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# CANADIAN Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XIV.

TORONTO AND MONTREAL, FEBRUARY, 1897

No. 2

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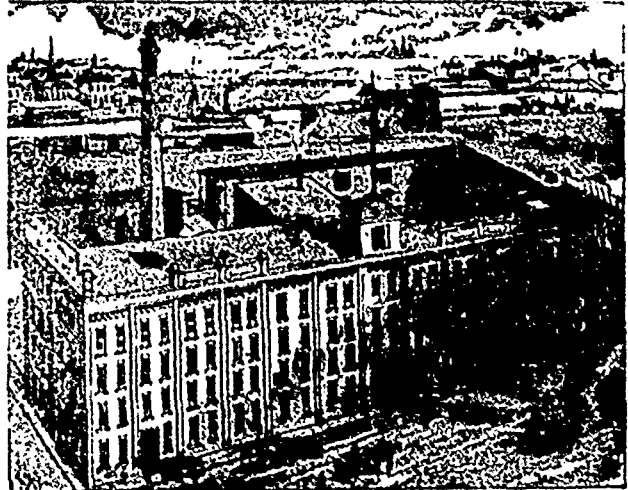
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THE JOURNAL OF THE  
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Vol. XIV.

TORONTO AND MONTREAL, FEBRUARY, 1897

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## Canadian Journal of Fabrics

A Journal devoted to Textile manufactures and the  
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## Editorial

### Novelty Prices.

A new idea in fabrics is produced at considerable expense, and meets with a comparatively small demand. The original producer who succeeds in catching the popular fancy, should endeavor to secure a profit on the outlay before the popular fancy has created a number of imitations which are offered at popular prices. The trade seems, at present, to present a division into those who produce absolute novelties and secure high prices, and those who produce cheap fabrics upon lines already laid down by the manufacturer of expensive goods. Many complaints are made of one mill's copying the patterns of another; but it is a matter in which no law could

be enforced, even if such a course were desirable. A demand for a particular article at a particular price, will always create its supply. In Canada, where the export trade is limited, and the consumers of the more expensive wares are not a large proportion of the population, there is more to be earned by following than leading. The manufacture of standard lines, and the reproduction of novelties at low prices, is the best field of action for our manufacturers. Novelty prices must be left to our brothers over sea.

### Lowell Textile School.

The Lowell Textile School, which has been established by money granted by the city of Lowell and the State of Massachusetts, was opened on January 30th, under what seems the happiest auspices. The establishment of this school indicates a determination on the part of the manufacturers of the United States to maintain their position, not only in the markets of their own country, but in those of foreign countries as well. The increased competition of the German manufacturers throughout the world in the past decade has caused a most careful study of the situation to be made by all those interested in the production of textiles. It has been seen that the skill of the workpeople, and their patient research, both of which are the results of technical education, have enabled Germany to cheapen old processes, or invent new ones, to an extent which, if not met by an equal advance on the part of her competitors, would leave the markets of the world at her disposal. England has established, and is now establishing, technical schools on a most extensive scale, and there is no doubt that now the good work has been well begun on the American continent, it will be extended. It is necessary that Canadian manufacturers should seriously consider their position with regard to this question. Will they remain satisfied with themselves and their methods, until some day they find their markets gone, their plant antiquated, and their employees a generation behind those of their competitors, or will they also establish technical schools?

### The Davy-Faraday Laboratory.

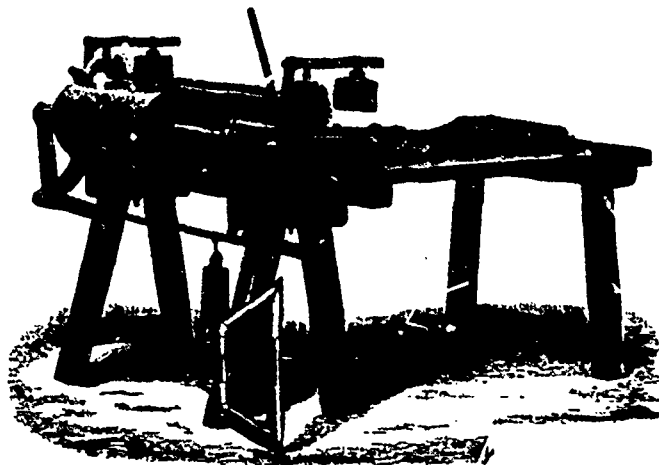
The Davy-Faraday Research Laboratory has been opened, which was established by the munificent generosity of Dr. Ludwig Mond, who provided the huge sum of £100,000 for the purchase, equipment and endowment of this splendid annex of the Royal Institution, London, Eng. It will be open to the experts of all nations.

### WOOL SOAPS.

The matter of what soaps to use in order to secure the best results, is a delicate subject to handle. V. H. Soxhlet, writing in *Liepsiger Farber Zeitung*, notes that the complicated constitution of suint, which contains several unsaponifiable bodies, makes it difficult to find a soap suitable in all respects for wool-washing, especially for wools which contain certain mineral salts, forming with soap clinging compounds of a pitch-like nature, which are difficult to remove. For such wools the old lant baths with pure oil soap are best. In England, where the lant bath has disappeared, olive-oil soap (with soda for inferior wool) is exclusively employed. The use of water-glass is to be avoided; the soda that is in combination with silica is without action, and any free soda will produce the ordinary effect of a caustic alkali, that is to say, it will injure the feel and suppleness of the fibre. The products used most recently for removing fat from wool are soluble oils, especially a castor-oil soap prepared by sulphuring. These work rapidly, and leave the wool with a fine soft feel. In washing woollen yarn several points have to be considered, especially that raw yarn must be treated differently from dyed. The most usual process for undyed yarn is to employ soap and soda with a little ammonia, not forgetting that soft water has advantages over hard that are not to be despised. Soda should not be used alone, as it tends to make the yarn brittle and to give it a yellowish hue. Fine yarns not containing much fatty matter are best washed with pure Marseilles soap. Many practical men always use potash-soap for fine and medium yarns, alleging that the presence of glycerine in those soaps is an advantage. In any case the washing must be regulated according to the amount of fat in the yarn. The washing of dyed yarn is more difficult, and is sometimes dangerous. The chief point is to use strictly neutral soaps. For milling undyed woollen cloth, oleine soap is best, and if the stuff contains much saponifiable matter, soda should also be added. A lather is then more quickly produced. At the present day soda-soaps are specially prepared for woolens. They are usually made from tallow, occasionally mixed with palm oil, and are cheap and lather well. In England oleine soap is not so much esteemed for milling dyed woolens as soap made from the natural fat.

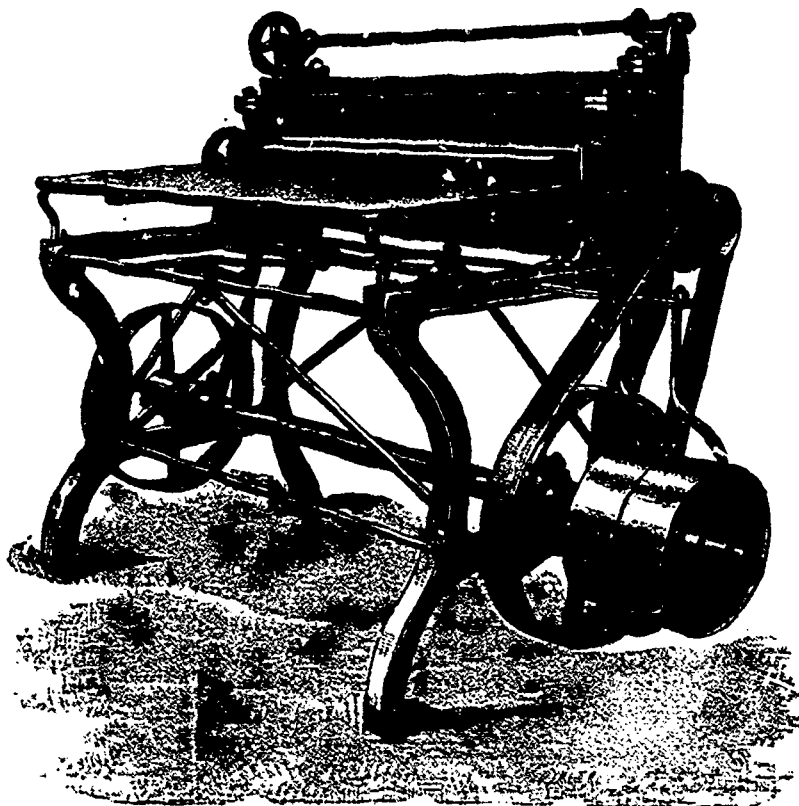
### WILDT & CO.'S KNITTING MACHINERY.

The first illustration shows the new stretching machine for piece goods or such knitted fabrics as come off the machine in rolls. After scouring and dressing such rolls, they are naturally more or less uneven, and the object of this machine is to straighten the fabric and to give it a uni-



WILDT'S NEW STRETCHING MACHINE.

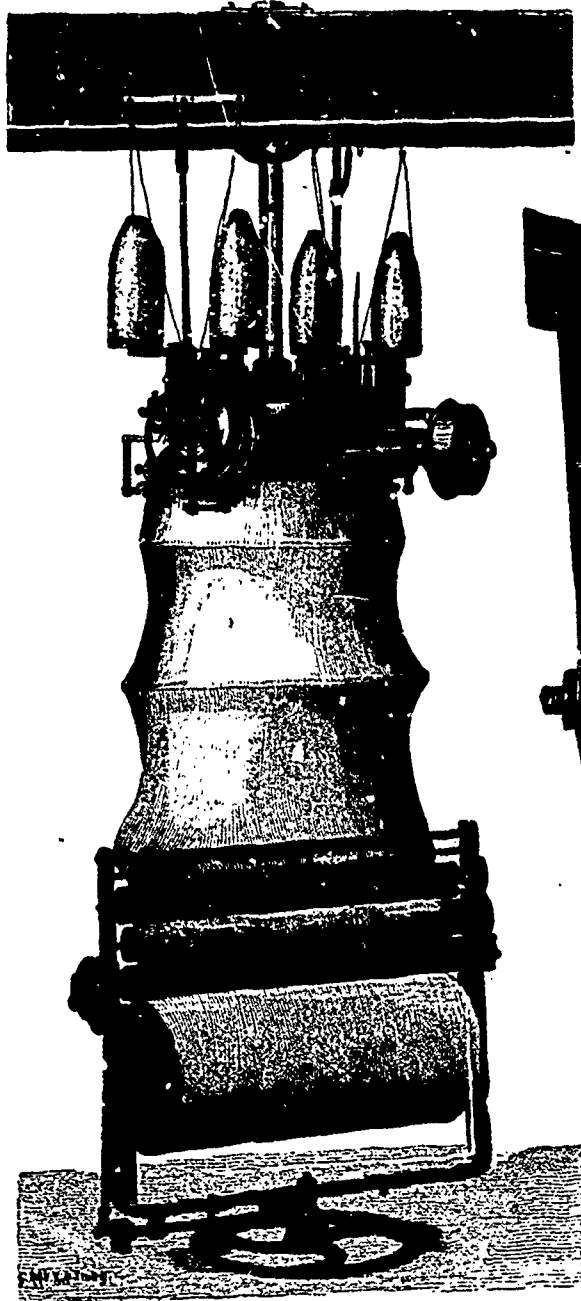
form width, and also to lay the wales straight again. The machine consists of a pair of rollers and a special winding up tackle for winding up the fabric again into a roll after having been stretched. The fabric requiring to be stretched is laid on the table in front of the rollers, and into the web is passed a stretcher, which is so arranged that it can be set any desired width, and which is held in position by revolving wheels, which also prevent the rolling round of the fabric, thus keeping the seams—if there be any—always in the position required at the edges of the roll. The web is then passed through the rollers, which are weightier, and attached to a roller which revolves by friction and winds up the fabric at the same speed as it travels through the rollers, thus giving the web equal width and tension throughout



THE PEGSON BRUSHING MACHINE.

the whole length. This machine is made to run by hand or power.

This machine is much used for raising the nap on knit goods in general. It is fitted with the Wildt patent India rubber feed-rollers, which reduce the chance of damaging the finest fabrics to a minimum. In addition to the India rubber rollers there is an extra set of feed rollers, the top one lifting out of its bearing



THE TERROT MACHINE.

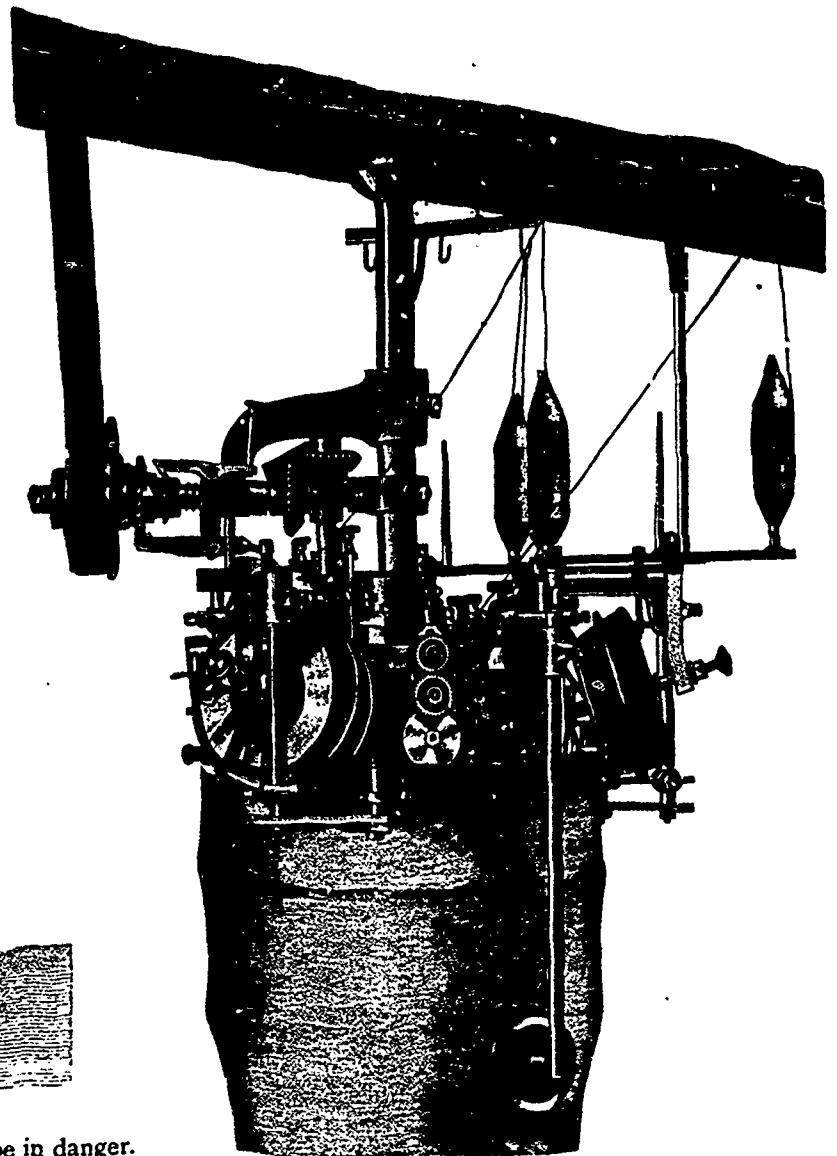
Immediately, should the operator's fingers be in danger. The amount of finish or nap required can be varied by a simple arrangement for changing the speed of the feed rollers.

These machines are made from 27 inches to 50 inches in width, and special widths to order.

The brushing rollers are clothed with either teazles or cards, as required.

In these frames the driving pulley is not placed between any loop-wheels, but above, and thus all the space previously occupied by the shaft and pulley is gained as working space, as shown on the other side. This causes a very large increase in the production, as more loop-wheels can be placed on the frame.

This machine is for making circular fabric and is widely used for this purpose in England, Germany and France. It is provided, as will be seen, with large loop-wheels, with movable sinkers, etc. The sinkers or platines are held in position by guide plates, of which there are two. The driving wheel is conical, and driven by a circular rack on the needle bar in order to turn this loop-wheel. The sinkers are of a peculiar shape, being so constructed and fixed that they are first pushed

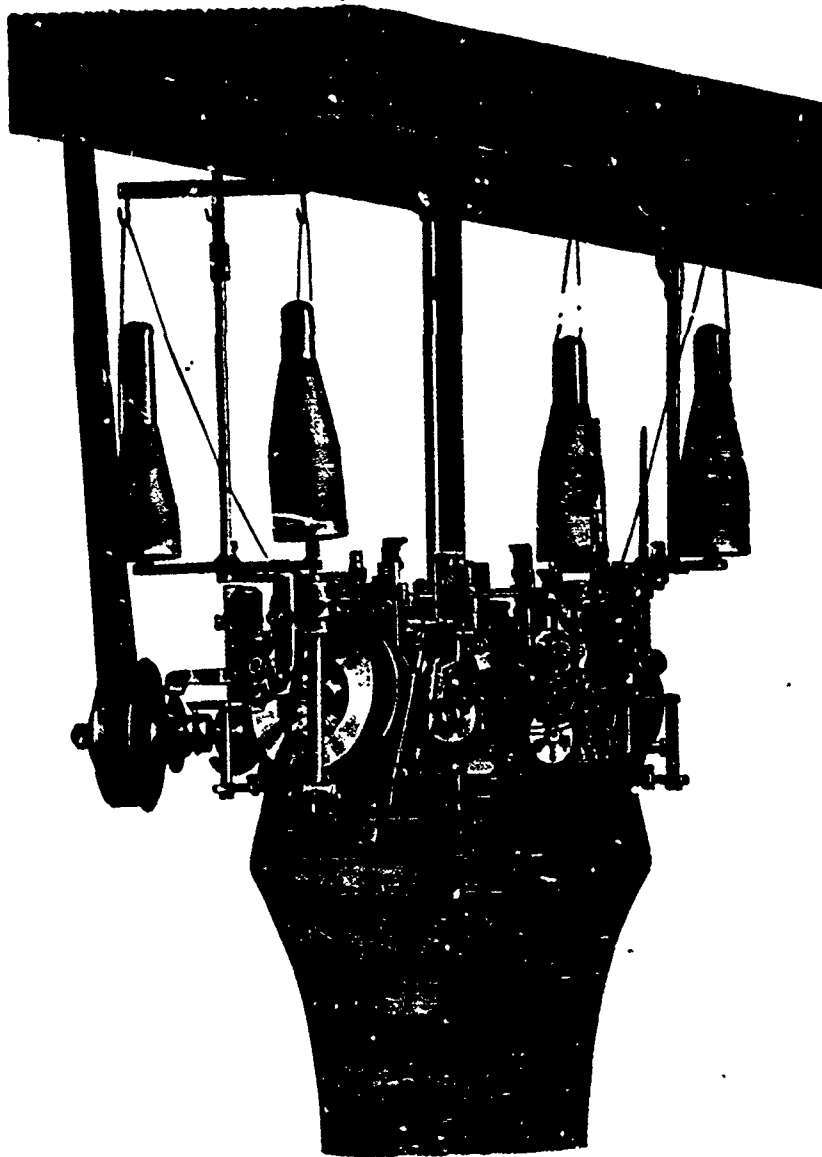


TERROT'S UPPER SHAFT FRAME.

forward above the needles, then lowered, and in revolving lay the loop, and then draw back, laying the new loop under the beards and leaving the needles again cleared. The presser wheel is fixed immediately behind this wheel, while at the back are vertical jacks, which

push forward the old loops on to the needle beards as they are pressed. The needles are pressed and the loops landed, while the new loops are held under the needle beards by the sinkers, thus preventing any of the new loops from falling back. This process is performed in these machines in a remarkably small space, several actions being performed within the space of a few inches of the circumference. A knocking-over cam is fixed to knock over the stitches and an extra clearing wheel is sometimes added to ensure this being

means stop the machine, at the same time throwing out the knocking-over cams, and thus preventing any loops being pressed over, thereby causing no defect in the fabric. An attachment for the similar stopping of the machine when a needle breaks is a simple but clever contrivance, and of such an extraordinarily sensitive nature as to call for admiration. The additional patent of a special winding-up tackle for winding up the fabric into rolls as it leaves the machine, is a special feature. The large Stuttgart loop-wheel has since



TERROT'S STRIPING MACHINE.

perfect. Apparatus are attached to this machine for the purpose of giving equal tension to the thread and to the regulation of the thread for fine or stout qualities. Tuck pressers can also be used, whereby many interesting patterns can be made; also attachments for making lining cloths, astracan, and also other fancy fabrics. A simple contrivance is added for the stopping of the machine whenever a single thread breaks. If, as in some fabrics, from four to twelve single threads are used, the breaking of any one of these will by this

its introduction had many alterations made by the makers of circular machines in Germany, all having in view the special facilities for forming the loop more accurately and giving a greater depth of loop, thus enabling a greater variety of changes of yarn to be worked on the same machine. The introduction of this method of laying the loop, sinking, bringing forward, pressing, landing and knocking over in so small a space that nearly all of the processes are in actual work at the same moment, enables all kinds of yarns in cotton,

merino combed, or carded qualities, to be worked perfectly dry, and thus avoid the trouble and expense of damping which was necessary when the old small loop-wheel was used, which having laid the loop, it remained on the needles until carried to the other part for finishing the loop in a somewhat similar manner to the loop-wheel frames, as manufactured in England and America. This system for working dry yarns claims the advantage of preventing rusting of needles and also the wool dust from so clogging the machine, as in the case where damp yarn is used.

