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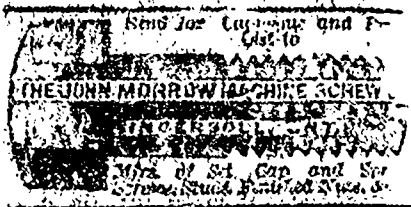
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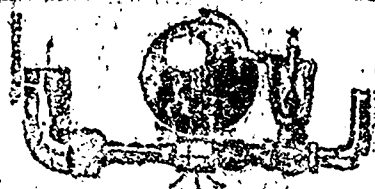
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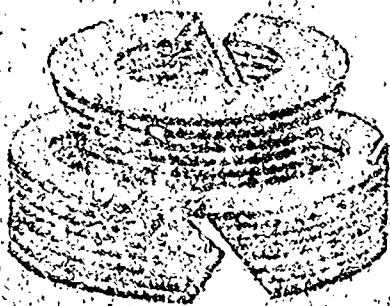
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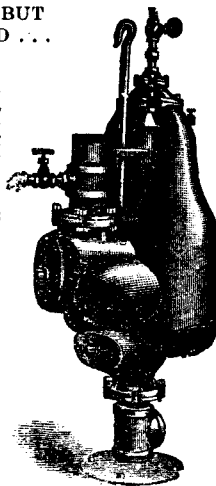
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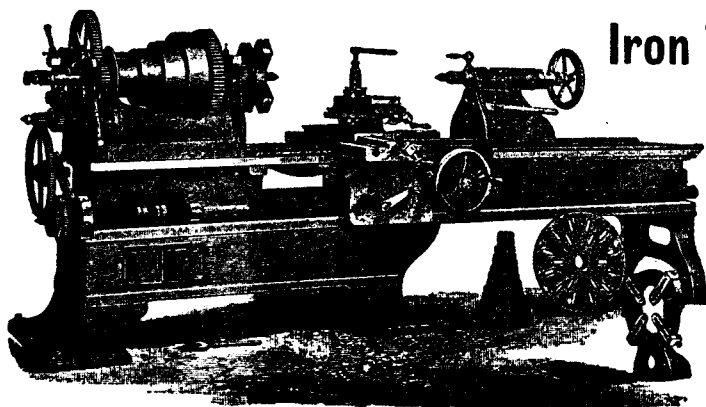
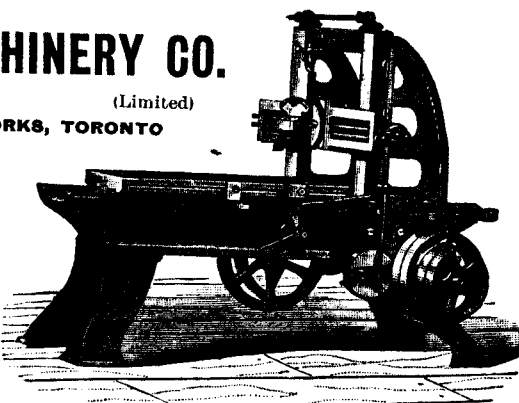


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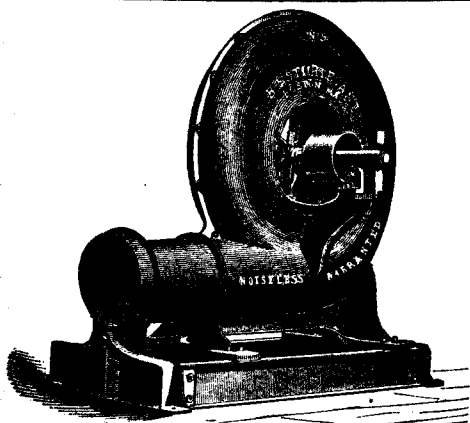
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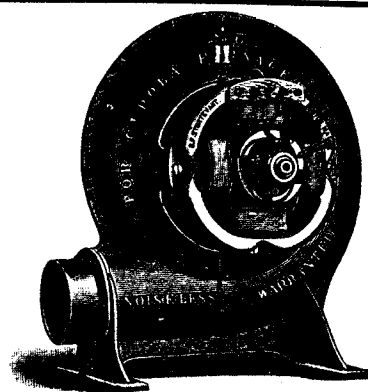
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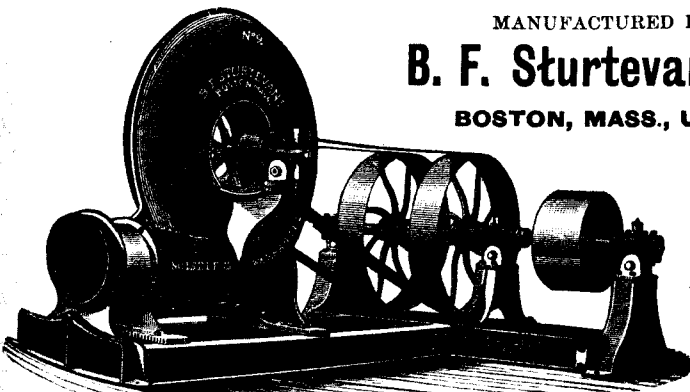
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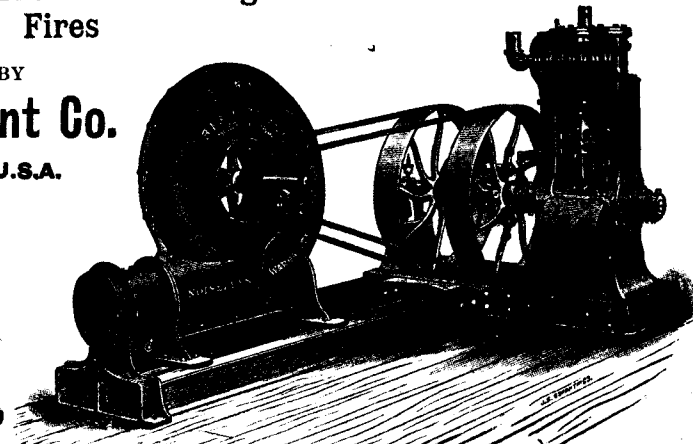
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To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.

To enable those in all branches of manufacturing enterprises to act in concert, as a united body, whenever action in behalf of any particular industry, or of the whole body, is necessary.

