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Canadian Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XIX. TORONTO AND MONTREAL, APRIL, 1902. No. 4.

Read the Announcement On Page 127.

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CONTENTS OF THIS NUMBER:

A DISTURBED CONDITION IN THE UNITED STATES.

Strikes among the operatives in the textile mills of the United States are quite numerous. The Fall River workers recently made a demand for a 10 per cent. increase, and obtained it, without much difficulty. This seems to have encouraged others to make similar demands, and the trouble was transferred to Lowell, where, however, the conditions are very different, the goods there manufactured being in the main of another class, which could not stand the increase. Matters at Lowell looked very threatening for a time, and a general strike was feared, for a 10 per cent. advance in wages, which would have affected some 16,000 employees, and meant a loss of about $150,000 a week to the operatives, and about as much to the mills. Fortunately, the worst was averted by concessions having been made, a citizens' committee having done much to bring about an understanding.

The American Woolen Co. has a strike on hand, and has been obliged to notify some of its customers that it is unable to deliver goods contracted for. This strike commenced at Olneyville, R.I., in opposition to the system whereby a weaver is obliged to operate two looms. It spread to the Beoli and Fitchburg mills and to other places. About 6,000 of the company's employees are affected. Some weavers are satisfied to run two looms, being able to earn about $2 per week more than they could with one. Others claim that fines for bad work and the extra work required more than offset the extra pay. That the system is not universally popular among manufacturers is evident from the fact that not a very large percentage of mills have adopted it. An attempt was made in 1879 or 1880 to inaugurate the two-loom system in Providence, but it was not a success. The improved looms introduced since then have made it an easier problem. The general impression seems to be that it will not work except for the very plainest of goods.

The Tioga silk mill at Athens, Pa., is closed, seventy-five girl weavers having gone on strike because the management would not dispose of the help of two Syrians, to whom the majority of the help had taken a dislike.

There is a lockout in Augusta, Ga., every mill in the neighborhood being closed, the lockout affecting 10,000 men. There is also dissatisfaction among the mule spinners of the cotton yarn and thread mills of Rhode Island, and a demand for an increase of 10 per cent. in wages, which may lead to a strike, affecting at least 5,000 operatives.

Such a state of unrest among operatives has a very injurious effect upon the textile industry, and it is to be regretted that some more satisfactory way of settling such disputes between employers and employed cannot be devised.

THE WOOLEN INDUSTRY IN PARLIAMENT.

In the course of the Budget debate in Parliament, the preferential tariff and its effect on certain industries, particularly woolens, naturally came up for consideration. Two of the members of the House of Commons—Bennett Rosamond, of Almonte, and James Kendry, of Peterboro—are connected with two of the largest woolen mills in the country, the Rosamond woolen mill and the Auburn mill. Both took very strong ground on the line which the Journal of Fabrics has laid down, namely, that the preferential tariff is doing serious injury to the woolen trade in Canada, and that some relief should be afforded. Mr. Rosamond, following Dr. Kendall, spoke thus:

Mr. Rosamond expressed his gratitude to the honorable member for his assurance that he didn't wish to injure the woolen industry. But, when Mr. Kendall decried the establishment of certain industries in Canada in competition with those of England, he probably furnished the clue to the want of industrial activity in Nova Scotia, and to the fact that so many Nova Scotians were to be found settled in Boston and the New England States. Dr. Kendall had advocated as a measure of relief from the exactions of the coal barons of Nova Scotia, action by the Government, but if the Government did coal mining as they ran railways it would be better to leave matters alone. Dealing with the woolen industry and the manner in which it had been injured by the preferential tariff, Mr. Rosamond, who is one of the largest woolen manufacturers in Canada, said that for obvious reasons he would not dwell upon the subject further than to point out that the importations of woolen goods, tweeds, etc., such as made in Canada, amounted in 1897 to 3,166,361 yards. In 1901, under the 33⅓ per cent. preference, the importations amounted to 6,045,534 yards, an increase of 91 per cent. The census showed that the increase in population between 1891 and 1901 was but 11 per cent., while the increase in the United States was 22 per cent. Meantime we had received 282,290 immigrants, equal to 50 per cent. of the whole increase, at a total cost of $2,400,175, or $8.50 per head. Nor was this result to be wondered at, seeing that so little attention was given to the encouragement of industries in Canada that we paid millions for foreign goods that should be manufactured at home. As an English newspaper said, had Canada manufactured last year all that she consumed it would have employed 120,000 factory hands and paid out $65,000,000 in wages and built up three towns as large as Toronto. Protection was necessary for all industries in this Dominion, he said, and no other policy would make Canada a great country.

Mr. Kendry's remarks were to this effect:

Mr. Kendry said that while the Government were loyal to the people of England they were not loyal to all the Canadian people. The preferential tariff gave a preference to the workmen of England over our workmen, and so long as he had a voice in the legislation of this country he would not willingly give a preference to England or any other country over the workmen and people of this country. The Government should have sent a commission to go through the country and find out what the people required. The Government to-day had class legislation. No part of the country had suffered more from this than Ontario. There should have been greater protection on agricultural implements, so that $2,000,000 that had been paid to the United States would have been spent in Canada. He denied the statements made that the Canadian woolen manufacturers were using antiquated machinery. To-day hundreds and hundreds of pieces of German woolen goods were coming into Canada under the preferential tariff, with hardly any English work on them, yet the Government did *nothing*. The industry in this country was paralyzed. Since 1899 there was less machinery running than at any time in the past 20 years. There were now working 40 sets of cards, over 200 looms and 7,000 spindles less than in 1899, that is, counting only mills that have permanently closed, not those that are temporarily closed. Half a dozen mills had been burned down, not one had been rebuilt, and the insurance companies had cancelled insurance on many woolen mills, and it was difficult to get any insurance on the smaller mills. Under old conditions near double the amount of machinery would have been running, and they could not meet the present demand. Their hands had left for the United States, because they got higher wages; over 100 had left his mill and had gone to the United States. It was impossible for the Canadians to compete when the United States drew off their labor and this British preference existed. The Cornwall mill, he said, was well equipped, and would be running to-day if it were not for the preference. Mr. Kendry said that the machinery for Canadian mills cost 40 per cent. more than in England, and the labor conditions were better. He said that hundreds of pieces of continental goods were imported under the preference without having 2 per cent. of English labor put on them, and that he could prove this owing to the fact that goods had been sent to him in the gray to be finished by a Toronto wholesale house which had had a fire.

Mr. Wright proceeded to question Mr. Kendry on this point, but he refused to be cross-examined, saying he would give the information to an official of the Customs Department.

On the other side of the question, R. Holmes, M.P., for West Huron, and Hon. W. Paterson, Minister of Customs, spoke. Mr. Holmes thought the woolen industry was not suffering very seriously, and that the protection it enjoyed under the present tariff was sufficient. His remarks are thus reported:

Mr. Holmes pointed out the inconsistency of Mr. Rosamond and other speakers, who had been forced to admit that great prosperity exists, but in order to enforce their arguments in favor of protection argued that Canada could not enjoy that prosperity which we ought to without an increase in the tariff. Replying to Mr. Rosamond's references to the woolen industry, Mr. Holmes said that with a tariff protection of 25 per cent., and the advantage of the freight from Great Britain, woolen manufacturers ought to be satisfied. He doubted the assertion that the woolen industry was suffering, and asked those who were complaining to give further evidence that they were injured before their complaints were heeded. He had himself been informed by a woolen manufacturer that the woolen mills were running overtime, and had all the work they could do.

Hon. W. Paterson, Minister of Customs, in the course of his remarks referred to the preferential tariff, and was asked by Mr. Brock, M.P., for Centre Toronto, if he denied that it was injuring our manufacturers. In reply:

Mr. Paterson admitted that one line which had been mentioned had been hurt somewhat, and he sympathized with it,

but recognized that in framing any tariff there were a great many interests to be considered, and it was not easy to have the tariff right in every detail. With reference to the charge that German-made goods were favored under the preferential tariff, Mr. Paterson said that no concrete cases in which this was shown to be the case had been brought before him. He had been requested by the Premier to investigate and ascertain the true state of the case, and when in London this summer he intended making a careful personal investigation to ascertain just how far the statements were founded on fact.

David Henderson, M.P., for Halton, took the same ground as Mr. Rosamond and Mr. Kendry. Referring to the preferential tariff, he said:

He would vote for a straight motion to repeal that preference, which had not met with the approval of the country. He strongly advocated the policy of protection, and quoted Hon. Geo. W. Ross' budget speech to show how much the Premier of Ontario sympathized with the principle that the Government should legislate in a direction of fostering and encouraging the development of a country and its industries.

Nothing was left undone to convince the Government that the time to raise the woolen duties is now and not later. It is understood that the Minister of Finance was made aware in strict confidence of the actual profits of some mills, and was given every insight which could assist him in advising his colleagues as to the exact condition of the industry. The vote at the close of the debate indicated that neither the Government nor the majority of the house is at present prepared to give the woolen manufacturers any relief.

IT WAS AN OBJECT LESSON.

The recent woolen exhibit at Ottawa seems to have been a revelation even to those who are in the trade. Robert R. Stevenson, of Stevenson, Blackader & Co., said: "I was surprised, myself, at the excellence of the products shown. I had no idea that our Canadian mills could turn out such fine goods, though I have long been acquainted with the woolen business in this country. It ought to have a good effect on the Government and members of Parliament, generally, who came to see it. There will be hardly anything done this year to help the Canadian woolen manufacturers, but I would not be greatly surprised if after that the United States tariff was brought over here and 50 per cent. knocked off for English products. I think that would be a good plan." Another woolen man thought that everyone who called to see the exhibit was much impressed with the work that could be done in Canadian mills. "The rooms were crowded all day long," he said. "Not only the Cabinet Ministers, but all the members came and brought their wives. They asked all sorts of questions and were apparently much interested. It will certainly be an object lesson to them. They have been going to their tailors before this and buying their clothes without the least thought of where the goods were made, no doubt most of them thinking that all the finest goods shown were imported, as tailors delight to tell their customers."

TEXTILE TRADES AND THE CORONATION.

The manufactures of clothing, and along with them the food suppliers, may expect to profit largely by the Coronation ceremonies, to take place in England in June. In the early part of 1897, Jubilee year, the importation of all kinds of clothing material went up by leaps and bounds. In May there went into British ports an excess of 62,000 lbs. of silk, 251,000 lbs. of alpaca, 650,000 lbs. of mohair, and 53,000 lbs. of other rarer stuffs over imports of May, 1896. There were also taken in 1,250,000 lbs. extra of unmanufactured wool, 708,000 lbs. of cotton yarn, 21,734 cwt. of leather, and other similar articles in like amount. During that year it is estimated that British tailors made 2,500,000 extra suits for men, and British dressmakers 4,000,000 extra dresses for women, on account of the festivities. Straw hats will also be in great demand, as is evidenced by the fact that the import of straw-plait from the East was 250,000 lbs. heavier this season than usual. For this year's great event preparations began months ago, and it is estimated that they will treble in volume and expense those of five years ago.

A goat farm of over 400 acres is to be established in Nebraska. It is intended to start it with 6,000 goats. A dairy will be established, but the main product will be goat's hair. Does not this contain a suggestion for some enterprising Canadian?

—Canada is evidently still being made a slaughter market for certain classes of goods from the United States. There are quite a lot of American prints in the market this spring, which are being sold at a loss to the maker. One line, which is sold in great quantities in the United States at 12½ cents, has been imported into Canada, paying the 35 per cent. duty and all other charges, and is being sold here for 10c. It is evident, therefore, that at certain seasons of the year and in certain lines, it is extremely difficult for our manufacturers of colored cottons to meet United States competition.

—A gigantic mill, constructed by the American Woolen Co., at Maynard, Mass., is just about completed. It is 690 by 106 feet, five and a half stories high, and contains about nine acres of floor space. It will employ 2,000 hands and will have an output of 155,000 yards per week. The spinning room will be the

largest in the world, and will contain forty-two 400 spindle wide gauge mules. The weave room will be equipped with 500 of the latest style Crompton and Knowles looms. The mill will be run by electricity, power being generated on the premises, by two engines of 2,500 and 800 horse-power, respectively. There will be a separate motor for each room, so that in case of a break on any floor the whole mill need not be shut down. This is in accordance with the most advanced ideas of motive power. In other ways, the mill will possess the most modern equipment, and in that respect will rank as one of the first in the world.

—March 17th was the 96th anniversary of the death of David Dale, one of the fathers of the cotton manufacture in Scotland. In 1783, in company with Sir Richard Arkwright, he commenced the celebrated New Lanark Cotton Mills, and in a few years became a rich man. Like many other pioneers of industry, he had numerous difficulties and prejudices to overcome. His great object in promoting cotton mills was to furnish profitable employment for the poor, and to train to habits of industry those whom he saw ruined by a semi-idleness. Robert Owen, the great social reformer, became his son-in-law, and succeeded him in the management of the cotton mills. Mr. Gibson, founder of the Marysville cotton mills, in New Brunswick, appears to have been actuated by like philanthropic motives in establishing his mills.

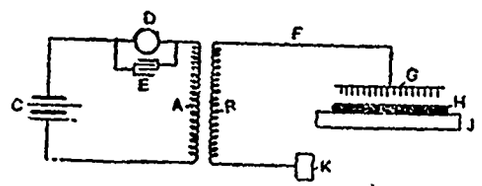
—Elsewhere we refer to the losses made by the Dominion Cotton Co. during the past year. The Merchants' Cotton Co. seems to be in quite as bad luck. It has been paying 8 per cent., but the last half-yearly dividend was not declared. The reason came out at the annual meeting in Montreal, when it was announced that, owing to the high prices paid for raw cotton, the old profits on the manufactured lines could not be made owing to current prices. Although the company bought their raw material at what looked to be favorable figures—considerably lower than the previous year—the expected profit on the goods could not be realized. The cotton mills, apparently, have to buy a stock of raw material a year ahead and are, therefore, more or less at the mercy of the ensuing trend of the market.

—The Textile Record defends shoddy, and regards recent legislation in the United States as against the interests of the poor man. The ingenuity of the manufacturer, it says, now permits him to clothe himself decently and comfortably for little money, and competition is so sharp among dealers that he usually gets just about what he pays for. That he will be any happier, any more comfortable, any richer, if he shall get an analytical statement with his suit, explaining what it is made of, seems unlikely; but, whatever may be the feeling of the retail dealer in clothing, it is sure manufacturers of cheap fabrics do not care whether the goods are or are not tagged with such a statement. The rescue from waste of the woolen material in rags is useful in precisely the sense that valuable acids and other products are rescued from sawdust or from petroleum distillation. In each case, the general wealth of the community is enlarged. The oleomargarine business, for example, is a business of great importance, and when the product is sold for exactly what it is, no one is harmed. On the contrary, there is much benefit to the people. Shoddy has a far worse name than it deserves. Notwithstanding the opinion of the Record, we believe the anti-shoddy legislation to be in the right direction. Why should clothing be adulterated any more than food, for instance?

ELECTRICITY IN FIBRES.

In many preparing machines, and sometimes even in the spinning frame and loom, the static electricity generated in the fibres by friction is a source of trouble. This is especially noticeable in dry weather or in a dry room where the atmosphere is incapable of carrying off the electricity as it is formed. Wool and cotton are both subjected to this trouble, especially in the combing and carding processes, while the nature of silk makes it specially liable to it. Charged fibres or yarns have a tendency to bristle or stand out, and so fibres will make rough yarns, or spun threads will catch and entangle with each other or some other object in the vicinity.

Many devices have been tried to obviate this evil. The easiest seems to be that of keeping the air of the rooms moist, while another is an arrangement which ensures that the parts of the machine which the fibres touch shall be metal and metalically connected to the ground. A later device has recently been patented by a London firm, and is explained by the accompanying diagram.