This frame in construction is the same as the well-known Terrot frame, but has an additional apparatus for producing two or more stripes lengthways and in desired widths. A guide wheel carries the various threads through various tension regulators, either within the reach of the sinkers of the loop-wheels or out of their reach. The latter thread is held firm, and the former passes the process of looping until this process is reversed, which is regulated by a dobbie chain according to the pattern desired. When the thread changes the working thread is cut off automatically by a pair of scissors, and held in readiness to work again in its turn.

#### MEANDERINGS IN MERRY ENGLAND.

(Correspondence of CANADIAN JOURNAL OF FABRICS.)  
No. 2

Passing through London, to return later on, let us spend a quiet day or two on the borders of Essex and Suffolk. The ancient town of Colchester, in Essex, about 50 miles from London, is interesting for many reasons. Near it was the seat of some of the oldest textile manufactures of the country; it is in fact the oldest town in England, and the antiquary will find here a wealth of relics of a by-gone age. Colchester was the capital of one of the kingdoms of the ancient Britons; it was the royal town of Cunobelin, the Cymbeline of Shakespeare, and the first fortified town which the Romans built in Britain was established here about the year 50, to commemorate the victory which made Claudius master of the south of England. You will find on the outskirts of Colchester a thick stone wall which stands to this day as a lasting memorial of those unsurpassed builders, the Romans, and here and there about the town are occasionally unearthed fragments of those tessellated pavements and polished stone work which mark the peculiarly solid workmanship of the Romans of those days. After the first Roman conquest, the Britons rose up and made such a brave effort to regain their independence, that 90,000 of the Romans and their allies were said to have been slain. Then followed the brave efforts of Queen Boadicea, who was doomed to be overwhelmed by Suetonius, and Colchester (then known as Camulodunum) was rebuilt with the walls which remain to this day. The circuit of these walls, which are made of stone, Roman brick and cement, is nearly two miles, and they are seven feet thick. It was the British King Coel who had held the place against the Roman general Constantius, and hence the name—Coel or Cole, and Ches-

ter, a castle. This was the King Cole, "the merry old soul," of the memorable song and of the various fairy tales, and the town has not only these legends to boast of, but it was the residence of Helena (the St. Helena who is said to have discovered the true cross), the mother of the great Emperor Constantine, who was himself born here.

The invasions of the Saxons and Danes brought vicissitudes to Colchester, succeeded by happier times under the Normans, but the siege of 1648, in the war between the Royalists and Parliamentarians, forms the darkest epoch recorded of the ancient town. In the siege of nearly three months, horses, cats and dogs were the food of the garrison, and numbers of the inhabitants starved to death. The execution of Sir Charles Lucas and Sir George Lisle by the triumphant Lord Fairfax are tragedies still familiar in the traditions of the place. The two English knights were led to a green spot on the north side of the castle a few paces from the wall; Sir Charles was the first to suffer, and when led out his friend stood apart that he might not see him fall. Sir Charles being placed in position, said, "I have often looked death in the face on the field of battle, and you shall now see I dare die." He fell on his knees, and after a few minutes in prayer, rose, opened his doublet to bare his breast, and called out to his executioners, "See, I am ready for you; and now, rebels, do your worst." At the words they fired, and pierced with four bullets, he fell dead without a word. Sir George Lisle was then brought to the spot, and kneeling down to kiss the still bleeding corpse of his friend, he praised aloud the character and unspotted honor of the deceased. Then standing up he took five pieces of gold, which was all the money he had left, and divided them between his executioners and an absent friend, to whom it was to be conveyed by his servant standing near. After some filial expressions to his absent father and mother, he turned to the spectators and said: "Oh, how many of your lives, who are now present here, have I saved in hot blood, and must now myself be murdered in cold! But what wicked act dare they not do who would willingly cut the throat of my dear king, whom they have already imprisoned, for whose deliverance and the peace of this unhappy nation I dedicate my last prayers to Heaven." He looked at the file of soldiers, and thinking them too far away asked them to come nearer. One of them answered, "I'll warrant you, sir, we'll hit you." Sir George replied with a smile, "I have been nearer you, friends, when you have missed me." After a few minutes in prayer, calling on the name of Christ, he rose, announced himself ready, and the words were no sooner out of his mouth than his body was pierced with bullets. John Evelyn, describing the place some years afterwards in his diary, wrote: "But what was showed us as a kind of miracle at the outside of the castle was the wall where Sir Chas. Lucas and Sir George Lisle, those valiant and noble persons who so bravely behav'd themselves in the last siege, were barbariously shot—murder'd by Ireton in cold blood after surrendering on articles. . . The



place was bare of grasse for a large space, all the rest of it abounding with herbage. For the rest this is a ragged and factious towne, now swarming with sectaries. Their trading is in cloth with the Dutch, and baies and saies [kinds of cloth] with Spaine. It is the only place in England where these stuffs are made unsophisticated."

The old castle built by the Normans on the site of the older Roman fortress is the largest Norman "keep" in England, being 155x113, exclusive of the buttresses. Its gloomy staircase up the corner towers, its sombre chapel now converted into a museum, the barrel arches of the interior walls with their bands of red Roman brick, the crumbling crowns of masonry overgrown with ivy, and in some places even with trees and shrubs, and the dark and dank dungeon, whose furniture of bolts and floor staples still speak eloquently of the past woes of the place, all tell of the grim, ferocious days of old. Cromwell demolished it as far as he could, and compelled the mayor and citizens to find 500 picks to assist in the work. Another attempt was made at its ruin in 1683 by John Wheeley, who bought the castle as a speculation and tried to use its walls for building materials. After working at it for some time he spared it, not because he had any regard to its historic value, but because it cost more to get the old Norman masonry to pieces than the materials were worth for building purposes. In 1774 the castle was converted into a county jail, and previous to 1788 there was no separation of the sexes in the prison. What horrors must have reigned in this old prison! Even now, when you get within its cold stone walls, and hear the iron doors close with a moan behind you, a sense of awe creeps over you as the guide proceeds to strike a light—for the tiny square which serves for a window does not let in enough rays to make the grim features of the place visible. But in those old days there was not even this little eye to let in the light from a world of liberty. All was total darkness, and through these massive walls perhaps not even the crowing of the cock or any of the voices of nature penetrated to tell the wretched inmates whether it was day or night. What is this heavy iron ring clanking in its staple on the floor as I stumble over it, like a ship's anchor chain? "This," replies the custodian, "is one of the staples to which the wrists of the prisoners were fastened, and these were the anklets to which their legs were held." Men and women were chained down in this place with only a litter of straw for their bed. Only three pence a day each was allowed for their maintenance, and as there was no light, neither was there ventilation nor sanitation. An adjoining cell, leading from the main prison hole, was called the "press room," and here were fixed contrivances with which physical tortures were inflicted on the prisoners. The imagination can hardly picture the scene. In the reign of Queen Mary eight women, who had been immured here, because they refused to deny their faith, were led out of this black hole one morning and burnt to death. But the Catholics had no monopoly of intolerance, for during the Protectorate

a poor Quaker, named Parnall, was taken out here and stoned to death as a martyr to his religious belief. One cannot help drawing a breath of relief when Mr. Swainston, the kindly custodian, takes you out of this and leads you up the wide stone staircase to the top of the tower to show you the panorama of church spires, gables, chimney pots and winding streets, with bowery gardens, that make up Colchester, and beyond it the vista of meadow, stream, grain field and woody hill expanding till they are lost in the haze of an English summer sky. Sitting here on the parapet of this old tower—now a kind of roof garden, half natural, half artificial—the custodian and I fell to reviewing the strange, eventful history of the place. This "stern tower of the other days" was a fortress before the name of Christ was known on earth, and before Cæsar sighted the misty shores of ancient Britain with his all-conquering eye. Around these for fifteen hundred years the genius of the tower could have heard the hoarse shouts of mailed and armored men of war—Britons, Romans, Saxons, Danes, Normans, Royalists and Parliamentarians, all in their day of rule. And now behold the enclosure of the tower is made into a park. The walls below that once echoed to the challenge of valiant knights, or the thunderous shouts of men in all the pomp and circumstance of war, now ring with the laughter of happy children, and the same sun that beheld the flight of the Briton's rude flint-headed arrow and the glint of the Roman spear, now glistens on the toys (made in Germany) of the children playing on the grassy slopes.

As we sit discoursing of these things the custodian suddenly drops ancient history and calls out "come, my beauty! come here, my pretty one!" At these tender expressions I look about for some one whose age and bearing might answer to his wife, but seeing none of that description, I began to fear that my friend is flirting with one of the half-grown girls in the court below. At last I notice a perky, restless little robin hopping from branch to branch on a distant bush, and the custodian explains that it is a young robin that was hatched the year before on the tower, and had become so tame and attached to him that it would follow him all about, except when strangers are with him, and then it keeps at a cool distance. At night when he goes home to his cottage near the tower, the dear little thing follows him and perches in the porch.

I started this letter with the intention of saying something about the former textile industries of this region of England, but that must be left for another letter.

#### FLAX SCUTCHING AND FLAX HACKLING MACHINERY.\*

BY JOHN HORNER, BELFAST.

(Concluded from last month.)

The operation of hackling produces a quantity of tow or short fibres, which varies according to the strength of the flax and to the fineness of the hackles to which it is subjected. This tow remains attached to

\*A paper read before the Institute of Mechanical Engineers, Great Britain.

the hackles, and must be removed from each individual hackle at a certain point in its revolution. There are two modes of doing this, either by means of stripper rods, or by means of brushes and doffers. The former is by far the simpler mode, and in its operation makes the better tow, but it is limited in its utility to coarser machines, while finer machines require the more elaborate system of brushes and doffers.

The stripper rods are laths of wood, about 3 feet long, 2½ inches broad and ¼ inch thick, varying, however, in length according as they are intended to strip three or four hackles. They are shod at the ends with iron plates, which work in radial slots in the sheet pulleys. When in the revolution of the pulleys any individual slot attains a certain angle of inclination, the rod falls outwards by gravity, sweeping before it the tow accumulated on the hackles; and in its onward course, coming into contact with a concave guide, it is pushed back again into its former position in readiness for another similar operation. The tow when removed from the hackle falls either upon a shaker of wire netting, which frees it from dust or particles of boon; or else upon a grating, through which these waste matters fall.

The brush and doffer arrangement is more complicated and more expensive, but is necessary in machines having hackles of such a fine pitch that the action of the stripper rods will not free them from the tow. A cylindrical roller revolves beneath the hackles, having six or eight brushes mounted lengthwise on its circumference; these brushes pitch with the hackles, and are driven at a proportionate speed, which is necessarily much quicker. The brush removes the accumulated tow from the hackles, and deposits it on a doffer running slowly in the opposite direction. The doffer is mounted with pins set in the form of hooks; and these retain the tow, until acted upon by a doffer knife of steel with finely cut teeth, which, moving up and down, detaches the tow from the pins, and allows it to drop into a receptacle beneath.

Flax is as variable in quality as can well be imagined, being sold as high as £200 per ton for Courtraï, and as low as £16 for poor Russian. Hackling machines, therefore, must naturally be varied to suit. For all classes of Russian flax, and for the better qualities of Irish and other flaxes, stripper-rod machines are to be preferred. These flaxes being free from gummy matter, and the pitch of the hackles required being not too fine, the stripper-rods are quite adequate to free the hackles from tow. Occasionally, however, a gummy flax of a coarse nature has to be treated, of which the gummy matter, sticking to the hackles, prevents proper stripping. To obviate this difficulty and to remove the gum, an ingenious brush arrangement has been introduced. Each set of hackles undergoes the action of a revolving brush of which the surface speed at one period is quicker than that of the hackles; the brush thereby frees the leading or cutting side of the pins from gum and from any accumulations of fibre. By a clutch arrangement, the speed of the brush is at intervals reduced below that of the hackles, so that the

hackle pins then revolving at a greater speed than the brush, pass through the brush bristles, which thus clean the rear side of the pins, and re-deposit any fibre on the pins, whence it readily finds its way to the tow.

Stripper rod machines are made single and duplex. If single they are worked in pairs, one machine hackling the root half, and the other the top half of the handfuls of flax. Duplex machines are two single machines united in one, for the mechanical arrangements of stripper-rod machines permit of their being thus united without detriment or crowding, moreover, many of the parts, which in two separate machines are necessarily duplicated, can in duplex machines be combined. Besides being cheaper, duplex machines have other advantages; they require about half the space, and absorb but half the power, the counterpoise of the single machine is dispensed with, one channel balancing the other. The attendants, too, are closer to their work, and not having to pass from one machine to the other, can devote more time to the careful spreading and screwing of the flax.

Brush and doffer machines are made single. Their many working parts need more room to be spread out in, and being of a complicated nature, and requiring frequent inspection, those in the centre of the machine could not be got at if it were made duplex. For hackling the finer and middle qualities of flax, brush and doffer machines are undoubtedly preferable, from pins that are the most closely set the tow can with ease be stripped when hackling the most gummy material, and the attendant can readily get about the machines, to set and adjust their various parts.

From the foregoing account of the relative merits of the two classes of hackling machines, it will readily be understood that the most important consideration in preparing a design for a machine is that of the hackles. In regard to these, many points have to be observed, such as number of hackles in length, number of hackles in circumference, length of hackles, pitch of hackles, number of pins per inch, length of pins, size of wire for pins, number of rows of pins and manner of grouping.

The number of hackles in the length of a machine is dependent on the quality of the flax to be worked. Machines are at present made varying from six to twenty tools or hackles, but no reasons exist, save those of expense and room, for want of extension in this respect. Machines with the lower number of tools are usually made for the lower sorts of flax, and more tools are added in proportion to the finer quality. By increasing the length of a machine, and consequently the number of its tools, the difference in the degree of fineness of each tool is lessened, and thus the hackling is carried out more gradually, with greater care and with less tow. No absolutely fixed rule can be followed in determining the number of tools that a machine should have; in this, as in all matters connected with flax hackling, discretion alone can be the guide. But it may be said generally that the number of tools should so increase in proportion to the fineness of the hackles as to maintain an equally gradual increase throughout.

The number of hackles in the circumference determines the pitch of the bars; and it is generally accepted that close-pitched hackle-bars are injurious alike to yield of flax and to tow. A certain amount of freedom should be given to the fibres; and it has been found in practice that close-pitched hackle-bars bind the flax too much, and do not give sufficient room for the tow of each hackle to remain separate; tow is readily made nappy, if care be not taken in its removal.

Length of hackles depends on the class of the flax. By increasing the length, other things being equal, the number of tools is diminished. Thus where quantity of production is more to be desired than good quality of yield, the hackles may be made 14 or 15 inches long, and the holders, being of equal length, will accommodate more flax. This may be desirable when dealing with low qualities of flax, from which the dressed line and tow may be of relatively slight value; but in treating the better qualities of flax, hackles of from 10 to 11 inches in length are quite long enough. The advantage to be gained by getting more hackles in the same length of machine is obvious; and a machine of twelve tools with 10-inch holders is preferable to a machine of equal length having 12-inch holders and only ten tools.

The number of pins per inch is regulated according to the fineness to which the flax is to be cut. On this point it is difficult to give any satisfactory information. Flax varies so much in quality that scarcely two machines are made alike in this respect. Although machines may finish with the same number of pins per inch, giving about the same degree of cutting, yet the other hackles must be arranged with due regard to strength, cleanness, hardness, pliability, thickness of roots, naps, character of the previous roughing process, and a number of other considerations. That a certain quality of flax is to be spun to a certain count of yarn cannot therefore be taken as an exact guide.

The length of the pins is dependent to some extent on the bulk of the flax, as some flaxes lie closer than others of equal weight. The pins vary in length from 1 to  $1\frac{1}{4}$  inch over all, and their working lengths standing out of the hackle stocks, are from 9-16ths to 13-16ths of an inch. It has been found in practice that the longer pins give the better yield; the flax not being so tightly bound, but allowed more freedom, is dealt with in a less rigid manner. On the other hand, a shorter pin will give a better sort, that is to say, a better hackled fibre, capable of being spun to a higher count of yarn. This is attributed to the fact that in the finer hackles the shorter pins having less leverage, do not spring away from their work, but remain steady, penetrating the flax thoroughly. The friction of the closer-set hackle-stocks also gives a certain degree of what is called quality to the fibre. Recent improvements in hackling machines have gone in the direction of combining the advantages of long and short pins. It is evident that the flax is more bulky before being hackled than after, and that its bulk decreases in proportion to the tow taken from it in the process of hackling. Consequently if pins are made suitable for the flax as it enters the machine, and

are gradually reduced in length as the flax is reduced in bulk, the twofold advantage of long and short pins is attained. In order to effect this object, and at the same time to keep the pins in line at the points, and to avoid a multiplicity of pin lengths, the hackle stocks are gradually thickened, and the effective length of the pins is thereby altered.