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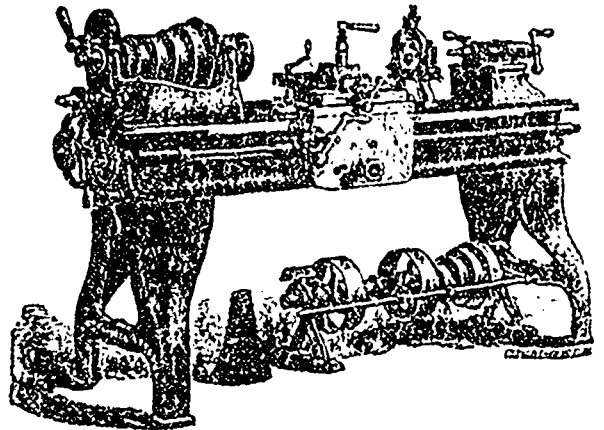
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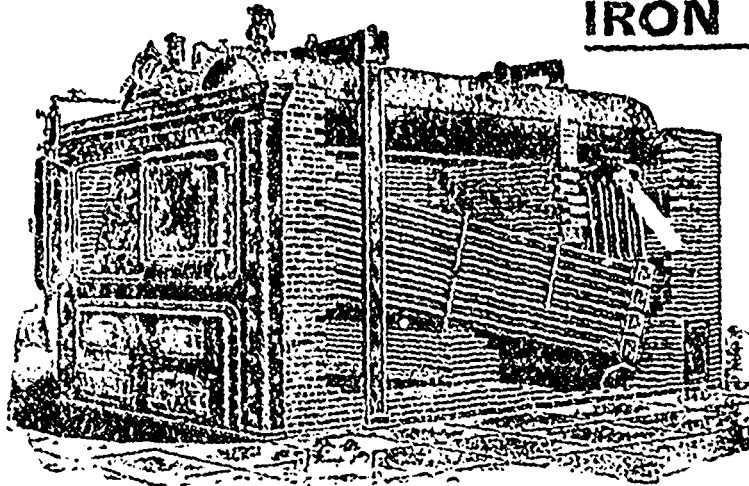
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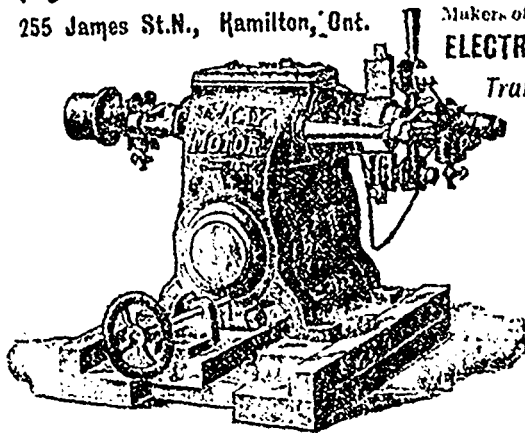
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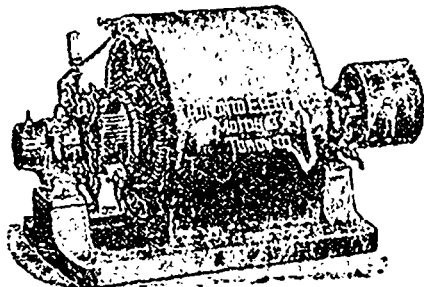
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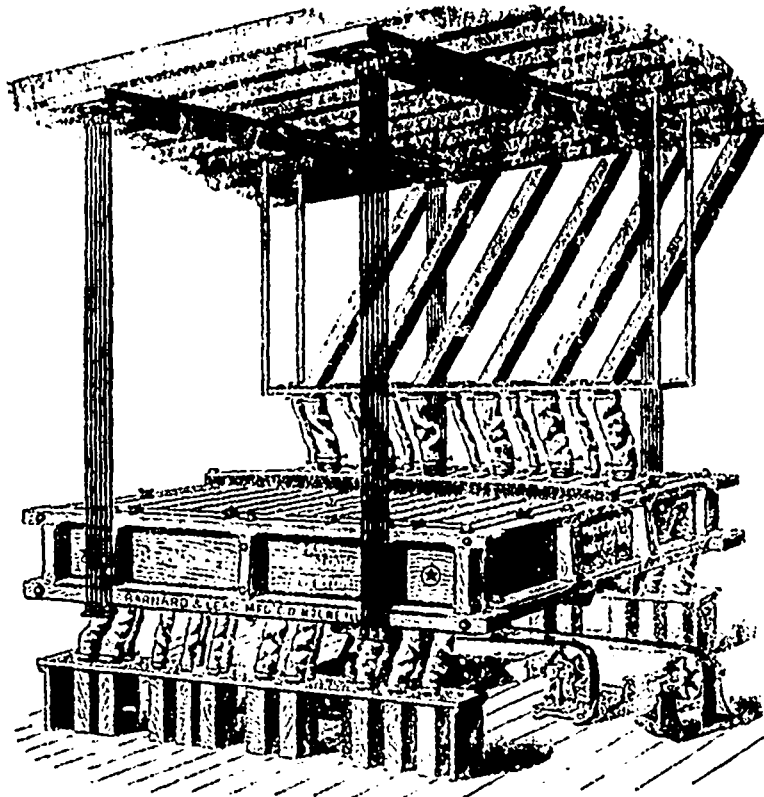
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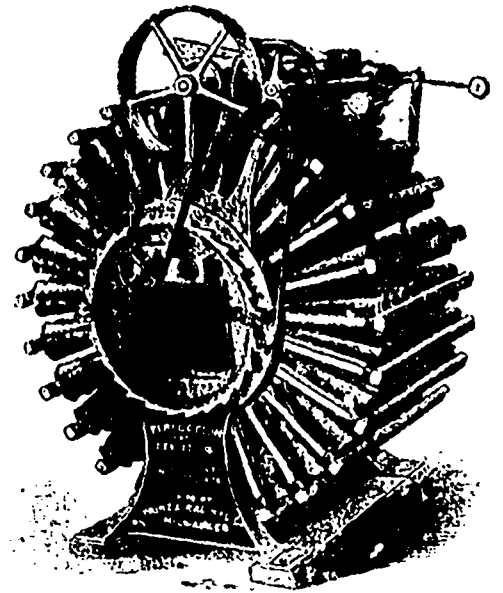
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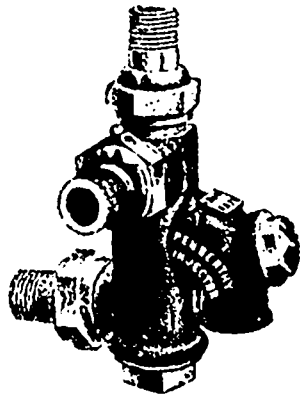
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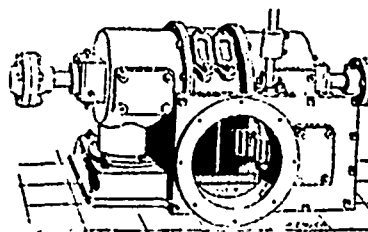
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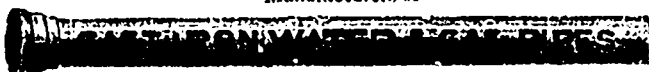
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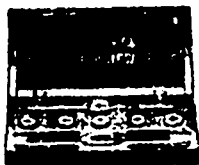
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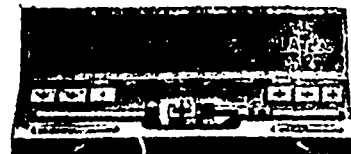
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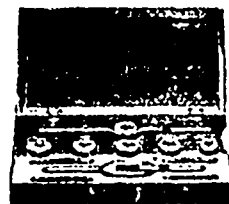
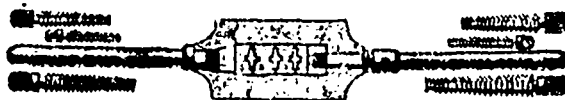
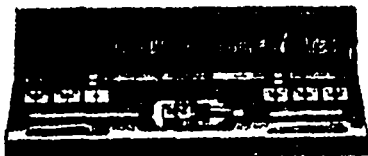


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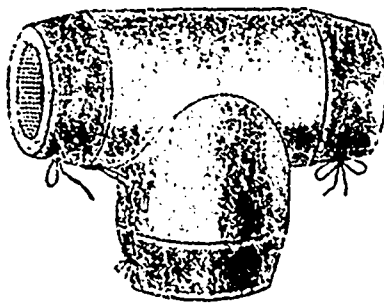
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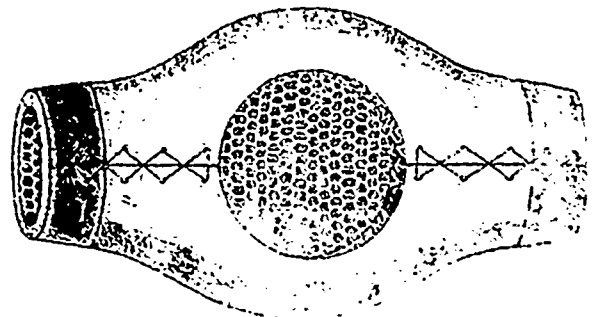
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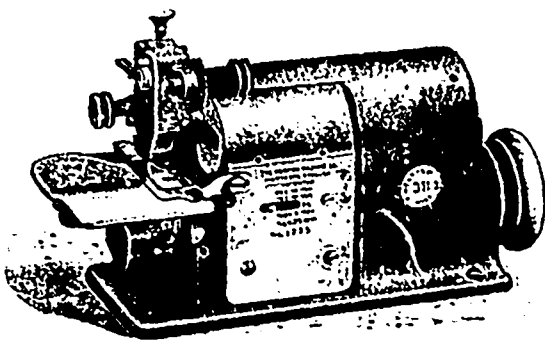
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THE TARIFF COMMISSION AND THE MANUFACTURERS.