A and B are the primary and secondary circuits respectively of an induction coil. The primary coil is connected in circuit wth a battery C (or any other source of direct current) and an interrupter D of any suitable type, this interrupter being shunted by a branch circuit containing the condenser E. One terminal of the secondary coil B is connected by an insulated wire F with a series of metallic points G, arranged in proximity to the wool H or other material in course of manufacture. The points G are supported by a suitable attachment on the machine performing the operation of carding, combing, spinning, etc. I represents the rollers, combs, or other parts of the machinery employed in the manufacture of these materials. The other terminal of the secondary coil is connected to earth K.

The essence of the process consists in applying to the wool or similar material under manufacture a charge of electricity for the purpose of neutralizing the charge collected in it and thereby de-electrifying the material. Instead of de-electrifying the wool while it is actually on the machine it may

be de-electrified after it leaves the machine, and this de-electrification may be performed, not only by the means described above, but also by the action of the "X" or cathode rays. This may be effected by passing the wool in front of a Crookes tube, arranged to emit these rays in the well-known manner.

The idea seems theoretically good, but scarcely in a shape which will attract the majority of spinners. However, it may be useful for extreme cases where humidity and other means stubbornly fail to give relief.

CLOTHING IN COLD CLIMATES.

Protection against the cold was secured to the prehistoric man living in the temperate and arctic regions by the use of skins and furs of animals. All of these materials that can be secured at the present time find a ready use for the same purpose, and in the extreme northern latitudes provide the only covering that will protect man from the rigors of that climate.

The inhabitants of the tropics near the sea level, on the other hand, find such clothing unnecessary as a protection against the cold. Cotton, linen and other vegetable fibres provide the covering required to hide nakedness, for ornament or to guard against the inequalities of temperature and moisture.

In the colder climates the scarcity of furs and skins and the difficulty of securing them doubtless proved a hardship to man from the beginning of his life on this planet. An animal furnished but one skin, and had to be killed for that.

The necessity for an additional supply of clothing was the mother of invention of the processes of carding, spinning, weaving and knitting the hairy covering of animals into covering for the body. It is a matter of regret that no account of this early revolution in the clothing industry has been handed down to us. Human nature then was probably much the same as now, and we can readily imagine the strenuous objections raised by the dealers in hides and skins to the new methods by which one animal was used over and over again to supply cheap and inferior clothing for the people. They doubtless argued that their goods, skins and furs, were much warmer and vastly more durable than the woven and knitted substitutes by which the people were cheated and the price of skins reduced. Their objections were unavailing, as the new methods of textile manufacturing by hand were well established at the dawn of history and continued with but slight modifications down to the time, a little over one hundred years ago, when the invention of the Hargreaves' jenny, the Arkwright spinning frame and the steam engine marked another epoch in textile manufacturing.

To be useful to man, yarn must be woven as well as spun. Machine spinning and hand weaving, however, formed a chain whose strength was measured by its weakest link, viz., the hand loom, and the improvements effected by Hargreaves and Arkwright would have been of but comparatively slight benefit to mankind without the power loom, which was invented soon afterward by Cartwright.

The benefits resulting from these improvements in spinning and weaving cloth cannot be overestimated. They increased the production and reduced the cost of one of the great necessaries of life, clothing, and made it possible for a small fraction of the human family to clothe the rest, who were thus left free to devote their energies to other fields of human endeavor in industry, science and the arts. It is very fitting that posterity should erect monuments to Hargreaves, Arkwright and Cartwright.

But a new difficulty now presented itself. The immense quantities of cloth that could be produced by the new spinning and weaving machines called for a corresponding increase in the supply of raw material. The power loom was needed to realize the advantage of the power spinning machines, and now the full benefits of both were threatened by a scarcity of raw material. The cotton fields of our own Southern States solved this world-wide problem as regards the principal supply of clothing for the inhabitants of the tropics and an important part of the clothing for the rest of mankind.

A great deficiency still existed. It was not in the heat of the tropics, but in the chill atmosphere of the temperate zones that man was at his best. The cold of these regions acted as a stimulant to both mind and body, but at the same time warm clothing for the body was essential. He must have wool, and, to keep pace with the development that spinning and weaving made possible, he must have plenty of it. Nature was not so generous with wool as with cotton. The raising of sheep was, as it still is, slow and precarious. The supply of wool was insufficient for the necessities of mankind.

At this juncture some one, we are not certain who, perhaps more than one deserves the honor, discovered that woolen cloth could be converted into wool and used again for producing a new supply of clothing, which could again be converted into wool, and the process repeated indefinitely. The honor of this discovery is claimed for three persons, Benjamin Parr, Benjamin Law, and a Hebrew clothing dealer of London. Whoever he may be, he should be numbered among the great benefactors of the human race for having discovered a means of cheaply and suitably clothing men in those portions of the earth most favorable for the development of the race.

The disproportion of the world's wool supply to the needs of mankind is shown by a comparison of the yearly production of clean wool with the population of the earth. The statistics for both can at best be but approximate. Any probable error would not, however, materially effect the per capita portion.

In a German work, Wollproduction und Wollhandel, recently published by Dr. W. Senkel, statistics of the clean weight of wool produced in the various countries are given, from which we estimate the yearly production of clean wool throughout the world at 1,379,000,000 pounds.

The population of the earth is estimated at 1,440,000,000, but of this number, the people, estimated at 271,000,000, living within an equatorial belt extending around the earth and bounded on the north by the Tropic of Cancer, and on the south by the Tropic of Capricorn, may be omitted from any calculation as to the consumption of wool. Many of them wear no clothing whatever. The rest find clothing made from vegetable fibres to answer every requirement. Eliminating this portion of the earth's population, we find 1,169,000,000 inhabiting the regions north and south of this torrid belt who require woolen clothing to protect their bodies from the cold. Dividing among this number the wool grown each year, we find each person's share to be 18 87/100 ounces of clean wool.

A large portion of this weight is lost in the processes of manufacturing the wool into cloth. This shrinkage is greater in making worsted than in making what is termed carded woolen cloth, but would average 30 per cent. The 18 87/100 ounces of clean wool allotted to each person would, consequently, produce but 13 2/10 ounces of woolen cloth. This weight of cloth would be equal to a piece of men's wear winter weight goods 35 inches square, or to a piece of summer weight cloth 44 inches square. This insignificant patch is the yearly portion for each person, if all the wool grown on sheep were manufactured into cloth. A man's suit requires 3½ times as

much cloth as the larger, and 5½ times as much as the smaller piece. This yearly production of woolen cloth per capita would scarcely cover an infant. Without an additional supply of woolen material, man would be forced to clothe himself in cotton fabrics or in skins as in prehistoric times; otherwise, a great part of the population would be taken from their present occupations to raise wool with which to clothe the rest.

It is from such alternatives as these that extracted wool and wool waste save the human race. The processes of reclaiming manufactured wool have made the inventions of Hargreaves and Cartwright available, and given a great impetus to civilization. These facts are not generally recognized. Instead of looking upon reclaimed wool as an unmixed good, it is the general custom to regard it as a swindle. The word "shoddy" applied to an important part of reclaimed wool has come to designate anything cheap and worthless. This popular error should be corrected. The people should know the truth about wool, and should understand that if wool is used but once for clothing the greater and best part of mankind would be reduced to untold suffering, and the progress of civilization arrested. As a means of correcting this popular error, and to pay a fitting tribute to one of the great benefactors of the human race, a monument should be erected to the memory of him, whoever he may be, who discovered a means of using wool more than once for clothing.—Textile World.

PASSING OF THE JEAN.

A noteworthy event in the textile industry is the passing of the jean. At one time this fabric was an important if not the leading branch of the men's wear trade. The decline has been slow but steady. One who has been actively identified with the jean trade for many years writes us as follows:

"As to the passing of the jean business and the cause there are many views. My judgment is that it is owing to the more general use of corduroy, cotton warp cassimeres and denims, the latter used in overalls and by many people a large part of the time without the use of trousers under them. There was a time when the jean fabric was sold all over the country and went into full suits for both men and boys, but in recent years it has gone largely to the middle west, west and south, and is used largely for trousers only. Cutting the price and the manufacture of inferior fabrics have had much to do with the condition of the jean market to-day; however, there has been a healthier demand for the fabric during the last six or eight months than for several years, owing no doubt in part to many looms in this line being thrown out or changed to some other line of goods. If there could be two or three grades only of jeans made to fit popular prices for the garment, and the grade as well as the price could have some stability, I am of the opinion that the use of the fabric could be increased and a fair profit realized."—Textile World.

THE COVENTRY RIBBON TRADE.

"Nothing that is good," said a prominent Coventry ribbon manufacturer, "can be said of this branch of the textile trade during the year which has just closed." Enquiries show that fashion again decreed that for millinery purposes ribbons were not to be employed, and there remained but a few light fancy articles on which they could be used at all. Necessity, therefore, compelled both manufacturers and weavers to turn to other things which their machinery would produce, and consequently quite a number of different articles, such as frillings, belts, scarves, ties, book-markers, portraits, etc., have been regularly made and together have formed a considerable industry. Although ribbons are not to the fore, textiles generally are still of great importance to the population of Coventry, and there is yet ample scope for the textile school to justify its existence. There are as yet no indications of a revival of the fashion of using ribbons, but the manufacturers have not given way to despair, for experience has shown that a change often comes with startling suddenness and finds everyone unprepared. At the present time the ribbon trade is in a state of expectancy. Manufacturers are waiting and hoping that the coming season may see an entire change of headgear, as already there are some indications in the Paris fashions that ribbons will be used. A few orders have been placed for ribbons in the Coronation color, and manufacturers anticipate that it would have a good effect on the industry if the Queen could be induced to express a desire that only English ribbons should be worn.

JOKES ON IMPRACTICAL MILL MEN.

Through the life of every practical mill man there has passed some experience of a laughable nature, usually at the expense of the impractical. As a rule the presidents of the cotton mills originate the jokes on themselves by virtue of their inexperience. The president of a mill in a Southern town once had occasion to change superintendents. The man who held the job made much hard waste, and this was no doubt one reason for his having to leave. The new man soon noticed the trouble and proceeded to remedy it. After the new superintendent had charge a few weeks the president noticed that he was not selling his usual amount of hard waste so he decided that he would speak about the matter. "Look here, what's become of the hard waste I used to get?" "Why, we don't make any now, I've stopped it almost entirely." "What! I have a good trade in hard waste at about six cents a pound, in fact have a standing order for a bale every week, and I must have it. No, sir, don't you stop making hard waste, its the best selling product I have." Of course the majority of mill presidents have a good understanding of the business and a great many are up-to-date practical men in all lines of manufacturing.

A joke is told of a New England president, to the effect that one day he was walking through the mill with the superintendent and noticed some spinning frames stopped. "What's the matter with those frames over there." "We are short of doffers this morning," was the answer. "Is that so," said the president, and without further comment went to his office and after calling for a certain number on the 'phone said: "Is that the —— Supply Company." "Yes," was the answer. "Well this is the —— Cotton Mill, I wish you would send us at once a dozen doffers, we're short of them."

A somewhat similar occurrence was heard in a North Carolina cotton mill. The president was going through his spinning room as the boys were doffing some frames. Calling the overseer to one side he said: "Why are those frames not running?" "Why the boys are doffing, sir." "Well, here, here, here, we don't want any more of this doffing business. Put those boys to work and keep the frames running, production is what we want."

Another man who was president of a cotton mill had trouble with the first superintendent of his new mill. He discharged the man and got one with a reputation of being at the top of the business. Upon taking charge of the mill the new man found that the drafts on many of the frames were too heavy. He stopped them, and was figuring out the necessary changes on paper when the president came up, and

noticing the machines stopped and the superintendent working amongst his papers asked: "What's the trouble?" "Why, I find the drafts are too heavy." "Yes, plague the luck, I told that fool architect that he was building our stack too high," was the curt reply.

CANADA'S OLDEST TAILORING HOUSE.

The tailoring establishment of Gibb & Co., Montreal, has been kept longer in one family than any other similar business in Canada or the United States, says an exchange, and in all probability it is the oldest tailoring business on the North American continent. It was founded in 1775 by Beniah Gibb, who came to Canada from Northumberland, the previous year. He had learned his trade with his brother who founded a business in London in 1740, which is still being conducted by his descendants, and which has been longer in the same family than any other tailoring establishment in that city. On the death of the founder of the Canadian house, the business fell to James Duncan Gibb, and after his death to the late partners, Alexander, Edward Munro and Lachlan Gibb. The first has retired from business and is living in London. Edward M. Gibb died a few years ago, and the present establishment is conducted by Lachlan Gibb and his nephew, Mr. McArthur, who has come from the London house. An interesting relic of bygone business days in Montreal is an old ledger, used by the founder, Beniah Gibb, in 1779, which reveals a different state of affairs from ours. The army officers, of whom there were then a good many in Montreal, were about the only customers who could pay ready money and they had to supply their own gold lace, buttons, etc. Other customers could only pay in kind. As a consequence there are such items in Beniah Gibb's ledger as "By 1 bbl. rum;" "By 1 lunch;" "By 3 drinks of old Jamaica," "By 1 doz. candles," etc. The house now commands the very best class of business.

LITERARY NOTES.

The Canadian Magazine for April has among other features an article on Henry Hudson, by Geo. Johnson, the Dominion Statistician, giving us many interesting facts, not commonly known about the intrepid navigator, who gave the name to Hudson Bay and the Hudson River. A. H. U. Colquhoun relates some instructive and amusing anecdotes of Lord Dufferin, the best beloved of all the governors of Canada; while some curious information about the origin of Montreal street names is contained in a paper by Martha E. Richardson. "Bird Troglodytes" is the title of a well written and daintily illustrated article on the Canadian bank swallows, by Fritz Hope.

The March number begins the fourth year of the Prince Edward Island Magazine, which is to be enlarged and improved during the current year. The subscription price is to be raised from 50 cents to 75 cents a year; but it was more than worth the latter price before the improvements were announced. It is an admirably conducted little magazine, and as a home product both editorially and typographically it is most creditable to the publishers and to the island whose interests it primarily serves.

There are many noteworthy articles in the April Century. Among them are, a timely sketch by Henry C. Rowland, entitled "The Seamy Side in the Philippines;" a paper by Sylvester Baxter on "The Beautifying of Village and Town," and two illustrated articles of travel in Abyssinia, in which some interesting trade matters are mentioned. We quote the following from one of these sketches: "Aboudgidie is a cotton material imported from America. It has taken such hold on the market that even in the remotest west it is used as the most convenient means of exchange. This new role has completely upset the course of affairs. Aboudgidie is sold by the importer, one may say, with almost no profit at all. It is when he exchanges it for rubber, coffee, ivory, civet and gold-dust that he realizes his profit. Even though aboudgidie should cease to be used as money, and become merely an article of exchange, it is a certain thing that the United States can hold the ground it has gained. To be convinced of this, it suffices to read, in the consular reports addressed yearly to the Foreign Office by the commercial agents of His Majesty the King of England, the complaints of English officials stationed in Somaliland, at Berbera, and at Zeila. They watch, powerless and sorrowful, the invasion of the Somali and Abyssinian market by American industry."

R. L. Reynolds, of Fall River, Mass., has issued a set of useful plates containing diagrams and instructions for the solution of various problems in textile mills; such for instance, as rules for finding the constant of draft and draft gear of a picker; the gear of a card and coiler head; the gear of a railway head; gear of a drawing frame; draft and twisting gear of a roving frame, of a spinning and warper and slasher A set of seven of these plates is sold at $2.

TEXTILE EXHIBITION IN LONDON.

A textile exhibition is to be held in London from July 26 to August 1, 1902. Those interested in the manufacture and sale of textiles in England recognize an opportunity that seldom occurs, in the visit of those who will go from all parts of the globe to attend the coronation. It is intended to have a magnificent display of textile products; also trade meetings, lectures and practical demonstrations of manufacturing processes. The railway companies are expected to run excursion trains, and no effort will be spared to make the exhibition a success, so that buyers who go to London for business as well as pleasure may have a selection of anything they require, without hunting for it all over London. Arthur T. Dale and John Reynolds are the directors, with offices at 44-46 Cannon street, London, E.C.

