground floor to the fourth floor of the main mill, through an 11-inch galvanized iron pipe.

The Eureka, N.S., Woolen Mfg. Co. have elected the following officers: President, M. H. Fitzpatrick; vice-president, W. D. Cameron; manager, C. A. Clarke; and secretary, J. P. McLennan.

The Garden City Carpet Manufacturing Co., St. Catharines, is being incorporated, capital stock, \$10,000. They have bought out Gates & Gardner's plant and stock of carpets, and are now running 27 looms. A new dyeing house is being built.

John Slingsby, superintendent of the Slingsby Mfg. Co.'s mill at Brantford, Ont., has resigned his position, as he intends shortly starting a factory of his own. On the 9th inst. the mill hands presented him with an address and a gold watch and chain.

W. Maguire, Ottawa, has severed his connection with R. H. Gray & Co., overall manufacturers of Toronto, who were burned out and suspended business, and is now travelling over his old territory for the Montreal Shirt and Overall Company of Montreal.

The JOURNAL had a call this month from Alfred Parker, wool stock manufacturer, of New Toronto. Mr. Parker, who has just recovered from his fifth attack of the grip, reports a large demand for the products of his factory, and says there is a better feeling among the manufacturers.

Thompson & Co., manufacturers of bobbins and spools, Sherbrooke, Que., send us one of the handsomest calendars of the year, showing a well executed picture of "The Slave," accompanied by a piece of music under the same title. This firm report a good steady trade during the past year.

A young man named A. Craig was talking to an employe in the woolen mills at Hespeler the other day, when his coat got caught in a cog wheel. A weaver, with great presence of mind, threw off the belt and prevented him from being dragged into the machinery although the coat was badly torn.

Henry Edmunds, carrying on business in Salford and London, England, under the title of Walter T. Glover & Co., manufacturers of rope and twine machinery, electrical wire &c. has taken into partnership Godfrey Blundell Samuelson, son of Sir B. Samuelson, Bart., M.P. The style of the firm will remain as before.

Charles Fraser, designer, of the Globe Woolen Mills, Montreal, is going to take a similar position at the Auburn Woolen Mills, Peterboro. Mr. Fraser's place at the Globe Mills has not been settled on at date of writing. Mr. Johnson, the predecessor of Mr. Fraser at the Auburn Mill, has gone to the Hawthorne Woolen Mill, Carleton Place.

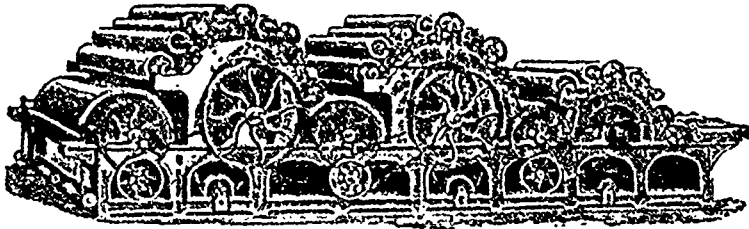
The Standard Shirt Co. (Ltd.), Montreal, capital stock \$200,000, are applying for incorporation, for the purpose of manufacturing and dealing in shirts, collars, haberdashery supplies, and men's, women's and children's clothing of all descriptions. The applicants for incorporation are Wm. Yule, J. R. Gordon, S. Bell, A. McIntyre and C. B. Gordon, all of Montreal.

The woolen mills of Adam Lomas & Son, Sherbrooke, are running full time on orders, and have prospects of a good year before them. The tweeds and dress goods made under the well-known trade mark of this mill, as shown elsewhere in this issue, are deservedly popular in the trade. Jas. A. Cantlie & Co., Montreal and Toronto, are the selling agents of this company.

The third annual drive of the overseers and second hands of the Dominion Cotton Mills Co. at Magog, Que., was held on the 12th ult., the merry-makers driving out to Georgeville. Here they enjoyed a thoroughly good dinner at the Hotel Elephantis, W. T. Whitehead doing the honors as president. The party returned to Magog late in the evening, all voting the outing a thorough success.

Last month a concert and dance were held in the Montreal Cotton Company's Club House at Valleyfield, the occasion being the presentation of the Canadian Football Association League trophy and gold medals to the players who won the championship last season. The chair was occupied by L. Simpson, manager of the cotton mill. Several good songs were rendered during the evening, and the presentation was followed by a dance, which was kept up till midnight.

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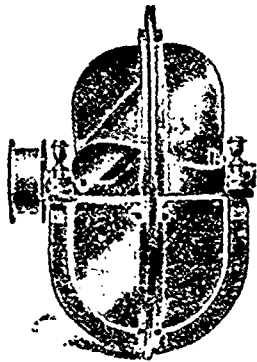
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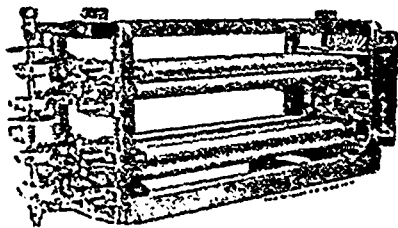
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Manville Wool-Felt Sectional Steam-Pipe Covering

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Motions for Condenser Cards*Are in successful operation on all grades of stock, being generally
adopted because they change carding and spinning
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James Barker, Cotton and Woolen Machinery

Second and Somerset Streets, PHILADELPHIA, Pa.