The thickness of the wire for the pins is in accordance with the degree of fineness of the hackle. A rule might be laid down for determining a certain size of wire for a hackle of so many pins per inch; but this rule would be varied so often, when the strength of the fibre is taken into account and the consequent strength of pin to resist the breaking strain, that discretion again must be used. Care must, however, be taken that the minimum space left between the holes is compatible with strength.

The number of rows of pins is fast undergoing a change. At one time it was thought impossible to get sufficient cutting power without two rows of pins, and in some cases even three. Practice shows that a single row of pins in comparison with a double row will cut in the proportion of fifty to seventy; that is to say, fifty pins per inch in a single row will cut equally as well as thirty-five per inch in a double row, although the latter has seventy pins per inch in its two rows; so that an increase in the fineness of hackles will, in the case of single rows, give all the cutting power wanted. Machines too are now made much longer than formerly, and the increase in the number of tools gives greatly increased cutting power. A decided advantage of single rows over double rows when hackling gummy material is that the pins are more thoroughly cleaned; for when two rows are employed, the cleaning brush in its action sweeps the hindmost pin clean, but leaves the leading or cutting pin clogged to some extent with gummy matter.

Grouping of pins is a point of much importance, but is too often neglected. It is clear that in coarse hackles, say one inch apart, if all the pins in each hackle of the round were set in exactly the same position, there would remain bands of the fibre one inch in breadth which would be absolutely unhackled. It is to obviate this that a system of grouping the pins is employed. Supposing a hackle 10 inches long be fitted with ten pins, or one pin per inch, and there be twenty-five hackles in the round or circumference of the sheet: hackle No. 1 is pierced for its first pin at a distance from the end compatible with strength, hackle No. 2 is bored  $\frac{1}{25}$ th of an inch farther from the end, No. 3 the same distance farther still, and so on, till hackle No. 25 has its first pin one inch farther removed from the end than that of the first hackle. This grouping being carried out over the entire length of the hackle, it will be seen that no part of the flax is left unoperated upon. In this way hackles should be grouped up to ten pins per inch, above which, owing to fineness, grouping becomes unnecessary.

Speeds have next to be considered. Channels and hackles can be speeded independently of each other.

by which means the quantity of work turned off and its hackled state can be regulated. The degrees of hackling depend largely on the number of pins passing through the flax in a given time. Thus an extra revolution or two given to the sheets in relation to the vertical movement of the channels will produce increased cutting, and is a simple and ready method of attaining the object, but one which cannot be generally recommended, because any increase in speed must result in decrease of yield. If a parcel of flax require more cutting, and it be not practicable to alter the hackles to finer, it would be wiser to reduce somewhat the relative speed of the channels, and thus give the flax a longer time in the hackles. A slow-running sheet with finer hackles is greatly to be preferred to a quick-running sheet with coarser hackles; by the former method the same number of pins may be passed through the flax, accomplishing the same degree of cutting, but with a much superior result. A recent improvement added to long-hackling machines with a supporting gable in the centre enables a differential motion to be given to the hackles. The various shafts are separated at the centre gable, and driven from their opposite ends through change-wheels which drive them at different speeds. Thus the first half of the machine may be driven more quickly or more slowly than the second, so as to suit the exigencies of any parcel of flax that is being worked.

The size of the stricks or pieces of flax is also a matter of consideration. The smaller they are made, the smaller is the number of fibres to be dealt with; and as a consequence the hackle pins are capable of dealing with the strick more carefully and thoroughly than if a larger bulk be delivered to them. These advantages of slow speeds and small pieces do not require emphasizing, having been sufficiently taught by experience.

Naps appear frequently in the top end of some flaxes, and their thorough removal is a necessity. If the machine cannot free them, then the sorter must. Finer hackles will indeed grip them; but as they appear only in the extremities of the flax, unnecessary and destructive hackling would be given to the entire fibre, if these finer hackles were mounted on the machine. To obviate this, an adjunct machine has been introduced, called an ending machine, in which the speed of the hackles is not prescribed by that of the machine to which it is attached, though driven from the latter. The ending machine is quickly adjustable in height, and can thus be brought to operate on only that portion of the flax requiring its use. The hackles may be made as fine as necessary, and they effectually detach the naps without useless hackling of the fibres. When mounted with suitable hackles and driven at proper speed, these ending machines are equally useful in clearing out and switching the bulky roots of many flaxes, thus giving an equally hackled strick, without any detriment to the less bulky portions of the fibre which have already been sufficiently hackled:

The flax having been machined, is taken to the sorter, who passes each handful through hackles pro-

portionate to the fineness of the flax, thereby removing any lumps, naps, or loose tow left by the machines. He then squares the ends, and carefully sorts each piece into different qualities suitable for spinning. The hackling process is thus completed, and the flax, in this condition called "dressed line," is conveyed to the store.

#### ECONOMY IN DYEHOUSES V. WASTE.\*

The moment you enter the dyehouse you meet either one or the other right at the door. We will name, for the purpose of understanding our subject better, economy, good management; waste, bad management. Economy, then, will eventually lead to success, waste to failure.

What Webster says of economy: "A frugal and judicious use of money; that management which spends money to advantage and incurs no waste. Frugality in the necessary expenditure of money." It differs from parsimony, which implies an improper saving of expenses. Economy includes also a prudent management of all the means by which property is saved or accumulated; a judicious application of time, of labor, and of the instruments of labor. I have purposely used the word waste here, to avoid the misnomer false economy, a word I could not find in the dictionary, though often used by man and master. I will try and prove that everything we have in most of our dyehouses today will answer waste every time we say economy; if we could only listen to the answer, I think we should be more successful dyers in the future. I don't wish you to infer from the remarks already made that all dyers are wasteful, or that they are responsible for all the waste in their respective dyehouses, but little wastes in great establishments constantly occurring may defeat the energies of a mighty capital. I will try and put the blame where it should be.

In the first place we will take the dyehouse proper. It is a very common remark, "Oh, it's good enough for a dyehouse." (I would like to say right here that a more insulting remark could not be made to a set of men who are the most important factors in the success of any manufactory, and we should, one and all, resent such remarks, for I maintain that nothing is too good for the dyehouse.) Consequently, you will find dyehouses in the basement of six-story buildings, with bad drainage, bad floors, bad ventilation, and—worst of all—bad light, a whole host of objectionable features combined, which all tell against a good dyer, and must be charged to waste or bad management, with not a single point in favor of economy or good management—master to blame.

You will find dyehouses built in between high buildings, which will appear as if they were in a mine, looking down from the high building; giving bad light, almost as bad as basement dyehouses; bad ventilation. Such dyehouses are built on the plea of economy, or to save ground rent, which is waste of proper light for

\* Read before the Dyers' Mutual Improvement Association, by Joseph Schofield.

two stories of the main building, giving waste another chance to call its name in other departments of the mill.

You will find dyehouses built as a lean-to, at the corners of mills, making L-shaped dyehouses; and generally such dyehouses are low, narrow, inconvenient sweat boxes. Low to prevent the roof from obscuring the light of the second story, narrow, because the owner built to the extent of his land and could not make it wider. When he built his mill he never took into consideration the probability of building a dyehouse; but finding out the vast fortunes made in public dyehouses owners start for themselves, and start in any way that seems best to their ignorance or bad management. Such dyehouses are inadequate for the work expected from them, making many inconveniences for the foreman dyer, which would not be found in a dyehouse built by economy and the assistance of some practical dyer. It is useless to mention the many different excuses for dyehouses that one may see in every part of our country. You are just as well acquainted with them as I am.

A good, economical dyehouse should be built lofty, large enough to meet the demands expected from it, with an 18-foot space on at least two sides of it for light and air, one story high.

We will next take the dyehouse floor, of which you will find many different styles—viz., brick, cement, wood and stone. Too little importance is placed in the laying of floors or in keeping them in proper repair. I have seen dyehouse floors made of wood next to the soil and clay, without any regard to proper drainage or to the health of those unfortunate men who were compelled to spend half of their natural lives in such malarial lump pits. Every time you ran a truck over the floor you could see the black filth pressed or forced up three or four inches high. I have heard the masters refuse to walk through such a dyehouse, afraid they might spoil the polish on their shoes or stain their new pants. If you told such men they were bad managers they would be insulted; but if the dyer sends dirty goods to the dry room, the same master would call him a careless and incompetent dyer. I once had the misfortune to have charge of such a place, and had to keep one man, who went by the name of "Doctor." His duties were to clean the goods soiled through the bad floor, thus throwing away every year the price of a proper floor. Master to blame; foreman dyer to suffer, as usual.

To lay a good dyehouse floor, the soil should be removed down to the clay or marl, in order to get a good foundation. Fill in with engine cinders or sand; then flag with stone flags, always inclining your floor to your drain, which is best to run through the centre of the dyehouse, with plenty of grates to prevent dirty waste, etc., from stopping up the drain. The drain should be large and well graded.

Next come the kettles, in my opinion the most important part in the dyehouse. In them we do all our cooking, from them we bring all the innumerable shades

under the sun, and in which there should be no cause to complain. They are legion, and in most dyehouses kettles in name only, utterly unfit for the work they are intended for; put in by men who knew nothing whatever of their own requirements, but who simply wanted a dyehouse of their own, and had seen such kettles somewhere else, and doing a different class of work. Fancy a man having to dye two, three, or four pieces at once in a thirty-two piece kettle. This is economy with a vengeance, and waste is no name for it. The dyer is sent for to the office at the end of the month, and told he must cut down expenses or they will be compelled to send their dyeing out again. Poor dyer! He dare not complain; his twenty predecessors did it and lost their positions, and so will he, too, if he can't persuade his master to either give him larger lots or buy him smaller kettles. Have you never been told about your neighbor dyeing larger lots than you are in the habit of doing? Certainly, and you tried it, and spoiled your work and made it uneven; had to dye it black. You never knew that your kettles were too small, that your neighbor's kettles were built for larger lots. You were to blame for trying; your master to blame for telling you to do it until he had found out that your kettles were adapted to it. Don't forget that you would make yourself look ridiculous if you attempted to sweep the street with a tooth-brush. To do your work well you must have tools. It is folly to work kettles too long. I know places today where they use as much bran in a year as would buy a new kettle, simply because some of their kettles are leaky, besides wasting steam and water. A dye-kettle that requires a walking-stick would be better cremated at once; to keep such kettles is waste.

You should have a sufficient number of kettles in your dyehouse to do the work expected. I have worked in a dyehouse in this city, dyeing fast colors for cassimeres, with two kettles only for two sets of men, or one kettle for each set, having to chrome, wash off, and dye in the same kettle, the men having to stand and wait each time for their respective kettle to run off and fill up again. I have been told at that particular place that my men were only doing two-thirds of the work that other men were doing. When I tried to explain the reason to my inexperienced master, he would say that all foremen dyers were alike—full of excuses. Waste, therefore, comes on top through ignorance—and the dyer is wrongfully blamed. That same man has paid during the last four years as much in wages to men waiting as would have bought and equipped over forty new kettles, and yet he would frequently say he could not spend the money for one. This same master displayed his ignorance to me the very first day I went to work for him. In introducing me to his dyehouse he said: "There is the dyehouse, and there is dye-stuff; if you are a dyer, you can dye in a washtub." The sooner such men either leave the dyeing business, or educate themselves up to the times and their own requirements, the better it will be for them. If you were to tell them that hand looms were better than power looms, or the old spinning wheel better than the

improved self-acting mule, they would send you to an asylum for the insane, and serve you right. I could mention several more points on waste, and you know them as well as myself.

(To be continued.)

### THE TARIFF COMMISSION.

The commissioners appointed by the Dominion Government to take evidence for its guidance in making such changes in the tariff as may be found necessary at the approaching session of Parliament, have held session in the various centres of manufacturing enterprise, and have collected an array of valuable statistics. The manufacturers, as a general rule, have been found in favor of the maintenance of present duties on their products, and the suggested changes have largely been towards a reduction of the duties on raw materials.

TORONTO.

W. G. Allen, representing White, Allen & Company, manufacturers of fringes, cords, tassels, etc., for upholstering purposes, appealed against the tariff, which was 25 to 30 per cent. on the finished product, namely, the cords, tassels, fringes, etc. and 30 per cent. on the raw material. The raw material consisted of silk, cotton and chenille yarns. Wool yarns, which were manufactured here, did not enter into the manufacture of this firm's goods.

Geo. H. Hees, of Hees, Son & Company, manufacturers of window shades, asked for the retention of the present duties on those articles. In 1886 he was manufacturing in Detroit, and under a 30 per cent tariff was able to bring his goods into Canada and sell them here. His Canadian competitors, in order to stop the inroads on their trade, secured the imposition of a duty of 5 cents a square yard, and 15 per cent. ad valorem. Two years and a half ago these duties were reduced to 35 per cent., or not less than 5 cents per square yard. The result of increasing the 30 per cent. duty had been to cause him to come to Toronto and establish a factory.

W. B. Stewart, of the Dovercourt Twine Mills, and John Lecky, fishing and yachting supplies, asked that there should be no change in the duties on supplies which they manufacture for fishing and sporting purposes. Mr. Lecky, who is a manufacturer of flags also, asked that the duty on flags be increased, or that on bunting reduced.

The carpet manufacturers were represented by J. A. Murray, F. B. Hays, Toronto; R. Dodds and A. R. Burrows, Guelph. Mr. Murray told the commission how the carpet trade had struggled and how hard they had found it to persuade people that the home product was as good as the imported. They did not ask the Government to increase the duty, but they would ask it to put an upset price of 50 cents per yard on wool carpets, and 30 cents per yard on other carpets. The deputation trusted that the Government would not harm the industry by any change in the tariff that may be made.

Mr. Burrows, who manufactures chenille curtains at Guelph, said he would send a statement to Ottawa, showing why he thought the tariff should be raised.

W. R. Johnston, T. O. Anderson and John Watson represented the ready-made clothing manufacturers. They represented theirs as an industry which paid in Toronto alone nearly one million dollars a year for labor. They thought the tariff on goods coming in here in competition with them should at least be kept as high as it is, viz., 30 per cent. ad valorem, and 5c. per lb., which is equivalent to from 35 per cent. to 40 per cent. ad valorem. The deputation considered that if any change was made by way of lowering the duty this industry would be imperilled. If this industry were destroyed the clothing manufacturers think that there would be no market for Canadian tweed.

The corset manufacturers' interests, represented by F. Crompton and J. Walker, of the Crompton Corset Mfg. Co., petitioned for a maintenance of the present tariff. During the past they had received from the late Government a protection of 32½ per cent. R. Millichamp, and G. T. Irving, of the Irving Umbrella Company, presented the wishes of the company. The duty on the

finished product is 35 per cent. The duty on covers, which comprise 65 per cent. of the raw material, is 30 per cent. They asked that if the duty were lowered on imported goods there should be a corresponding reduction in the duty on coverings, and that fittings should be allowed to remain at the same rate as at present.

R. Millichamp, who is interested in the manufacture of blankets, stated: "Canadian blankets are made from Canadian grown wool. Medium grades of imported goods are made from a low grade East India wool and shoddy. A medium quality of English blanket would cost about 42½ cents per pound. The Canadian manufacturer sells a first class all pure wool blanket at about the same price, and in very large lots about two cents less. The Canadian manufacturers have kept on using pure Canadian wool, producing the best wearing blanket, and intrinsically the cheapest blanket in the world. We have no machinery at present capable of working up as low a grade of stock as is used by the English manufacturer, nor are our work people accustomed to it, therefore we cannot compete with low-grade English goods, which would be imported if the specific duty was removed, that is, unless the ad valorem was increased sufficient to equalize the present rate. The English manufacturer, with his specially adapted machinery and highly skilled labor, can and does produce an article which in appearance is as fine looking as the superior Canadian blanket. The English blanket is so cleverly manipulated and finished that the ordinary consumer is deceived and does not know what a worthless article he has purchased until he begins to wear it. If the English manufacturer put clean wool into his blanket of the same quality and strength of staple as used by Canadian makers, we should not ask for any protection whatever. We want protection from inferior and shoddy goods; we can hold our own when pure wool is used. The removal of the specific duty would seriously affect the blanket business, not in any too flourishing a condition now, owing to the keen competition for orders among the Canadian manufacturers themselves. Within the past two years we have suffered from the introduction of cotton, and mixed cotton and wool blankets from the United States which have the appearance of wool and are very sightly. They can be sold in Canada for about half the price of all wool. These have displaced thousands of pairs of Canadian wool blankets, very considerably lessening the demand for all wool goods, so that the outlook for our manufacturers is not by any means hopeful nor encouraging. It is to be hoped that the tariff on blankets will be allowed to remain as it now is. We do not ask for an increase; a higher duty would not increase the price of Canadian goods, local competition would keep down the price. The blanket manufacturers have no combination or association of any kind."

At present the duty is 25 per cent. and 5 cents a pound, or from 40 per cent. to 56½ per cent.

J. Smith, of the New Toronto Wool Stock Co., addressed the Ministers, asking that the duty of 20 per cent. on shoddy be continued. He explained that there were seven shoddy firms in Canada employing 1,000 persons, paying \$5,000 in wages weekly, and producing 80,000 pounds of shoddy weekly, of a value of \$6,000. Owing to the lessened cost of wages, acids and material in England, it was impossible for Canadian manufacturers to produce profitably without the present protection be continued. Nearly all the woolen manufacturers, Mr. Smith said, used more or less shoddy. He protested against shoddy being imported under the name of wool noils. He asked the Ministers to look specially into this fraud which was being practiced on the customs.