—M. Saxe & Sons are suing the Shareholder for libel in consequence of statements made as to their failure.

—Boyd Caldwell & Co., of the Clyde woolen mills, Lanark, are making the cloth for the uniforms required for the South African contingents going from Canada

—A. Elliot & Co., of Brantford, are starting a towel factory at Dunnville, and will manufacture various kinds of towels, including linen, which have not hitherto been made in Canada.

—O. Blain, a boy 11 years of age, while cleaning a machine in the factory of the Merchants' Cotton Co., at St. Henri, was caught in the machinery and wound around the shafting. His leg was badly lacerated and broken, and he sustained other injuries.

—A sharp advance in raw cotton is looked for in the United States Receipts have fallen off with an abruptness that indicates complete exhaustion. It is becoming more and more evident that the supply of cotton is absolutely insufficient for the world's requirements at present prices. Southern mills are making eager enquiry in New York for cotton. This looks like sending coals to Newcastle. The price is likely to go considerably above 9 cents.

TABLE OF TRANSMISSION OF POWER BY WIRE ROPES.

Showing the necessary size and speed of wheels and rope to obtain any desired amount of power:

Diameter of Rope.	Diameter of Pulley.	No. of Revolutions.	Horse Power.	Diameter of Rope.	Diameter of Pulley.	No. of Revolutions.	Horse Power.
¼	3	100	2	¾	11	80	75.5
¼	3	140	3	¾	11	100	94.4
⅜	4	100	4	¾	11	120	113.3
⅜	4	120	5	¾	11	140	132.1
⅜	4	140	5.8	¾	12	80	99.3
½	5	100	8.6	¾	12	100	124.1
½	5	120	10.3	¾	12	120	148.9
½	5	140	12	¾	12	140	173.7
½	6	100	13.4	¾	13	80	122.6
½	6	120	16.1	¾	13	100	153.2
½	6	140	18.7	¾	13	120	183 9
⅝	7	80	16.9	¾	14	80	148.
⅝	7	100	21.1	¾	14	100	185
⅝	7	120	25.3	¾	14	120	222
⅝	7	140	29.6	⅞	15	80	217
⅝	8	80	22	⅞	15	100	259
⅝	8	100	27.5	⅞	15	120	300
⅝	8	120	33				
⅝	8	140	38.5				
⅝	9	80	41.5				
⅝	9	100	51.9				
⅝	9	120	62.2				
⅝	9	140	72.6				
⅝.	¾	10	80	58.4			
⅝.	¾	10	100	73			
⅝.	¾	10	120	87.6			
⅝.	¾	10	140	102.2			

Should it be found necessary to convey the entire power of a certain shaft, which is driven by a belt of a given size, its equivalent may be found by the following simple rule, viz.: That 70 square feet of belt surface is equal to one horse-power. Take for example, a belt one foot wide running at the rate of 1,400 feet per minute, then the

$$\text{Horse-Power} = \frac{1400 \times 1}{70} = 20;$$

and by referring to the table we find the diameter of the wheel corresponding to the horse-power, and making the same number of revolutions that the belt pulley does.

—The Canadian Colored Cotton Mills Company, Ltd., has declared a quarterly dividend of one per cent., payable on the 15th April.

—Henry R. Beveridge, general manager for John B. Ellison & Sons, wholesale woolens, Montreal, shot himself April 14.

—Geo. P. Harley, traveller in the Maritime Provinces for the Dominion Cotton Mills Company, is dead. He had represented them for five years.

—A man who is interested in the woolen manufacturing trade, and who has just returned from a trip among the mills, informs us that for this season of the year business in the woolen trade is unusually quiet.

WEIGHT OF ROLLED SHEETS OF WROUGHT IRON AND STEEL.

Calculation based on specific gravity of 7.7 for iron, and 7.85 for steel.

WEIGHTS PER SQUARE FOOT.

Birmingham Wire Gauge.				Birmingham Wire Gauge.			
No. of Gauge.	Thickness in inches.	Iron.	Steel.	No. of Gauge.	Thickness in inches.	Iron.	Steel.
0000	.454	18.16	18.52	17	.058	2.32	2.37
000	.425	17.00	17.34	18	.049	1.96	1.99
00	.38	15.20	15.50	19	.042	1.68	1.71
0	.34	13.60	13.87	20	.035	1.39	1.42
1	.3	12.00	12.24	21	.032	1.27	1.30
2	.284	11.36	11.59	22	.028	1.11	1.14
3	.259	10.35	10.56	23	.025	.997	1.02
4	.238	9.52	9.71	24	.022	.880	.898
5	.22	8.80	8.98	25	.02	.800	.816
6	.203	8.12	8.28	26	.018	.719	.734
7	.18	7.19	7.34	27	.016	.640	.653
8	.165	6.60	6.73	28	.014	.560	.571
9	.148	5.92	6.04	29	.013	.520	.531
10	.134	5.36	5.47	30	.012	.480	.489
11	.12	4.80	4.89	31	.01	.399	.408
12	.109	4.35	4.44	32	.009	.359	.367
13	.095	3.80	3.87	33	.008	.320	.326
14	.083	3.32	3.38	34	.007	.280	.286
15	.072	2.88	2.94	35	.005	.200	.204
16	.065	2.60	2.65	36	.004	.159	.162

—A strike occurred at St. Hyacinthe among the Tompkins knitting machine employees, who have been working for the Canadian Woolen Mills Company. They demanded a return to old rates. The company consented to pay them by the day, an amount equal to what they formerly received, but the strikers prefer to work on the old system of piece work.

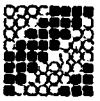
—A gentleman from Belfast, who understands practically the linen business, is at present in Canada, with the object of interesting capital in the establishment of a linen mill with a capacity of 100 looms. The purpose is to manufacture Irish damasks. The industry would be an entirely new one in this country. The raw material would of course be admitted free of duty.

—The Moncton cotton mill, one of those controlled by the Dominion Cotton Mills Co., is having new machinery installed and the old re-arranged, by which its output will be increased by one-third, and without any enlargement of the building. The production will then be about 30,000 pounds per week of sixty hours. The pay roll now numbers some 285 people, which will be considerably increased when the new machinery is in operation.

—One of the woolen companies writes to us with reference to a difficulty they have encountered. They say: "We have a foreign wool that will not take color though mordanted and treated generally in our accustomed way. This difficulty never presented itself to us heretofore. Can you help us out in the matter?" The difficulty probably arises from lime having been used in pulling the wool, the natural grease and lime forming a compound which resists the dye, and to remove which the use of an acid would probably have to be resorted to. Only an analysis of a sample would show if this were the case.

Textile Design

FALL OVERCOATING.



Complete Weave.
Repeat 8×8

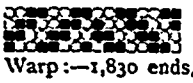
Warp :—3,564 ends, 8 or 16-harness straight draw.
Reed :—18×3.
Dress :—

12 ends, 3⅛-run, woolen yarn, brown		
2 ends, 3⅛-run, woolen yarn, cream		
4 ends, 2-ply twist,	6½-run, cream	× 4 = 80 ends.
	6½ run, blue	
2 ends, 3⅛-run, woolen yarn, cream		
2 ends, 3⅛-run, woolen yarn, mason		= 2 ends.
8 ends, 3⅛-run, woolen yarn, brown		= 8 ends.
2 ends, 3⅛-run, woolen yarn, cream		= 2 ends.
4 ends, 2-ply twist,	6½-run, cream	= 4 ends.
	6½-run, blue	

Repeat of pattern, 96 ends.

Filling :—52 picks per inch, arranged thus :
12 picks, 3⅛-run woolen yarn, brown,
2 picks, 3⅛-run woolen yarn, fawn,
4 picks, 3⅛-run woolen yarn, light olive
2 picks, 3⅛-run woolen yarn, fawn.
20 picks, repeat of pattern.
Finish :—Fancy cassimere finish, 56 inches wide.

FANCY WOOLEN CHEVIOT TROUSERING.



Complete Weave.
Repeat 16×4
Warp :—1,830 ends, 8-harness fancy draw.
Reed :—13×2.
Dress :—

2 ends, 3-run, woolen cheviot yarn, pearl	× 3 = 24 ends.
6 ends, 3-run, woolen cheviot yarn, medium gray	
2 ends, 3-run, woolen cheviot yarn, pearl	= 2 ends.
5 ends, 3-run, woolen cheviot yarn, medium gray	= 5 ends.
1 end, 3-run, woolen cheviot yarn, light blue	= 1 end.

Repeat of pattern : 32 ends.

Filling :—35 picks per inch, all 3-run woolen cheviot yarn, black.
Finish .—Clear face, cheviot finish, 56 inches wide.

THE CARE OF SHEARS.

In taking care of shears, a man must exercise good judgment to see that the blades are perfectly free. If blades are properly set and ground, and rightly taken care of afterwards, the shear should run from four to six months without regrinding. The blades will run so that you cannot hear them even if you stand beside the shear. This is a point which is too often overlooked. I have seen shears run in such a condition they could be heard howling outside the mill. When blades sing they are either ground uneven or the ledger blade is drawn up uneven. Sometimes both is the case. I have never known blades to be noisy that were ground true and the ledger blade drawn up even, although the blades become dull and run a little hard. When they rattle, the screws in the bed castings are not all on bearing, or the centre screws are not screwed down tight. Occasionally when the boxes become worn and the cylinder has too much play, it will cause this trouble. When blades make a clicking noise, the ledger blade is set higher on one end of the cylinder than on the other, causing the knives on the cylinder to catch the edge of the ledger blade and will often make serious trouble by chipping off the edge.

In starting up a new shear or blades that have been refitted, first see that the shear is level, then prepare the rest. There are four set screws in each end. The upper one is to tip the front of the rest; the centre one is to hold the rest to the frame; the lower one is for the same purpose as the upper one; and the bottom one is to raise or lower the rest as may be required. In putting the rest into position, be very careful that you have the corresponding screws in each end alike; have the rest perfectly level. Next put in the ledger blade. At this point do not be too fast, but be sure you know what you are doing. I cannot state the exact number of turns to give the screws in the back of the ledger, as that depends wholly on the depth of the blade. Put in the top and bottom row of set screws in the ledger casting, turning them all just through. If it is a new blade turn the upper row through say six turns and the lower row say eight turns. Bear in mind this is where a man will have to use a little common sense. I have put in blades where I have turned the top row through fourteen turns and the bottom row only six. At other times, they will be straight or both alike. Then again the bottom row may have to be through farther than the top. See that the screws work free and easy. Now put in the centre screws and turn them down just tight enough to hold the blade in place. Lay the blade frame on the shear and see that the ledger blade and rest are perfectly parallel; that is, see that the blade does not come up higher on one end of the rest than it does at the other. Next put the straight edge on the top of the blade, and, with a small try square on the box, bringing it to a mark found on inside giving centre of bearing, see that the try square comes even with the bottom of straight edge. Fit both ends alike, this will bring the blade to the centre of revolver. Put in the revolver and screw down the caps. Now take a piece of paper, put it through between the revolver and the blade from the back and draw up the blade until the knives on the revolver slightly stamp the paper evenly the entire length of the blades. If it is a new blade, the grinding can commence at this point, but if it is an old one you are trying to true up, take the cylinder out and lay the blade frame on the shear again. Put a piece of letter paper between the blade and the rest. If you find some places pinch the paper and other places open, either the blades or the rest is not true. Put the straight edge on the back edge of the rest, or the part of the rest the blade touches, and if the rest is not true, take a fine cross cut file, and cut off the high places, but be very careful, as you can easily spoil the rest. On the other hand, if you find the rest true, the blades must be untrue, and where they pinch the paper, you will have to draw the screws up more when grinding than where the blade is open. A person can quite easily judge how much more they will have to draw up at the place that pinches the paper than at the place that is open, by the difference between the two. Grind until you get them even and they run perfectly free. After slightly honing, put the blade frame on the shear again, and, with a thin piece of letter paper, see that it pinches the paper the entire length alike. In setting the blade to the rest, do not get it too high or too low. The way I set it is this: I have the blade low enough so I can just feel the edge with my fingers as I pass them over the lap of the rest, and that is what I call the proper cutting point.

In taking care of shears, the oiling of the swab is a very important part. I prefer the perforated leather to the felt as the former is cleaner. The blades will run safe with much lighter oiling. Too much oil should not be applied to swab at one time as it is apt to streak the cloth, especially in shearing light colors. The oil should be put on light and even, at least three times every half day. See that the swab

does not become dirty or filled up so as to prevent the oil from penetrating it evenly. We now come to the tension of the cloth. The leather friction must be carefully looked after. Some oil the leather, but I object to this practice as I find by keeping it clean and dry, and with the use of a little pulverized chalk, it will run for months nicely without being touched. I think the carrying and take up rolls work much better covered with sand than they do with cloth, for with sand one has more control of the tension. Uneven shearing is of considerable trouble to manufacturers. Whenever we hear of fancy woolens being uneven or shady from side to centre, or side to side or end to end, it is usually uneven shearing, although if a piece is not felted or fulled even, it will show shady, but a practised eye can easily detect the difference. If you see an uneven piece of goods one of the easiest ways to tell whether it is sheared or fulled uneven is to look at the back of the goods, and if it is felted evenly the fulling is all right and the trouble is in the shearing. On goods that have been gigged uneven or not thoroughly cleared out, it will make it very unpleasant for the shearer. If the shear is in good condition and this state of affairs exists it will be very hard to properly shear the goods. A shear tender should be very attentive to his work, keeping the brushes and flock pans clean, having a close eye to the running in general of the shear, and especially on the cloth as it passes over the rest. Shearing should not be hurried, that is, too heavy a cut should not be taken off at any one run, but gradually go down to the right set. The hustling should be done in changing the cloth.—Tester in Fibre and Fabric.

THE USE OF ZINC IN BOILERS.

Zinc is often recommended for preventing the formation of scale in steam boilers, but it is probable that a considerable portion of steam users who have tried it would be inclined to report that it is of no value for this purpose. The reason for this disagreement is that zinc is often used under a profound misapprehension of what it can do, and under conditions where it could not reasonably be expected to be of any benefit for the removal or prevention of what is correctly described as scale, but is often of great service in preventing the destruction of the plates and tubes of a boiler from the action of a feed water that contains elements of a corrosive nature. Scale, properly so-called, consists of matter that is held in solution, or in suspension, by the feed water when it is introduced into the boiler. The material of which it is composed may be entirely harmless so far as any chemical action upon the boiler is concerned, and the only objection to it may be, and usually is, that it lodges upon the heating surfaces, and, if not removed causes these surfaces to become overheated and burned. It also acts to a certain extent as a non-conductor of heat, and diminishes the efficiency of the boiler by making the surfaces upon which it falls less capable of absorbing heat: but although this last action is undeniably real, its importance is greatly overestimated in the books that treat of these matters. The main objection to what is correctly known as boiler scale consists in its liability to injure the boiler.

The lime, magnesia, and other such substances that the feed water may contain in solution are not volatile, and therefore, they remain behind as the water boils away, and unless they are covered from time to time, by blowing down the boiler or by opening it and cleaning it out by hand, they are bound to accumulate and make trouble. It must be evident that a difficulty of this sort cannot possibly be remedied by suspending a piece of zinc or anything else in the boiler. The solid matter is there, the zinc will not make it vanish nor change it into anything that will get out of the boiler in any automatic or mysterious way. Yet this is apparently what is expected of it in some cases. Mr. Ridgeley, who is United States consul at Malaga, recently sent a report to his government in which he refers to the use of zinc in boilers, and he states that by its use "the incrustation of boilers is avoided, and at small cost;' and his report has been quoted with seeming approval by some of the leading technical journals; although, as has been pointed out, the use of zinc cannot be expected to diminish the formation of incrustation, in any marked degree at any rate.