Manufacturers will note the card of the New York and Boston Dyewood Co., manufacturers of dyewood extracts, and agents in the United States and Canada for Actien Gesellschaft Fur Anilin-Fabrikation, Berlin, Germany, manufacturers of amber colors A. W. Leitch, Hamilton, Ont., who has for a number of years represented the New York and Boston Dyewood Co., carries a large and well-assorted stock of these anilines, and other dye stuffs, which will be found a great convenience to his many customers. Mr. Leitch is widely and favorably known throughout the textile trades of Canada, and reports a good healthy demand for his special lines of dyestuffs and chemicals.

The Paton Manufacturing Co. of Sherbrooke, are very busy just now and report trade improving. Their trade in their special lines of worsted fingering yarns has been very satisfactory during the past year, and they are now preparing some fine lines of samples of these yarns for the coming season. James Meiklejohn, from the celebrated Bliss mills at Chipping-Norton, England, has been appointed superintendent of the woolen department of the Paton mills and has entered on his duties. Richard Martin, formerly boss spinner in the worsted branch, has been promoted to the superintendency of the worsted and fancy tweed department of these mills.

The directors of the Montreal Cotton Co. held their annual meeting on the 12th inst. at the office of the company's selling agents, Stevenson, Blackader & Co., Montreal. Last year's board was re-elected as follows: President A. F. Gault, vice-president, Chas. Garth, board of directors, Hon. J. K. Ward, E. K. Green, R. L. Gault, Jacques Gremer and S. H. Ewing. The annual statement was regarded as very satisfactory and was adopted. After providing for the usual dividends of eight per cent., more than \$85,

000 is carried forward to the profit and loss account. The gross profits on the year's operations were more than \$197,000, and the reserve fund or surplus now amounts to more than \$500,000.

Alizarine black dyes, to which Pickhardt & Kuttroff, of New York, call attention, would seem, judging from the number of indorsements they have received from European government officials, to be the very thing the trade has been looking for. A really fast black is a jewel of the first water, and if, as the tests made in Europe seem to affirm, the alizarines possess this most desirable quality, there is no other country where they will be more quickly appreciated and taken up than in America. The chief advantages claimed for these dyes are absolute fastness, even when the cloth has to undergo considerable abrasion, and cheapness of cost. As the result of tests lasting over two years, several governments, railroads, police departments, etc., in Europe, have decided to adopt them, which proves that the claims of the makers rest on a solid foundation.—*Sartorial Art Journal*.

The annual meeting of the shareholders of the Merchants' Manufacturing Co., cotton manufacturers, of St. Henri, Que., was held at the office of the selling agents, Alex. Ewan & Co., Montreal. The statement submitted was satisfactory. Since last year the company have completed a large extension to their main mill building, and are putting in machinery for the manufacture of bleached sheetings and window shade goods up to 108 inches in width. This is the first machinery introduced into Canada specially adapted for this purpose. The company are running their works full time, and are employing nearly 700 hands. The following are the officers: A. A. Ayer, president; Gilman Cheney, vice-president; R. B. Angus, J. P. Cleghorn, James Crathern, Jonathan Hodgson and Robert Mackay, directors; and William G. Cheney, secretary.

treasurer. Harold Lawton, who has for the past five years been superintendent of the works, and has given the utmost satisfaction, is severing his connection with the company in March, and is to be succeeded by Alfred Hawksworth, of Pontiac, R.I.

The Hyams Bros, brokers, whose arrest on a charge of murder has been the sensation of the month in Toronto and Montreal, ran a glove factory some years ago in Kingston.

ERRATUM.—In the paragraph in last issue, relating to the late fire in Toronto, the loss of Geo. D Ross & Co. should have been stated as \$5,000, not \$50,000. The insurance was \$4,500.

ALBERT J HENDRY, of G. E. Armstrong's dry goods store, Perth, is city traveller at Ottawa for James W. Wood, wholesale dry goods merchant of Montreal, who has recently opened a branch at the capital.

E. B. GREENSHIELDS, of the wholesale dry goods house of S. Greenshields, Son & Co, Montreal, is now travelling in the south of Europe with his wife and mother. Mr. Greenshields does not expect to return till spring

ROBINSON PIRIE leaves per steamer "Warrimoo" for the Australian colonies, sailing on the 16th inst. from Vancouver, in the interests of the W. E. Sanford Manufacturing Company, clothing manufacturers of Hamilton.