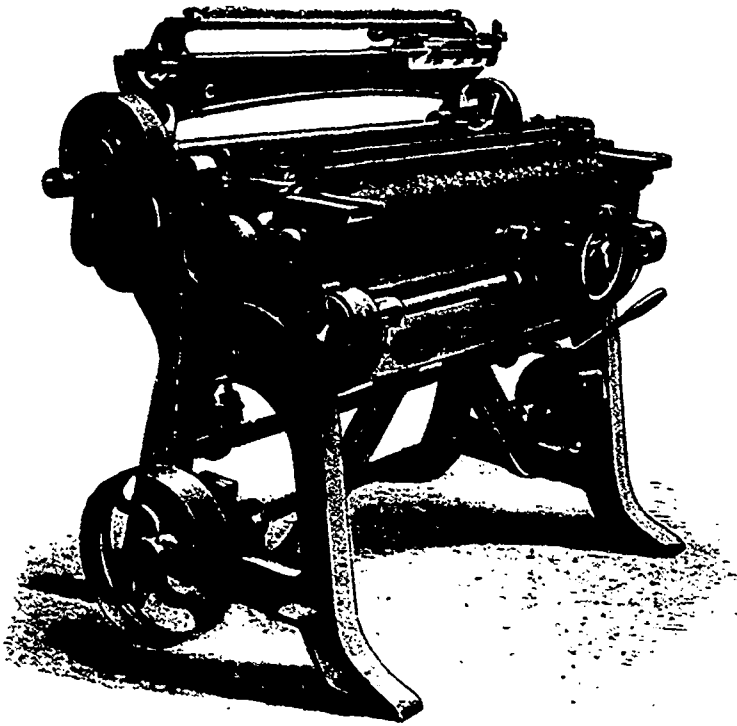
J. Dwyer, of the Calvert, Wilson, Dwyer Co., asked to have ramie noils placed on the free list. This is a vegetable fibre much resembling cotton. The fibre is largely used as a substitute for cotton when mixed with woolen goods. It is better for certain classes of goods than cotton, and is woven into blankets, hosiery and cheap grades of silk. Mr. Dwyer claimed that ramie noils did not come into competition with any established Canadian industries. Blanket manufacturers largely used this article. If ramie were on the free list, manufacturers would utilize it much more extensively. At present the tariff prevented more than a limited quantity from being imported.

(To be continued.)



## GRINDING FRAME.

This machine is for grinding revolving flats, and is designed with the object of attaining absolute uniformity in the grinding and setting of each flat, without which good carding is impossible. The flats are placed over the grinding roller (provision being made for three flats to be ground simultaneously), so that the deflection of the flats is corrected in grinding. The flats are set to the grinding roller by the hand-wheel *A*, which is provided with an adjustable stop. An automatic feed is arranged at the back of the machine, which can be adjusted for any depth of feed that may be required, this feed motion brings the flats into closer contact with the grinding roller very gradually until the lowest point is reached, the machine is then brought to a stand by an automatic knocking-off motion. The flats are traversed slowly to and fro across the grinding roller, the slides which carry the flats being actuated by the cranks *B*. These cranks impart a perfectly even traverse to the slides, which is obtained by the special arrangement of the gearing, which gives an accelerated motion to the cranks when passing over the centres, and is so arranged as to impart a perfectly even traverse to the flats. The slides are fitted with seatings to suit the bevel of the flat seatings, so that by changing the seatings various makes of flats may be ground on the same machine. A flat tester *C* is fitted to the machine by which the flats can be tested to the greatest accuracy. The machine can be arranged to take in



DRONSFIELD'S PATENT GRINDING FRAME FOR REVOLVING FLATS

various lengths of flats if required. The grinding roller is run at 1,200 revolutions per minute, is perfectly balanced, and is covered with our patent grooved emery filleting. By the use of this machine the greatest accuracy is obtained in grinding the flats, which is not possible when the flats are ground on the carding engine. Particulars required with order: Length and width of flats on wire, ditto on iron, also maker's name, send also a sketch, or, if possible, a sample flat. For further particulars apply to the patentees and sole makers, Dronsfield Brothers, Limited, Atlas Works, Oldham.

THERE is a demand reported from Guelph, Ont., just now for Cotswold rams, but prices are low. D. McCrae and some buyers from the west are now buying, and shipments are being made, says a local exchange.

## CO-OPERATIVE KNITTING COMPANY'S PATENTS.

The following letters give a few practical opinions on one of the Co-operative Knitting Company's Patents.

*G. F. Sturges, Manager Co-operative Knitting Co.*

DEAR SIR,—As you requested, I have carefully examined your Patent No. 22,294, and the products of the machines made under that patent, and after much practice in the making and working of circular knitting machines, extending over nearly 25 years, and including the making of over 20,000 of the Griswold and my own patents, I must say that your "Designer" machine surpasses all others in the excellence and variety of work accomplished. As to the value of the patent, my opinion is that £25,000 would be a very moderate price for it, considering the patent is young and being a special machine, commanding a good price. I estimate that a profit of £15 is made on each machine, and for the golf, bicycle and half-hose trade, a demand of at least 5,000 machines must be prepared for in a short time. This is a low estimate of the demand likely to arise. Yours faithfully,

London, Nov. 13, 1896.

J. W. CHAPMAN.

DEAR SIR,—I have carefully perused your Patent No. 22,294, and as the application of such a designer as is there described to circular knitting machines with stationary or revolving needle cylinders, is, as far as I know, new, I should say you have in the same a valid patent. Regarding its value as a monopoly, and taking into consideration the time it has to run, its simplicity, capability, and ready application to existing machines, and also its inexpensiveness, I should say that in the hands of a capable and pushing firm who could well work the same, that it is of considerable value. This value, as at present developed, I should estimate at £10,000. The principle involved in this patent is, in my opinion, one that may be applied to other departments of the trade, as in the making of golf jerseys, sweaters, guernseys, etc. Its scope of giving independent action to individual needles on a changeable system is a large one, and if applied as above on to automatic machinery, the value of this invention might be increased, such increase developing with each new application until its value might be duplicated. Yours truly,

JAMES H. QUILTER,  
Teacher of Frame-Work Knitting.

Leicester, Nov. 11th, 1896.

DEAR SIR,—As to the validity and value of your designer patent, I know well your Patent No. 22,294, and consider it a pioneer patent, possessing master claims, and it is, to the best of my belief, a valid and sound patent. I have worked the designers and thoroughly understand the principle involved, which is undoubtedly a revolutionary one, and will make itself felt throughout the trade. No doubt it is capable of universal adaptation for the great fancy trade, and I conceive its possibilities in these departments to be limited only by the capability of those who handle it commercially. To my mind the Scotch hose trade will always be a limited one, nor can I recognize the possibilities of a standard trade for ladies' ornamental hose, or gentlemen's half-hose, for whilst I am satisfied that either sorts could be produced nearly as cheaply as goods made without a design, and aware that they are of the popular seamless make—a fact alone that should warrant a standard trade—I am forcibly reminded by personal experience that the taste of the English public is very odd, and often disregards features of merit; as a result I confess to being sceptical as to a future ladies' and gentlemen's fine grade fancy hose trade. Could manufacturers force the markets as in American trade, my opinion would be different. The English public will follow their own fancy and are difficult to cater for. Probably the designer would make a

cheap and effective automatic heel and toe machine, but as I have never seen and cannot grasp such adaptation, I cannot appraise the value of the designer in this department.

For the fancy trade (body wear, children's goods, gloves, etc., etc.) your designer is the one thing needed, and will undoubtedly supersede the fancy rotaries, circular feeders, gaiter machines, etc. These old style machines cost on an average £50 each. Though your designer machine should not cost £15 per machine to make, they would nevertheless fetch £50 each in the fancy trade. The invention being in its infancy, and as yet only applied to a limited trade (Scotch hose), it is difficult to value in round figures, but you may take it I have a high estimate of it for the fancy trade alone in saying there are from eight to ten thousand old style fancy frames in England alone, one thousand of which you ought to replace every year by your designers, upon which you should make at the very least a profit of £20 per machine, after paying, say, £15 making and £15 developing and adapting, per machine. I may add that my knowledge of the trade extends over thirty years, being engaged in various departments, as workman, manager, manufacturer and patentee.

Yours truly,

JOHN WM. WATTS,

Patentee of the Universal, Royal, and Watts' Knitters  
Countesthorpe, England, Nov. 30th, 1896.

## Foreign Textile Centres

**MANCHESTER.**—In the staple trade there is a quieter feeling all round. The prospects for home trade houses are, however, fair, providing Lancashire is well employed. Calico printers are not doing so well, and both in this district and the West of Scotland machines have been put on short time. The offers for cloth from India are very low, and do not in many cases represent a figure to cover cost of production. Fashion promises to lean decidedly to crepons, in which agents here for Bradford firms have done very well this year. One of them says he would not be surprised if the goods advanced to half-a-crown a yard. This is a decidedly favorable outlook. Mohairs, as far as the home market is concerned, do not promise well. In the American market, however, there is a much brighter outlook. The subject is one to which attention will be closely directed in the near future.

**OLDHAM.**—A committee of employers and operatives is being arranged to take measures to augment in every possible manner the fund in connection with the famine in India. About a dozen spinning companies made up their accounts recently, and in half a dozen instances dividends were paid. The other companies possess adverse balances, and they were written down. At a great many Oldham spinning companies the qualification for a director is one share. For some years now there has been a growing disposition to make the qualification a substantial one, and the shareholders of several companies in altering their articles have put in such a qualification. Still, where no qualification exists shareholders have been, as a rule, very inquisitive on the question of having something at stake, and have usually given their support to those aspirants for directorial honors who were largely interested as share and loanholders. It is probable that other companies when altering their articles of association will take care to increase the qualification for a director.

**LEEDS.**—Pursuant to a decree made in the Chancery Division, in the matter of Anthony Smith, deceased, George and Co. recently offered for sale as a going concern the business of a carpet manufacturer at Barnard Castle, including plant and fixtures, and the tenancy of a one-story factory and house of 12 rooms held under lease and yearly agreements. The looms in the factory, put up separately, produced no bid, and the dwelling house was withdrawn at £130. The clothing trade in Leeds is improving as the year advances, and travellers are sending home good orders. Although no specially new departure is found in the new season's patterns, greater care and taste is evident in the new styles, and

the value of some of the sergo and tweed suitings is quite remarkable. In both Batley, Dewsbury and Morley, the makers of cheap heavy woollens are complaining greatly of the unsatisfactory nature of business, and with the exception of some few orders from the clothing trade, the past week shows no improvement. In Huddersfield there is again a more cheerful tone, and some makers of fancy woollens and worsteds are getting better orders both from the home and continental trade.

**HUDDERSFIELD.**—The strike of healders and twistors employed by Kaye & Stewart, worsted and woolen manufacturers, of Brookfield Mills, Lockwood, was terminated after a fortnight's duration. The strikers returned to work on condition that their grievances should be discussed by the firm. Most of the 800 workpeople were able to resume work, and the others are doing so as opportunity offers. The creditors of James Crossland & Sons, woolen manufacturers, Paddock Mills, are being consulted on behalf of the firm. The strike of cotton spinners in the employ of the Slaithwaite Spinning Co., Ltd., which has continued for eight or nine months, and has led to several prosecutions for intimidation, is now likely to come to a termination. It is stated that for the first time since the strike commenced the men concerned, a few days ago, expressed a desire to have an interview with the directors of the company. Hitherto the only desire to approach the company had been through the medium of the trade union officials. The directors at once agreed to an interview, and they were met by a deputation of eight of the men, in the presence of a representative of the Board of Trade. As a result it was intimated that a revised scale would be drawn up. It is stated that the sole obstacle in the way of a complete settlement of the strike is the refusal of the directors to dismiss those hands who have been engaged in the place of the strikers.

**BRADFORD.**—The amount of business doing here is still limited. The requirements of spinners are not great, and they display no disposition to anticipate their needs. Staplers, on the other hand, are not pressing their goods, and show a disposition to await the course of events. The value of cross-breeds is fairly well maintained, but merinos disclose signs of weakness. There is not much doing in home-grown wools, and prices here are by no means firm. No material change has taken place in mohair. In the yarn market merchants are placing but few orders. Although the position is undoubtedly in favor of the purchaser, many of the very low offers are refused, and meanwhile a considerable amount of machinery stands idle. The piece trade discloses no further encouraging feature, and business continues very quiet. There is no better demand for America, and both the home and continental trade is quiet. Fine merinos were the weakest department of the London wool sales, but good lots of Sydney produce have received especial attention from the American section, and have fetched prices which in some instances have been in advance of those of last sales. It is assumed from the increased scope of the Americans' operations that the reimposition of an import duty on wool entering the United States is inevitable. Should this be the case, there will also be increased buying of manufactured goods before the revised tariff comes into force. Cross-bred wools have not shown much weakness since the opening day, and the small stocks here, and the competition of both foreign sections of buyers, is keeping these wools very firm. Cross-bred wools would certainly have been much dearer to-day had not the defection of the American trade compelled spinners to take low prices for yarn to keep the machinery going. Any margin of profit has, therefore, quite disappeared, and spinners are only supplying their immediate requirements with purchases of raw material. In English wools there is very little new business, either in lustrous or non-lustrous sorts. There have, however, been some further operations in lustre wool on American account at low prices. There is an undercurrent of strength in the raw mohair market, and buying operations of considerable extent are again reported both here, at the Cape and in Turkey. Although the increased strength of this raw material is generally attributed to the improved demand for broad yarns in mohair, I am told by several well-informed authorities that there is a growing inclination evident in favor of mohair dress fabrics in the most fashionable circles, and that very expensive mohair fabrics in neat styles will



be largely worn in colors if the summer is at all fine. In the yarn trade, although spinners report very little new business, there are more offers from the continent both for braid and fabric yarns at rates just under to-day's prices. Worsted coatings and linings are still quiet for America, but there is a better demand both on home and continental account for these goods. In the warehouse travelers' returns are now showing a distinct improvement, and orders include a variety of goods. Crepons in good cloths are still being bought, and neat effects in silk shots are also selling well, but plain colors in costume cloths appear to be more in favor than mixtures, as the latter can be produced in such low imitations. Some of the earliest of the fancy goods' manufacturers have already shown their advance styles for next autumn, and have taken some orders.

**RICHDALE**—A few extra sorting-up orders in flannels are being given, and merchants from distant towns in slightly greater numbers purchased moderately. The whole business, however, is not large. Wools at the London sales suitable for the manufacture of flannel keep about the same as lately, therefore there is no alteration in the price of the manufactured articles.

**NOTTINGHAM**—More confidence is expressed at the prospect for the coming season. Although orders in hand are not sufficient to keep all the machinery fully employed at present, there is an idea that, ere long, briskness will rule. Already some activity is noticeable in the cotton lace departments, some good orders having been placed for fine Valenciennes and *point de Paris* laces, and insertions, principally in ivory. Here and there special tints of two tones are wanted, whilst *beurre* is still a fashionable shade. In commoner qualities of these goods there is a fair demand for white and cream. There is also some inquiry for Irish guipures, Maltese, Torchon, and Brabant laces, but not sufficient to induce manufacturers to keep large stocks. The silk lace branches are still very depressed, and show few signs of any upward tendency just yet, although some exceedingly choice samples of these goods are being shown, both in black and colors. No falling off is observable in the demand for plain goods. The plain net and silk tulle branches are still in a flourishing condition. Light tulle are more inquired for for millinery purposes, and there is every possibility of an increased demand, both for the home and continental markets, as the season advances. Prices of silk Mechlin and Cambay tulle keep firm at the highest quotations, and orders in many instances are placed in advance to meet future requirements. The same remarks apply with respect to bobbin nets and mosquito nets, which are extensively used for embroidery. Only a limited inquiry is experienced for antique, corset, and spotted nets. There is not much buoyancy in the demand for stiff foundation nets, prices of these goods, however, keep firm. Plenty of activity is seen in the making-up departments, as specialties of ruchings and frillings, aprons, pinafores and caps are coming more into request. The indications of fashions are leading manufacturers of Swiss embroidery, everlasting trimmings, and crochet edgings to anticipate a more favorable season, the demand at present is rather slow. Less has been doing just lately in chenille veilings. The hosiery trade has not been particularly brisk lately, and orders have been sparingly placed. The change to winter weather will no doubt have a good effect on the heavier branches, as it will enable retailers to clear out their stocks, which will then require replenishing. Cotton goods are still in a very depressed condition, whilst silk hosiery is but in limited demand. Fancy half hose are selling freely. Black-and-tan stockings are also receiving some attention.

**LEICESTER**—The yarn market is fairly active, and large orders are offering, but prices are extremely keen, and spinners decline to book orders with open dates at bottom prices. Lamb's wool, fancy and cashmere yarns, are unaltered, and cottons are neglected. There is a full amount of business, both from home and export, in the hosiery industry, but prices are probably lower than ever known before. Choice underclothing goods are selling in large quantities, and seamless hose are also in better request. Old hand frames are well engaged as a rule, and business is better distributed. Elastic web specialties, cords, braids and beltings are in good average request, but broad webs are a slow sale.

**SOUTH OF SCOTLAND**—Business in the South of Scotland woolen trade is not improving as quickly as makers would like. With a few exceptions, mills are running short time. This condition of things is not at all satisfactory. It is difficult to explain this backward set in the tweed trade. We have had a good deal of cold weather, and as it was understood that retailers' stocks were low, a brisk demand was not unnaturally, in the circumstances, anticipated. So far, the expected "boom" has not yet begun. Manufacturers are indulging in hopes, which may not be realized. The wool and yarn trades are also quiet. A satisfactory report from the Ayrshire lace districts is to hand. The home demand is steadily improving, and there is every likelihood of makers having a good spring season. The goods most in request are heavy well-covered designs in medium qualities, and combination and Brussels net effects in the higher ranges. A satisfactory shipping trade is being done. The American trade is showing signs of improvement. Manufacturers complain that the competition is extremely keen, and that, although they have a big turnover, the margin of profit is very small. Probably the middleman will benefit most by this rate-cutting process.

**KIRKCALDY**—Kirkcaldy linen manufacturers continue to be well employed. Here also the competition is keen, and prices are cut to the lowest. Business at the floor-cloth and linoleum factories is of a lively character. The demand for the heavier class of goods is improving, and this is considered a very promising feature.

**BELFAST**—The market is firm, though quiet, with a tendency towards further improvement. No change in flax at farmers' market or ex-store. Yarn is being bought a shade more freely, as manufacturers' stocks are very low; prices remain unchanged and firm. Brown goods are in moderate request, but new business is not so plentiful as producers could desire. Ballymenas quiet; stocks small, output shows no material increase. Damasks are still rather slow. Bleaching cloth is active at full rates. The home demand for finished linens is increasing slowly, but surely. Export trade is also the turn better. Orders from the States are gradually improving, and with Germany trade is brisker.

**LYONS**—The feeling in the Lyons goods market is better, and while the demand has not yet reached heavy proportions, it is increasing. Wholesale and retail houses are commencing to order, and a fair re-assortment for spring has been done. Among the articles which participate in the movement are taffetas, in stripe and other effects, printed pongees and some satins. Lining silks are selling. Muslins, tulle, grenadines, gauzes and crepes are in demand. In parasol silks sample orders have been placed, but business does not seem to have reached any higher stage than the ordering of samples. Plain umbrella silks find takers for ready delivery. In tie silks the demand is moderate. Parisian buyers have been operating, but for other consuming centres the demand is still somewhat slow. With the United States business is not brisk, but is fair under the circumstances. Ribbons are more active and there is a better outlook for a good spring demand. Plain and staple goods are selling. The demand for velvet is decreasing as the close of the season approaches. Little business has been done on orders for future delivery, and the demand for ready delivery is also slackening.