It sometimes happens that a feed water must be used which contains impurities which experience has shown will cause the wasting of the plates of the boilers by chemical action or corrosion. In such cases as this zinc is often very useful. The action of zinc is commonly supposed to be of a galvanic nature, and the theory is that when it is hung in the water in the boiler, and is connected with the boiler by a good conductor like a piece of copper wire, the combination of the water, the zinc, and the material of the boiler, acts like a voltaic battery, and the zinc is consumed in the place of the metal of which the boiler is constructed. There is some question whether this is just the way in which the zinc acts, because if this were the whole story it might reasonably be expected that the action would cease when the electrical connection between the zinc and the boiler became interrupted. Now the action certainly is diminished when the connection between the two is broken, but it does not appear to entirely cease; and therefore it is highly probable that the galvanic theory of its efficacy is only a partial explanation.

As a rule, then, it will do no particular good to use zinc when the only observed trouble is the formation of scale or the deposit of sediment. If, on the other hand, a tendency toward the actual corrosion of the plates or tubes of the boiler is observed, then, as the doctors say, it may be that "zinc is indicated;" though even in these cases the trouble is sometimes more simply and positively removed by making the feed water alkaline with soda ash. When zinc is used it should be suspended below the water line, and beneath the zinc, but preferably not in metallic contact with it, a pan of some sort should be placed, so that any particles of zinc oxide that may be formed will fall into the pan and be kept away from the boiler plates. (Zinc oxide and scale matter sometimes form an obstinate sludge, which is apt to adhere closely to the plates and cause local overheating. Hence the suggestion about the pan to catch any fragments that may fall off). The zinc should be attached to the boiler by means of a copper wire, preferably running up into the steam space and making a good electrical connection with the boiler there. It will be found that when the zinc is put in in this manner it will gradually oxidize, swelling up considerably meanwhile, and will eventually become converted into a spongy mass entirely devoid of any metallic character. When it has been reduced to this form it should be removed and a fresh piece should be introduced.

It may be found that the zinc protects the metal of the boiler in its own vicinity, but that the corrosion still goes on in more distant parts of the boiler. In this case, the obvious remedy is to introduce several pieces of zinc, each being connected with the boiler as described, and each being provided with its own separate catch pan. Pig zinc is sometimes too spongy to be serviceable in boilers, and for this reason rolled or compressed plates or blocks should be used

when they can be had. The wire making connection with the zinc should be cast into pig, when cast zinc is used, and when a zinc block is used, a good connection, which will last until the zinc is nearly used up, may be made by drilling and threading a deep hole in the piece and screwing the connecting wire into it.

A single word of caution may be offered concerning the use of zinc. It occasionally happens when cast-iron fittings are used near the zinc that these fittings become converted into a soft, almost spongy condition. This action is very uncommon and its cause is not known; but it is always well when using zinc near such cast fittings to keep an eye upon them, in order that they may not deteriorate without the fact becoming known.—Exchange.

CLEANING AND DYEING LEATHER SADDLES.

To dye and renovate saddles the leather must first be carefully freed from all dirt and substances of the nature of blacking or varnish. Having first undergone a thorough washing with soap and water, the leather is dried, and everything insoluble is removed with methylated spirit, applied with a sponge or pad. It must be borne in mind that the redyeing must always be in a darker shade than the original color, as the surface of the leather, however carefully it may have been cleaned, will always show differences in color in different places, and these differences have to be concealed in the redyeing. The process is as follows:

Dissolve Bismarck Brown J extra in about 250 times its weight of water by itself, and let the solution stand over night. In a separate vessel make the same quantity of a 4 per cent. solution of bichromate of potash. The leather is then damped with a sponge dipped in warm water, and the bichromate solution is applied all over it. Care must be taken that, while every part of the leather is penetrated by the bichromate, there is no excess of that substance. Then the dye solution is applied with a brush, the application being repeated after a short interval. If several saddles are in hand they should all be damped first, and then receive both the first and second applications of the dye in the same order in which they were damped.

The saddles are now allowed to dry, but not in the sun. When they are dry they must receive a third coat of dye if they are not yet dark enough to show a uniform color. When they are again dry, the leather is lightly rubbed over with a mixture of boiled oil, with one-third of its weight of vinegar. Finally the leather is polished, for which the following solution can be recommended: White soap, 25 oz.; buttermilk, 20 oz.; neatsfoot oil 15 oz. The ingredients are heated together. The polish is applied cold with a sponge. In some cases, however, a good application of elbow grease by means of a woolen pad will polish the leather perfectly well. Still, the above solution should be kept handy for use in case of need.—Deutsche Sattlerzeitung.

EARLY LACE-MAKING.

Although the art of lace making was not generally known until the period of the Renaissance, it is derived from two of the most ancient forms of needle work—netting and embroidery. A theologian of the second century complains that although the women obèyed St. Paul's injunction to wear veils, they served to minister rather to vanity than to modesty, since the open meshes permitted the face to be seen. An embroidery of the Anglo-Saxons resembling lace was known in Rome at the close of the eighth century. The cape and mantle of St. Cuthbert, which are preserved at Durham, are good examples of this work, Opus Anglicanium, as it was called.

Lace is divided into two kinds, point and pillow lace. The former, which is the most ancient, was probably brought from Byzantium by the Italians, through some of their great trading republics, Venice, Pisa, or Genoa. The oldest examples are lacis or point compte, and point coupe or cut work. In laces the netted squares are made on a mesh, joined with a needle and embroidered in a pattern. In cut work the threads are stretched across a piece of linen, the pattern is outlined in a button hole stitch and the rest is cut away.

The earliest pattern book extant dates from the sixteenth century, when lace was beginning to be used as an article of dress where it had formerly been found mostly in altar cloths. A law under Queen Mary, a sort of protective tariff, is enacted against "white work, alias cut work, from beyond the seas." Venice point is no longer made except by reproducers. The raised kind is especially beautiful, having the appearance of scroll work or bas relief. The flowers are filled in with delicate stitches and crossed by very light bars which are varied by little stars of pearl loops. A lace closely resembling it is sometimes found in Spanish convents, and for a long time the same pattern was made in the island of Cephalonia, and sold under the name of Greek lace.

When Catherine de Medici on the death of her husband, Henry II., of France, withdrew to the Duchy of Alencon, which was her dowry, she had her new subjects taught the art of making lace. She and her daughters were quite expert in this accomplishment, and one of them, the brilliant and fascinating Queen of Navarre, invented the lace which is called after her "Reine Margot." During the seventeenth century the importation of lace from Italy for collars and ruffles reached so great a height that Louis XIV. was obliged to issue an edict forbidding his nobles to spend so much money out of the kingdom. This command was almost entirely disregarded, and a satire was written, called "La revoite des Passements," which is valuable on account of the names of all the different kinds of lace which are preserved in it. The king then sent for Italians to instruct the French lace workers, and, after their art was perfected, when the court was staying with him in his new palace of Marly, he left in the room of every woman an entire set of new lace. After this, Point de France, or Point d'Alencon as it is more commonly known, became the fashion, and the industry flourished until the Revolution, when many of the lace makers shared the fate of their noble patrons.

Point d'Alencon, which is one of the most difficult and complicated laces, is made in small segments by twelve different workers. The cordonet is stiffened by horsehair, and is, therefore, liable to shrink when it is washed. A lace similar to it was made, called Point d'Argentan, but the pattern has been lost since the Revolution. The flowers are heavier and are joined by large hexagonal bars in a button hole stitch. It is not known accurately whether we owe the invention of pillow lace to the Italians or to Barbara Uttmann, wife of a miner in Saxony. It is either worked in one piece on a cushion or made in separate pieces connected by bars and applied on net. Brussels, Honiton and Guipure de Bruges, or Duchesse, are the most common examples of this kind.

The best Brussels net is made of flax grown in Brabant and steeped at Courtrai, on account of clearness of the water of the Lys. The thread is spun in damp cellars, since dry air breaks it, and on account of the small number of expert spinners, and the danger to the health and the sight which is run, the net is very valuable costing from $4,000 to $10,000 a pound. The most costly Brussels net, which is generally

used only for a royal trousseau, has a very fine needle made ground, but even the other kind is often replaced by machine made thread. Lacemaking is taught in Belgium in over 900 schools, most of which are convents.

Valenciennes, which was formerly made in France, is now copied in Belgium, Ypres furnishing the widest kind, which costs as much as $400 per metre. It is said that the thread makers used to lose their eyesight at the age of 30. The lace is manufactured in different towns in Belgium and in France.

Honiton is made along the Devonshire coast. The flowers are often copied from nature, outlined with a thicker thread of fine workmanship. Duchesse somewhat resembles Honiton.

The term "guipure," which we now use in an entirely different sense, was formerly applied to a kind which was made on thin strips of vellum. On account of damp affecting the vellum it was perishable. A thread guipure resembling Cluny, Maltese and Russian lace is made in Italy and Flanders. We have omitted to speak of Chantilly, Irish lace, and many other kinds, as well as drawn work, since they should be treated separately in order to do them justice.—American Carpet Journal.

GRADING WOOL.

In reply to an enquiry as to the basis of the grading of wool as one-quarter, three-eighths or one-half-blood, the Wool and Cotton Reporter says there is no standard or basis of grading, and in the nature of wool there never can be. A firm or group of grades may have what they call a standard grade, but such a standard will be merely an understanding of these people among themselves. What they would call a three-eighths-blood, for example, might be called by another equally competent grader, a low one-half-blood. We have personally known the grader of one of the best known Boston wool houses, and the grader employed by one of the most skilful wool buyers on the Boston market to dispute for a long time as to where a few fleeces should go, whether as one-half-blood or three-eighths-blood, and neither could convince the other. Probably no wool experts would differ as to where a pronounced fleece would go. All disputes rise regarding fleeces which are, to use the loft term, "liners," that is, they fall on the line between grades. One grader would throw them with the lower grade, and another would put them with the higher, and one grader would be as correct as the other. Each has his own custom.

If there were a real standard grade, no mill would have to send a grader to take up its purchases. It would merely have to be assured of the honesty of the firm in delivering its sales. The fact is, however, that every mill has its own idea of grades, and it is therefore particular to examine its purchases to be sure that the wool is graded as desired. Operators in America, who have correspondents far off, sometimes keep air-tight jars containing samples of their ideas of grades and furnish their correspondents with duplicates, thus informing them of the chosen standard. But no standard can be described, save by illustration with samples, and that standard will be merely that of a given firm or group of people.

AMALGAMATION OF CORRESPONDENCE SCHOOLS.

An important consolidation of institutions for correspondence education has recently been effected by which the American Correspondence School of Textiles has become amalgamated with the International Correspondence Schools of Scranton, Pa., under the proprietorship of the International Textbook Company, T. J. Foster, president. The American Correspondence School of Textiles, established four years ago by Professor C. P. Brooks, and conducted by him in New Bedford, Mass., has had a rapid and wonderful growth. Its students are numbered by thousands, residing not only in the United States, but all over the world, wherever textile manufacturing is carried on, and there is certainly not a manufacturing town in the United States, and hardly a mill in the country but has one or more students taking courses of correspondence instruction from the school of which Mr Brooks is the head. Professor Brooks also has charge of the New Bedford Textile School, an institution for residential textile education, of which he is managing director, and to which an annex has recently been added almost doubling the size of the school, in which it is intended to install departments of chemistry, bleaching, dyeing, knitting, art and languages, in addition to the present departments of carding, spinning, weaving and designing, and as his consultative and expert work on textiles has also been rapidly increasing, the consolidation referred to has been necessitated in order that he should be relieved of the details of business management of the correspondence schools. The instruction of the students, however, will still be continued from New Bedford, Mass., under Mr. Brooks' personal supervision, and with the aid of the large staff of expert instructors that he has gathered around him during the last few years, insuring to the student a continuation of the high class of textile instruction which has always been a feature of the American Correspondence School of Textiles, it is safe to say that with the aid of the immense organization of the International Correspondence Schools, and of the great resources of the International Textbook Company, which has a capitalization of $3,000,000, and nearly 400,000 students, that the growth of textile correspondence education under Mr. Brooks' supervision will be far more rapid in the future even than it has been in the past. The Brooks' method of textile correspondence education should not be confused with the systems of any of its imitators, even under a similarity of names. Prospective students and those already enrolled should bear in mind that the Brooks' method of instruction in textiles is conducted solely from New Bedford, Mass., although information can be obtained and enrolments made, after April 1st, at any of the branch offices of the International Correspondence Schools, or through any of their representatives, who are to be found in every manufacturing centre in the United States. Information and circulars may be obtained at any time from the International Correspondence Schools of Scranton, Pa., or at any of their branch offices, or from the New Bedford School, which will now be known as the International Correspondence Schools, Textile Department, New Bedford, Mass. C. P. Brooks, Principal.

NEW DYESTUFFS.

Indon Blue 2R and 2B.—These two new products are dyed in the same way as other basic colors, and when dyed a heavy shade, the "2R" quality produces a deep reddish blue, the "2B" brand being of a bright dark navy blue. These two products are the best basic substitute for Indigo, and are especially adapted for the production of the popular bronzy Indigo shades. Indon 2R and 2B are extremely fast to light, and are also possessed of a very good resistance to washing. Both brands can be employed to advantage in all the various branches of cotton dyeing, and particularly for brightening substantive colors or for topping colors to produce a deep navy blue. They are also adapted for the printing of Union

fabrics that have been previously treated with Tannic Acid and discharged with Caustic Soda.

Katigen Brown V Extra.—This new dyestuff produces a cutch brown of a violet tone, and is double the strength of the older Katigen Black Brown N. The dark shades of Katigen Brown V extra are very similar to those generally produced with a combination of logwood and cutch, and the new color is dyed in exactly the same manner as the older members of this series. Katigen Brown V Extra is distinguished for its great productiveness, and even its direct dyed shades are extremely fast to light, alkalies, washing and boiling. When after-treated with bichrome and copper sulphate the shade becomes yellower, and its properties on the whole are slightly improved. It is of great importance for the production of fast shades in all the various branches of cotton dyeing, and as a combination color for Katigen Black Brown N and Katigen Yellow Brown GG, whereby a large range of fashionable shades can be produced. As it is easily soluble and dyes easily level, it is also well adapted for machine dyeing, and it can be employed the same as other Katigen colors, with the addition of sulphide of soda for printing calico on nickeled copper rollers.

Diazo Rubine B is a new diazotizible dyestuff which is suitable for the production of Bordeaux shades fast to washing. The direct dyed shade, which is a distinct bright orange, is of no importance, but when diazotized and developed with developer A, very fine deep bluish red shades, which are just at present in fashion, can be obtained, the properties of which are equally as good as those of diazotized primuline. Diazo Rubine B can be employed for the dyeing of cotton in all its branches, and is to be recommended for the production of Bordeaux shades on yarns; further, the diazotized and developed shades can be discharged fairly well with tin crystals or zinc powder.

Phenyl Blue Black N.—This new product is dyed in the usual manner with Glauber's salt and sulphuric acid, and produces a deep blue black shade, fast to light and milling. It is chiefly to be recommended for the dyeing of piece goods, and it will also find employment in slubbing dyeing. In both cases the color is occasionally employed in combination with logwood, and is then dyed according to the following well known recipe: For a fine deep and bloomy black take 3% Phenyl Blue Black N, 4 to 5% Logwood Extra, 2 to 3% copper sulphate, 2% oxalic acid and 3 to 4% copperas. Enter the goods at 100 to 120 deg. F., bring slowly to the boil and boil for ½ to ¾-hour until the bath is exhausted.

Fast Light Yellow 3G.—This new brand differs from the older Fast Light Yellow G, chiefly in its shade, it producing a much clearer and greener tone, and is also remarkable for its particularly full shade. Like the older "G" brand, it dyes in a strongly acid bath, and is possessed of the same excellent fastness to light, further, it dyes equally as level as tartrazine. Fast Light Yellow 3G leaves cotton checking threads white, and is equally as well adapted for the same branches of dyeing as the older "G" brand. It is adapted for the printing of woolen fabrics, as well as for slubbing and silk printing. The color can be discharged a good white with zinc powder; tin crystals, however, not producing so good an effect.