J. T. B. LEE, manufacturers' agent, and G. R. and Thos. Buck, of Toronto, are forming a joint stock company for the purpose of buying and selling dry goods and carrying on a general commission and agency business in dry goods. Capital stock, \$250,000.

CHEMICALS AND DYESTUFFS.

The market remains quiet. We repeat our last month's quotations, no appreciable change having taken place.

Bleaching powder.....	\$ 20	to \$ 25
Bicarb soda.....	25	" 35
Sal soda.....	70	" 75
Carbolic acid, 1 lb. bottles.....	25	" 30
Caustic soda, 60°.....	30	" 50
Caustic soda, 70°.....	60	" 75
Chlorate of potash.....	15	" 20
Alum.....	40	" 50
Copperas.....	70	" 75
Sulphur flour.....	75	" 00
Sulphur roll.....	00	" 10
Sulphate of copper.....	400	" 500
White sugar of lead.....	0 07½	" 0 08½
Bich potash.....	0 10	" 0 12
Sumac, Sicily, per ton.....	70 00	" 75 00
Soda ash, 48° to 58°.....	1 25	" 1 50
Chip logwood.....	2 00	" 2 10
Castor oil.....	0 06½	" 0 07
Cocoonut oil.....	0 06½	" 0 07

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Chemicals and Dyestuffs

ANILINE COLORS OF EVERY KIND

SPECIALTIES

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

Also CAUSTIC POTASH FOR WOOL SCOURING

WRIGHT & DALLYN, Agents - - HAMILTON, Ont.

RAW FUR MARKET REPORT.

Montreal, Feb. 15th, 1895

The market is still quiet, though the prospects are somewhat brighter.

Beaver.....	\$3 50	to \$4 00	per lb
Otter.....	9 00	" 12 00	each
Mink.....	1 00	" 1 50	"
Marten.....	1 00	" 1 25	"
Fisher.....	3 00	" 5 00	"
Muskrat, winter.....	0 08	" 0 12	"
Red fox.....	1 00	" 1 50	"
Raccoon.....	0 20	" 0 60	"
Skunk.....	0 20	" 0 60	"
Lynx.....	1 75	" 2 50	"
Black bear, large.....	12 00	" 20 00	"
" small.....	5 00	" 10 00	"

C. M. Lampton & Co.'s January fur sales in London resulted as follows: Raccoon, 30 per cent. lower than March; muskrat, 15 per cent. do.; muskrat, black, same as March; skunk, 10 per cent. lower than March; opossum, 10 per cent. higher than March; mink, 10 per cent. do., marten, 60 per cent. do., sable, Russian, 25 per cent. do.; fox, red, same as March; fox, gray, do.; fox, white, 130 per cent. higher than March; fox, Kitt, 10 per cent. lower than March; fox, Japan, 17½ per cent. higher than October; bear, black, 5 per cent. lower than March, bear, brown, 30 per cent. higher than March; bear, grizzly, 20 per cent. do.; bear, Russian, 30 per cent. do.; Beaver, 10 per cent. lower than last January; lynx, 15 per cent. lower than March; wolf, northern, 5 per cent. do.; wolf, southwestern, 30 per cent. do.; cat, Civet, 30 per cent. do.; cat, common, 10 per cent. do.; squirrel, 15 per cent. higher than March; badger, 10 per cent. lower than March, grebe, 20 per cent. do.; hair seal, dry, 30 per cent. do.; lamb, Tibet, 15 per cent. higher than October; chinchilla, bastard, 15 per cent. do.; opossum, Australian, same as October, wallaby, do., wombat, 15 per cent. higher than October; kolinsky, same as October, monkey, 25 per cent. lower than October; salted fur seal, N.-W. coast, same as last November; salted fur seal, Lobos Island, do.

TO MANUFACTURERS AND COMMISSION MERCHANTS.—Traveller would like lines on commission covering territory from Winnipeg to Pacific Coast, calling on Wholesale Dry Goods and larger retailers. Address, "Travel-ler," P. O. Box 1960, Montreal.

WOOLEN MILL WANTED.—Wanted, a one-set Woollen Mill for local trade. Must be permanent water power and have good local trade. Address, with particulars, Box 142, Smith's Falls, Ont.

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

WANTED—By a Maritime Province mill—a piece sewer and mender. None but a first-class hand need apply. Good wages will be paid. Ad-dress Box 1, Journal of Fabrics, Fraser Building, Montreal.