**CREVELD**—The silk goods market is not active. The demand by retailers is confined to re-assortments of goods which are still saleable during the colder months of the year, and to light preparations in anticipation of the coming season's requirements. Wholesale houses are operating little. They have everything in readiness for the coming season's business, but as they have not sold much so far their requirements on re-assortments are few. Among the leading styles for spring will be the light tissues of the gauze family, and these have already been ordered in a large number of fancy effects. Some business has also been done in taffetas. Manufacturers are not busy, either with their looms or in booking new orders. The industry, while somewhat better employed than at the close of 1896, is far from enjoying a run of prosperous or large production. In no branch of manufacture is activity visible. In dress and trimming silks production increased when spring orders

were placed, but many looms that could be profitably employed are not at work at present. In the silks order business is dull. The dull season in the silk branch is usually interrupted at this time by orders from America. These should now be due and are expected, but have not yet arrived. In umbrella silks manufacturers have still enough to do completing previous orders, but as these are finished there are no others to take their place. In ribbons there is little prospect for a heavy business this season, although a number of looms are busy on staple goods. The cloakmakers have not been very busy buying and are still waiting for further developments in the demands for garments before they make larger selections. In lining silks for the cloak trade, however, a fair business has already been done. There is little change in the velvet industry. It has not gained as much from the expected favor for velvets this winter as was desirable, and hopes for better results are entertained for next fall. But the question of a tariff change in the United States, by which German velvets might be unfavorably affected, is causing some anxiety. The demand for velvet is moderate.

FROM A CANADIAN MILL.

Fenwick Umpleby, the successful candidate for the position as Instructor of Textile Design and Cloth Construction and Manufacture in the New Lowell, Mass., Textile School, was born in Huddersfield, Eng., and is of Scotch and Dutch descent. He served his time in the woolen and worsted trades, and was head designer for Robt Bready & Sons, Batley, suitings, coatings and dress goods, also head designer for Hewitt, Haigh & Wilsons, Armley. He came to the United States eleven years ago to start up a fancy woolen plant for Jas. Lees & Sons, Bridgeport, Pa. From there he went to the Globe Mills, Utica, N.Y., as designer on worsteds, trouserings, coatings and suitings; and from Utica Mr. Umpleby came to Canada as designer for the Auburn Woolen Co., Peterboro', Ont., where he stayed for two years. The mill was a success during this time under the able management of Jas. Kendry, M.P. At the close of this engagement Mr. Umpleby went to one of the largest woolen dress goods mills in the world, the Geo. H. Gilbert Manufacturing Company, Gilbertville, Mass., as designer on woolen and worsted dress goods, suiting, coatings and trouserings, at this place he was nearly five years. It will be seen that his experience is of a very large range and varied character, knowing the ways and means by actual experience and practice of three countries, he is also a graduate of the Yorkshire College, Leeds, obtaining during his four years at the college the four first prizes and four first certificates, he also holds certificate from the city and guilds of London, and the gold and silver medals offered by the *Journal of Fabrics*, Bradford, England, published by Lord Bros. Their medal competition was an international one for the best three designs, each of ladies' dress goods, worsted suitings and fulled woolen cloth. Mr. Umpleby says he attributes all his success to the teachings of Prof. Beaumont, Yorkshire College, Leeds, England.

NEW RATE ON WOOL.

By authority of the Board of Managers of the Joint Traffic Association, the Chicago committee, composed of all eastern roads having charge of the terminals, have given notice of new rates on wool, the schedule including all important cities of the east. The new tariff almost cuts the old one in two. The following are samples of the reduction, Boston, 71 cents to 44 cents; New York, 65 to 39; Philadelphia, 62 to 37; Baltimore, 61 to 36; Buffalo, 39 to 23½. These rates are for carload lots of a minimum capacity of 20,000 pounds, and a penalty of \$1 a car is added for each day the car is left unloaded after 48 hours' shipment. This sweeping reduction indicates a desire of the Board of Managers to protect their own roads against competition, as well as the Western Association roads. When the wool crop of the Northwest was being moved last spring, the Soo Line and Canadian Pacific, by making low rates, secured a practical monopoly of the shipment from St. Paul to the Atlantic seaboard, via Canada. The Chicago-St. Paul roads vainly protested, and appealed to the Joint Traffic Association to join them

in meeting the Canadian competition, but the policy of the managers was then against such co-operation.

McMASTER & CO.

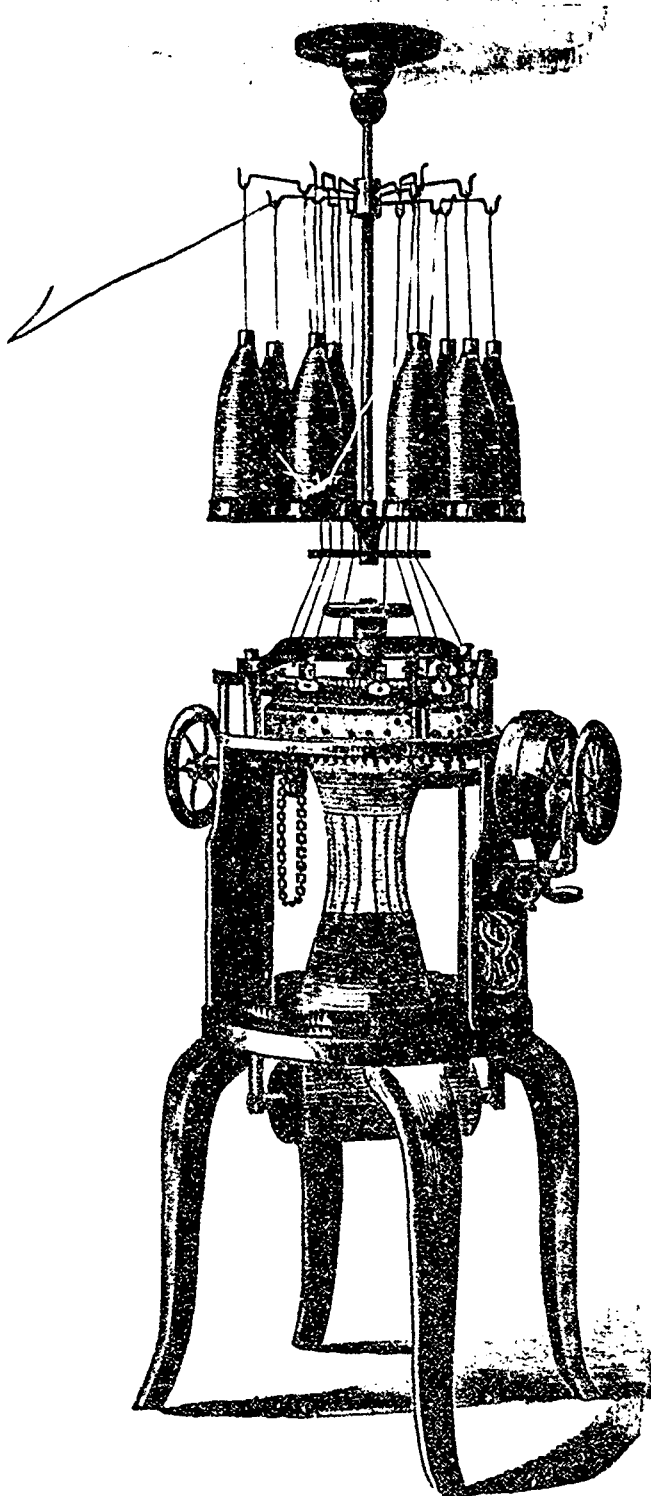
The sale of the McMaster stock, valued at \$194,599 98, at 75½ cents on the dollar, was one of the most satisfactory transactions the dry goods trade of Toronto has seen in some time. The bidding was spirited, and was between J. Drynan, of W. A. Murray's, and F. X. Cousineau, F. Wyld and T. Lundy. The stock went to F. X. Cousineau at 75½c. The list of creditors of McMaster & Co. was not complete when our January issue went to press. We append the Canadian creditors here:

Bank of Montreal, Toronto.....	\$28,000 00
Merchants' Bank, discounts .....	28,000 00
Standard Woolen Mills Co .....	5,727 53
Joseph Simpson.....	3,181 18
Universal Knitting Machine Co.....	1,230 59
James Lockhart, Son & Co.....	883 20
James Stanbury & Co .....	140 19
Canadian Colored Cotton Mills Co .....	15,851 12
Merchants' Manufacturing Co .....	6,128 35
Dominion Cotton Mills Co.....	2,994 01
J A Cantlie & Co .....	2,880 78
George D. Ross & Co .....	1,641 45
Duncan Bell .....	1,463 85
George H Harrowell .....	798 85
Canada Fibre Co .....	669 15
Globe Woolen Mills Co .....	462 47
Dominion Oilcloth Co .....	284 70
Central Agency .....	257 49
Canada Fibre Chamois Co .....	126 58
Canada Jute Co.....	113 54
Penman Mfg Co., Paris .....	11,124 99
A W Brodie, Hespeler .....	6,868 46
The R Forbes Co., Hespeler.....	4,485 73
Montreal Cotton Co, Valleyfield .....	4,134 82
Paris Wincey Mills .....	2,844 80
Auburn Woolen Co, Peterboro.....	2,778 75
Trent Valley Woolen Manufacturing Co .....	2,730 11
Peterboro Woolen Mills Co .....	2,709 36
James Whinister, Aurora, cash .....	2,708 52
Eagle Knitting Co.....	2,529 23
Rosamond Woolen Co.....	2,466 40
R Dodds, Guelph.....	2,386 44
Paton Manufacturing Co.....	2,299 24
Newlands & Co .....	2,222 64
Cornwall Manufacturing Co .....	2,192 59
J. H. Wylie .....	1,943 01
Waterloo Woolen Mills Co.....	1,705 78
J. Walshaw.....	1,433 14
Cobourg Woolen Co .....	1,303 13
Slingsley Manufacturing Co .....	1,249 44
P. Crosby, cash.....	1,196 72
Kingston Hosiery Co ..	1,086 05
William Parks & Son .....	915 30
S. Meyers & Son .....	887 23
Grant & Co.....	857 94
Scholfield Woolen Co., Osbawa.....	832 90
Gillies, Son & Co .....	828 84
D. Graham, Sons & Co .....	541 76
William Clark & Son .....	454 58
S. T. Willet .....	421 61
Granite Mills .....	322 29
Guelph Woolen Mills .....	231 35
Kidd & Co .....	228 46
Corticelli Silk Co .....	214 52
Canada Hair Cloth Co .....	200 29
Robinson Bros, Oakville .....	200 00
A Munn, Ripley .....	194 25
Yarmouth Duck and Yarn Co .....	190 95
C. F. Stewart.....	160 00
W. A. McArthur .....	156 89
Irving & Co, trust account.....	111 80
S. A. Stratford, Vernon, B.C.....	100 00

An article on carpet printing in our January issue was credited by mistake to the *Carpet Review*, instead of to the *American Carpet and Upholstery Journal*, a much valued exchange which we receive from the publishers in Philadelphia, Pa

**AUTOMATIC KNITTING MACHINE AND MILL SUPPLIES.**

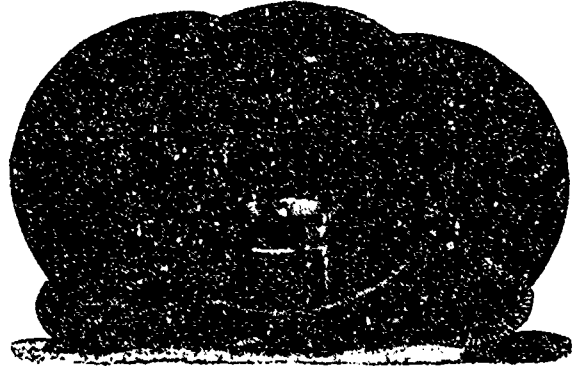
The Automatic Ribbed Shirt Machine is specially adapted for knitting ribbed underwear and sweaters, and is made with any number of feeds consistent with size. The cams are made from Jessop's tool steel, hardened and ground. The dial is made adjust-



AUTOMATIC RIBBED SHIRT MACHINE

able by means of a hand-wheel indexed to sixty-fourths. The dial runs on ball-bearing collar. The yarn bobbin holder does not revolve, and is not liable to twist the yarn or cause breaking. The cylinder revolves and enables the knitter to see the work from

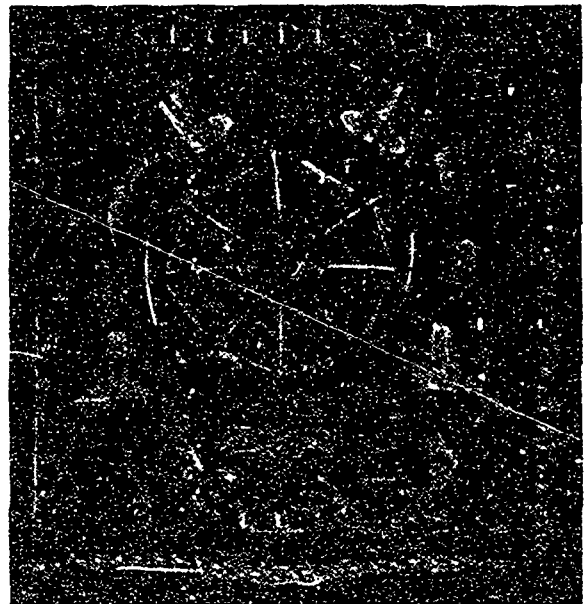
either side of the machine. The cylinder and dial are of the best steel forgings. The needle is of a standard make which is most in use in knitting factories.



CYLINDER AND DIALS.

R Schofield, 14 Court street, Toronto, also manufactures cylinders for plain Circular knitting machines, Balmoral knitting machines, Automatic Rib knitting machines, Automatic Cuff knitting machines, Rib Shirt Sleeve knitting machines; in fact, for all knitting machines in use. He guarantees the work to be equal to that of the best foreign makers, and is sure that he can give entire satisfaction and save his patrons the customs duty, together with the trouble and annoyance of passing goods through the custom house.

The illustration of cams, needles, etc., gives, in a very tasteful manner, an idea of the varied and complete nature of the work done by this firm.

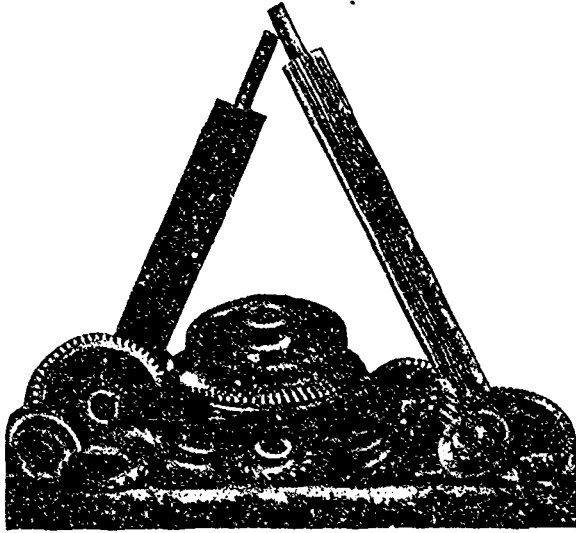


CAMS, NEEDLES, ETC.

All the cams are made from Jessop's tool steel and are fitted, hardened and ground to suit the requirements of any knitting machine. When cams are ordered samples should be sent to avoid mistake.

Yarn guides are among the parts that are frequently asked for to be supplied for different makes of machines.

Pattern chains are carried, as also in stock knitting needles, looper points and needles, union special sewing machine parts, needles, etc. In ordering parts of machines it will often save time and trouble if the parts to be substituted are sent as samples.



TAKE-UP ROLLERS, ETC.

Mr. Schofield has all the necessary modern appliances for making take-up rollers, gear, worm and ratchet wheels, etc., of any required pattern.

In ordering such parts of machines as these, it will often save time and trouble if the parts required to be duplicated are also sent as samples.

The Union Special Two-Line Stitching Machine is designed to sew two parallel seams, and is also used for making two ornamental lines of stitching, and for taping seams on knit garments.

The Union Special Over-Seaming Machine is used on all varieties of work requiring a zig-zag stitch or over-edge seaming.

The Union Special Over-Seaming Trimming Machine is designed for uniting the edges of cut knit goods and jerseys with a very elastic seam, which can be trimmed automatically very close to the sewing, as this stitch binds the knitted threads together and forms a kind of selvage, thus preventing the seam from opening, even when cut close to the sewing.

The Union Special "B" Drawer-Finishing Machine is especially designed for finishing knit drawers, and like all Union Special machines, makes the "safe elastic stitch."

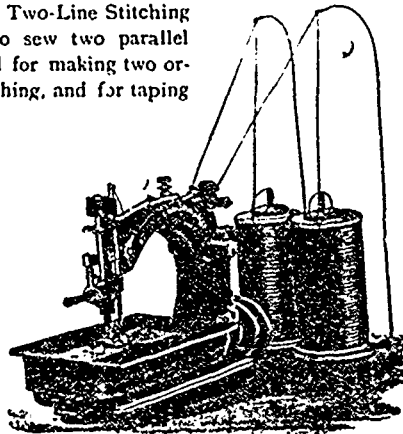
Union Special Twin Needle Machine is especially designed for ornamental stitching, and is commonly used for covering seams to imitate fashion work.

The Union Special Double and Triple Interlock Machine is especially adapted for covering the edges of knit goods, and is preferred by many manufacturers for finishing the cuffs of shirts and drawers, in place of knitted welt.

The Union Special Wheel Ribbing Machine is designed for sewing ribbed cuffs to shirts and drawers, and ribbed bottoms to skirts, or to make a seam on plain goods resembling looping.

The Union Special Side-Wheel Cylinder Shirt Joining Machine is especially adapted for joining shirt bodies and seams with a double-lapped seam.

All Union Special machines make the "safe elastic stitch" and take their thread directly from the spools, therefore having no bobbins to wind.