A special telegram to The Globe on November 11th, from Ottawa, stated that Hon. Mr. Fielding, Minister of Finance, had that day authorized the following announcement respecting the tariff inquiry:

The Ministers who are to conduct the inquiry will begin their work at Toronto on Tuesday morning next, the 17th inst. They will remain in Toronto three days, and perhaps a day or two longer if necessary. The Board of Trade rooms

have been kindly placed at the disposal of the Ministers for the purpose of the inquiry, and will be used as far as may be found convenient. In some cases, doubtless, it will be found convenient for the Ministers to receive deputations at their hotels. Parties who desire to be heard are requested to give early notice to Mr. Edgar A. Wills, Secretary of the Board of Trade, Toronto, who will make the necessary arrangements. While the Ministers will endeavor to receive all who have views to present, it is hoped that representatives of the different lines of industry may be chosen, so that as much ground as possible may be covered in the time available. The Ministers will subsequently visit Hamilton, London and possibly other points in Ontario. Dates for these visits will be announced hereafter.

At the appointed time and place the Commission were on hand ready for business, but before the proceedings opened Hon. Mr. Fielding addressed the newspaper reporters present, to whom he said it was the desire of the Ministers that the reporters should be present at all the interviews that might be had, but if there should be any deputations that might object the reporters would be invited to retire. There were but few objectors to the presence of the reporters during all the time the Commissioners were in Toronto. In the first day, when the importers and wholesale dealers in dry goods, represented by the Dry Goods Section of the Board of Trade, appeared, they objected to the presence of the reporters, who were accordingly excluded. Speaking of the first day's session The Globe's report said:—

The arguments must be said to have had a very selfish character throughout. Possibly nothing else could have been expected under the circumstances. In any event the poor consumer, who is in the end the most affected of all, was not represented by any of those who came before the Ministers yesterday.

BAKING POWDER.

The first gentleman to interview the Commission was Mr. Win. Dobie, the Canadian manager of E. W. Gillett, manufacturer of yeast cakes, baking powder, lye and washing crystal. Mr. Dobie stated that the firm which he represented had its headquarters in Chicago and it had a manufacturing branch in Toronto. If the duty on the goods were reduced materially his Company would manufacture altogether in Chicago instead of in Toronto. Personally Mr. Dobie said that he would rather remain here. The firm had an extensive plant, employed about fifty hands inside and kept ten men on the road. It was on account of the present duty that the firm in 1886 was obliged to come to Toronto to manufacture. Before that time and when the duty was twenty per cent. he used to sell goods in Canada that were made in the United States. The present duty was six cents a pound on yeast cakes and on baking powder, equivalent to an ad valorem duty of about 100 per cent. He stated that he sold goods here to the wholesale groceries at identically the same prices as the firm obtained in the United States. It had three factories in the United States and the cost to the consumer was the same in the United States as in Canada. He said that the firm was obliged to meet competition in compressed yeast, which in bulk is admitted at three cents a pound. There was sharp competition in baking powders from the United States. If the duty were reduced to twenty per cent. it would pay the firm better to manufacture in Chicago instead of Toronto. He thought the duty on compressed yeast and hop yeast should be the same. In most businesses, Mr. Dobie said, if the protection were as high as it is on yeast the cost to the consumer

would be greatly increased, but in the case of yeast the cost was the same to the consumer as it would be if there was no duty on it at all. The price lists used by the firm in the United States and Canada were identically the same. There was no trust in the yeast business in the United States and no arrangement as to prices.

It will be observed that Mr. Dobie is one of that peculiar class who think that one hundred per cent. protection is just about the correct thing for his industry, but that any such protection for other industries would add greatly to the burden of the consumer. It is all right for him to speak with reference to his own industry, but by what authority does he speak for other industries? Mr. Dobie promised to prepare for the Ministers written statements setting forth the cost of raw material in proportion to the value of the finished product, the amount of capital invested, etc.

ENAMELLED WARE.

Mr. A. E. Kemp, of the Kemp Manufacturing Co., Toronto, and president of the Canadian Manufacturers' Association, was the next witness. He regretted that there had not been any joint action on the part of the other manufacturers of enamel ware, stamped tin ware, copper ware, etc., in Montreal and London, to present their views to the Commission.

The Commissioners said they were under the impression that some such action would be taken, and being now undeceived, agreed to receive a joint deputation of manufacturers at a date to be named later. Mr. Kemp then went on to speak in a general way about the business in which he is engaged. He manufactured enamelled ware, stamped tin ware, copper ware, nickel-plate ware, and other household utensils. The business to which he had succeeded was established about 1876, but the enamelled ware department had only been in operation for three or four years. The competition in the enamelled ware came chiefly from the Germans. For a great many years the Americans had the market to themselves. The Germans were large producers of the same articles, but their shapes and designs were not what the American trade required. Accordingly, about seven years ago, they sent over agents and copied the designs, after which they came in and captured the American market. The Americans sought to drive out the Germans, and in the struggle for supremacy a lively fight had been going on, and prices had become reduced. In the midst of the war, Mr. Kemp commenced to develop the manufacture of the new ware, as tin-ware was being driven out of the market, and was able to sell goods at a cheaper rate than they were sold for in England or the United States. The trouble, however, was that the Germans had established agents in Montreal, to whom large consignments of culls had been sent at a very low valuation, and auctioned off. This had had the effect of badly demoralizing trade. Mr. Kemp did not care to make public the cost of raw materials and labor, the amount of capital invested, and other facts of the kind, but promised to prepare a brief for submission to the Ministers. The duties on the articles he manufactured varied from twenty-five to thirty-five per cent. In the case of raw material some articles were free, whilst the duties on others ranged from five to forty per cent. Enamelled ware had largely taken the place of tin ware, and articles which according to invoices sold for one dollar eight years ago, now sold from thirty to thirty-three cents. His firm employed 300 hands.

Referring to Mr. Kemp's reluctance to make public information of a private character, Sir Richard Cartwright said - "If you come here wanting to tax the public, you will have to give information to the Government. We will respect your trade secrets," to which Mr. Kemp replied: - "We do not tax the public, and I am here to tell you that we are selling our goods, manufactured in Canada, cheaper than such goods are sold for anywhere else in the world—cheaper than in England, Germany or in the United States."

In the course of further remarks Mr. Kemp stated that a copper tea kettle which four or five years ago cost \$1 60 was now being sold at seventy-five cents. A saving had been effected through improved methods of manufacture. With regard to exporting, the firm had tried Australia, and had made shipments to South Australia, but at present there was nothing in it for them. They could not compete with German enamelled ware at the present time. The firm fancied they could compete at foreign points with the Americans. He had no hesitation in saying that the Germans were their strongest competitors, and he could not say what that competition might develop into.

BICYCLES.

Some interesting information in regard to the bicycle industry was presented by Mr. E. R. Thomas of H. A. Lozier & Co., Toronto Junction, and Mr. S. F. Evans of Evans & Dodge, Windsor, who represented the manufacturers of completed wheels. Mr. Thomas, in his statement to the Ministers, said that for some years England had a monopoly in the manufacture of wheels. In 1884 there were only six bicycle factories in the United States, and their output was about 11,000 completed wheels. In 1895 there were over 500 bicycle manufacturers in the United States, each one on an average making not less than a thousand bicycles. In the United States altogether there were supposed to be 900 bicycle manufacturers with an invested capital of \$90,000,000.