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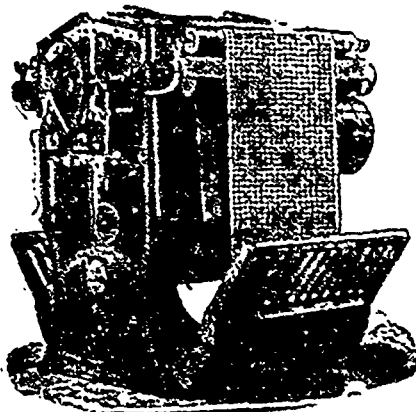
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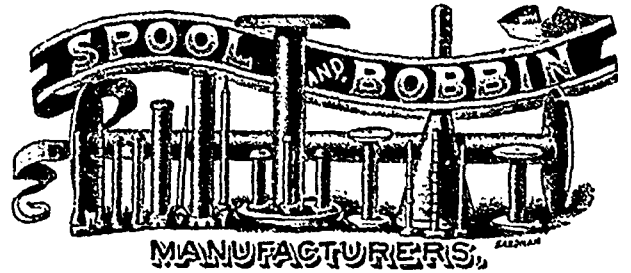


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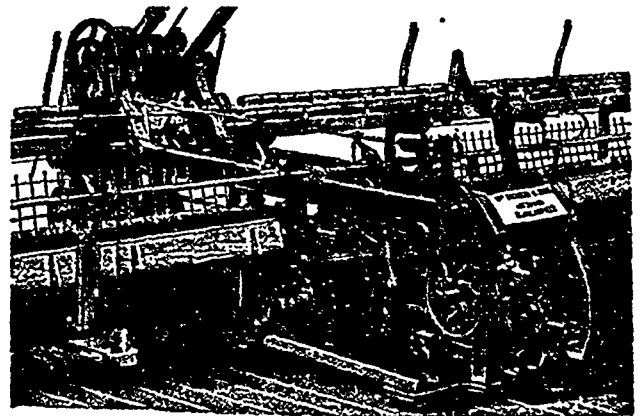
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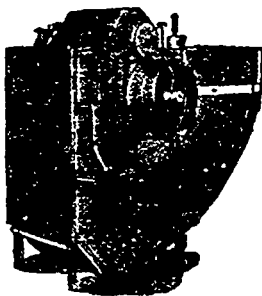
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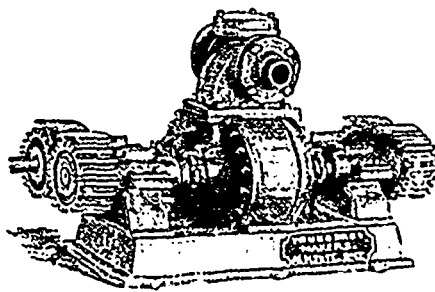
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PAPER TUBES SILK MANUFACTURERS.
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LOWELL... MASS.

THE WOOL MARKET.

The first series of colonial wool auction sales in London for the present year commenced on the 15th ult. There was a poor opening selection, and competition was hesitating and irregular, but it improved somewhat later. There were a large number of buyers for the American market. On the whole, prices showed a downward tendency. New South Wales, scoured, fetched 6½d to 1s. 1½d.; locks and pieces, 6¼d. to 11½d., greasy, 3¼d. to 9d.; locks and pieces, 3¼d. to 6½d. Queensland, scoured, 8½d. to 1s.; locks and pieces, 5½d. to 8½d.; greasy, 3¼d. to 7d.; locks and pieces, 3¼d. to 6d.; Victoria, scoured, 6¼d. to 1s. 1½d.; locks and pieces, 6¼d. to 9d.; greasy, 4¼d. to 11d., locks and pieces, 3¼d. to 9½d. South Australia, scoured, 10½d. to 11d.; greasy, 4½d. to 8d., locks and pieces, 3¼d. to 6d. West Australia, greasy, 3½d. to 6d., locks and pieces, 2½d. to 4¼d. Tasmania, scoured, 8½d. New Zealand, scoured, 4¼d. to 11½d., locks and pieces, 5½d. to 8½d.; greasy, 4¼d. to 9½d.; locks and pieces, 5½d. to 7½d. Cape of Good Hope and Natal, scoured, 5½d. to 1s. 3d.; greasy, 3d. to 6d., locks and pieces, 3½d. to 4d.

The Montreal wool market continues to improve steadily. The advance of 2c. in Canada fleece has been fully maintained. Prices remain firm as follows: Greasy Cape, 13½ to 16c.; Canadian fleece, 19 to 22c.; B.A. scoured, 26 to 32c. In Canada pulled wool 20 to 21½c. is quoted for supers, extra 23 to 26c.; Northwest wool, 11 to 12c.; B.C., 10 to 12c.

The Toronto market also is in a much better condition now than for many months past. The large exports of Canadian fleece combing wool to the United States that have taken place from Ontario, aggregating, it is stated, 1,000,000 lbs., have practically cleaned up the stocks at all the principal points, and it would now be difficult to buy a round lot of Canadian fleece. The large amount exported of late to the United States, and the great reduction in stocks that naturally followed, has advanced the price of Canada fleece combing, and it is now quoted in Toronto at 19c.

Nothing is quoted at 19½ to 20c. There is a better feeling in pulled wools also, in sympathy with the demand for fleece for export. Some pulled wools also have been shipped to the States. Prices are steadier at 18 to 19c., and extra is quoted at 20 to 21c.

RECENT CANADIAN PATENTS.