## LACTIC ACID.

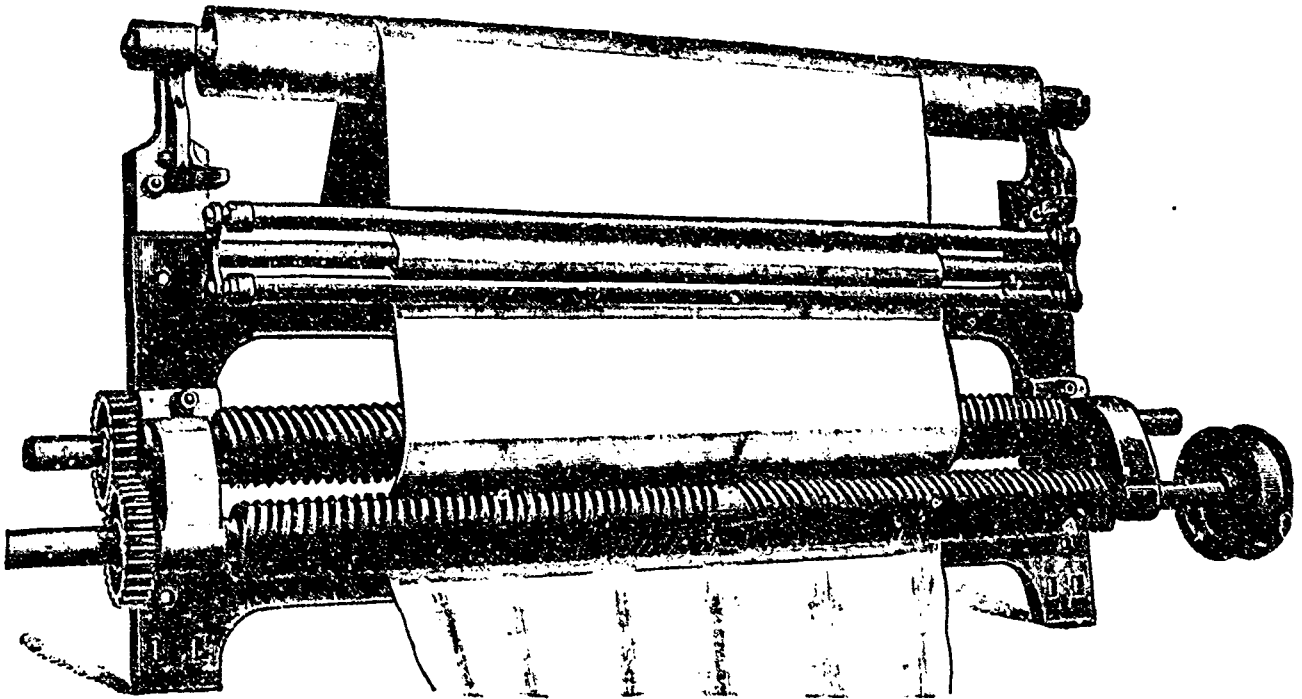
The following report on Lactic Acid has been received from Wm. Pickhardt & Kuttroff (Badische Aniline Soda Fabrik), through their agents, Bellhouse, Dillon & Co., Montreal and Toronto.

"We had recently again occasion to test a sample of this article, and give you the result of our examination. In direct comparison between lactic acid and tartar, we find the same results as formerly, viz., lactic acid in many cases is as good a substitute for tartar as oxalic acid, etc. The price of lactic acid has declined considerably lately, and at the present high figures for tartar, lactic acid offers advantages in price. We have thoroughly examined the method of mordanting given out lately, and can confirm the statements in part. The mordanting bath is exhausted completely, and all the chrome contained in the bichromate of potash is fixed on the fibre, while in using tartar a considerable excess of bichromate has to be used in order to fix the same quantity of chromium oxide on the fibre. Theoretically, therefore, the use of lactic acid is decidedly rational. The cost of a lactic acid mordant is less, not only on account of the price of lactic acid as compared with tartar, but also on account of the saving in bichromate potash. A complete exhaustion of the tartar mordanting bath can, however, also be effected by using, together with the tartar, some sulphuric acid, and then using a smaller quantity of bichromate potash, a mordant prepared in this manner possesses similar properties to that obtained with lactic acid.

"The time of boiling in the mordanting bath with lactic acid is about the same as usual, there is, therefore, no practical difference in the condition of the stock. We have been unable to detect a higher gloss or softer touch in the wool mordanted with lactic acid. The fastness to fulling appears to be somewhat better if the strong lactic acid mordant is compared with the usual chrome mordant. In comparison with the mordant which we recommend for dark shades (4 per cent bichromate potash and 3 per cent tartar), no difference is perceptible. We find no difference in fastness to rubbing. Fastness to light we shall revert to later, as the tests are not yet fully completed. With the exception of the Alizarine Blue N sorts, all alizarine colors dye practically the same on lactic acid mordant as on tartar mordant. Alizarine Blue N sorts, also the corresponding competing brands, dye the same as with the oxalic acid mordant, considerably greener than with bichromate and tartar, this is a decided disadvantage, as bright reddish blues are preferred. An advantage of lactic acid is that it is furnished in liquid form, and, therefore, is easier to work, the percentage and purity are also more easily controlled than with tartar. Lactic acid mordant calculates considerably cheaper than chrome and tartar mordant, and has in general the same properties, except that in dyeing Alizarine Blue N sorts, the colors are affected in the above mentioned unfavorable manner. The mordant can, therefore, be used in many instances, particularly where the cheapening of the cost of dyeing is a consideration—in fact, in all such cases where we have heretofore recommended the cheaper mordants with oxalic or sulphuric acid. We shall not, at present, recommend the lactic acid mordant in our general methods for dyeing, as it is less suited for Alizarine Blue N sorts, besides up to the present we have no information as to the results obtained in a practical and large way. On account of the low cost of the mordant we shall, however, recommend lactic acid mordant in suitable cases."

## THE GERMAN WOOL TRADE IN 1896.

The year opened with great expectations, stocks being well reduced, and the production of fine wools being about 7½ per cent short, say Gustav Ebell & Co., Berlin, in their annual review of the trade. The heavy buying of the March sales on American account fell off before the certainty of delayed tariff changes, and the bad condition of trade generally in America forced prices down, so that prices are lower than at end of 1895, and coarse and crossbreds are 10 per cent lower than a year ago. The direct imports of Cape wools into Germany amounted to 129,000 bales in 1896, as against 68,000 bales in 1887. The total imports of wool and shoddy by Germany was 3,665,000 cwt., an amount 6 per cent less than in 1895. The imports in 1889 were 3,033,000 cwt.

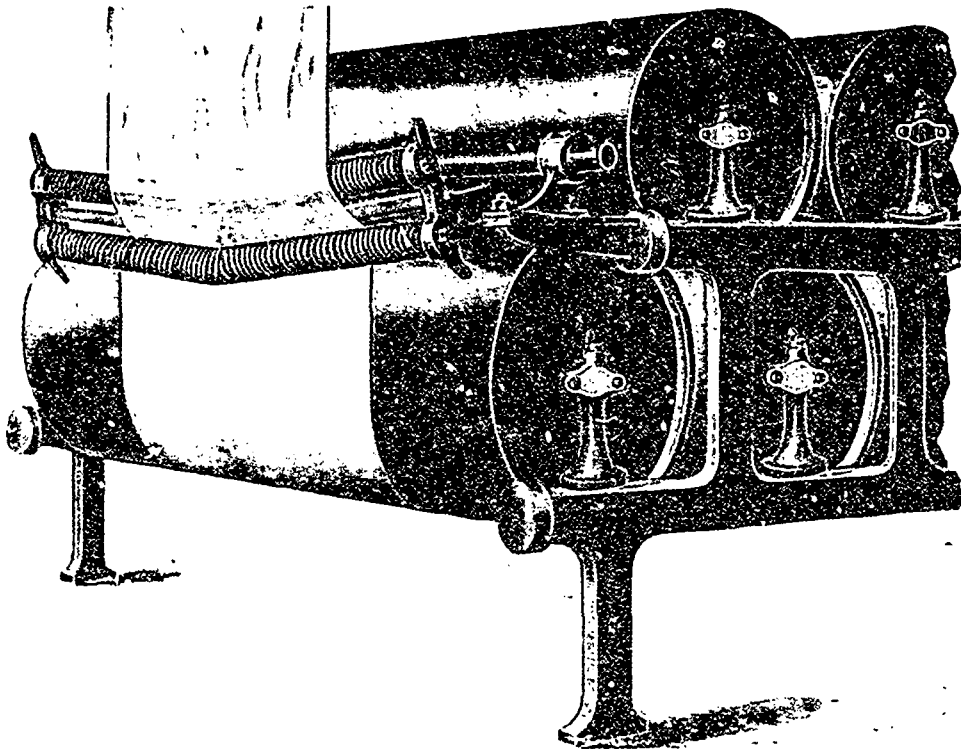


THE SCROLL OPENER

### THE SCROLL OPENER.

The drawing illustrates a machine for taking crimps and creases out of fabrics, centrally and automatically. Whereas the chain opener is used by calico printers for slow speeds, the scroll opener is substituted where the cloth is travelling quickly. It is

more especially used for guiding and tentering woolen cloths. When fixed before vats it dispenses with manual attendance for dyers and finishers of Yorkshire goods. Duplicate parts of the above supplied, and repairs executed at such a reasonable figure that W. H. Harrop & Co claim it will pay better to send to them for same than to send them elsewhere.



AUTOMATIC GUIDING AND OPENING ROLLER

### AUTOMATIC GUIDING AND OPENING ROLLERS.

This machine consists of two or four rollers so arranged that the application of each apparatus dispenses entirely with an attendant. It can be attached to or placed in any kind or class of machinery, for the purpose of guiding and straightening the fabric

for calico printers, dyers, finishers, calenderers, etc. The illustration shows the fabric being passed over the front of the first pair of rollers, and behind the second pair of rollers, but, if desired to work on one side of the fabric only, the said fabric can be passed over the front of both sets of rollers, or behind both sets of rollers, or the fabric can be placed behind the first pair of rollers, and over

the front of the second pair of rollers, but this will be best understood when the machine is at hand, indicating points being provided to show in what direction the cloth must reach and leave the machine.

There are two types of these guides, viz., tubular and lubricator. The tubular guide is for use in soaping and washing tanks, etc., i.e., where they are continually amongst liquor. The lubricator guide is internally self-lubricated for use before drying cans, etc., where to oil the guide would lead to grease marks on the cloth. The rollers also do not meet in the middle, so that the cloth is easily threaded up.

### HOSIERY NOTES.

G. F. Sturgess, of the Co-operative Knitting Co., writes "Many material alterations in styles of goods, machinery, etc., have come under our notice in the past year. Where many kinds and styles are declining others are coming to the fore. The possibilities of auto-machinery have been narrowed down to the thing needed, viz., a rib automatic adaptable to seamless foot wear generally. The newly introduced steam-power systems of designing and producing ornamental fabrics, being more universal in adaptation and varied in design, are so influencing the fancy trade that we may expect within a few years a clear sweep of the once marvellous but now clumsy and out-of-date systems. The manufacturer who remains longest out-of-date suffers most depreciation and loss. The time is past for a hosiery manufacturer to await patiently a revival in his particular class or style of trade; it is as inconsistent as swallows awaiting next year's flies. The many manufacturers who were ruined by hopelessly awaiting a revival of the dead stripe trade, the shoddy cut-feet trade, and the relegated hand-frame hosiery trade, has taught a severe lesson to those who try to maintain success on old theories and worn-out tools. We are afraid, however, that only personal experience can bring the lesson home to those who take the exception as the rule and erroneously accept a short-lived specialty as a revival. The markets are often startled by such ephemeral flashes of trade.

The new idea, that the fine grade seamless half hose and ladies' hose in fancy patterns may become a standard trade, owing to the seamless nature of the goods, is, we think, not far off the mark; we have indications of it already, in fact seeing that to-day, a design in colors, figured loops or lace holes, seems not to increase the cost or depreciate the finish, we go so far as to predict that ten years hence ornamental hosiery will be the rule and plain hosiery the exception, as was the experience of the boot trade some years ago. We may venture to ask, Can a business be maintained on blocked boots or elastic side? No; it is all fancy button or lace boots, even fancy knitted uppers. Given equal conditions the public will take the ornamental by choice, and as soon as ornament is combined with quality and cheapness the fad becomes the standard article. The hand that rocks the cradle rules the world, perhaps more in this matter than in any other. Personally, we believe it to be more a matter of domestic economy than business as to whether we wear the brilliant and bright or the sober and solemn. And every housewife avers that a thing of beauty is a joy forever, bringing it closer home to the business man, who is apt to be too prosaic and austere in his surroundings. We witness the predominant taste for color and ornament in our homes, our dress, and even in our literature and amusements, proving that, whatever the line of business, as soon as we attain perfection of structure and detail, individual preference demands coloring and ornament, which is the only true finish of any article, animate and inanimate.

The conditions of trade are altering. We are glad to notice that the old and fixed prejudices are dying out. Since better attention has been paid to the manufacture of seamless hosiery (heels larger, foot stiffened, etc.), these goods are made more uniformly, with the result that we hear less of the old cry "rinkage of the foot," and see less demand for the old-fashioned seamed wrought foot articles

(To be Continued)

## Among the Mills

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

Hamlin & Ayers are now running their woolen mill at Lachute, Que.

The Granby rubber factory is to be enlarged the coming summer.

The Hawthorne woolen mills, Carleton Place, Ont., are running overtime.

Jacob Cluthe, Doon, Ont., has converted his glue factory into a shoddy factory.

Jas Ritchie & Son, carding mill, River John, Pictou Co., N.S., have assigned.

Ontario Cotton Mills, Hamilton, Ont., had a small fire Feb 18th. Slight damages.

S. Beaumont, woolen manufacturer, Glen Williams, Ont., is reported in financial difficulties.

The superintendent of the Lambton woolen mills, Mr. Way, has taken a situation in Hespeler, Ont.

Mrs. Dewar, wife of Wm. Dewar, manager of the Penman Mfg. Co., Paris, Ont., died recently in Paris.

J. Coleman has resigned his position at the Dominion Cotton Mills Co.'s works at Magog and gone to Sherbrooke.

Reid Bros. & Co., Adelaide street, Toronto, manufacturers of wood pulleys, etc., have assigned to Henry Barber.

Albert Dyson is to be manager of the woolen mill at Way's Mills, Que., and will move his family there very soon.

The Stormont and Canada Cotton Mills, Cornwall, Ont., have closed down for the weeks ending 13th and 27th Feb.

F. Harvey, of the late firm Talbot, Cockroft & Harvey, is manager and travelling salesman for the new proprietor.

The woolen mills of A. W. Brodie, Hespeler, Ont., are running overtime. New machinery is being rapidly put in position.

The Smith Manufacturing Company, of Galt, Ont., is putting in machinery for the manufacture of knit elastic goods.

E. A. Pfeiffer, the Quebec Steam Dyeing Co., Quebec and Toronto, died at Quebec, February 12th, at the age of fifty six.

The Quebec Suspender Factory is closed up, and Jacob Miller, the manager, has left the city with his family for parts unknown.

Geo. Marineau, who said he came from Hull, Que., has pleaded guilty to the robberies at the Dominion Cotton Co.'s Hochelaga mills.

The machinery of the web factory, Niagara Falls, Ont., has been removed to the factory of which this was a branch, in Boston, Mass.

The Woodstock, N.B., Woolen Mfg. Co. has now in operation the new boiler and engine supplied by Leonard & Son, London, Ontario.

Michael Maher, jr., of Almonte, Ont., who was working in the Globe Woolen Mills, Montreal, has taken a position in a Carleton Place mill.

James Hadfield has resigned his position as superintendent of the print works at Magog, and with his family will sail for England this month.

The creditors of James Robertson & Co., wholesale dry goods and manufacturers' agents, Hamilton, Ont., have decided to close the business.

An engine of 150 horse power is being put into the Dominion Woolen Mills at Beauharnois, Que., to augment the power of the factory whenever the water is low from any cause. It is expected to be running this month.

The Guelph woolen mills has received an order from the Department of the Interior for 1,000 pairs of drawers for Northwest Mounted Police

The fifth annual drive and dinner of the overseers and second-hands of the Dominion Cotton Mills Company, Magog, Que., was held January 23rd.

The Mississippi woolen mills, Appleton, Ont., are running full time in all departments. J. L. Cockill, of Simcoe, Ont., is now superintendent.

D. Breckenridge, manager of Gillies & Co.'s woolen mill, Carleton Place, Ont., has been confined to his home recently with an acute attack of peritonitis

Thomas Early, an employee of the Waterloo, Ont., Woolen Co., died recently of pneumonia. He was about 55 years of age and leaves a widow and family

T. Daye, Sherbrooke, Que., arrived in Cornwall, Ont., recently, to resume his old position as designer at the Cornwall Manufacturing Co.'s Woolen Mill

St. John's, Que., has voted a bonus of \$8,000 to the Huggman Window Shade Co., Montreal, to induce it to move to that town and employ not fewer than 30 hands

John D. LaCourse & Co. have leased the Berlin Knitting Works for a term of years from F. Knell, and will conduct the business. John LaCourse will act as manager

J. F. Brook, eldest son of B. F. Brook, of the Listowel woolen mills, died in Toronto, Jan. 16th. Mr. Brook had been a partner in his father's business for about four years.

J. E. Molleur, hat manufacturer, St. Johns, Que., recently entertained his employees at a ball and supper in the mill, which was handsomely decorated for the occasion

Ed. Moir, Marcellus, N. Y., general manager of Cornwall, Ont., Mfg. Co., recently visited that town after an absence of six years, and noted marked improvement in the town

Mary Garner, employed at the Universal Knitting Co.'s factory, Wellington street, Toronto, caught her hair in the shafting, and had a narrow escape from serious injury.

The safe in the office of the British American Dyeing Company's works at Verdun, Que., was blown open February 8th, by burglars. No money or valuables were secured.

James Lodge, employed in the carding room of the Rosamond Woolen Co.'s Mills, Almonte, Ont., seriously injured his right hand recently, when picking waste off the feed rollers

The partners in John Price & Son, hides and wool, Montreal, composed of John Price and Wm. J. Price, have each filed a consent of abandonment. The liabilities are about \$30,000

J. I. Schwaller, a member of Thorold's town council, is working in the interests of a woolen syndicate who are desirous of locating at Niagara Falls, Ont., providing the electric power is developed.

The machinery for the Merner & Senkbeil felt factory, which will be started at Brandon, has been shipped from Germany, and the firm expect to have the factory ready during March.—*Winnipeg Commercial*

The Berlin *News-Record* says "Miss Wismer, of Berlin, formerly of the Waterloo button factory, had the misfortune to break an arm while out driving. She was conveyed to a doctor's to have the fracture set. From what we are able to learn, she was put under the influence of chloroform, from which she never recovered. This was a tragic ending to the evening's pleasure."

The Kitson Machine Co., Lowell, Mass., has sent out a very handsome illustrated catalogue recently, showing the cotton openers, lappers, waste pickers and shoddy machinery manufactured by this enterprising firm.

W. J. Matheson & Co., Ltd., have sent out a neat folder, containing samples dyed with anthracene-acid black, and L. W. and S. T. pat., and anthracene-acid Brown R and B, both manufactured by Leopold Cassella & Co.

The Oxford Mfg. Co., of Oxford, N. S., have been making additions to their plant. They have purchased some machinery from the Yarmouth Woolen Mills Co., including eight Knowles worsted looms, shearing machines, dryers, etc.

On January 20th, there was a small fire at the Granite mills, St. Hyacinthe, Que., in the "picker-room." The damage was slight, but the main cable from the engine-room having been burned, no work was done in the mills the next day.

J. B. Winger has been in Manitoba in the interest of the Winger Woolen and Felt Co., of Elmira, Ont. He expresses himself as well pleased with his trip. The company has decided to build a frame addition, 40x20 feet, to its factory.