In addition to this \$35,000,000 were employed in manufacturing cyclometers, lamps and other accessories. Up to 1895 the supply had not equalled the demand in the United States nor in England. The cost of the bicycle in the United States had been greatly reduced within the last few years. The reason was that manufacturers had the advantage of cheap fuel, steel and oil. The decreased cost of production and the increased output gave to the manufacturers a greater margin of profit than he had heretofore, consequently they were seeking a market for their surplus, and naturally they would seek the market nearest their doors, which was Canada. Mr. Thomas said that a few dollars difference in the tariff on bicycles would neither increase nor decrease the shipment from the United States if their supply in the United States did not equal their demand. They would certainly supply the home demand first. Consequently he believed that the revenue derived from bicycles would not be increased should the tariff be decreased. The export of American bicycles to Canada would not be affected by the tariff one way or the other. The consumption at home would regulate the disposition of the output. Mr. Evans and Mr. Thomas explained the process of importing wheels in parts and the method of conducting assembling shops. Mr. Thomas said that H. A. Lozier & Co. made everything, except the rims, which were purchased in Canada; the tires, which were brought from the United States in the face of a duty of thirty per cent, and

the steel tubing, on which a duty of fifteen per cent. was paid. The duty on the steel balls and other accessories was thirty per cent.

Sir Richard Cartwright, who had been examining the figures in a blue book, remarked that the average value of bicycles imported in 1895 was \$10. Mr. Thomas replied that the wheels were of a poor quality and that they were invoiced lower than they were sold for in the United States. He said that last year Lozier & Co. turned out 3,000 wheels. Mr. Evans informed the Commissioners that the Evans & Dodge factory had turned out 1,500 wheels. They had made shipments of wheels to England and to South Africa. Mr. Thomas stated that his firm had sent a shipment to the Crystal Palace Exhibition at London. Nothing of consequence had been done, however, in the line of exportation.

LADIES' WHITEWEAR.

The manufacturers of shirts, shirt waists, blouses, collars, cuffs and underwear were represented by Messrs. W. J. Gale, A. A. Allan and H. J. Caulfeild.

Mr. Gale read a typewritten memorandum setting forth the condition and requirements of the trade. The inability of the Canadian manufacturers to compete with European and American producers was pointed out, and the reason alleged therefor. It was said that raw material and labor cost less in Europe, and that raw material was cheaper in the United States than in Canada. Cottons were from twenty five to thirty per cent. cheaper in the United States than in Canada, and thus the American manufacturers were enabled to make a slaughter market of this country. Another consideration which was mentioned was that the season in Canada began nearly two months later than it did in the United States. In Europe both capital and machinery cost less than they did in Canada. In Europe raw material cost on an average 27½ per cent. less than in Canada, and skilled labor less than one-half the cost in Canada. The United States manufacturer as soon as the season there was on the decline sold his surplus stock in Canada for any price he could get for it. Were it not for the unfair competition of the United States in the line of undervaluation and price-cutting, the Canadian manufacturers could keep their factories running six weeks longer in the season. The retail selling price of shirts, shirt waists, blouses, collars and cuffs was stated to be lower in Canada to-day than ever before. The present duty on shirts costing more than \$3 a dozen is \$1 a dozen and twenty-five per cent., while on shirts n.e.s. it is thirty-five per cent. The deputation asked that the \$3 limitation be struck out, that shirts, including shirt waists and blouses, be made \$1 a dozen and twenty-five per cent., that collars be placed at twenty-four cents a dozen and twenty-five per cent., and that a duty of twenty-five per cent. and twenty-four cents a dozen be imposed upon cuffs. Mr. Allan asked for an increase in the duty upon the finished product and a decrease of duty upon the raw material of a new industry which the manufacture of sewed cotton clothing, including ladies' and children's underwear, which is at present protected to the extent of 32½ per cent. The average tax on the raw material used is 28½ per cent., which being deducted from the duty on the finished article, leaves four per cent. protection, which Mr. Allan said was not enough to enable the Canadian manufacturer to hold his own against the American competitor. He asked that forty per cent. be levied on sewed cotton cloth-

ing, and that the present duty of thirty per cent. on embroideries be reduced to twenty per cent. until such time as Swiss and Hamburg embroideries were manufactured in Canada.

It is doubted if Mr. Gale was correct in stating that cottons are from twenty five to thirty per cent. cheaper in the United States, and in Europe 27½ per cent. cheaper than in Canada, upon which supposition Mr. Allan asked for a reduction of duty upon what he denominates his raw material. In this respect these gentlemen do not seem to be quite willing to live and let live. It is a mistake, too, to suppose that reducing the duty will encourage the manufacture in Canada of embroideries.

DRY GOODS IMPORTERS AND JOBBERS.

A large deputation appeared before the Commission, representing the wholesale dry goods trade. These gentlemen had some complaints to advance for consideration, and it was understood that the Commissioners were anxious to take advantage of their views on the subject of articles manufactured in Canada as well as imported articles. The customary question was put as to the press, and was answered in the negative, which meant that the press representatives remained outside the council chamber.

The importers present were unanimous in protesting against an imperfection in the administration of the customs law which permits retail dealers in small places to obtain their goods at a lower rate of duty than they in Toronto can. It was pointed out that the existence of an unnecessarily large number of ports of entry accounts for this. The Collector in small places has been as a rule appointed more for political services than for any business qualification, and that his capacity as an appraiser is necessarily limited. The wholesale men have frequently found cases—sometimes accidental, sometimes, it is believed, intentional—where some of their customers have by this means secured goods at a lower rate than themselves. They, therefore, asked that the policy of the Government be rather in the direction of lessening the number of ports of entry, so that equality might be secured.

So far as their own import trade was concerned, the wholesale men were not particular whether duties are lowered or not. They did ask, however, that if there is to be a lowering of duty, that the Government will be good enough to protect the retail men from loss. These retailers buy in February: their stock is not sold out until July. The deputation, therefore, desired that if the change is advocated before July it do not take effect until that date. Of course if the suggestion be brought down in July it might take effect at once.

On the subject of Canadian manufactures the delegation were not unanimous, all shades of political opinion being represented. On the subject of cotton manufacture there was, therefore, no definite opinion advanced. The remarks indicated, however, that while the gentlemen present would not assume to possess technical knowledge of the process of manufacture, they were prepared to believe that material alterations might be made in the duties. In any event they were prepared to support the Government insofar as possible removing taxation from the consumer, where deserving industries would not be crippled. But they did not desire to have inferred from this that they favored extraordinary solicitude for industries that had failed to prove their claim to existence as against reasonable competition. They also advocated that

specific duties be done away with and ad valorem duties substituted in all cases.

It may be proper to here say that the grievances of these importers, as far as they relate to the administration of the customs laws, and to the advisability of maintaining outposts and unlit men in charge of them have nothing whatever to do with the tariff. If these importers frequently find cases where their customers are enabled to lay down in their stores imported goods cheaper than the importers care to sell them, unless fraud is being practised upon the Customs, perhaps it would be quite as well to allow matters to stand as they are. But there can be no question that simple and even-handed justice demands that there should be entire uniformity in the appraisement of imported merchandise.