E. H. Andrews, Dover, Eng., has patented a fastening for ladies' hats, formed from a single length of wire, one end of which is vertical, and forms a shank, and the main part is bent into a curve or spiral form so as to engage with the hair, and a plate fixed on the under side of the hat, with a hole through which the shank passes and serving to carry the fastener.

Solomon Schwarz, New York, has patented a garment clasp, comprising a plate with a slot in it, enlarged at one end and deflected at its inner end. A headed stud or post is adapted to engage with this slot.

John George Haslam, Philadelphia, has patented a dyeing machine, which comprises a dye vat, a yarn frame supported by the lift with freedom of movement upwards, devices to independently reciprocate the yarn frame upon the point at which it is supported by the lift, by means of which the yarn frame may be raised from the vat or carried into it by the lift, but without any disconnection from the same.

J. C. Pennington, Patterson, N.J., has patented a process for retting fibrous plants. To the water used in the process is added a liquid containing microbes known to produce proper retting, and also substances containing nitrogen, phosphoric acid, sulphuric acid, chlorine, magnesia and potash.

T. A. Code, Perth, Ont., has patented a self-acting and pattern knitting attachment for knitting machines. It has, besides, the radially grooved dial and dial post, a cam ring adapted to rotate upon the rim of the dial and having its upper edge formed into a series of cams by inclined planes forming shallow teeth corresponding to the grooves, a cross-bar journalled upon the hub of the dial post at the bottom of the dial and interlocking with the

power edge of the cam ring, a finger on each side of the cross-bar, a stud secured to the under-side of the dial adapted to have a cross-shaft journalled in it, a cross-shaft carrying a worm wheel and a double cam at each end adapted to bear on the fingers of the cross-bar, and a worm secured upon the dial post and gearing into the worm-wheel on the cross-shaft.

J. T. Hogan Jersey City, N. J., has patented a sewing machine in which, attached to the device for imparting motion, there is a plate provided with a projection in the plane of the feed device, and extending beyond the feed-wheel, and having shoulders or projections co-acting with a pin or projection extending from the feed-wheel, the plate co-acting with the feed device periodically to derive motion from it. Means are provided for producing friction to hold the plate in position.

Edmund Kingsley Baker, Springfield, Mass., has patented a spinning machine in which there are an intermittently operating let-off device for controlling the delivery of the roving of a uniformly rotating twister and drawing-rolls having a continuous rotary motion and means for accelerating this motion at the same time with the let-off of the roving.

TRADE MARKS.

The Brainerd and Armstrong Co., New London, Conn., have taken out a patent for thread, cord and twist of silk, cotton, wool, worsted and other fibre for embroidery, knitting, sewing and other purposes.

John Macdonald & Co., dry goods, &c., Toronto, have taken out a general trademark.

Jones Brothers & Co., Manchester, Eng., have taken out a trademark for dusters and polishing cloths.

The Canadian Oil Co., Sarnia, Ont., have taken out a trademark for new oils for use in woolen and other manufacturing industries.

AMERICAN TEXTILE PATENTS.

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

A. M. Guyton, Hopwood, Pa., cloth holding and display reel

C. E. Kelley, Laconia, N. H., circular knitting machine

J. D. Hemphill, Huntington, Conn., feeding attachment for knitting machines.

J. F. Palmer, Riverside, Ill., textile fabric for tubing envelopes.

H. T. Spencer, Biddeford, Me., carding engine stop motion.

W. R. Dillmore, Philadelphia, Pa., circular knitting machine.

R. von Seydfitz, Munich, Germany, loom for weaving Turkish carpets.

W. McMichael, Woonsocket, R. I., loom loose reed motion.

W. Wattie, Worcester, Mass., two patents, loom pattern mechanism.

H. Bardsley, Philadelphia, Pa., thread tension regulating device for loom shuttles.

M. J. Whittall, Worcester, Mass., woven carpet

J. Lancaster, Dover, N. H., pick measuring device for looms.

S. M. Hamblin, New Bedford, Mass., tension device for loom shuttles.

HINCH & Co., dry goods, Napanee, have assigned Liabilities, \$60,000, assets, \$70,000

JOSEPH LALONDE, dry goods, Valleyfield, Que., has assigned, with liabilities of about \$18,000

R. H. GRAY & Co., makers of white goods, Toronto, whose premises were destroyed in the late fire in that city, are seeking a compromise with their creditors at 62½ cents in the dollar.

THE imported goods belonging to the Canada Jute Co., Montreal, which were, as it was shown, wrongfully seized by the customs authorities, have been now released in accordance with a judgment rendered by the Exchequer Court in favor of the plaintiffs in their action against the Crown.