Benzo Red 10B.—The principal advantage of this new color is its great tinctorial power at a low price. When dyed in the ordinary way with Glauber's salt and soda it produces a deep bluish red shade, possessed of very good covering power. It is especially adapted for the production of cheap Bordeaux shades of great fastness to rubbing, and is, therefore, a valuable substitute for magenta. As regards its other properties, its fastness to light and acids, is superior to that of the average substantive reds, and the color is not susceptible to the action of copper. Benzo Red 10B produces on half-silk goods very fine and useful shades, and on half woolen cloth, the wool is dyed somewhat yellower than the cotton. The color can be discharged well with tin crystals or zinc powder, and is also well adapted for top-dyeing goods, printed with Aniline Black as well as for slop padding colored prints.

Samples, instructions, circulars and pattern cards may be obtained upon application to the Dominion Dyewood & Chemical Co., sole agents in Canada for the Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany.

CARE OF BELTS.

The function of belts is so simple that generally very little attention is paid to them until they are rendered practically worthless by neglect. The quality of the material that is used in their construction and the condition in which they are kept have a decided effect on the production of a mill. The best quality of belting leather is the cheapest in the end, if it is given good care it will be more effective and last longer than the cheaper grades. The efficiency of a belt depends on how close it hugs the pulleys, so that the air will be excluded from between the belt and the pulleys. Of two similar belts, one put on with the flesh side to the pulleys, and the other with the hair side to the pulleys, the latter will be the most effective. The smooth hair surface practically excludes the air, thereby adhering closer to the pulleys, while the uneven flesh side allows a quantity of air to remain between the belt and the surface of the pulleys, thereby partially destroying its adhesion to the pulleys.

Sewing belts has to some extent the same effect, as the belt lacing forms an uneven surface and prevents the belt at that point from hugging the pulleys as closely as the rest of the belt. This causes a slight loss of effectiveness, while the uneven part is passing over the surface of the pulleys, and when high speed is used the loss is sometimes perceptible. Belts should never be laced, especially large driving belts. The best result is obtained by forming a taper joint, which must be cemented, then there will be no uneven place caused by belt lacing. For small belts the ends should be cut square, brought as close together as possible, and fastened by a malleable iron belt hook.

When belts are put on the pulleys, the ends of the joints should run with the pulleys, and not against them, as then the rubbing of the belts on the pulleys will be liable to cause the ends to roll up, with the result that the effectiveness of the belts is destroyed, and their life shortened. The best results are not always obtained from a tight belt, as when too tight, it binds the shafting, causing undue friction in the bearing, which consumes power. A large belt should always be run a little slack for the purpose of getting the benefit of the weight of the belt added to the driving power. If the ends of the belt are not square when hooked or joined together, one side will be longer than the other, and the belt will run to the tight side. If the difference in length is much, trouble will be experienced in keeping the belt on the pulleys.

The same effect is produced if the shafting is out of line, or if the machines are out of line with the shafting. It is not possible to run all the driving belts of machines alike, as some local peculiarity of the machines will prevent. Some can be run with a slack belt, and produce more work than others, in the same room, which must be run by a tight belt, but it should be the aim of every overseer to have his belts run as slack as possible without slipping. When belts have been neglected, especially those driving the machines, the first

notice the man in charge has is that the machines are not running as smooth as formerly, and the production is falling off. Frames and looms require more fixing, and nine times out of ten, uneven speed is said to be the cause. This is true; but the uneven speed is the result of neglecting the belts, and not due to the engineer. When the belt becomes hard and dry, it loses its pliability, and will not as readily bend, consequently it does not hug the pulleys as closely as it should. If dirt and dust are allowed to accumulate on the running face of the belt, it will lose its adhesiveness, and will slip. The unpliable or slipping belt will wear unevenly, so that the evil is increased.

The dirt should not be allowed to accumulate, but if it does, it should be scraped off, then give the belt a coating of some good belt dressing. The adhesiveness of a belt depends on its pliability, and that cannot be maintained without the use of belt dressing of some kind. Lubricating oil is better than nothing, but a reliable belt dressing is better. Under no circumstances should an operative be allowed to soap the belt for the purpose of increasing its adhesiveness. It serves the purpose for a short time, but acts as a dust catcher, and in a short time the belt will have accumulated a large mass of glazed dirt that will seriously interfere with its adhesiveness.—Wool and Cotton Reporter.

MANUFACTURING IN TUNIS.

Tunis was formerly one of the greatest industrial centres of Mohammedan Africa; its products were distributed throughout the northern part of the continent, and caravans carried them into the heart of the Soudan. This period of activity, and the prosperity of which it was the source, have disappeared under the influence of various causes, the chief of which is the competition of European manufacturers, who, with the aid of improved machinery, are able to copy more or less accurately certain local products and to send them to Mahommedan countries. For example, the chechias (red caps prescribed to the votaries of Islam by their religion), are now for the most part of Austrian origin; the Tunisian manufacturers, slaves to their traditional processes, continue to make them of a better quality, but dearer, and so see their trade vanish. There are, however, certain textile manufactures which have not disappeared from Tunis. Silk weaving and dyeing support some 4,000 people, and wool weaving occupies a certain additional number throughout the regency. Local craftsmen manufacture the different articles of native wear, as the burnoose, which everybody knows; the large blouses, called (according to their style or fineness), gebba or gandoura—the coverings in which men and women wrap themselves; the cloak with a hood; the haik, a silk covering worn by women in the street; the face covering also worn by native women; and the blankets and rugs, which are the most important pieces of Mussulman furniture. Indeed, the fame of the rugs of Kairouan equals that of the finest of the Orient. The great variety of these native articles and their multiple dimensions necessitate a special manufacture, incompatible with the wholesale production of machinery.

A NEW SOURCE OF INDIGO.

A patent has been taken out in France for extracting indigo from the leaves of a species of Lonchocarpus, which grows in and near Dahomey. The leaves are cut up small and allowed to ferment in water for from seven to twelve hours, according to the heat of the weather. By the use of filter presses, a clear colorless liquid is obtained from the fermented mass, and is precipitated with lime—air being blown through the mass. The blue indigo is then obtained in the solid state. To bring all impurities into solution, and to facilitate the settling of the mango, the lime-vat is boiled for about a quarter of an hour, at the end of the oxidation process. The liquid is then decanted, and the indigo-blue is made into cakes which are dried in the shade in the open air.

BURNING OIL TO MAKE STEAM.

Thousands of tons of oil or rather of "residuum" have gone to waste, because for many years there was no practical way of burning it for commercial purposes although it was known to contain much combustible matter, says a writer in The Tradesman. Under these conditions it was possible to buy it at a ridiculously low price at the refineries, for residuum is what is left after kerosene, naphtha, gasoline, etc., have been taken out of crude oil. Its color is dark green or brown, and it is thick and heavy to handle, as its specific gravity is about 85.

When we consider the different forms of apparatus used to force this into furnaces of various kinds, note how much they resemble each other, and how extremely simple they all are, we can but wonder that so much valuable fuel was considered a waste product for lack of such an appliance. This apparatus is so simple that a cut is scarcely necessary to illustrate it, for it consists of a nozzle that delivers a jet of steam in such a way that it draws oil into the burner the same as water is drawn into an ejector, after which the oil or rather gas resulting from heating oil to a high temperature, is blown into the furnace of a steam boiler, or into other furnaces used for various purposes where the mixture produces an intense heat.

Now a pound of oil contains about 50 per cent. more heat units than a pound of coal, but this signifies nothing so far as determining the economy of burning it is concerned, unless one knew the comparative prices and other particulars.

If the price of both per ton was the same, the oil would have the advantage of evaporating 50 per cent. more water per pound of combustible, also because the oil requires much less labor in the boiler room than coal. Past experience shows us that where there are good facilities for handling coal it is supplied cheap enough, (in some cases at least), to be a successful competitor of oil, so that where some plants formerly used the liquid they now use the solid fuel. The recent development of oil fields in the southwestern part of the United States will doubtless be a great advantage to that section of country, because coal is high. The cost of fitting up a steam boiler furnace for oil burning is not heavy, but tanks buried in the ground in order to be safe and pumps to handle it are not furnished free, therefore, the total cost for oil is probably more than for coal. The great advantage of the former is that when the apparatus is installed no firemen are required to shovel coal and clean fires, and no ashes accumulate to be carted away.

If more load is thrown on the engines the manipulation of one or two valves increase the heat according to requirements at short notice, and this is a valuable point that is not always appreciated. If the engines furnish power for a mill or factory, when the heavy load goes on, the boiler pressure will fall where coal is burned unless extraordinary precautions are exercised, and this causes the engines to run slower, which decreases the output of the whole establishment in direct proportion. The expense of running is fully as great as when every machine is run at full speed, but the income for the same time is reduced.

It is possible to concentrate the flame from oil on a small

part of a boiler sheet, until a hole is burned through it, especially where compressed air is used to force the oil where it is wanted. With a steam jet in use the danger is somewhat less, because it tends to spread the flame more, and thus diffuse heat over a wider surface. There is little real danger in either case, provided ordinary precautions are taken to spread the flame by causing it to strike a pile of firebrick arranged to accomplish this object.

Oil is dangerous if not properly handled, for it is possible to cause gas to be formed faster than it is burned, until the surplus is fired, and thereby causing an explosion which throws fire doors open, knocks brick work down and creates unpleasant sensations in whoever is at hand. This is not an absolutely necessary part of the operation, but it does sometimes happen. Coal is not entirely free from the same objection, for numerous instances are on record where doors have been blown open by gas explosives, and even shavings are not entirely free from similar objections, although in such cases we call it a "back draft" instead of a gas explosion, but they amount to about the same thing.

We are told that there is danger of oil taking fire and destroying much property, which is undoubtedly true, but then on the other hand huge piles of bituminous or soft coal take fire and burn fiercely for weeks before the smouldering fire is subdued. It does little good to pour water on these piles, for the upper part of such a pile cokes up, or in other words a kind of shell is formed that sheds water equal to our best roofs, and this, of course, prevents the water from going where it can quench the fire. From the foregoing statements it will be plain that no arbitrary rule can be laid down concerning the economy of either oil or coal, but several points must be taken into consideration, such as the quality of both fuels, certainty of supply, comparative cost of both delivered, and safety as determined by insurance rates.

LABOR QUESTIONS.

Though referring specially to conditions in Great Britain there is so much that is applicable to Canada in the following, which appeared in a recent issue of the Textile Manufacturer, that we deem it worthy of reproduction: Amongst the numerous scientific subjects discussed at the last meeting of the British Association was one which is of special interest to both employers and workpeople—classes which, as a rule, are little concerned as to the proceedings of learned societies. Although of interest, the matter was unfortunately rather crudely put by the reader of the paper, but it is as well to occasionally see things as other people see them, however pessimistic the other man may be. Almost at the same time the American papers were discussing the overbearing attitude of workers, and predicting ruin to certain industries through the rapacious demands of labor. Across the Atlantic strikes have been largely in evidence of late. In spite of American progressiveness in other directions, their strikes are conducted on both side with the bitterness and short-sightedness which characterized those in our own country in the earlier years of the last century. There are many foolish ideas held in our own country by the great bulk of trade unionists, and it will be necessary to dispel these before the ending of labor troubles can be even thought of. This will not be done by denouncing members of trade unions in bulk, for these unions are with us and have come to stay, whether welcome or not, and they will in all probability play a very important part in the future. Putting party, and therefore prejudiced, feelings on one side, and looking at the matter from an outside view, the main error of most trade unionists seems to be an expectancy that work should be provided for all, even if incompetent, weak or lazy. This demand might be rational if we had reached the millennium or attained to the position Socialists sigh for; but we have not got to either stage, and it cannot be expected that our millowners can run their factories on philanthropic lines. Another mistake trade unionists make is in their despotism—if they cannot or will not accept terms, they resort to the dog-in-the-manger policy of trying to prevent others undertaking the work. Fortunately the laws of our country, if intricate and troublesome, are just, and the recent decision of the House of Lords anent the picketing system of strikers will go far to relieve the more willing workers of being subjected to this baneful custom. In spite of their many glaring defects, trade unions have many good points. They have been the means of placing honest manufacturers in as good a position as sweaters; they have increased the efficiency of the worker by improved sanitary and hygienic laws, which owe their existence partly to trade-union agitation and their publication of many unhealthy conditions; they have also done much by having an organized system, which makes arbitration much more practicable than when a disjointed, undecided rabble had to be dealt with. The main points to be remembered are that the demand makes the supply, and that the demand can be increased by a cheap, good, and reliable production; that good honest work puts wages on a better basis, while scamped work cheapens goods and lowers wages. If trade unions want something to discuss—and, as a rule, a discussion is what they mostly glory in—a very good subject would be, "How to do Without Foremen and Overlookers." It is true many, perhaps most, workers would be glad to find these gentlemen dispensed with, but the abolition will never be made until such are of no use. Thousands of pounds are paid away every week in our textile industries simply for overlooking workpeople—for seeing they do the work for which they are paid. It is non-productive work in a direct sense, but if trade unions could instil the necessary conscientiousness into their members, so that each could be relied upon to work without being watched, a great saving, which would eventually reflect upon wages, would be made.

HOW HAIRCLOTH IS MADE.

A variety of cloth made of cotton or linen warp and a weft of hair from the manes and tails of horses, is used at present chiefly as an interlining for various parts of women's dresses, wraps, etc., though formerly employed for furniture covering and chair seating. Genuine haircloth is elastic and resilient under all conditions of the weather. Owing to these qualities and its comparatively light weight it forms a perfect interlining for women's skirts and petticoats, as well as for stiffening and keeping in shape such parts of women's dress as are liable to break or wrinkle from wear. The ordinary commercial horsehair fabric, sometimes called hair crinoline, consists of a cotton or linen warp and a horsehair filling.

Haircloth is produced in black, white and gray, and of various widths and weights. Much difficulty is encountered in weaving the fabric, from the fact that the hairs are not in a continuous strand, and no longer than their original length; therefore, each one must be handled separately and woven into the warp one at a time.

Formerly the weaving required the services of two persons at the loom, one to place the hairs in position and an assistant to select a single one of proper length from the

bunch and pass it to the weaver. More recently an automatic loom has been invented. This machine, instead of having a shuttle for pulling in the welt, is provided with a slender iron bar, having on its end a gripper, and this bar is pushed through between the warp at each movement.

Catching a single horsehair from the bunch at the further side of the warp, it pulls it through and then lets go just at the right moment, returning instantly for another supply of welt. The little gripper never fails to catch a hair from the bunch into which it darts, nor yet catch more than one at a time.

This is all the more remarkable when it is remembered that a single hair is so fine that only a quick eye can follow it, yet the gripper works so perfectly that in an entire piece of cloth it is seldom that a place can be found where a hair has not been properly inserted.

The horsehair for this fabric comes from widely separated quarters of the world, Russia and South America furnishing a considerable quantity. There are two haircloth factories in Canada, one at St. Catharines and one in Toronto. In the United States there are only four, one large one of 500 looms at Pawtucket, R.I., and three of smaller size at Philadelphia.

Imitation haircloth (also called fibre cloth), in limited use within recent years as a substitute for real haircloth, is composed of cotton warp and a weft of coarse vegetable fibre, derived from a species of the agave plant. The material is made in various colors, as black, slate and natural, and is entirely of domestic production.