Most likely the request to exclude the newspaper reporters grew out of the fact that on the subject of Canadian manufactures of textile fabrics the delegation were not unanimous, and because different shades of political opinion were represented. No doubt there were those present who, because they thought they could make a slightly larger profit by handling imported goods, would be quite willing to see Canadian manufacturing industries go to the wall, this accounting for their desire that those most interested in the matter—the Canadian consuming public—should be excluded from the audience, and kept in darkness as to the names of the selfish ones. It is rather remarkable, too, that these gentlemen who were reluctantly forced to admit that they did not possess any technical knowledge of the process of manufacture of the classes of goods they buy and sell, should announce that they believed that material reductions might be made in the duties. In view of this ignorance it was sweet, kind and exceedingly patronizing of them to assure the Commission, that they were prepared to support the Government in removing taxation from the consumer, particularly under circumstances where deserving industries would not be crippled. Which, in the opinion of these very respectable importers, are deserving industries? Will they kindly state.

The supercilious gentlemen, with hats in hand, before the Tariff Commission, also declared that they did not desire to have it inferred, from what they had said regarding lowering the tariff affecting the deserving manufacturers of textile fabrics, that they favored extraordinary solicitude for industries that had failed to prove their claim to existence as against reasonable competition: going so far as to declare that they advocated that specific duties to be done away with, and ad valorem duties be substituted in all cases.

No wonder these delightful gentlemen desired to exclude the reporters when they were thus antagonizing the manufacturing interests of Canada, proclaiming their ultra free trade views, and seeking by means of legislation to advance the interest of the importers and middlemen, who give no employment to skilled labor, and who are not employers of labor to any considerable extent, to the detriment of the interests of both employers and employees in Canadian factories. The presumption of these importers amounted to absolute impudence when they informed the Ministers that while they did not possess any technical knowledge—in fact did not know what they were talking about—regarding the process of manufacture of textile fabrics, they were quite willing and prepared to say, that in their interest, and in the interest of the whole country, large reductions should be made in the duties levied

upon the imports of such merchandise as they handled. And then, realizing that they had slopped over very much, they most kindly intimated a desire that deserving industries be not adversely affected by the change in the tariff that they suggested. In the face of the admission that they did not know what they were talking about, it was indeed refreshing for them to express a desire that deserving industries be not crippled. It was to be hoped, too, that these extremely unselfish gentlemen would have informed the Commission just which the industries were that had failed to prove their claim to existence as against reasonable competition. They should, too, have filed a diagram showing how and why it would be to the best interest of Canada, instead of their own personal and selfish selves, that specific duties be done away with entirely, and ad valorem duties be substituted in all cases.

JEWELERS AND SILVERSMITHS.

One of the most important and representative deputations that have yet confronted the Ministers was that representing the jewellers and silversmiths' section of the Board of Trade. It was composed of Messrs. W. K. McNaught, P. W. Ellis, M. C. Ellis, James Ryrie, Ambrose Kent, H. R. Playter, Edmund Sheuer, T. H. Lee, H. E. Anderson & Co., E. Gunther, Benjamin Kent, J. Davis, John Wanless, E. M. Morphy, Walter J. Barr, J. E. Ellis & Co., jewellers, and the following silversmiths: Messrs. E. Gooderham, Toronto Silver Plate Company; W. K. George, Standard Silver Plate Company; Roden Bros., manufacturers of sterling silverware; Saunders & Laurie; Julius Saunders, of H. & A. Saunders; A. H. Dewdney of Dewdney Bros., and E. Cohen of Cohen Bros., specialty manufacturers.

Mr. M. C. Ellis, the principal spokesman, before reading the memorandum prepared by the jewellers and silversmiths section, said that the deputation was thoroughly representative of all the kindred industries. They represented a class of merchants, wholesale and retail, and of manufacturers, amongst whom there existed no combination whatever. There were no restrictions on their trade, and free and untrammelled competition existed.

He read the following memorandum, setting forth the views and wishes of the jewellers and silversmiths:

With the exception of tower clocks (on which the duty is thirty per cent.) the present duty on clocks of all kinds imported into Canada is twenty-five per cent.

Tower clocks have for some years past been manufactured in Toronto and Montreal and have been found satisfactory both as regards quality and price. No other clocks of any kind are at present made in Canada.

This section, therefore, recommends that the present rate of duty upon tower and other clocks be allowed to remain as it is at present.

The present duty on watch movements imported without cases is ten per cent. Watch cases are dutiable at thirty-five per cent., and watches complete, that is both movement and case combined in one article, twenty-five per cent.

Watch movements have never been made in Canada, and owing to the difficulties in their construction and the large amount of capital required for their manufacture, we do not see any prospect of their being made here for many years to come. The duty on watch movements was formerly twenty per cent., but in 1887, in answer to petitions from the jewelry trade, wholesale and retail, the duty was lowered to its

present rate of ten per cent. The reasons which brought about these petitions for a change of duty were that large quantities of watch movements were being smuggled into Canada by dishonest dealers, to the detriment of the jewellers who paid the duty. This duty of twenty per cent made the prices of watches considerably higher in Canada than in the United States (from which country we drew our main supply of watches), and many Canadians who visited that country bought watches when there and brought them home in their pockets, thus saving the duty. This trade was, of course, lost to the Canadian retail jewellers, and especially all along the United States border this was most keenly felt by the trade. Since the duty on movements has been reduced to ten per cent., an agreement has been entered into between the Canadian watch case manufacturers and the American movement manufacturers, whereby the latter agree to give Canadian wholesale jewellers on watch movements shipped through by express to a Canadian port an extra discount of five per cent. over and above that given to United States wholesale jewellers purchasing the same goods. This arrangement makes the difference in prices between Canada and the United States only five per cent., and by practically putting an end to smuggling has enabled the Government to collect as much revenue from this line as before the duty was reduced.

Diamonds unset are at present upon the free list. Other precious and imitation stones unset, are dutiable at ten per cent. This section are unanimously of the opinion that all of these articles should be placed upon the free list for the following reasons:—They are so small in bulk that they are easily smuggled, and so valuable that the incentive to smuggle is very great. If duty were levied upon them the honest importer who paid it would be at a great disadvantage as against those who smuggled. These goods are imported exclusively for the purpose of mounting them in articles of jewellery, and are therefor raw materials to the manufacturing jewellers and large retail jewellers who employ a great deal of highly skilled labor in mounting them. The duty on diamonds imported into the United States is at present twenty-five per cent., and has been protested against by almost the entire jewellery trade of that country without exception, and as it has handicapped the honest importer who pays the duty. It has also had the effect of making American citizens purchase large quantities of diamond jewellery abroad and wearing it home on their persons, to the loss of the revenue and jewellery trade of their own country. Canadian jewellers have benefited very largely by this duty levied upon unset diamonds entering into the United States, and are doing a large and increasing trade with American tourists in diamond jewellery. A duty on unset diamonds would kill this trade and seriously handicap the manufacturing jewellers of Canada who mount these stones. For the above reasons this section recommend that diamonds and other precious stones unset be placed upon the free list.

The duty on gold and silver articles commonly known as jewellery is at present twenty-five per cent., and this section recommends that this duty be continued as heretofore. Canada has quite a large number of expert jewellers engaged in this line of manufacture and prices of gold and silver jewellery made in Canada are as low as in other countries where similar classes and styles of goods are made.

Watch cases have for the past ten years been largely manufactured in Canada, and our home-made cases are at present as good in quality and as low in price as in the U.S., the country from which we formerly drew our supplies. Their manufacture has been of great advantage to the Canadian jewellery trade generally, inasmuch as while fully maintaining the highest standard of excellence and almost entirely doing away with smuggling. It has materially reduced the price of these goods to the Canadian public. With American movements almost as cheap as in the United States and home-made cases as low in prices as American cases in the United States, watches are to-day sold in Canada to the public at as low prices as they are sold to the public of the United States by American jewellers, and our own revenue and our retail jewellers receive much benefit thereby.

The present arrangement of duties on watch movements ten per cent. watch cases thirty-five per cent. and watches complete, twenty-five per cent. has been so satisfactory and has proved of such advantage to the trade and the public generally that this section are unanimous in recommending its continuation.