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that absorbs with its rays the colors that once gave a fabric value. Many a yard of fine goods has given to the sun all that made it pleasing, all that made it bright. No reason, though, why the goods should be sold as remnants, or why they should be a loss. Let us

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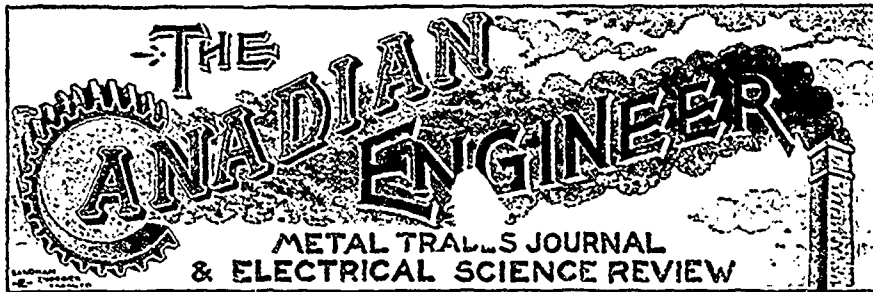
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The success of the *Canadian Engineer* has been unprecedented in the history of trade journalism in Canada, for not only was it encouraged and assisted from the start by able Canadian writers in the various branches of engineering, but it achieved what was still harder to accomplish—a sound financial position within the first year of its existence. The number of subscriptions received, and the number of firms who have sought the use of its advertising pages, have justified the publishers in twice enlarging the paper in its first year, and preparations are now being made for a further enlargement. It is hoped, by this increase, to make it twice its original size. While this will mean a large growth in advertising

patronage, it will also mean a greater variety of reading matter and illustrations for our subscribers

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M. B. LEE & Co., manufacturers of women's garments, Winnipeg, have assigned.

H. A. STONE, dry goods merchant, Toronto, has assigned. Liabilities, \$22,000. assets, \$26,000

SPENCE & Co., dry goods, Kingston, have obtained an extension of time from their creditors.

J. S. MACHAULT, dry goods, Strathroy, Ont., is in financial difficulties. His liabilities are \$15,000.

JOHN FISHER, woolen manufacturer of Huddersfield, England, has been on his annual visit to Canada.

O. FOREST & Co., dry goods, Ottawa, are trying to compromise with their creditors at 35 cents on the dollar.

J. W. DALE, dry goods merchant, Mitchell, Ont., has assigned. Liabilities over \$8,000, assets about \$7,000.

P. J. COLE, dry goods merchant, Que., is wanting to sell his stock, and invites tenders for the whole amount. It is valued at \$36,000.

DOUBRTY & FOSTER, tailors, St. John, N.B., are seeking a compromise at the rate of 30 cents in the dollar. The liabilities are \$15,000.

THE Department of Militia and Defence have given an order for 3,000 pairs of men's calf mitts to W. H. Storey & Son, of Acton, Ont.

SMITH & STREET, dry goods merchants, Seaforth, Ont., have assigned to Jas. P. Langley, of Toronto. Liabilities, \$10,000; assets, \$14,000.

C. E. BENTLEY, of the firm of Blanchard, Bentley & Co., dry goods merchants, Truro, N.S., has been elected president of the Truro Board of Trade.

THOS SONNE, JR., and Jos Colbeck, Montreal, have registered a partnership under the title of Thomas Sonne & Co., as manufacturers of canvas goods, etc.

MRS MAGOIR MAUD SHOVELIN has given notice that she will do business as a dyer, under the name and style of the Parisian Steam Dye Works, Montreal.

MRS. HARRIS VINEBERG, of Montreal, has given notice that she will conduct business as a clothing manufacturer, under the name and style of H. Vineberg & Co.

ROBT PARKER, of R. Parker & Co., dyers and finishers, Toronto, paid a visit to Montreal early this month, calling upon their numerous customers in the East.

WM. CASHES, A. McIntyre, J. K. White & Samuel Herd have registered partnership to carry on a dry goods business in Montreal under the style of McIntyre, Sons & Co.

H. B. SHADWELL & Co., dry goods, Westminster, B.C., have assigned at demand of John Macdonald & Co., Toronto, the latter being creditors to the amount of nearly \$10,000.

THE firm of Hyslop, Caulfeild & Co., wholesale men's furnishings, of Toronto, have dissolved partnership. Mr. Hyslop will continue the business, and W. Hyslop, jr., will become a partner.

THE Chinese-Japanese war has already had some effect on Canadian industry. J. E. Molleur, of St. John's, Que., has 500 tons of braided straw for the manufacture of hats, detained at some inland place in China.

THE erection of a flax mill at Grand Valley, Ont., is talked of, and, to encourage the scheme, the farmers of that vicinity have between them agreed to cultivate about 300 acres of flax for the next two years. The moving spirit is John Park, of East Luther, Ont.

T. G. FOSTER & Co., wholesale upholsterers' supplies and carpets, and Foster & Pender, retail upholsterers, both of Toronto, have assigned to E. R. C. Clarkson, for the benefit of their creditors. The liabilities will exceed \$100,000, the principal creditors being English houses, and the assets will almost equal this amount. T. G. Foster and David A. Pender formerly dealt exclusively in the wholesale trade, but since the destruction of their warehouse by fire a few years ago have carried on a retail business as well. The

loss incurred by the fire and the slowness of collections latterly, brought about the present difficulty.