Foreign Textile Centres

Bradford.—So far as new business is concerned this market is very quiet. The rumors as to negotiations for peace in South Africa have given a somewhat more cheerful feeling, and topmakers believe that if they progress favorably there will be greater confidence. For the time being, spinners are not able to secure higher rates for yarns, and will not give the prices that are being asked by topmakers either for botanies or crossbred tops. In both departments a waiting policy is maintained, and spinners and manufacturers assert that they did not see the possibility of values rising to the point that topmakers are anticipating. The position generally is healthy, machinery is well employed, and deliveries are pressed for. Throughout the textile wool trades the difficulty is not so much to find business as to find customers who are prepared to buy at a price which does not show a loss on to-day's price of raw material.

Belfast.—This linen market is rather more than maintaining its position, a gradual improvement being noticeable in several directions, though the demand is quite of a non-speculative character. The spinning branch is steady, with a moderate demand for most descriptions. Tow yarns are extremely scarce, but present prices are far from remunerative, so there is no inducement to increase production. The manufacturing end of the trade shows a slight improvement, and orders for a variety of goods are being placed with a little more freedom. Damasks move freely and producers hold considerable forward contracts. Union goods are in satisfactory demand. Handkerchiefs are improving. White goods for the home markets sell more freely. There is a fair and regular demand in the brown cloth market. Power-loom linens for bleaching are selling moderately well. Cloth for dyeing and hollands is moving off steadily. The trade in unions is large and growing. Hand-loom linens for bleaching keep very dull. The export trade is steady.

Dundee.—There has been a Government enquiry for jute bags in the Dundee market, but the quantity that quotations are asked for will not materially influence prices. The linen trade continues in a fairly healthy condition. Foreign orders are coming in pretty freely, especially for table damasks and towellings, and there is also a good enquiry from the home trade. The jute market is very steady. Spot lots move off very quickly, and fine jute has been in rather more request. The high prices demanded somewhat restrict business. Wide width hessians are in fair demand, but there is a scarcity of orders for narrow widths.

Kidderminster.—Manufacturers have been busy getting out special orders wanted for Easter. There is an undercurrent of cheerfulness in the carpet trade, although the volume of forward business is not as large as it ought to be. Prices both of yarns and wools are slowly tending against the buyer, and it seems pretty certain that carpet yarns will yet be dearer. The wool market keeps firm. The price of jute remains stationary with a steady demand, but cotton is a shade easier. Machinery is well occupied, but there is no pressure exercised. The stoppage for a few days at Easter gave an opportunity to clean up and prepare for brisker work.

Leeds.—Inclement weather has had an invigorating influence on the woolen trade and business has been fairly active, while in some departments the demand for almost all classes of worsteds is strong. Manufacturers are pressing spinners for material and spinners are urging topmakers to hurry deliveries, and the rate of production is increasing. Prices of material are very firm and spinners are not disposed to accept fresh orders except at an advance. The improvement in worsteds is in a considerable measure owing to a larger export demand. Australia is at present a good customer, taking large quantities of light weight mixtures, and a fairly good business is being done with Canada. Consignments to the United States are almost exclusively confined to fancies of a superior class. Woolens of the better kind are going freely into consumption through the home market, but the oversea demand is less satisfactory. There is no material change to note regarding low woolens, and with very few exceptions producers in this branch are much in need of orders, and stocks in the warehouses decrease very slowly. The peace rumors are creating a more hopeful tone.

Leicester.—The yarn market is firm, spinners being well under contract, and quotations are well supported. The hosiery industry continues to revive and there are very heavy deliveries of light spring and summer fabrics, so that stocks are being rapidly reduced. The export branches show a continuous improvement and large army orders have been placed.

Manchester.—Silk velvets are doing fairly well at present in view of the encouragement extended by the patronage of royalty, but the number of looms at work on goods of this class is not to be counted by hundreds. There is a moderate amount of activity to be noted in the handkerchief sections of the trade, Japanese goods brought forward of late having had a considerable sale. For printing purposes, however, weaves of this kind are not found suitable. The Japanese cloth, with all its cheapness, is full of faults, and buyers will not take it freely, as was formerly the case. The disturbance in Macclesfield caused by criticism as to the alleged unpatriotic conduct of a local producer in buying Japanese cloth has been silenced since it became known that the cloths thus purchased were cut up and worked by skilled machinists earning good wages. A good deal of interest is taken in a process of finishing flannelette, by which it is rendered non-inflammable, the invention of Dr. Perkins, professor of organic chemistry at Owens

College, who has been experimenting for several months. The material, after treatment, proves fire-resisting after at least seven washings, which is considered sufficient for all practical purposes, as it is in the early stages of wear, before the fluff has been worn off, that the liability to flash is most evident. It is anticipated that the present satisfactory results will yet be exceeded. As the extra cost will only amount to a few cents, it is not expected that it will in any degree militate against the use of the new finish. The process is stated to be applicable to muslins, curtains, and, in fact, to all classes of cotton goods.

Nottingham.—There is much activity in the finishing departments of the fancy millinery lace trade. Orders are in arrear, and new orders are being placed for the home market and for shipment. Bobbin nets, plain tulles, and mosquito nets are steady in value, with an average demand. Silk laces are neglected. Cotton yarns are slightly easier, but cashmere and merino yarns are firm and tending upwards. Orders have been restricted.

South of Scotland.—In the linen industry some further improvement has to be noted, particularly in the home trade, and prospects all round are decidedly better. Although there is no further change in the linoleum business, there is a fair and steady amount of production, and manufacturers have recently been working under much more favorable conditions owing to less expensive oil and other material, including coal. The Glasgow cotton yarn market closes firmly, prices having been assisted by the fairly general adoption of short time in Lancashire by spinners of American cotton. The spring trade is now fully under way in the drapery houses, and the returns are well kept up. Buyers are hopeful that this should be one of the best seasons experienced for some years past, the Coronation festivities being an important factor.

TEXTILE PUBLICATIONS.

Leopold Cassella & Co., of Frankfort-on-the-Main, have issued a fine sample book of fashionable shades produced with easily levelling dyestuffs. There are 226 shades shown. All the shades have been dyed at the boil with the addition of 10—15 per cent. bisulphate of soda. The firm is represented in Canada by W. J. Matheson & Co., Montreal.

The Grasselli Chemical Co., of Cleveland, Ohio, have issued a neat little booklet containing a brief history of their business, a list of the chemicals produced by them, and a description of certain well known chemicals, their method of manufacture, uses to which put, etc. It is nicely printed in colors.

DESIGNS ON LINEN GOODS.

The figures on linen goods are often ingenious and complicated. Constant use of figured goods in towels, napkins, and tablecloths so accustoms one thereto, that the skill and labor necessary to produce them are not realized or even thought of. A design is woven into the cloth by the aid of a long strip of perforated cardboard, which passes over rollers above the loom. The threads pass through the perforations, which, as a whole, are the counterpart of the figure produced on the finished cloth. These cardboard designs require infinite skill and patience, not only in originating the figure, if new, but also in preparing it for use at the loom. Months, and sometimes even a year are consumed in completing a single design. One of the latest is that of a cluster of American Beauty roses, intended specially for the United States, and almost as perfect as the natural flowers.

FIRST CORNER IN WOOL MARKET.

A good story is told of the origin of the Bartolini Palace, one of the most famous in Florence. It was built in 1520, with money obtained by the owner in a celebrated speculation. In those days Florence was the great wool market, but, according to the rules of the guild, which were similar to those of the stock exchange now-a-days, no man was allowed to sell or buy before a certain hour upon a certain day appointed by the officials of the guild and properly announced. Hence, it was customary for farmers to send their wool to Florence and offer it for sale when the bell rang on the morning of the date appointed, and buyers came from all parts of Italy to make purchases.

Mr. Bartolini, who was a man of prominence in the wool trade, gave a dinner the night before the market opened, in 1520, and invited all the merchants who had come to Florence to buy wool to attend the feast. Some of them were mean enough to say that the wine was drugged, but they all drank a good deal of it and the festivities were kept up until daybreak, when most of the merchants were under the table. The host drank nothing, and consequently, when the bell sounded the hour when trading might begin, he was the only purchaser on hand. He bought all the wool that was offered for sale, and when his rivals recovered from the debauch into which he had seduced them they were compelled to pay his price or go without.

I believe, writes William E. Curtis, this was the first time the wool market was ever cornered, and with the profits Bartolini built the palace, which is now occupied as the Hotel du Nord. Over the door is the coat-of-arms he adopted, and a motto which he selected for himself: "Per non dormire" (because I did not sleep).—Exchange.

DOMINION COTTON CO.

There was a great deal of interest felt in the annual meeting of the Dominion Cotton Mills Company, held at Montreal on April 7th, owing to the enormous depreciation in the stock last year, and rumors as to what would be revealed at the meeting. The company always declines to publish its statement, and though a request was made that such should be done, A. F. Gault and Senator Forget strongly objected. It is known, however, that during the year now closed the company's statement shows a loss of $312,000. In his opening remarks at the meeting, A. F. Gault, president of the company, said that the year's business had been the most unsatisfactory in the history of the company. At the beginning of the year prospects were good, but later raw cotton, which opened high, went down, leaving the company with a large amount on hand purchased at advanced prices. Then competition had brought the selling price down below the actual cost of manufacture. There had also been some mismanagement. The directors had resolved to dissociate the management of the mills from the selling department. A. B. Mole, of North Adams, a man with wide experience, had been engaged to take care of the manufacturing while an arrangement was made with Stevenson & Blackader whereby they took over the business of selling the product. Mr. Gault said that he had every confidence that the present arrangements would prove beneficial to the company. He referred to the desirability of increasing the borrowing powers of the company from 75 per cent. of the capital to 75 per cent. of the removables, machinery, buildings, etc. With the proposed issue of bonds the present indebtedness could be liquidated. The company has now large quantities of

cotton on hand which had been purchased at satisfactory figures.

C. J. Binmore said that the true mismanagement had occurred years ago when stock issues had been made below par. If the laws had been such as to make these issues impossible the present trouble would have been mitigated. What was needed now was more capital, and in his opinion there should be no dividend for at least a year or perhaps two years.

In further explanation of the losses Mr. Gault stated that nearly if not quite all woolen and cotton mills had found it a poor year not only on this continent but in England. Referring again to the load of high-priced cotton which the Dominion Company had carried during the last fiscal year, he stated that the old management had concluded it was better to buy at the high prices then ruling, fearing they might go still higher. They had done so, buying in large quantities at 10 cents, whereas afterward these same cottons could be had as low as 8½ cents. From this cause alone the company had suffered a loss of $200,000. The tariff had also contributed towards losses. They needed more protection. Under the present working of the tariff their protection amounted to 16⅝, which is 1¼ less than under the old regime. They badly needed more protection from English low-priced goods.

The motion to amend the charter in respect to the company's borrowing powers was carried unanimously. The old directors were re-elected unanimously. They are: A. F. Gault, Jas. Wilson, Hon. L. J. Forget, Samuel Finley, Jacques Grenier, S. H. Ewing and C. E. Gault.

THE ALMONTE MILLS.

The Rosamond Woolen Co., at its annual meeting elected the following officers: President and managing director, B. Rosamond, M.P.; vice-president, Lord Mountstephen: secretary-treasurer, James Rosamond.

The Almonte Knitting Co. elected the following officers: President, Right Hon. Lord Strathcona: vice-president, B. Rosamond, M.P.; managing-director, J. M. Rosamond.

At the annual meeting of the Anchor Knitting Co., R. Bowie, Brockville; H. K. Pinhey, C. H. Pinhey and Captain Murphy, Ottawa; Alex. Miller and J. G. Forgie, Pembroke, besides local shareholders, were present. The reports of the past year's business were highly satisfactory, and the outlook for the future promising. The directors of last year were re-elected. President, H. K. Pinhey: vice-president, A. J. McAdam, and secretary-treasurer and managing director, H. W. Lundy were also re-appointed.

CLEANING WOOL BY OZONIZED AIR.

A rather curious process of wool-washing and bleaching by means of gaseous ozone, or rather, ozonized air, is described in L'Industrie Textile. Wool in the grease is placed in a closed vessel, while a current of ozone or ozonized air from an Andreoli apparatus is sucked through the fibre by means of a vacuum pump. Strange to say, not only is the fibre bleached under this treatment, but the whole of the fatty matter is rapidly destroyed and volatilized. A short treatment with sulphurous acid gas completes the process, which, without any further washing or scouring, is said to deliver a clean, bleached fibre, of unusual elasticity and strength, with little loss of weight. As 50 grammes (less than 2 oz.) of ozone is to suffice for treating 100 kilos. (about 220 lbs.) of wool, the process is described as equally cheap and expeditious.

HIGH-PRICED FOX SKIN.

At the fur sales in London, which are now half finished, there has been a great demand for fine furs at prices from 20 to 100 per cent. higher than at the last sales. The supply is noticeably scarcer. Sables are a prime favorite, indicating that these will be the most fashionable for next season. The Hudson's Bay variety sold for 50 per cent. higher and the Russian variety for 100 per cent. more than before. The sensation of the sale was the purchase by A. Jaeckel & Co., of New York, of a black silver fox skin for $2,300. This is the first time such a skin had been captured by Americans. They usually go to Russia or Paris. Several fox skins have been sold for $1,250.

SILK ASSOCIATION OF AMERICA.

The Silk Association of America has issued its annual report. The following points contained therein may be briefly noted: Steadiness in price of raw material; strong competition keeps prices at a minimum to consumers, and so insures a widening distribution of silks for women's wear; unusually large receipts of Japan silk; increase in machinery, as follows: 45,000 organzine and tram spindles, 11,000 winding spindles, 12,000 accessory spindles for doubling, reeling and quilting, 2,100 broad power looms, 350 narrow fabric looms; more original designs; better goods; desirability of a Fashion Syndicate; the failure of trusts in silk manufacturing; advantage of a protective tariff in silk manufacturing; absence of strikes. The report goes with some detail into the extent of the industry as contained in the census returns, and includes a number of short papers on various phases of silk manufacture. Perhaps one of its most interesting features is a contrast between the prices of manufactured products and the necessities of life, taken from Dun's Review.

M. SAXE AND SONS' FAILURE.

The failure of M. Saxe & Sons, clothing manufacturers, Montreal, already announced in the Journal of Fabrics, discloses a long list of creditors, including a number of the large woolen factories. The following is a list of the creditors for sums exceeding $100: Warwick Button Works, $160; Brooke, Wilford & Co., Butley, Eng., $548; Albrecht & Albrecht, Leeds, Eng., $1,460; E. Possett & Co., Bradford, Eng., $554; Nelson & Woolzer, Huddersfield, Eng., $1,516; Beckham & Co., Montreal, $114; Nesbitt & Auld, Toronto, $2,894; W. Fraser & Co., Ipswich, Eng., $730; Auburn Woolen Mills, Peterboro, Ont., $3,092; E. G. Williams & Co., Bradford, Eng., $586; J. A. Paquet, Quebec, $3,830; Paris Wincey Mills, Paris, Ont., $2,204; Dick, Ridout & Co., Toronto, $126; F. R. Vinet, Montreal, $14,000; Kidd, Rutherford & Co., Montreal, $157; Montreal Light, Heat and Power Co., Montreal, $299; Wm. Clapperton & Co., Montreal, $422; Corticelli Silk Co. Montreal, $411; S. Hird, Montreal, $100; Canadian Woolen Mills, St. Hyacinthe, Que., $6,661; W. J. Stethem & Co., Montreal, $2,289; Dominion Cotton Mills Co., Montreal, $105; Hirsch, Pruner & Co., Bradford, Eng., $985; Rosamond Woolen Co., Almonte, Ont., $2,178; J. Shantz & Son, Waterloo, Ont., $271; Hirschberg & Co., Montreal, $1,521; Canada Jute Co., Montreal, $187; Alexandre H. Audette, $58,000; Merchants' Button Co., Waterloo, $132; M. Adam & Co., Leeds, Eng., $2,262; Belding, Paul & Co., Montreal, $221; James Rodger, Montreal, $12,293; Thibaudeau Bros. & Co., Montreal, $11,500; Wm. Moore & Co., Bradford, Eng., $1,688; M. Markus, Montreal, $782; F. B. Martyn, Montreal, $500; Juffe Bros., Montreal, $535; Gault Bros. Co., Limited, Mont-

real, $26,129; Archer & Perron, Montreal, $200; R. L. Gault Estate, Montreal, $8,908; J R L. D. Thibaudeau, Montreal, $50,000; Dry Goods Review, Montreal, $120; Logan Bros., Montreal, $108; G. A. Thorpe Mfg. Co., Toronto, $459; Cowan & Co., Galt, $160; Lawley, Everett & Co., Manchester, Eng., $226; Bank B. N. A., Montreal (indirect and secured), $101,000; H. J. Vineberg, Montreal, $19,845; Geo. H. Hees & Sons, Toronto, $1,200; City of Montreal, taxes, $250; Estate Gravel, Montreal, $2,433; H. Joseph, Montreal, $8,160; Canadian Woolen Mills Co., Toronto, $10,000; Excelsior Woolen Mills Co., Montreal, $9,000; Bagley & Wright Mfg. Co., Montreal, $5,000; Montreal Cotton Co., Valleyfield, $1,500; Trent Valley Woolen Mills Co., Campbellford, $5,826; James Youngheart, Montreal, $250; H. Vineberg & Co., Montreal, $566; W. & E. Crowther, Staitwaite, Eng., $1,946; Philippe Falkenstein & Co., Bradford, Eng., $418; Felix Sauvageau, Montreal, $202; F. Froideraux, Montreal, $250.