The present duty on watch materials (which includes watch hair and main springs) is ten per cent. The duty on clock materials, including clock springs, watch glasses, watch crowns of all kinds and sleeves and winding bars is twenty per cent.

As all of these articles are either imported for manufacturing purposes or for the repairing of watches and clocks now in use in Canada, by retail watchmakers throughout the Dominion, they are regarded by the entire trade as their raw materials, and as different ratings have caused considerable trouble in passing these goods, this section recommends that all of these articles be placed in the tariff at a duty of ten per cent.

Gold and silver thimbles—These articles have always been rated separately, silver thimbles at thirty per cent. and gold thimbles at twenty-five per cent. They are not made in Canada and as silver thimbles are the most commonly used by our people, we think that it would simplify customs entries and make it fairer to the public generally if they were both rated alike in future at twenty-five per cent.

The present duty on electroplated flat or hollow ware is thirty per cent. These goods are largely manufactured in Canada, the quality being fully equal to that made in the United States, from which country the bulk of these goods were formerly imported, and prices are fully as low as obtained in that country. This section therefore recommends that the present rate of duty levied upon electroplated flat and hollow ware of all kinds, viz., thirty per cent. be maintained.

The present duty on sterling silver; flat and hollow ware is thirty per cent. They are made in Canada in large quantities of first-class design and finish, and quality as high as in Great Britain or the United States. The prices of domestic sterling silverware are as low as, and in many cases lower, than they are in the United States, which country formerly supplied Canada with nearly all of these goods we required. This section therefore recommends that the present duty of thirty per cent. on sterling silver, flat and hollow ware, be maintained.

Miscellaneous articles mounted with sterling silver and known to the jewellery trade as sterling silver mounted novel-

ties. There has been much confusion and many complaints in regard to the duty levied upon this class of goods, they being miscellaneous in character and made dutiable according to the classification of the appraisers of the various ports at which they have been entered. Thus some are rated as combs, brushes, manicure sets, tooth brushes, scissors, nail files, blotter pads, etc., at rates ranging from twenty to thirty-five per cent. This section is of the opinion that fully as much duty would be collected and a great deal of trouble saved both to the Customs Department and the importers if they were all enumerated and classified under as above, viz., miscellaneous articles mounted with sterling silver and known to the jewellery trade as sterling silver mounted novelties at a duty of twenty-five per cent.

Mr. M. C. Ellis in his argument said:—As regards opening the Canadian market more freely to the importation of American goods, I may say that the different manufacturers of silver-plated ware, sterling silver, and jewellery, are making their goods to-day without doubt—and the statement can be endorsed by all the gentlemen present—at as low a rate as they can be manufactured for anywhere else in the world. But we do feel this, that there are certain manufacturers on the other side who wish to obtain our market. They sometimes have a surplus production which would amount perhaps to one-tenth of their whole output, and they would be very glad to market that one-tenth in Canada, so as not to interfere with the price of the remaining nine-tenths of their production in their own market. The American manufacturers, in order to try and get admission here, have to make a reduction upon the prices at which goods are sold in their own market, amounting to practically the whole rate of duty. Any reduction in the duty will mean that the United States' exporter will have to make just that much rebate upon the prices in his own market in order to send his goods into Canada, and he alone will benefit by the reduced rate of duty. Canadian manufacturers have to meet keen competition, and have to cut prices exceedingly close. The profits are small, and any reduction in the duty will prove a menace to the manufacturers without benefiting the consumers one iota. So long as the manufacturers are not appropriating any part of this duty, internal competition will so regulate the price that things are better left as they are.

THE PORK PACKING INDUSTRY.

One of the most important deputations that attended upon the Commission was that of the pork packers. The deputation consisted of Messrs. F. W. Fearman, of Hamilton; James Park, Andrew Park, Charles S. Blackwell, Robert Thompson, Andrew Gunn, D. Gunn, James Bailie, James Maddler, representing the William Ryan estate, Toronto; F. Matthews, Peterborough; W. E. Matthews, Ottawa; F. E. Telfer, representing the Collingwood Meat Company; and W. A. McClean, Owen Sound. These gentlemen had held a meeting previous to the interview, at which letters were read from the Wm. Davies Packing Co., of Toronto, and the Ingersoll Packing Company, showing full sympathy with the movement to strongly maintain the present protective duties. These firms also stated that they were desirous of arranging for a private interview with the Government, so as to show data and results of business under the existing tariff.

Mr. Andrew Park read the following prepared statement, which shows for itself the great improvement and increase in

the pork packing industry, and the benefits derived from it by the Canadian farmer:—

That the industry since 1881 has increased fifty per cent., according to Government statistics.

That two-thirds of the hogs produced in Canada are consumed in this country, the balance being exported.

That the export of hams and bacon the last few years has shown a wonderful increase, and that Canadian cured hams and bacon are much in favor in the British markets.

That the protection that has been given to the Canadian farmers has been the cause of the great development in the hog and pork trade of this country.

While the raising of hogs and the curing of meats are great industries in themselves, they are a necessity to the profitable carrying on of the immense cheese and butter factories of Canada, as a large share of the profit of the dairy is realized by the consumption of the milk and the whey by the pig which otherwise would be a total loss and nuisance. The factories are now feeding many thousands of hogs, which always bring a good price, the result of which is an increased return into the farmer's pocket and a great source of wealth to the country.

That there is an immense quantity of coarse grain consumed by these animals which would otherwise be difficult to dispose of, while if made into pork always brings cash on the spot, and there is a great saving of freight and cartage if delivered in that concentrated form.

This rapidly-increasing industry gives employment to a large number of men and to much capital; the purchase of quantities of material, such as salt, twine, cooperage, boxes, spices, etc., and almost all of Canadian manufacture and in the aggregate amounts to a large sum.

While large amounts are paid to the farmers and feeders for the stock so bred and fed, to the railroads and other carriers in the conveying of this stock and product, there are also very large sums of money paid in wages by the packers and pork men of this country, in which is employed only Canadian labor, and is money that remains in this country. The result of this production and its labor and outlay is an annual one and a growing one under present circumstances. It is not one that removes the product from the soil and its capability to reproduce being forever lost. The great change that has taken place in the last few years in this trade in Canada has been caused, we believe, by the protection given to the breeder, agriculturist, the packer in this country, that has enabled them to compete with the farmer of the United States and to hold the trade for the people of the Dominion.

To show the growth of the industry in the Dominion during the past ten years, Mr. Fearman quoted the following figures.—In 1881 the production of hogs amounted to 1,207,619 and in 1891 to 1,743,850, showing an increase in the production of 536,231 hogs in the ten years. In Ontario alone in 1881 the number was 700,922, and in 1895 was 1,299,072, an increase of 598,150, so that in 1896 it was safe to assume a showing equally favorable. The estimate of packing for 1895 numbered 1,360,000 hogs. The Canadian trade exported in 1895 hams, bacon, pork, and lard, valued at \$3,943,275.

Mr. Fearman urged the maintenance of the present tariff, as the Canadian trade was unable to compete with the American packers.

Sir Richard Cartwright wished to know how it was that the Canadians did not compete with Americans in lard.

Because, replied Mr. Fearman, we are paying the farmer higher prices for our hogs than the Americans pay. It was then explained that the Canadian packer adhered strictly to the legitimate pork-packing business, whereas the bulk of the American business was done in the way of speculations on the Board of Trade at Chicago. The great and sudden fluctuations in the American market were also a hindrance to any competition. As an evidence of the changing prices the following figures were quoted:—In 1892 barrelled pork in Chicago was quoted at \$24.75 per barrel, in 1891 at \$7.45, and to-day it was quoted at about \$6.55. The lowest point reached this year was \$5.42.