A WARRANT was issued last month for the arrest of Clinton S. Herbert, dry goods merchant, Toronto. Herbert came to Toronto from Detroit a few months ago, with a capital estimated at between \$7,000 and \$10,000, and stocked his premises with about \$40,000 worth of dry goods. At first he did a good business, but latterly he had been falling behind in his payments, and a few days ago disposed of his entire stock to a buyer of bankrupt stocks at 40 cents on the dollar, for \$9,000 in cash. He then left the city and has not been heard of since. The liabilities are about \$30,000 and the principal creditors being S. Greenshields, Son & Co., and Thibaudeau Bros. & Co., Montreal; and John Macdonald & Co., S. F. McKinnon, Samson, Kennedy & Co., and Alexander & Anderson, of Toronto.

"As fine as silk" is a common phrase to signify extreme fineness, but one which, when rightly understood, is much more expressive, is "as fine as a spider's web," for there is no known thread so fine as that. A single strand of a spider's thread is so fine that the naked human eye cannot see it. What is usually seen is in reality a cable, made up of thousands of strands, the method of making it being one of the greatest wonders of nature. A close examination of a spider reveals the fact that its thread comes from a circular spot near the extremity, and that in this spot there are, according to the kind of spider, from four to six knobs. Each of the knobs is full of minute holes, so small that a good microscope is necessary in order to see them. Through these holes the delicate strands are spun. About an eighth of an inch from the holes the strands are joined together, and the result is the spider's thread, with which all are familiar. The little spinner attends to business as closely and as carefully as does the weaver of the finest silk fabric. It has on each foot three claws, one of which is a sort of thumb, while the others are toothed like a comb. These claws are constantly used to help the strands from tangling before they are joined in the thread. The material from which the thread is made is secreted in the animal's body. It is a glutinous substance, and the strands dry while they are passing from the little apertures to the point where they are joined together. One authority on the subject, Reaumur, calculated that it would take 1,000 spider strands to occupy a space equal to the point of a needle, while another, Leuwenweck, estimated that it would take 4,000,000 of them to make thread as large as a hair. But while the spider's work is the more delicate, that of the silkworm is the more useful. Unlike the spider, whose spinning works are at the lower extremity, the silkworm's factory is near its mouth. The crude material is seemingly much alike in the two classes of spinners—a gummy or glutinous pulp. The spinning appurtenances, however, are entirely different, the silkworm making only two strands for its thread, while the spider makes thousands.

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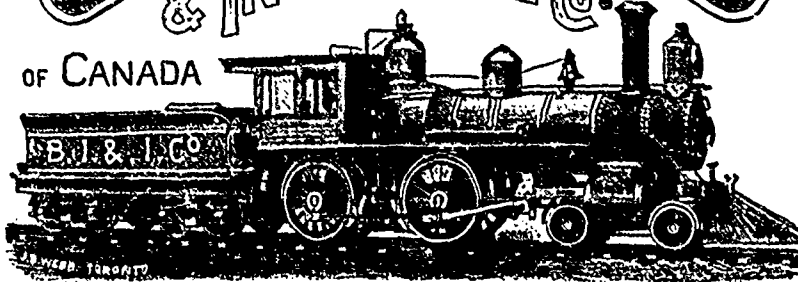
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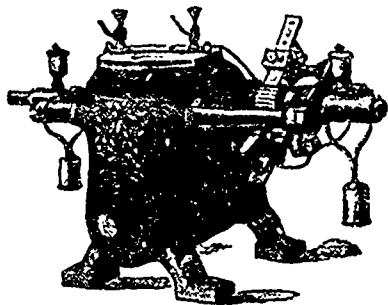
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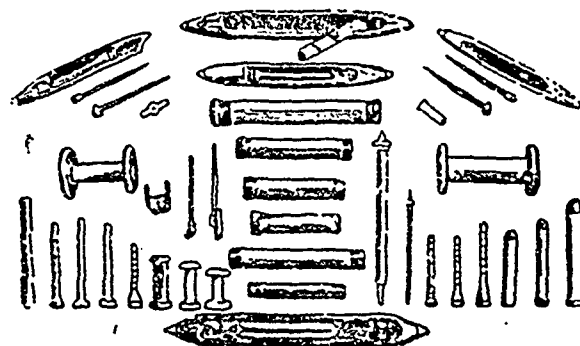
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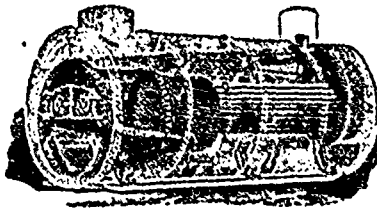
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NO HEAT WASTED