The report telegraphed from Toronto, that all the Canadian cotton mills were to be closed down, has no foundation. At this season of the year, a number of the mills usually run on short time, or close some departments, and this has given rise to the rumor

W. Milligan, Toronto manager for the Corticelli Silk Co., after spending about four weeks in St. Johns and Montreal, has returned to Toronto. Like the rest of the Corticelli men, Mr. Milligan is the right man in the right place.—*St. Johns News*

A joint stock company for raising flax and manufacturing linseed oil has been formed at St. Joachim, Essex county, Ont. There are forty shareholders, and each will plant one acre of flax yearly, which it is expected will produce 25 bushels of flax and 30 gallons of oil

The superintendent of one of the largest woolen mills in Canada is given much credit in the *Almonte Gazette* as a weather prophet. We believe the gentleman is not the author of Smith's Planetary Almanac, but we would like to have him predict still further.

At the annual meeting of the Eureka Manufacturing Company held at the mills, Eureka, Pictou County, N. S., the officers were re-elected as follows: President, M. H. Fitzpatrick, vice-president, W. D. Cameron, manager, C. A. Clarke, secretary, J. P. McLennan.

M. J. Wigle & Co., woolen manufacturers, Kingsville, who recently were reported in financial difficulties, have made arrangements with their creditors to take stock in the mill, and they will continue the business. Their statement showed assets of \$10,000, and liabilities of \$15,000.

At the annual meeting of the shareholders of the Canadian Rubber Company of Montreal, the following were elected directors: Andrew Allan, president; Hugh McLennan, vice-president; W. J. Withall, Frs. Scholes, J. B. Learmont, H. Montagu Allan, W. H. Benyon, Andrew A. Allan, J. T. Molson.

At the annual meeting of the Merchants' Manufacturing Co. at St. Henri, Montreal, it was decided to shortly change the title of the company to that of "The Merchants' Cotton Company, Ltd." The statement for the past year was satisfactory. The old board of directors was re-elected, namely:—A. A. Ayer, president; R. B. Angus, James Crathern, Gilman Cheney, vice-president; J. P. Cleghorn, Jonathan Hodgson, Robert Mackay.

**Wool Washers** || **KITSON** - - -  
**Dryers and Carbonizers** || **MACHINE CO.**  
**LOWELL, MASS.**



The Calvert-Wilson-Dwyer Co., wool merchants, Front street, Toronto, announce a change in the membership of the firm, and its name and style. Mr. Wilson has retired and the firm is now the Calvert-Dwyer Co., and will handle as formerly all kinds of foreign wools, and English and carbonized noils.

The Cobourg woolen mills have been placed in the hands of the president of the company, Wm Rosamond, for liquidation. The total liabilities are about \$70,000, of which some \$60,000 is due to the Bank of Toronto. The mill itself and plant are valued at \$110,000. The property is advertised for sale.

Dagleish, Patterson & Barrett, woolen manufacturers of Campbellford, Ont., have assigned to A. P. Mutchmore, and will meet their creditors Feb. 22nd. Their difficulties are largely due to an unfortunate fire last March, by which \$13,000 damage was done, and insurance only amounting to \$4,200 was available to meet it.

The Sherbrooke correspondent of the *St. Johns News* writes W. S. Dresser is in Ontario on business connected with the Talbot Carpet Co. It is expected that this company will shortly remove their works to Sherbrooke, a favorable site and water-power having been secured, and it is well understood that some of our capitalists are interested.

The Montreal Cotton Company held its twenty-fourth annual general meeting lately. The reports for the past year were submitted and found satisfactory. The retiring board of directors was unanimously re-elected, namely A. F. Gault, president, C. Garth, vice-president; Jacques Grenier, E. K. Greene, the Hon. J. K. Ward, S. H. Ewing and R. R. Stevenson.

The relief association organized among the employees of the St. Croix Cotton Mills, Milltown, N.B., paid during 1896, for sick benefits, nine hundred and sixty dollars. Each member pays a monthly due of 50 cents, which entitles him to \$62.50 in sick benefits during the year. Officers have recently been elected as follows: Sydney Elliot, president; Charles Crosset, vice-president; Gerard Graham, secretary; J. Whidden Graham, treasurer; Orin Morrison, Wm. Watters, Alex. Kirkland, Jesse Towers, Frank Slipp, sick committee.

Wm. J. Matheson & Co., Ltd., 178 Front street, New York, U.S.A., have lately placed a number of most valuable cotton colors upon the market. Among the new cotton blacks are their Diamine Jet Black C R, Diamine Jet Black R B, Diamine Blue Black R L, and Oxy-Diamine Black B G. Among the new cotton blues are Diamine Steel Blue L, Diamine Blue B G, and Diamine Azo Blue 2 R. Among their new cotton browns and yellows are Diamine Catechine C, Diamine Catechine B, Diamine Catechu C, and Diamine Catechu Y.

A meeting of the creditors of James Lockhart, Son & Co., agents for the Markham woolen mills and the Lambton woolen mills, was held in Toronto at the office of E. J. Henderson, assignee, when a statement was presented showing direct liabilities of \$76,621, and indirect of about \$26,000. The assets were placed at \$56,036. Among the creditors are the following: John Hallam, Toronto, \$7,351.82; Dominion Dyewood Chemical Co., Toronto, \$1,414.55; P. Frind Woolen Machinery Co., Toronto, \$174.60; Mrs. S. J. Lockhart, Toronto, \$1,038.01; W. T. Benson & Co., Montreal, \$3,004.85; W. Strachan & Co., Montreal, \$102.30; John McMurphy, Huttonville, \$780.43; Theo. H. Eaton & Son, Windsor, \$164.20; James Thompson & Co., Kendal, Eng., \$436.07; E. Leadley & Co., Toronto, \$375; Montreal Blanket Co., Montreal, \$31.10. The Markham mills are on the indirect list for \$24,100, and the Lambton mills for \$25,850. Mr. Lockhart, sr., is in poor health, and is absent in California. Mr. R. Lockhart is preparing an offer, to submit as we go to press. Both mills are closed, pending a reorganization of the business.

A. C. McLaughlan, who has been connected with the firm of McMaster & Co. for the past eighteen years, has accepted a position with P. Garneau, Son & Co., wholesale dry goods merchants, Quebec. Mr. McLaughlan will look after the Ontario business of Garneau, Son & Co.

## FABRIC ITEMS.

S Goldstick, London, Ont., manufacturer caps, etc., has assigned to A. Robinson.

Pugh Bros. & Co., mantle makers, Front street, Toronto, have assigned to Langley & Hallworth.

J. H. Jones & Co., wholesale dry goods, Montreal, made a proposition to their creditors early this month.

Fire damaged the stock of Davis Bros., dry goods, St. Lawrence st., Montreal, recently, to the extent of \$3,000.

A. A. Allan & Co., Bay St., Toronto, have taken over the business of Macpherson, Gillies & Co., wholesale hats, etc.

H. Shorey & Co., Montreal, are placing their Rigby water-proof materials on the New York market with great success.

Henry Morgan & Co., departmental store, Montreal, have determined to enlarge their premises to twice the present size.

Charles Prevost, dry goods, Kingston, Ont., has assigned to W. Corbett. The stock is worth \$10,000, and the liabilities are placed at \$13,000.

Henry Morgan & Co., departmental store, Montreal, have arranged with the Y.W.C.A. cooking school, to instruct their female employees in the domestic arts.

The statement made in our January issue that G. A. Thorpe & Co., wholesale dry goods, had assigned, was not accurate. A settlement has been effected, and the business continued as the G. A. Thorpe Manufacturing Co.

Negotiations which have been going on for some months past between McKendry & Co., Toronto, and their creditors, in regard to a settlement, have been brought to a close by a compromise, at the rate of 62 cents on the dollar.

A strike amongst the garment workers in Hamilton, Ont., was threatened recently owing to a rumored further cut in wages. The Sanford Manufacturing Co. promised that there would be no cut this year and the agitation subsided.

F. C. Kerby, solicitor for A. L. Kerby, dry goods merchant, Windsor, Ont., has issued a writ against Gault Bros., of Montreal, claiming \$5,000 damages for the alleged destruction of Kerby's business by selling at auction his goods at Toronto.

H. Blumenthal & Sons will open a branch establishment for clothing, on St. Catherine and Metcalfe streets, Montreal. Their intention is to depart from the general and local detail at this house and conduct a business on the lines of Lilliputian stores of Best & Co., New York city.

George W. Graham, of Aurora, Ont., was arraigned recently on the charge of receiving wool, the property of William Graham, knowing it to be stolen. This is an outcome of the Aurora wool case, for which Amos McCoy and Joseph Willis are now doing time. The case was adjourned, bail having been accepted.

William Rees, London, manufacturer of flowers and feathers, well known to the wholesale millinery trade of Canada, has left the country, and is accused of having committed forgeries to the extent of £10,000. Among those whose names he is said to have forged are S. F. McKinnon & Co., Toronto, and Caverhill & Kiscock, Montreal.

At the annual meeting of the Montreal Merchant Tailors' Association, the following officers were elected:—President, Wm. St. Pierre; vice-president, Wm. Paterson; treasurer, R. Desjardins; secretary, F. W. Richards. The association has a black list of 777 names, which is at the disposal of its members, and is found useful in defeating the efforts of the impecunious.

The officers for the year of the Dominion Commercial Travelers' Association are:—Hon. J. D. Rolland, president; Wm. Kiskoock, vice-president; Fred Birks, treasurer; Directors, Wm. Brewster, T. L. Paton, E. B. Garneau, D. Watson, jr., J. T. Lesueur, Jas. Croil, L. O. Demers, John T. Dwyer, John Taylor, J. E. Buchanan, I. teut., Colonel Massey, past president, and H. W. Wadsworth, secretary.



Sigmund, Frank & Co., of Taura, Saxony, and Addle street, London, E. C., one of the largest and best manufacturers of fabric gloves, have recently appointed Thomas Samuel & Son, of St Helen street, Montreal, their agents in that city. This Saxony firm has been known in the Canadian market for many years, and has now placed in charge of its agents a very fine range of samples—some of the texture known as "bread and cheese"—of suitable price and of varied and admirable styles. It will certainly be to the detriment of any wholesale buyer to miss an inspection of these gloves.

**TEXTILE IMPORTS FROM GREAT BRITAIN**

The following are the values in sterling money of the textile imports from Great Britain for December, 1895, 1896

	Month of December,	
	1895	1896
Wool .....	£ 3,375	£ 4,648
Cotton piece-goods .....	58,442	34,961
Jute piece-goods .....	6,727	7,977
Linen piece goods .....	11,317	9,029
Silk, lace .....	662	654
" articles partly of .....	1,744	1,464
Woolen fabrics .....	11,439	11,483
Worsted fabrics .....	52,147	41,396
Carpets .....	10,510	7,186

**CHEMICALS AND DYESTUFFS.**

Business is not very brisk owing to dullness among the woolen mills. Prices are steady in most cases. Sulphur is scarce on the spot, and higher prices are asked for import. Owing to the excessive winter rates of freight, bichrome of potash has advanced to 10 cents per lb. for cask lots. The following are current quotations in Montreal --

Bleaching powder .....	\$ 2 00	to \$ 2 10
Bicarb soda .....	2 35	" 2 50
Sal soda .....	0 75	" 0 85

Carbolic acid, 1 lb. bottles .....	\$0 27	to \$0 30
Caustic soda, 60° .....	1 80	" 1 90
Caustic soda, 70° .....	2 25	" 2 35
Chlorate of potash .....	0 13	" 0 18
Alum .....	1 35	" 1 50
Copperas .....	0 70	" 0 75
Sulphur flour .....	1 75	" 2 00
Sulphur roll ..	1 75	" 2 00
Sulphate of copper .....	5 00	" 6 00
White sugar of lead .....	0 07	" 0 08
Bich. potash .....	0 10	" 0 11
Sumac, Sicily, per ton .....	55 00	" 60 00
Soda ash, 48° to 58° .....	1 25	" 1 50
Chip logwood .....	2 00	" 2 10
Castor oil .....	0 09	" 0 10
Cocoon oil .....	0 06½	" 0 07

**A. KLIPSTEIN & COMP'Y**

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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

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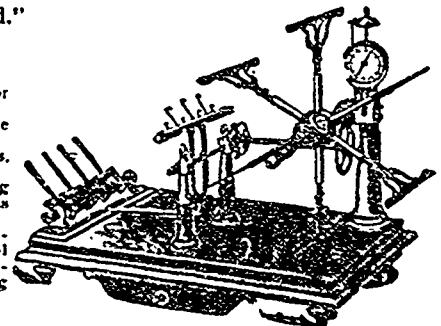


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Improved Machines for opening out Crimps, Creases, and Curled Edges, and Guiding Fabrics Centrally and Automatically.  
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Maker of Wrap Reels, Wrap Blocks, Yarn Examiners, Yarn Twisters, Yarn Testers, Hank Quadrants, Shaft and Spindle Indicators, Barrel Stand, Umbrella Hank Stands, Worsted Balling Machines, Roller Covering Machines, Cloth Testers, Rove Reels, Cloth or Crape Measuring Machines.



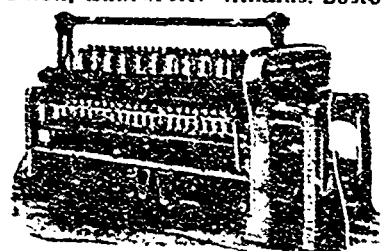
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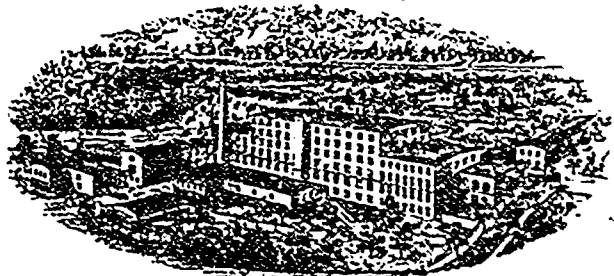
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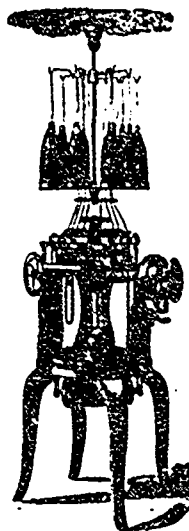
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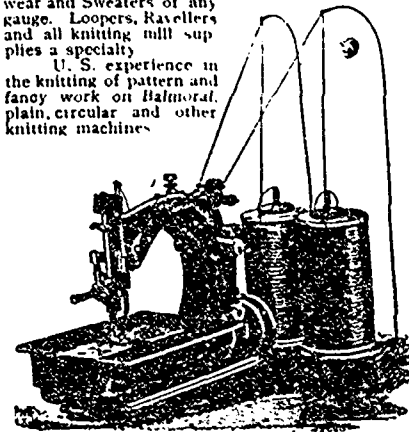
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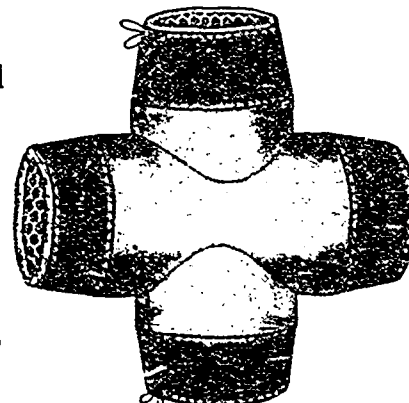


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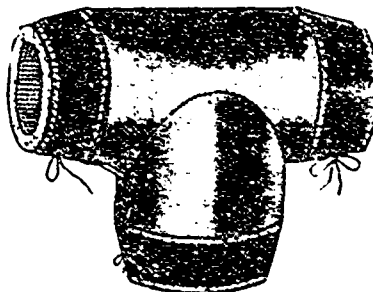
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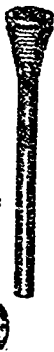
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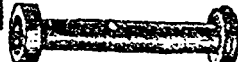
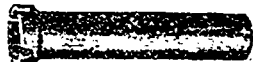
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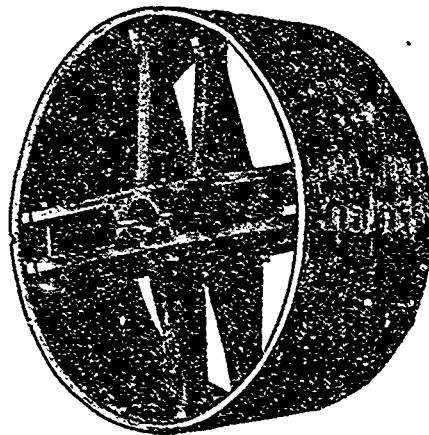
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## THE WOOL MARKET.

MONTREAL -Manufacturers are buying very sparingly for immediate wants only, owing to the uncertainty of the tariff question, and the trade is getting very careful whom they sell wool to now, owing to the amount of mill failures in the past month in Canada. There is no change in prices: greasy Capes, 14 to 16c. snow-white, 33 to 34c. B.A washed, 26 to 33c.

TORONTO—This market is entirely bare of fleece wool, the Americans having cleaned out what little there was left owing to the anticipated tariff on wool in the United States. There is only a moderate demand for pulled wools supers being quoted at 20 to 21c., and extra super at 22 to 23c. So far as reported, sheep in Ontario are coming through the winter in good condition

At the London wool sales just closed, prices were lower than at the last series. Of the 234,468 bales catalogued for this series, 92,000 bales were taken by the home trade, 83,000 by continental buyers and 45,000 for America. Forty-three thousand bales were held over for the next series, including 28,000 bales which were not offered. As compared with the December closing prices, merinos show a decline of  $\frac{1}{2}$ d to an advance of  $\frac{1}{2}$ d, and cross-breeds sold from  $\frac{1}{2}$ d. cheaper to 1d. dearer. The next series will open on March 9th.


## LITERARY NOTES.

R. Schofield, 14 Court street, Toronto, manufacturers of automatic knitting machines and mill supplies, has issued a very bright catalogue which not only shows manufacturers where they may secure machinery to advantage, but gives them much good advice in fine literary style

We have received the prospectus of *Textile America*, which is to be issued under the general direction of Max Jagerhuber. If the prospectus is a criterion, *Textile America* will have few real rivals in the journalistic field. The Textile Publishing Co., Grand and Mercer Sts., New York. Price, \$5.00 per annum

*The Century* for February contains three serials, viz., the conclusion of Marion Crawford's novelette, "A Rose of Yesterday," the fourth part of Dr Weir Mitchell's "Hugh Wynne," and the continuation of Gen. Horace Porter's recollections of Grant in the field. The short stories are "A Man and Some Others," a tale of the Western plains, by Stephen Crane, and "Miss Selina's Settlement," a story of New York society, by Mrs Burton Harrison. In addition to these, there is a touching narrative by W. J. Stillman, of the life and death of two pet squirrels. Mrs Schuyler Van Rensselaer, who knows New York by heart, contributes an illustrated paper on "Places in New York," the topics of which range from the slums to the opera

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Are you a Wholesale or Retail dealer in Dry Goods, Clothing, Men's Furnishings, Hats and Furs, Millinery and Ladies' Wear, or Upholstery Goods?

Do you want to refer to details of the Tariff on Textiles, or to statistics of all branches of these trades and their relations with other countries?