Regarding these latter figures, it was shown the hog itself cost more than the produced article at that time. A heavy corn crop and speculations would cause the changes in value of live hogs. In Canada this was impossible, for we could not get cheap corn.

Sir Richard Cartwright desired to know how it was that Canadian hog products met with such success in England. This, it was explained, was on account of the high standard of the goods sent out. The bulk of the American business, especially in barrelled pork, was done with an inferior grade. The hog used was a fat heavy animal.

Mr. Fearman addressing Sir Richard Cartwright said:—Gentlemen, twenty years ago I started in this business in Canada, when we had free trade in these lines, and I am sorry to say that I started just twenty years too soon. I managed to conduct my business (and I had built an establishment and put in expensive machinery) for two years, and at the end of that time I was a much poorer man than ever I was before. The Americans were flooding the Canadian market with hog products of all kinds, and so undersold me that I had to finally abandon the entire business. I disposed of my buildings, tore out my plant and machinery, and sold it. At that time the Chicago packers were sending in carloads of dressed hogs to this market by rail. They would be unloaded from the cars and stretched out on the snow, where the farmer would come along and buy them. Then there came a change. The protection tariff was placed on all pork packing products, and business thrived. The farmer who used to purchase his hogs from the United States markets began to produce them, and to-day we have drovers all over the country picking up the hogs from the farmers, so that it has become a most productive business to them. He then enumerated the growth of the export trade, and in a reply to the Ministers stated that the Danes, who were active competitors on the English market with Canadians, had a co-operative, or protective tariff of some kind, he could not definitely state what, but knew it existed.

Mr. Blackwell desired to mention that the majority of the packing by the packers here was done between October and March. Yearly they were buying dressed hogs and curing hundreds of thousands of dollars' worth. These cured goods were now accumulating in the cellars of the establishments, and had to be sold out during the season. If any change were to take place in the tariff, the American would ship cheaper and inferior goods in here, and ruin this industry, which employed thousands of men. The loss to the packer would also be enormous.

Mr. Robert Thompson, after showing the high prices he had paid farmers for hogs during his business career, referred to

the disaster which any change in the tariff would mean to the country. If any lowering of the duty was to take place, he would certainly leave Canada and go to Chicago; he had gone there before, under similar conditions, and would go again. He could state that four-fifths, if not all, of those present with him would in the event of not closing up, buy their cured pork and hogs from Chicago instead of from Canadian farmers. He believed in the policy of Canada for the Canadians. Canadian packers desired to give their trade to Canadian farmers. We wanted a circulation of our own money in our own land, and not in other places. Change the tariff in regard to hog products, and our money would go to Chicago. Another question of vital importance was this: In Canada we had numerous productive salt wells, which were at present supplying all the pork packers of the Dominion with salt for curing purposes. A change in the tariff would cause curing to cease with pork packers, and this would greatly curtail the output of the salt wells.

Just as soon as the present tariff is interfered with, said another member of the deputation, you shall see all the Esplanade here lined with the Armour and Company's cars from Chicago, shipping in hogs and pork products, and our farmers will be excluded.

COOPERAGE.

In connection with the pork-packing industry another important industry involved is the manufacture of pork barrels, regarding which Mr. J. Lendreville, cooper, of Toronto, stated to the Commission the industry had made most remarkable progress since the protective tariff had come into force. He manufactured mostly for the pork packers, and as their industry grew so did his. He thought the condition of the country needed protection.

A letter from Messers J. Myers and Son, Toronto, addressed to Sir Richard Cartwright, was read, as follows:

Dear Sir,—Being aware that the Commission appointed by your Government to enquire into the workings of the tariff is sitting in Toronto, and being vitally interested in the matter, we beg leave to submit the following facts for your consideration:—The firm of J. Myers and Son, coopers, Toronto, has been established since 1874, and has been, and is still, actively engaged in the manufacture of various kinds of barrels.

A very large portion of our business is the making of pork barrels, and anything which affects the prosperity of the pork-packing industry must, of necessity, result in disaster to our business.

Without a tariff wall to protect the Canadian pork-packing industry our market would be flooded with American pork, and this, being packed in American barrels, there would, of course, be no demand for barrels manufactured here.

This would mean enforced idleness to the majority of the coopers of this city.

The above represents the opinion of the entire cooperage trade.

THE CARRIAGE INDUSTRY.

Mr. R. McLaughlin, carriage manufacturer, of Oshawa, who turns out a lot of buggies from his factory, spoke in favor of the imposition of specific duties on carriages of inferior workmanship coming from the United States, and a reduction in some kinds of raw material. He was not prepared at the moment to suggest what kind of tariff should be framed to enable him to continue business successfully, be-

cause he did not know what course would be taken in regard to iron and steel, which entered largely into the articles he manufactured. He had ascertained from price lists that the price of buggies in the United States was about equal to the price of his own goods. In other lines the consumer in the United States paid a higher price than the consumer here.

Sir Richard Cartwright asked whether the evil of which Mr. McLaughlin complained, that shoddy goods were imported into Canada, would not right itself in time. Mr. McLaughlin replied that it would ultimately, but in the meantime injury would be worked to the Canadian manufacturer as well as the consumer. He claimed a total annual output of \$225,000 and employs from 175 to 180 men. Mr. McLaughlin had no suggestion to make for changing the duty, at present thirty five per cent., unless the duty on raw materials is altered. Owing to development of manufacturing processes carriages which in 1880 sold for \$155 are now sold for \$75. He had found upon inquiry that his product is about the same price as a corresponding American article, and felt that up to a certain point it is the size of market rather than any national considerations that make possible a large sale at reduced prices. Reference to two or three items of tariff changes on raw material, Mr. McLaughlin preferred to make by letter.

ROLLED IRON.

Mr. R. McDonell, of the Sunnyside Rolling Mills, Toronto, asked for a reduction from \$4 to \$2 in the duty on scrap iron, and the retention of the duty of \$10 per ton on bar iron. Scrap iron is raw material for the manufacture of iron, and a sufficient supply could not be obtained in the country. In the United States bar iron sold at about \$21 a ton, while he was selling that product at \$26 a ton, a lower rate than had ever been known in Canada before. The competition in this country kept the price down. In March last he went to Pittsburg to see about getting a plant for the manufacture of soft steel. He intended to form a company for that purpose in connection with the rolling mills, but on account of the impending elections and the subsequent change of Government the matter has been postponed for the present.

"We are just waiting," said Mr. McDonell, to see what the present Government will do in regard to the matter. We want to go on with our steel works because we can sell to-day in Toronto two tons of soft steel to one ton of bar iron.

Mr. Paterson—What object had you in holding off to see what the Government would do? What difference would that make?

Mr. McDonell—I went to form a company here. Of course we would have to have a big capital—nearly a quarter of a million dollars, and the gentleman I spoke to said:—Well, we don't know what the present Government is going to do. We could not go on with our scheme if the duty were lowered.

Mr. Paterson—Or raised? Can you stand a raise?

Mr. McDonell—We don't want any more raise. Continuing, he said he thought it would be unreasonable to lower the duty until his enterprise got fairly started. He admitted that there were certain manufacturers who would claim bar iron and steel as their raw materials, but it must be remembered that there were articles into the manufacture of which steel and iron entered that were protected as high as sixty per cent.

Sir Richard Cartwright—You can hardly say that in the case of the implement manufacturers. Twenty per cent. is

the total they receive, and they pay very high rates on their iron and steel.