The failure is attributed by the firm to the Board of Trade fire in January, 1901, when their factory was burned, but it was precipitated by the failure of Scougale Bros., of Vancouver. Kent & Turcotte, of Montreal, are curators of the estate.

FABRIC ITEMS.

H. & A. Leadlay, hide and wool merchants, Winnipeg, have remodeled and renovated their offices.

Rumor has it that a new concern will shortly open in the hide, wool and produce business in Winnipeg.

Tan is the latest color in the shirt line, and is one which no doubt will become very popular, as it is both practical and pretty.

The Bank of New Brunswick, St. John, N.B., along with others, have applied to have the Crude Rubber Co. declared insolvent. The bank is interested to the extent of $5,000.

Preservo is recommended as a covering for canvas on vessels. It is applied with a brush, dries in a few hours, does not scale, crack, freeze or rot, and renders the canvas impervious to water.

The Waldron-Drouin Co., Montreal, has applied for incorporation with $90,000 capital, to manufacture hats, caps, etc. The applicants are Alfred Eaves, S. G. Waldron and F. B. Drouin.

The United States army is to be clothed in khaki. Bids are called for by the Quartermaster's Department for 75,000 yards of worsted khaki shirting flannel, with the privilege of increasing the quantity 50 per cent.

Old Country buyers state that fine wool cloths are returning to favor, and that the era of low prices is at an end. In consequence manufacturers are paying 7½ to 12½ per cent. advance over old prices for fine merino wool.

Sizoleum mixed with Arabol starch, corn or potato starch, highly recommended as a sizing for colored cotton warps. It is adapted for use on print cloth, warps, sheetings and domestics. No tallow should be used with it.

The shirt waist not having met with popular approval for men the shirt vest is now a candidate for favor. It takes the place of a shirt and serves the purpose of a vest so far as appearance is concerned. It is worn with a coat and is as cool as a shirt waist.

A new material for shirts is called the Marlborough cloth. It is of a very soft texture, and resembles somewhat the finest of merino. In reality, however, it is a mixture of wool and cotton. It can only be purchased from very high-class furnishers and in limited variety of patterns.

Sheep-raising in Alberta is now being attempted on an extensive scale, says the British Columbia Review.

The Sanford Manufacturing Co. at Hamilton, and M. Workman, Montreal, will supply the uniforms required for the 2,000 additional men whom Canada will send to South Africa.

The SS. Pontos, of the Hamburg American line, left the port of Bahia a few days ago with the largest cargo of wool ever shipped from an Argentine port. There were 10,803 bales.

Herr Schlechter, the botanist, declares he has discovered an abundance of gutta percha trees in German New Guinea. If so he wins the prize of $750 offered by the Colonial society for the first person to find such trees in the German colonies, and has helped to solve the question of rubber supply for the world.

A simple test for the purity of manila or sisal rope is as follows: Take some of the loose fibre and roll into balls and burn them completely to ashes, and, if the rope is pure manila, the ash will be a dull greyish black. If the rope be made from sisal the ash will be a whitish gray, and if the rope is made from a combination of manila and sisal, the ash will be of a mixed color.

The Canadian Colored Cotton Mills Co. have recently placed on the market a very beautiful line of goods that they call Blouse Cloths. They are made up in stripes with heavy cords, and the range consists of 13 patterns in the latest shades of blue, purple, green, maroon, pink and heliotrope. Judging by the orders received from the wholesale trade they are proving very popular.

The price lists of Canadian manufacturers of rubber wear for 1902 show an advance on the whole of over 5 per cent. The chief advance is on men's rubber boots which will cost upwards of 50 cents a pair more than formerly. There is also an advance on specialties but staple lines remain practically unchanged. The rubber situation seems more satisfactory than it has been for years, that is for the manufacturers.

According to the Maritime Merchant there has been some neglect with reference to the collection of duty on wool similar to kinds grown in Canada, on which 2c. to 3c. per pound should have been paid. The Merchant says it has been allowed to come in free, but that duty will henceforth have to be paid. As a matter of fact, there is little or no wool of the class referred to imported, as it can be purchased in Canada for less than it can be had for abroad.

Waterproof overcoatings, both light and heavy, seem to be growing in favor. Fancy fabrics in overcoatings, as well as in suitings and trouserings, are this season superior, from an art point of view, to any ever before placed on the market, being more ingenious and pleasing by weave, more graceful and attractive of pattern, and richer and softer of color. Fancy vests will be much worn, requiring for their manufacture thin wools, plain and fancy cottons, plain brown and striped linens; cashmere, mercerized cottons, and in short, the usual summer fabrics of all kinds.

Receipts of fibre in America are not so large as they should be, in view of the probable requirements of the binder twine market. If the crops prove to be up to their average this year there may be a shortage of twine, as the visible supply is light. There has been no change in the price of twine, either at factory or distributing points, since the first of March, when quotations for this season's business were first given out. The hemp market has strengthened considerably since that date. There is only a 2c. margin between the prices of the raw material and the finished product at Chicago, which certainly cannot give the manufacturers an exorbitant profit.

High prices ruled at the March fur sales in London.

Rubber boots for dogs are now offered for sale. They come from Paris.

The Canada Thread Co. was fined $20 for refusing to give information for census purposes.

Lister sealettes in dark brown and black and of the better grades are in increasing demand.

The laundries in England have got after the high turn down collar by increasing the charge for laundrying it from 1d. to 1½d.

The Emerson-Hague Manufacturing Co., Winnipeg, has largely increased its business, and is turning out good lines of cotton clothing.

It is stated that the King has given his consent to the use of the Royal Standard, by private persons, on the occasion of the Coronation.

Telke & Finklestein have purchased the business of the Northwest Hide Co., Winnipeg, of which Mr. Telke has been manager for some years.

The first law in Scotch tartans is that every stripe of whatever breadth of color must be the same in both the length and breadth of the web.

The Canadian Colored Cotton Company has advised jobbers of another advance in denims. This is the second advance in this line within a few weeks.

The manufacture of ladies' neckwear in Canada is growing rapidly, and promises to assume large proportions this season, especially in cotton effects.

Handkerchief printers in England are still engaged turning out large quantities of flags, etc., for the approaching Coronation festivities, and find difficulty keeping pace with the orders.

The Boas-Felsen Co., manufacturers of ladies clothing, Montreal, are already working up a good business. A. B. Boas is business manager and M. Felsen is superintendent of the factory.

The Truro Knitting Mills Co., Truro, N.S., find their Stanfield unshrinkable underwear so popular that their travellers have received notice to withdraw some lines as the capacity of their mills is sold up. The company claim to be the largest manufacturers of high class underwear in Canada.

Treble's, Ltd., has been incorporated under the law of Ontario to carry on the business of a merchant, manufacturer, jobber and dealer in and with and as agent for men's furnishings, clothing, ladies' wearing-apparel, hats and caps, dry-goods and fancy-goods, and to take over the business now being carried on under the name of S. G. Treble, Hamilton.

The exports of wool from Britain to Canada for February, 1902, amounted to £3,021, as against £1,378 for the same month in 1901. There was also a large increase in woolen and worsted fabrics and carpets, no doubt a result of the preferential tariff. Cotton and linen piece goods and articles wholly or partly of silk also showed a large increase, while in jute piece goods there was a falling off.

Consumers of cottons in the eastern provinces, in view of advancing prices, talk of appealing to the Government, as the consumers of paper recently did, alleging a combine. They admit that there has been an advance in raw cotton, but contend that this is largely speculative, and in many cases does not warrant such an increase in manufactured goods. Shirt manufacturers are particularly outspoken against the increase, and claim there is a regular combination to keep up the prices.

The Puritan Laundry Co., of Toronto, has been incorporated, with a capital of $35,000. The parties composing the company are: T. Vaughan, W. H. Lodge, J. J. Roulston, A. W. Roulston and John B. Crean, all of Toronto.

The decline of sateen is no doubt due to the increased beauty and cheapness of summer silks. Instead of wearing something that is suggestive of silk, we either wear real silk or else dress for less demanding occasions in any of the simple cottons or mixtures that make up so well into shirt waist suits.

Raw cotton continues high. In England an attempt is being made to keep down the price, the committee of the Federation of Master Cotton Spinners, which embraces the majority of the cotton firms in Lancaster, having adopted a resolution urging spinners using American cotton to stop production two days a week with that object in view.

The Richard Company has been granted a Dominion charter; among other purposes to carry on business as wholesale and retail dealers and traders in, manufacturers of, and contractors for boots, shoes, clothing, shirts, haberdashery or furnishings, hats, caps and wearing apparel generally. Its capital stock is $99,000, and its places of business are to be Montreal, Winnipeg and elsewhere. The incorporators are: J. A. Richard, Alfred Prendergast, Arthur Poulin, Montreal; Hormidas Belliveau, and Eugene Richard, Winnipeg.

A Montreal neckwear manufacturer complains of the effect of the preferential tariff on his business and suggests three remedies: Reducing the tariff on piece silks, abolishing the preferential tariff on manufactured articles, raising the tariff to 50 per cent. on them, leaving the preference on other goods as it is. He thought the best remedy would be to make British manufacturers certify that 50 per cent. of the labor on their articles was British, and goods with a less per cent. of British labor than this should be subject to a duty of 35 per cent.

The Crompton and Knowles Loom Works have acquired the loom building business of M. A. Furbush & Son Machine Co., of Camden, N.J. The elder M. A. Furbush was at one time associated with George Crompton at Worcester. In 1859 Mr. Furbush withdrew from the partnership and went to Philadelphia, establishing a new machinery building plant there. The loom business of the Furbush Co. has been confined almost wholly to the carpet and rug trade, and the Crompton & Knowles Loom Works will hereafter control almost the entire carpet and rug loom business in United States. They will, it is reported, erect new buildings in Philadelphia where the Furbush looms will be made, but the Furbush Co. will continue to build cards, mules and other woolen machinery. The names of both these firms can be seen on much of the machinery in Canadian mills.

The woolen buyer for a large Toronto house recently returned from the European markets, states that the English woolen and worsted manufacturers have as much trade as they can handle, and their establishments are busily employed. There will be no changes in prices this season, but the future tendency cannot be in doubt, seeing that the prices for both crossbred and fine Botany wools advanced 15 per cent. at the last London sales. As far as the materials already shown for next autumn's trade indicate, the bulk of trade for men's wear adheres to grays, both in tweeds and worsteds. In overcoatings grays promise to lead, with probably a few browns and small patterns in black and white tweed effects. The latter, which are also being shown, made up by some of the best Canadian makers, may possibly do well for ladies' costumes. Gray, however, is a favorite color with the King, and will therefore be the most fashionable.

The Textile Manufacturers' Journal says that "United States Government officials have unearthed an extensive smuggling system whereby great quantities of wool grown in British Columbia islands, adjacent to Vancouver Island, are being smuggled across the line and marketed in that country. As the wool is obtained for almost nothing enormous profits are realized."

The Montreal Cotton Co. are offering a handsome range of mercerized sateens. Their trade in 54-inch Italians has grown rapidly. The new mercerized finishes are completely doing away with the lower classes of Bradford worsteds, a fact that is gratifying to Canadians, since the money for such goods is kept in the country, the value of the raw cottons and dyestuffs being the only portion going elsewhere.

Flax wilt is the name given to a disease which is destroying whole fields of flax in Dakota. Professor Bolley, of the North Dakota Agricultural College, Fargo, has been investigating and discovered that it is due to a minute fungus which grows on the inside of the plant, and is practically indestructible, getting into the roots and soil and remaining for years. The disease is spread by the seed. It is believed to arise from impoverishment of the soil.

James Slessor, long and favorably known as the active head of the wholesale dry goods firm of James Johnston & Co., Montreal, and more recently Montreal manager for the W. R. Brock Co., who purchased the business, was honored a few days ago by an address from leading members of the chief dry goods firms of Montreal, on the occasion of his retirement from active business. Mr. Slessor in replying to the address gave some interesting reminiscences of the trade. He had entered the "drapery trade" in 1850, and, coming to Canada in 1857 had been in the business in Montreal for forty-five years, first with John Atkin, then with Henry Morgan, and afterward James Johnston & Co.. He had crossed the ocean 137 times.

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.

Duncan Fisher, woolen mill operator, Paisley, Ont., has assigned.

The weekly pay roll of the St. John cotton mills now contains 560 names and amounts to $2,400.

Wm. Robertson had his leg severely injured by being caught in a belt in woolen mill No. 2, Carleton Place.

The woolen factory of Watchorn & Co., Merrickville, is resuming operations after being closed for two or three months.

The St. Croix cotton mills, Milltown, N.B., has installed some Tweedales & Smalley jack frames imported from the United States.

The Tompkins knitting machine employees working for the Canadian Woolen Mills Co. at St. Hyacinthe went out on strike recently, making a demand that the old rate of wages be adopted.

The Perth woolen mills are filled up with orders, and the output is finding a sale in all the Canadian wholesale houses. One of the orders recently received is for felt for the Nichol boat.

The Granby Rubber Company is running on a larger scale than ever before, and fall orders are pouring in continually.

The McKay woolen mills at Galt have been enlarged by the addition of a second story. A new chimney was recently built.

E. R. C. Clarkson, of Toronto, has been appointed permanent liquidator of the Western Woolen Mills Co., whose affairs are being wound up

Miss McManus, an employee of the Almonte knitting mill, had her hand severely lacerated by being caught in the gearing of a knitting machine.

The Cosmos Cotton Co., of Yarmouth, N.S., is seeking incorporation by special act and the bill has been favorably reported by the private bills committee at Ottawa.

Some of the hands employed in T. A. Code's hosiery factory at Perth have fitted up an incubator in the boiler room, and now have a prosperous side line in operation.

M. Campbell, who has been card room overseer at the cotton mill at Kingston for the last twelve or thirteen years, has been appointed card room overseer at the Magog mills, one of the largest mills owned by the Dominion Cotton Mills Company.

The overseers at the Canadian Colored Cotton Co.'s mill at Merritton now are: Carding, Lon Scott; spinner, Aquita Cook; weaver, Albert Hewitson; cloth room, Richard C. Orford; napper, Frank Coughlin; superintendent, Robert Woodside.

The Canadian Colored Cotton Co. have recently put in at Merritton 20 new blanket looms from the Crompton & Knowles Works. They are magazine looms, with all the latest improvements. They are running well and much is expected of them.

Samuel Carter has purchased two lots adjoining the Guelph knitting factory and has let the contract for the erection of a new brick factory, with stone foundation, 90 x 34, three stories. This will treble the room the company already has, and will give room for much-needed accommodation in this growing business.