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Large Effective Heating Surface
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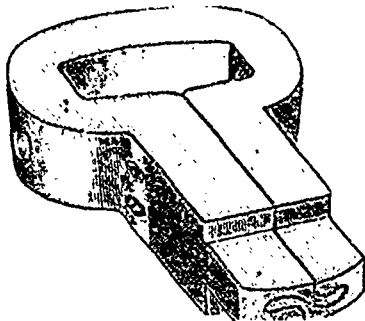
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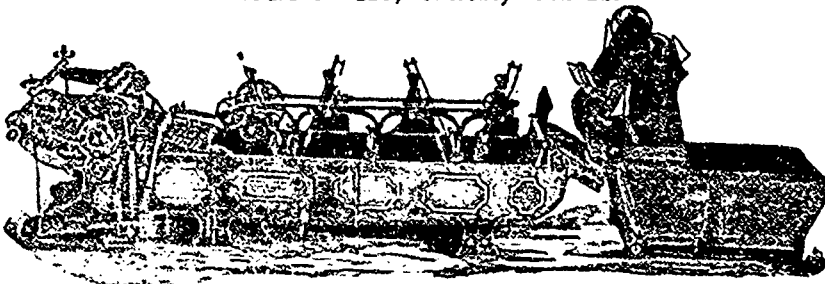
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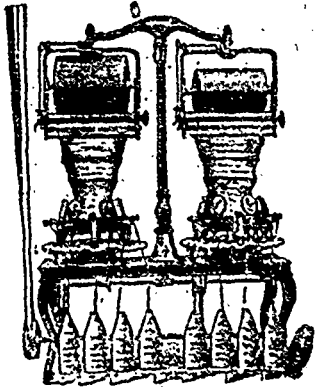
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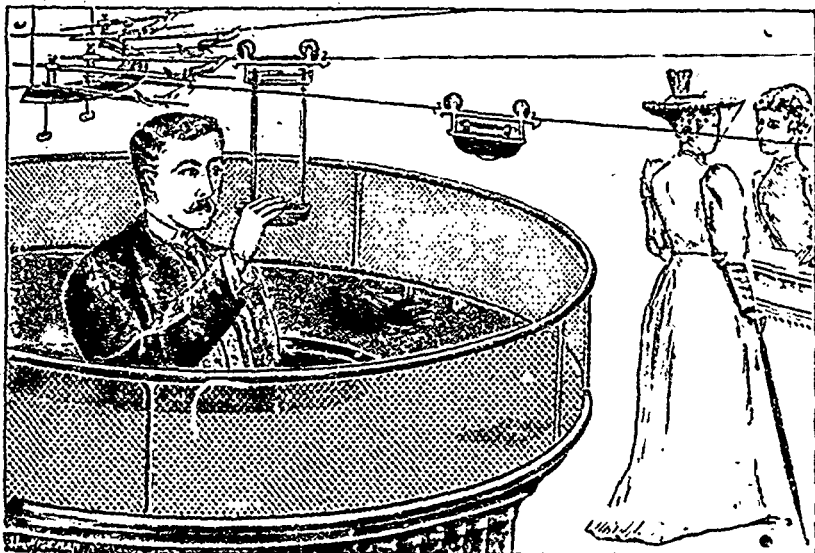
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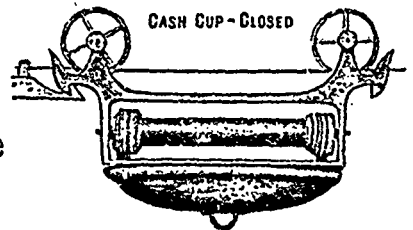
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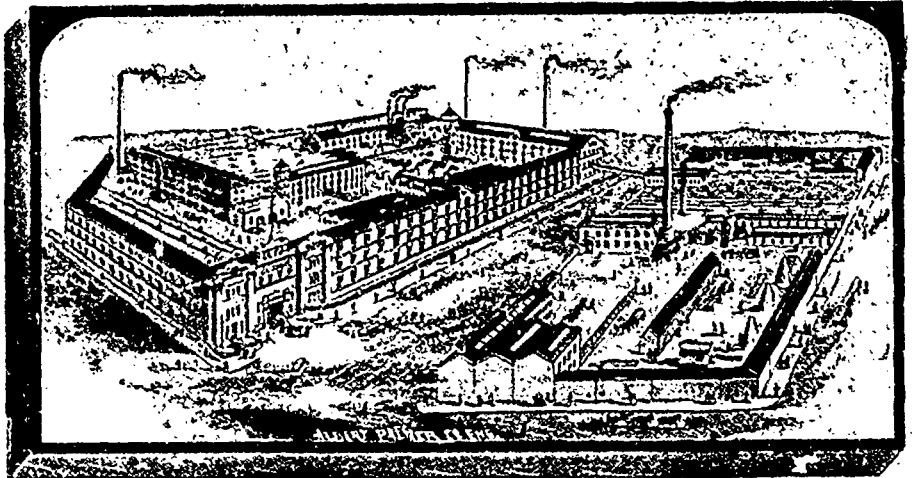
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