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## SOME QUESTIONS

**T**HE first edition of the **Canadian Textile Directory** was published in 1885, and made a work of 318 pages. It has since grown till it has made a volume of 486 pages, and the coming edition will probably be larger still. Some new features will now be added, and every pains will be taken to make it comprehensive and correct.

Taking it all round, there is no work published containing the amount and variety of information on the textile and allied trades that will be found in the **Canadian Textile Directory**; and the number of copies ordered from abroad for purposes of reference is continually increasing, the last edition having been exhausted some time since by such calls.

The advertisers who patronize it, are, as a rule, the very best in the trade, and the number of the firms represented in its advertising pages has increased with every issue.

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H. Langley & Co., Huddersfield, Worsted Coatings, &c.  
James Holdsworth, Upperhead Mills, Huddersfield, Woolen & Cotton Card Clothing  
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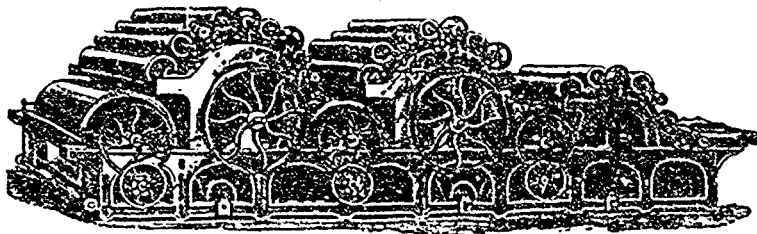
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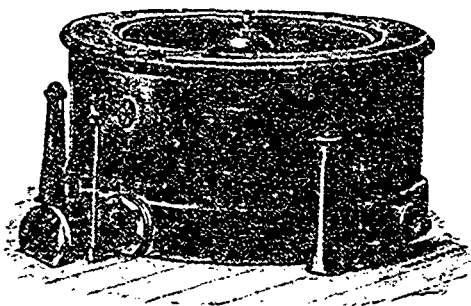
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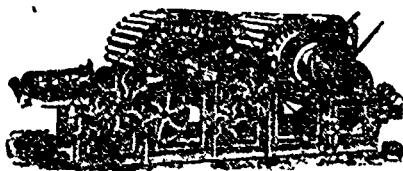
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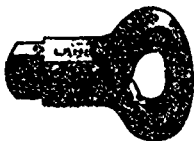
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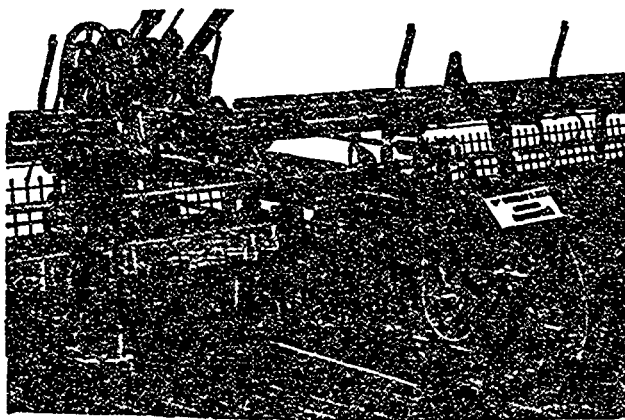
*Scribner's Magazine* for March will contain an article on the "Business of a Factory," of which we have seen advance sheets. This is one of the series now running in that magazine, "The Conduct of Great Businesses," which are attracting great attention.

Fred. Burns, foreman of the cloth room in the Merriton cotton mills, has resigned that position for a more lucrative one at Toronto — *Thorold Post*

Fred. Bullock, Queen street west, Toronto, has made some valuable inventions in carpet weaving; so have J. Hill and A. Murray. The latter two have infringed upon Mr. Bullock's patents, he claims. Hill and Murray committed an assault on Bullock recently in discussing the question, which led to their arrest.

The principal creditors of McClung & Co. dry goods, St Catharines, Ont., are John Macdonald & Co., Toronto, \$5,153.53; Caldecott, Burton & Spence, Toronto, \$4,003.44; Estate Jane McClung, \$3,800; Standard Bank (J. D. Ivey & Co.), \$2,671.85; Thos McClung, \$2,415; Gault Bros. & Co., Montreal, \$1,737.13; S. Greenshields, Son & Co., Montreal, \$1,400.14; S. F. McKinnon & Co., Toronto, \$938.36; A. Bradshaw & Son, Toronto, \$689.63; J. B. Henderson & Co., Toronto, \$157.10; Thibaudeau Bros. & Co., Montreal, \$406.53; Wyld, Grasett & Darling, Toronto, \$176.15.

Timothy Gagnon, fancy dry goods, Notre Dame St., Montreal, has assigned, with liabilities amounting to about \$13,445. The principal creditors are Liddell, Lesperance & Co., \$1,600; Lonsdale, Reid & Co., \$1,300; Thibaudeau Bros & Co., \$1,100; Glover & Brais, \$850; S Greenshields, Sons & Co., \$787; Thos. May & Co., \$750; Fitzgibbon, Schafheitlin & Co., \$600; A. Racine & Co., \$550; A. A. Morin & Co., \$550; Thouret & Co., \$495; W. Agnew & Co., \$400; Gault Bros. & Co., \$450; Finley, Smith & Co., \$380; R. Linton & Co., \$240; Thos. Liggett, \$375; and M. Laurier & Co., \$1,440.

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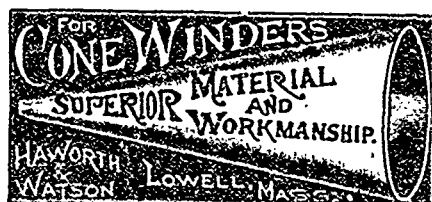
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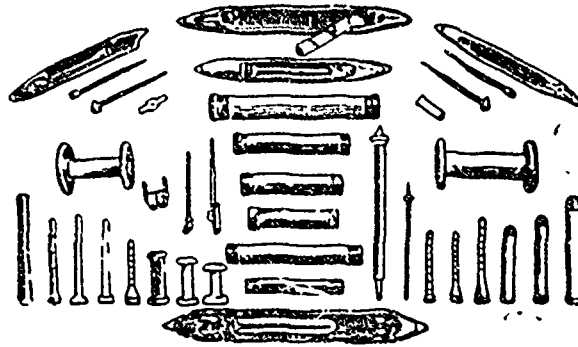


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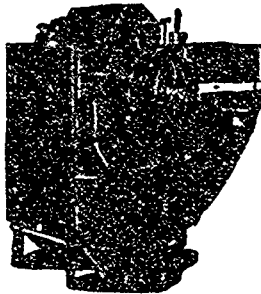
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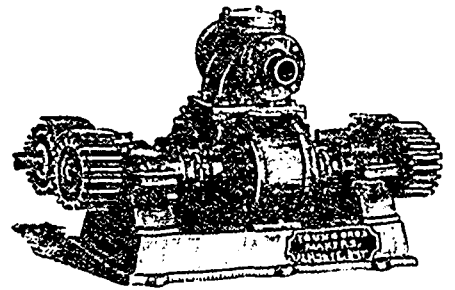
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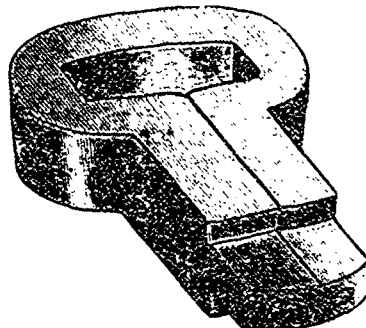
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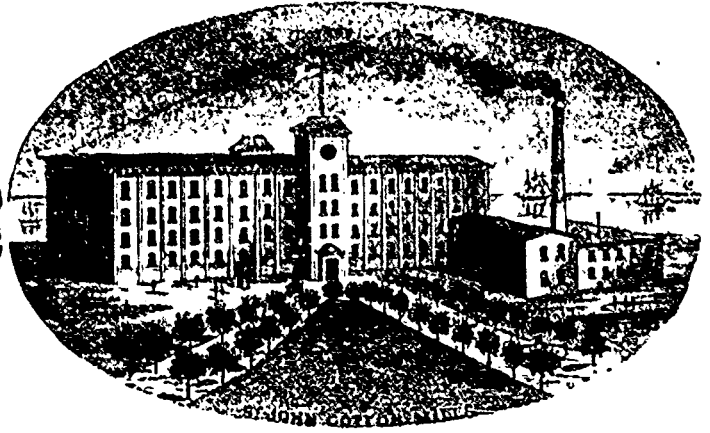
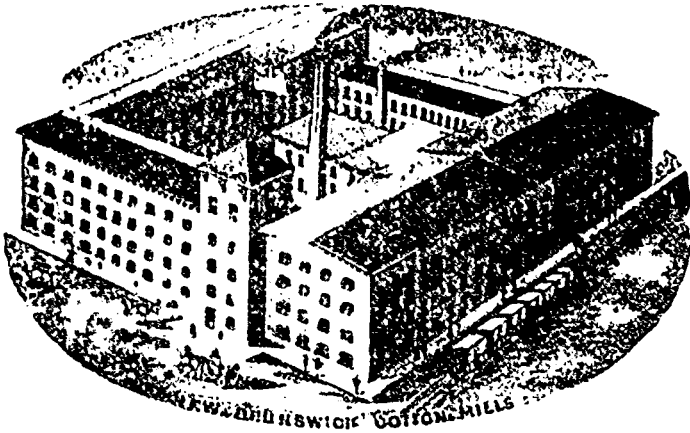


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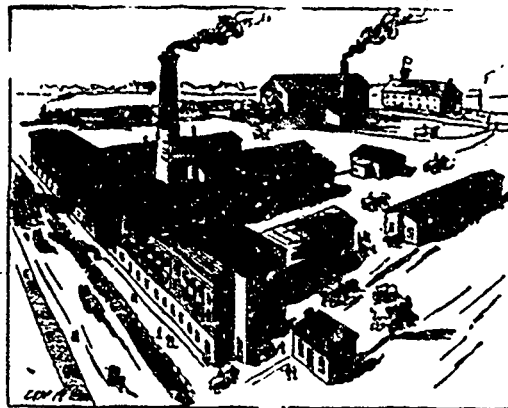
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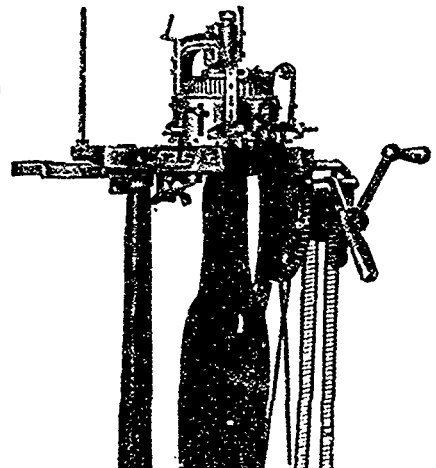
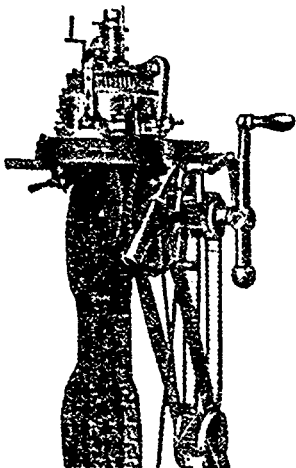
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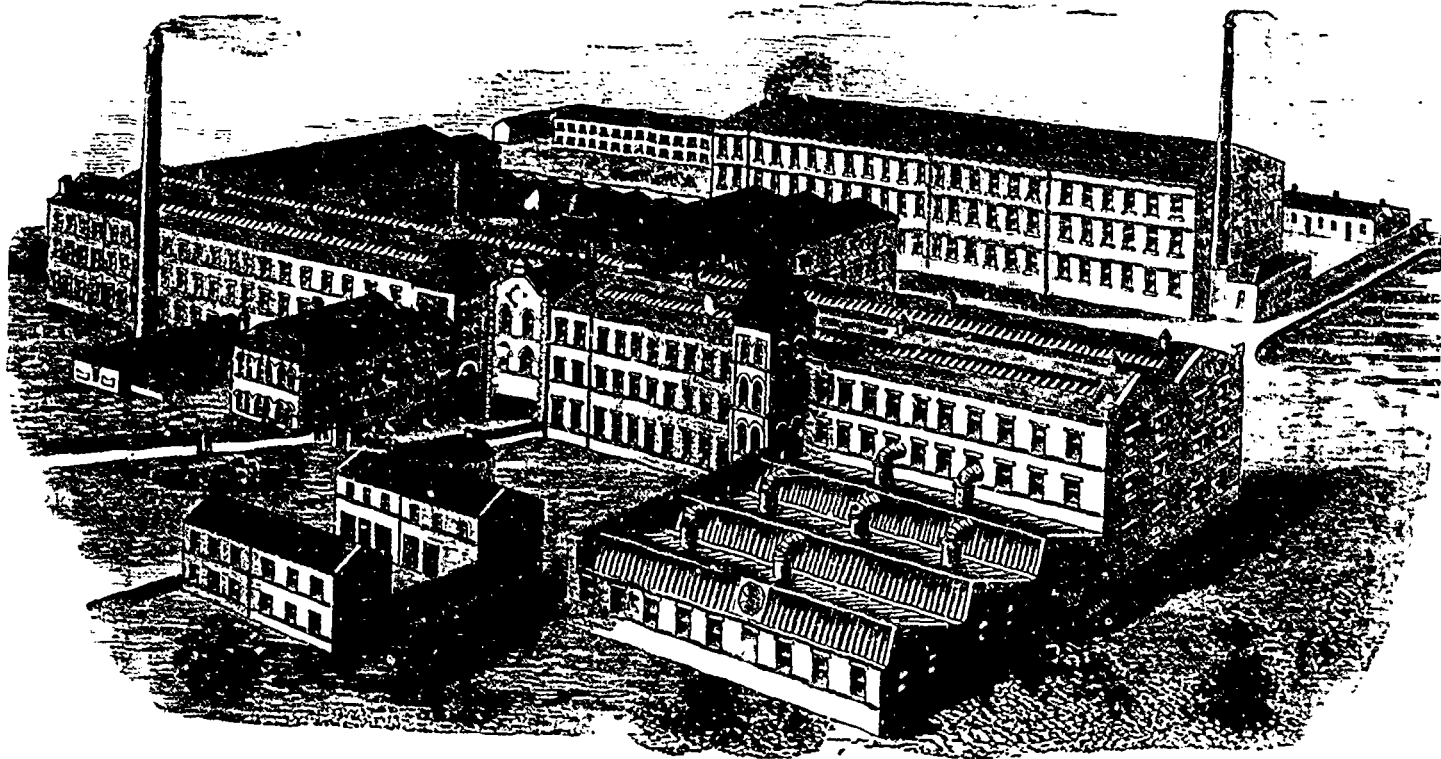
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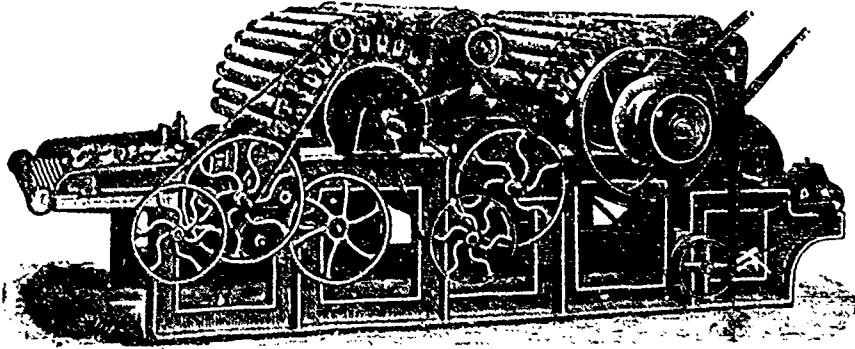
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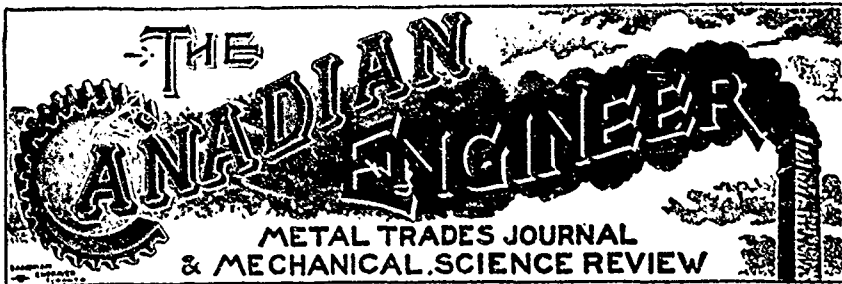
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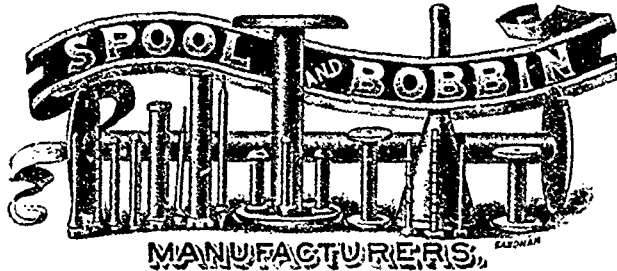
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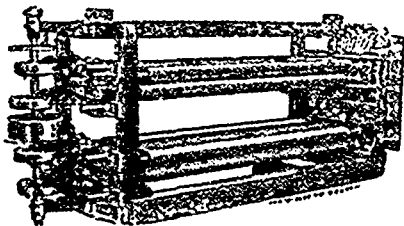
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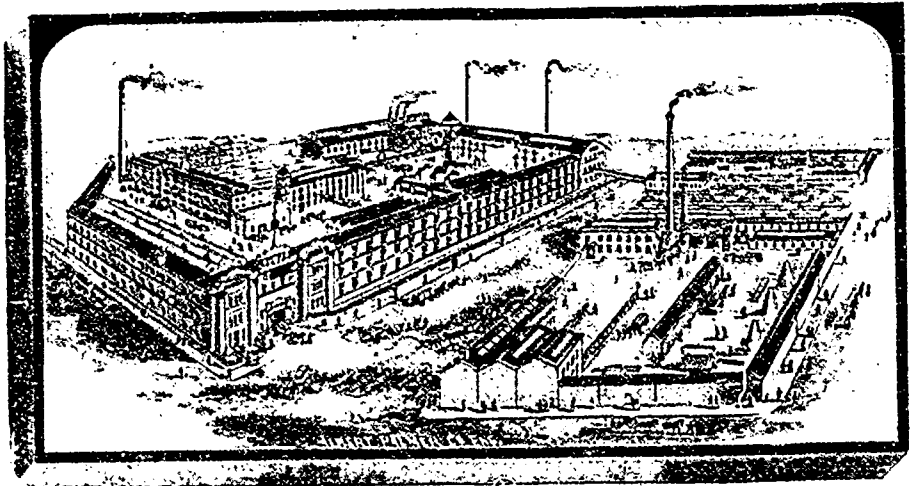
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