The Dominion Woolen Co.'s mill at Beauharnois, Que., is running the card and spinning rooms till 9 o'clock p.m. The Montreal woolen mill's cards and mules are running all night, and they may add one set of cards and six looms in the near future. The Excelsior woolen mill, Montreal, is also busy, mostly on worsteds. They took out a pair of mules not long ago to put in worsted winding machinery.

Wm. Thoburn, flannel manufacturer, Almonte, has decided to extend his factory. The addition will occupy the space between his storehouse on Little Bridge street and his present factory. It will be 35 x 40 feet, two stories in height, constructed of brick, and the roof covered with iron. Part of the addition will be used for manufacturing and part for an office. A few broad looms will be placed in position when the building is completed, which will increase the capacity of the weaving department by 25 per cent.

The Textile Manufacturers' Journal states that agents of the Canadian Government are holding meetings in the western part of Massachusetts in an effort to induce French-Canadians settled in that section to abandon life in the cotton mills for that of cultivators of the soil. Inducements of free land and financial assistance are held out. According to the Montreal Witness about sixty persons arrived in that city on the 18th of March on their way to St. Jerome and Joliette, having determined to give up factory life and return to farming.

An action for $5,000 damages has been entered against the Montreal Cotton Company by Frank Belanger, who had one of his arms broken while working in the company's mills.

Wm. Breaseau, a young man employed in the napping room of the Canada cotton mill, Cornwall, while running a feeder had his left hand drawn into the machine and the first three fingers so injured that it was found necessary to amputate them.

What is known as No. 2 woolen mill in Almonte is now pretty well stripped of its equipment. T. B. Caldwell has bought a quantity of the shafting and machinery from Wylie & Shaw and removed it to Appleton. Young Bros. have also bought a lot of shafting and fittings, and have taken them out.

The Simcoe Wool Stock Co.'s buildings and contents were burned, March 28. The fire originated in the picker, which was being used to work up cotton waste. The fire gained such rapid headway that several of the employees barely escaped being burned. Loss approximately $2,500 Insured.

The Smith Woolstock Co., whose factory is on Front street, Toronto, have been making some extensive improvements in their plant by adding new dyeing and drying machinery of the most approved type. They are making the dyeing and matching of colors for the woolen mill trade a specialty, and are very busy.

The Whitman mills of New Bedford have placed their contract for 38 of Asa Lees & Co.'s self-acting mules with the William Firth Co., Equitable Building, Boston. These mules will be specially built for fine work. At the present time the Wm. Firth Co. are very busy on all classes of machinery, having within the last few weeks received orders for mules aggregating over 70,000 spindles.

The St. John Telegraph says that manufacturers at Braintree, Mass., propose to establish a branch of their industry at Bangor. The business carried on is making bandages for hospital use, also absorbent cotton and the cotton used by jewelers for packing. They will require for their purpose some 20,000 yards of cotton cloth and four or five bales of cotton daily.

The Dominion Cotton Mill Co. in Kingston has a new overseer in the spooling and spinning department in the person of Edwin Smith, who has been in the employ of the Canadian Colored Cotton Co., at Cornwall, for the past two years and a half, and proved himself a very competent hand. He has been prominent in sporting matters and was instrumental in the formation of the Cornwall Junior Lacrosse and Hockey Leagues, and occupied positions in both organizations. He identified himself with the Strathcona A.A.A., and has done a great deal towards bringing out players for that association. His departure from Cornwall is regretted by many friends.

It is understood that the Calico Printers' Association of England are taking steps towards acquiring Canadian print works, and that John A. Orr, their expert principal, who is now in this country, has approached A. F. Gault and W. T. Whitehead, of the Dominion Cotton Mills Co. at Magog, and the Colonial Bleaching and Printing Co. at St. Henri, respectively, with a view of purchasing these works, which are the only two print works in Canada. The former employs about 2,000 hands, and the looms of the latter about 150, but has in view an early extension which would increase the operatives by about 1,000. The price asked for the Colonial plant is $300,000.

The year 1902 is to be emphatically a lace season. It will be employed extensively in trimming costumes, gowns, etc., but more especially hats.

Personal

James May, an employee in the Clyde woolen mills at Lanark, has given up his position and gone to Fernie, B.C.

John Code, the treasurer of Lanark county, spent years at sawing lumber, several more running a flour mill, and a decade in the woolen industry.

W. S. Thornton, of the firm of Thornton & Douglas, who conduct large clothing stores in Guelph, Stratford and Chatham, Ont., died suddenly at Stratford on March 25.

J. P. Murray, of the Toronto Carpet Co., is one of the directors of the Canadian Casualty Co., which will enter the field of accident insurance on a large scale at an early date.

Robert Lochead, one of Perth's oldest citizens, died a few days ago. He worked in the Glasgow mills as a cotton printer before coming to America, and in this country as a weaver.

W. W. Lumsden, of the Hamilton retail branch of the Sanford Clothing Manufacturing Co., has gone to St. Thomas to manage the branch there. Mr. Coombes has gone from St. Thomas to the King street branch, Toronto. Mr. Lumsden has been with the Sanford Company for nearly thirty years, most of that time at the Hamilton branch. Before leaving he was waited upon by a number of friends and presented with a travelling bag, and his wife with a handsome Morris chair.

George Young Allen is one of the few college men following the dyeing business in this country. He is assistant manager of the British American Dyeing Company, of Montreal, the largest establishment of its kind in Canada. He is a graduate of Bishop's College, and has taken a post-graduate course in the Yorkshire Technical College, Leeds, England, in studies connected with the dyeing industry. On the occasion of his marriage at Utica recently he received a cablegram of congratulation from the Messrs. Puller, of the dye works in Perth, Scotland, the largest in the world.

Wm. Dunn, who died suddenly at Lanark a few days ago, at the age of 74, previous to coming to Canada 40 years ago, learned the trade of cotton dyeing in Glasgow. When he came out he settled at Herron's Mills, near Lanark, where for ten years he was well known as a weaver of carpets and blankets. He then removed to Lanark, continuing in the weaving business until he entered the employ of Boyd Caldwell & Co. For fifteen years he was a faithful and steady operative in the Caldwell woolen mill and only gave up his position about one year ago, retiring to the quiet of his home, where he could still work at his old trade.

—In the Tapestry Court of the Victoria and Albert Museum, a splendid example of late fourteenth century tapestry work is now to be seen. The tapestry comes from Hardwick Hall, the Duke of Devonshire's Chesterfield seat, where it has lain for years in a rather sorry condition. The material has been skilfully prepared and pieced together, so that it now represents what it once was, a picture about 35 feet in length illustrating some sports of the period.

TEXTILE PUBLICATIONS.

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

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

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

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

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

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

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

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

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

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

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

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

CHEMICALS AND DYESTUFFS.

We have to report a steady improvement in business, and enquiries good for all lines. Prices are firm on heavy lines, a slight reduction for delivery off wharf.

Bleaching powder	$ 2 25 to $ 2 50
Bicarb. soda	2 00 to 2 05
Sal. soda	0 85 to 0 90
Carbolic acid, 1 lb. bottles	0 40 to 0 50
Caustic soda, 60°	2 35 to 2 60
Caustic soda, 70°	2 60 to 2 85
Chlorate of potash	0 10 to 0 11
Alum	1 35 to 1 50
Copperas	0 70 to 0 80
Sulphur flour	1 70 to 2 00
Sulphur roll	1 90 to 2 00
Sulphate of copper	5 50 to 6 00
White sugar of lead	0 07 to 0 08
Bich. potash	0 08 to 0 09
Sumac, Sicily, per ton	50 00 to 58 00
Soda ash, 48° to 58°	1 30 to 1 40
Chip logwood	1 90 to 2 00
Castor oil	0 09 to 0 10
Cocoanut oil	0 10 to 0 11

—The United States Board of General Appraisers have decided that gloves are not garments in the sense contemplated by law.

—In Burmah, India, the estimated area under cotton cultivation in the five principal cotton growing districts is reported to be only 108,295 acres, 33,423 acres less than the acreage last year.

—Ramie is being extensively used in Europe as a substitute for linen. In some cases it is being sold for linen, and the courts have been called upon to stop the practice.

—The experiment of growing cotton in the German province of Togoland, in South Africa, has been very successful. It will be years, however, before the Togoland cotton becomes a factor in commerce.

A number of reductions have been made in the Australian tariff on textiles. They are: Cotton wool in piece, made free instead of 15 per cent.; shirtings and trouserings, will be 15 or 10 per cent., instead of 20 or 10 per cent.; denims, free instead of 10 per cent.; sateens, 10 per cent., instead of 15 per cent.; woven name label and coat hangers, 15 and 10 per cent., instead of 20 and 15 per cent.

—The disadvantage of restrictive legislation is forcibly brought out by the statement of a prominent manufacturer, that it costs 3 per cent. more to manufacture cotton goods in Massachusetts than in Rhode Island, the mills being allowed to run 60 hours a week in the latter State, as against 58 in the former. .....

—A new phase of the child labor problem came up in a North Carolina court recently. A nine-year-old boy, who had been placed at some very light labor in a factory was injured by his own carelessness and the exercising of a boy's natural curiosity. During the progress of the suit for damages that followed, it was admitted that the boy was injured by leaving his work and climbing to the top of a machine around which he was employed. The judge charged the jury that, upon this showing, a verdict for the plaintiff could not be returned, unless it was found that the mere employment of the boy was within itself negligence on the part of the corporation. The jury so found and gave the plaintiff judgment. If the employers of the boy were responsible for the injury he sustained, what about the responsibility of the parents who sought and found employment for the child?

THE WOOL MARKET.

The second series of London wool sales for 1902 opened March 12. There was a good attendance, with a moderate sprinkling of American buyers. The home trade were eager buyers. Merinos and fine crossbreds were 5 per cent. above the last series, while medium and coarse crossbreds showed an advance of 7½ per cent. Cape and Natal sold well at a farthing advance Scoureds were firm. The amount offered was 10,610 bales. Only some 200 bales of South African were brought forward, and these were readily cleared at an advance of 5 per cent. The sale closed March 26. The advance in merinos of 5 per cent. at the opening was maintained throughout. Fine wools were in special demand and fine crossbreds, after opening at par to 5 per cent higher, hardened somewhat. Coarse grades opened 5 to 7½ per cent. higher, but closed weaker Cape of Good Hope and Natals were in good demand, and nearly all were sold. Greasy advanced 5 2-5 per cent., and snow whites a fraction. The sales closed with a firm tone. American purchases were confined to fine and medium and crossbreds, and a few lots of choice greasy merinos. The offerings during the series numbered

163,000 bales, of which 73,000 were taken by the home trade, 75,000 by the continent, 4,000 by America, and 11,000 were held over.

The United States wool markets are quiet everywhere. In Boston there is more inactivity than for the past two or three months, some say than for two years. There are two causes for this, the strike in the American woolen mills, and the well stocked condition of the mills As to the former, the Wool and Cotton Reporter points out the singular fact that when the larger mills are not buying the smaller ones keep out of the market too. As a result of the second reason any transactions are for short lines. Prices remain steady, showing no inclination to advance or decline. Quotations are: Ohio, 24c. to 27½c.; ¼, ⅜ and 12 blood, 19c, to 22c.; Texas, 15c. to 16c.; California, 12c. to 15c.; territory, 13c. to 17c.; pulled wools, 20c. to 30c.; scoured wools, 25c. to 55c.; odds and ends, 10c. to 21c. Foreign, Australian, 25c. to 38c.; South American, 23½c. to 24c. In New York, Philadelphia and Chicago, quietness also prevails. On the Pacific coast prices are rather unsettled. Buyers complain they are too high, and show a disposition to hold off for a drop.

In Montreal prices of all fine wools have advanced 5 to 10 per cent. since the opening of the London Wool Sales, and sales have been freely made here at the advance, but merchants are now finding difficulty in replacing suitable stock. Reports from the Cape state that no stock is available at present. Farmers there find it impossible to get wools to the frontier for shipment. Crossbred and medium wools are selling freely. Canadian fleece is quoted at 14 to 15c.; Cape, 15 to 16½c.; B.A. scoured, 35 to 40c.; washed, 27 to 32. Northwest none in the market. Chilian quoted, 10 to 11½c., according to quality.

In Toronto the situation is unchanged. Offerings light, market steady. There has been some unwashed offering, but the demand is slow. Washed is quoted at 12½ to 13c., unwashed 7c. In pulled the market is dull. Quotations are 18 to 19c. for extras, 14 to 15c. for supers. This year's clip is not yet offered.

The Textile Manufacturers' Journal in dealing with the market says it is estimated that wool will bring about 2 cents more a pound than it did last year. The first clip of wool in Michigan was sold last week for 16 cents a pound. The crop in Michigan will be short, there not being one-eighth the wool there today that there was one year ago.

Opinions of the Press

CHART OF THE METRIC SYSTEM.

The publishers have received many letters complimenting them on the issue of the popular Chart of the Metric System of weights and measures. The following are a few sample opinions:

I have very much pleasure in seeing you step to the aid of those pressing the Metric System to the front. I shall be glad to call the attention of teachers to your chart. The Metric System has for a number of years—since I came into office—been taught in all the schools of the province; and the metric measures are those called for in the returns from all our high schools—dimensions of school rooms, etc. I have much pleasure in sending you a few copies of my brochure on the "Three Great Reforms," in which it will be seen that for a number of years I had been an advocate of the system—even in the conservative city of Toronto. Wishing you much success.—A. H. Mackay, Superintendent of Education, Nova Scotia.

I am in receipt of your favor of the 7th ult., together with a copy of The Canadian Engineer for June, and a specimen of the Chart of the Metric System prepared by your firm. I am very pleased to read your article, but I wish particularly to compliment you on the chart. It is, I believe, the best I have seen for explaining briefly the principles of the Metric System. It will afford my committee much pleasure to hear of this awakening interest in Canada. Australia too is showing a growing disposition to adopt Decimal Coinage and Metric Weights and Measures, and here we keep gaining a step month by month.—E. Johnson, Secretary Decimal Association, London, Eng.

We see that you, too, advocate the general adoption of the Metric System of weights and measures, and we believe that as much as possible everywhere the same means should be employed to accomplish the desired aim. The widest possible distribution of your chart would no doubt be a good step forward. We request you therefore to forward to us two copies for our office and for the library of the American Society of Dyers.—L. M. Carriat, Philadelphia.

The Monetary Times has a review of your Chart of the Metric System. I notice the price is stated at ten cents per copy, but if you have any other more expensive editions printed, I should be glad to receive a copy or two; as it is my intention to frame a copy (if possible), and present it to the library of the society of which I am an associate, viz., the Incorporated Accountants (Eng.). It is high time that British traders and accountants awoke to the necessity of adopting decimal coinage and measures. Enclosed please find $1 (Canadian), to cover your expenses for as many copies as the remittance will pay for. Trusting you will be able to assist our efforts on this side to foster "intercolonial and home-country" trade, and lessen the tide of German competition, which is a danger to all the English-speaking countries, if Germany gets the upper hand (both politically and socially), and assuring you of the awakening of the British to their surrounding dangers of subsidized continental competition.—E. Woodroffe, 121 Stapleton Hall Road, Stroud Green, London, England.

Please accept my thanks for the Metric System Charts. The adoption of the Metric System must shortly take place, as everything is to be said for it and next to nothing against it. As to the chart, I consider it is a valuable one, and one which every progressive citizen ought to have in his home. The mass of information, which it explains, is handled in such a simple manner that anybody can understand it without becoming in the least confused as to the use of the different terms, which is the only drawback, that I know of, to the Metric System. There is no doubt though that, if the system were adopted, the terms would be abbreviated to suit the rapid business methods this side of the Atlantic. I expect that a number of people, to whom I have shown the chart, will be calling upon you for copies of it ere long, as they have already expressed intentions of doing so.—Dermot McEvoy, Mechanical Engineer.