Mr. McDonell deplored the fact that he was not in the business fifteen years ago. Had he gone into it then he would have had a blast furnace in Toronto to-day. He would get his ore from Kingston, Peterborough, or Fort William. He would not think the distance ores required to be hauled a very serious difficulty, and it was his intention to take up the question of establishing a blast furnace as well as soft steel works. At the time he had already alluded to he made arrangements to get a plant costing \$40,000 that would turn out thirty-two tons in twenty-four hours. Besides the cost of plant \$100,000 more would be needed to carry on the business. The iron industry was a source of great benefit to a country, and he did not see why it could not be developed here as it had been in the United States if some settled policy were adopted. He pointed to the fact that the United States placed a duty of \$30 a ton on steel rails, and insisted upon the manufacture in the country of the rails required for the construction of railways. The result was that to-day hundreds of millions of capital has been invested in iron works in that country, and the price of steel rails had dropped to \$29 a ton. The reason that steel rails were not manufactured here was because the Americans had already got possession of our market, and were bringing in rails duty free. The immense cost of establishing a steel plant was also a deterrent.

Sir Richard Cartwright said that the iron policy adopted by the United States with respect to the construction of railways had led to the imposition of much heavier freight rates on produce than need have been the case, and it was a great cause of complaint on the part of the agriculturist. He alluded to the experience which Mr. Mackenzie encountered when he purchased rails at \$50 a ton, the price subsequently dropping to \$20 a ton.

Mr. McDonell said with respect to the farmer that he did not believe agricultural implements would become cheaper here. While the Americans were keeping up the price of iron in the United States they were doing their best to make a slaughter market of this country with their surplus products.

MALLEABLE IRON.

Another branch of the iron industry was represented by Mr. March, Managing Director, and Mr. S. T. Mills, General Manager, of the Toronto Junction Iron Works. These gentlemen protest that for malleable iron manufacture Canadian charcoal iron is no good to them, as they use a special combination of iron from four American furnaces, and these they must have. So they want the duty taken off. But when Mr. Paterson asked how much they were willing to have the duty on finished product decreased, Mr. Mills responded that no such decrease was wanted at all, because after a present net protection of \$7.30 a ton the Americans are still able to considerably undersell them. There are five similar works in Ontario.

WINDOW SHADES.

Mr. Geo. H. Hees, of Hees, Son & Co., Toronto, manufacturers of window shades, asked for the retention of the present duties on those articles. In 1886 he was manufacturing in Detroit, and under a thirty per cent. tariff was able to bring his goods into Canada and sell them here. His Canadian competitors, in order to stop the inroads on their trade, secured the imposition of a duty of five cents a square yard,

and fifteen per cent. ad valorem. Two years and a half ago these duties were reduced to thirty-five per cent., or not less than five cents per square yard. The result of increasing the thirty per cent. duty had been to cause him to come to Toronto and establish a factory. He brought skilled workmen with him. These in turn had imparted their knowledge to Canadians, and an important industry had grown up. There were probably about four or five other manufacturers, located mostly in this city. His factory, however, was the largest, and he gave employment to eighty persons. He also ran a factory in Detroit, and if he only had to face the same duties that existed in 1886 he would do all his manufacturing in the States and ship to Canada.

Mr. Fielding—You said that when you were manufacturing in the United States, with a thirty per cent. duty existing in Canada, you were able to send in your goods here. How were you able to do that?

Mr. Hees—I could compete with the Canadians in price, quality and style.

Mr. Fielding—That is a very general statement. Was labor cheaper?

Mr. Hees—Material principally. Continuing, Mr. Hees said his total annual output would be about \$200,000. When he first came here he purchased all his cotton in the States. Now the Montreal mills had been educated up to making the kind of cotton goods he required, and consequently he now bought all his cottons in Canada.

Mr. Paterson asked how the price of cottons here compared with the price in Detroit.

Mr. Hees replied that the price here was probably twenty-five per cent. higher.

"When I came here the cheapest shade I was able to put on the market, two yards long and one yard wide, mounted on a good strong roller, was sixty cents. I am now selling as good a shade for less than thirty-five cents, and it is retailed for forty cents, and even less. So I have been able, by this system of protection, to reduce the cost to the consumer by at least one-half."

Mr. Fielding—You say you have been able, by protection to reduce the price. Has it not gone down in other countries?

Mr. Hees—Not to any great extent.

Mr. Fielding suggested that it was fair to say the tendency of the time was towards lower prices. "You say," he observed, "that you have been able to reduce prices by means of protection. That is a matter of argument. You say you have been able to do it. That is a matter of fact."

To Sir Richard, Mr. Hees said the difference between the cost of shades in Canada and in the United States was accounted for by the fact that the American manufacturers had cheaper benzine and coal, and other materials. It cost more to market the goods in Canada, the territory being so large and the population so small.

"The reason I want not less than five cents per square yard duty is because the American manufacturers unload their surplus stock in Canada. They send a great many 'jobs' over here, the work is done by mail, and a great deal of expense is saved, while the competition against us is very great. When I was in the States I used also to send a great deal of that class of goods here. The Government, two years

ago last winter, looked into the matter, and thought it was only fair we should be protected against such goods.

DOMINION MILLERS.

The Dominion Millers' Association, represented by Messrs. M. McLaughlin, C. B. Watts and J. L. Spink, urged that the present duty of seventy-five cents on a barrel of flour be maintained. It was represented that with discrimination in freight rates the Canadian millers would be unable to withstand the competition of the Minneapolis and other American mills in second grade flour if the duty were disturbed.

Mr. McLaughlin read a letter which had been written in August by Mr. Spink to the Minister of Finance setting forth reasons why the duty on flour should be maintained. Mr. Spink, in his statement, said that the millers were practically unanimous that the duty should remain as at present. Under the existing duty, he said, the farmers receive an average price of five cents, and sometimes ten and fifteen cents, a bushel more for their wheat than they would obtain otherwise. Competition was so keen that the millers had not been making any money during the last five years. Consumers in the eastern Provinces had been getting their flour below cost. There had not been any attempt on the part of the millers to regulate the selling price of flour. There were so many of them that anything of the kind would be impracticable. Mr. Spink said that he was not in favor of a reciprocity treaty in farm products with the United States, and he fully believed it would result in great loss to the farmer, because it would put everything he produced on an export basis. The result would be that with the low freights of the west they would be swamped with flour at all points in Canada at prices which would inevitably shut up Canadian mills. Mr. Spink mentioned the fact of a shipment of flour that he had had to do with that came from St. Louis to Toronto, a distance of 700 miles, for fourteen cents a hundred, whereas the rate on flour from Collingwood to Toronto was ten cents. Mr. Spink closed his letter by saying that the duties on both flour and grain should remain undisturbed. Mr. McLaughlin also read a letter written in November by Mr. Spink to Mr. Fielding. It was to the effect that for the first time the prices farmers were receiving for their wheat were lower than the prices received in Toledo and Detroit, owing to the nervousness and uncertainty in the minds of the millers and grain men who were buying supplies regarding the possible action of the Government.

A discussion followed, in which the three members of the delegation took part. Amongst other things Mr. Spink said that the millers sold their flour to the consumers of the Maritime Provinces without profit. He himself laid it down in Halifax as cheaply as he sold it at his own mills. The Canadian millers had in the past paid the farmers more for their wheat than the farmers of the United States had received for their wheat. necessarily the product would cost more than if the wheat had been lower in price. Under those circumstances, the Maritime Province consumer would pay more than he otherwise would.

Mr. Fielding asked if it were not a fact that the American farmers offered the same objections to reciprocity as those which had been mentioned by Mr. Spink—that the American and Canadian farmers were afraid of each other.

Mr. McLaughlin said that the Ministers might have heard from some of the millers that reciprocity would be beneficial

to them. The great majority of the millers did not agree with that idea. When they had reciprocity before the millers of Canada did make money out of it, but the conditions had so entirely changed during the last thirty years that they could not repeat it. Thirty years ago they were able to procure a quantity of white wheat of wonderful strength and color that was not produced now because of the impoverishment of the land, and from which millers made a quality of flour that brought high prices in the Boston and New York markets.

Mr. McLaughlin, as an evidence of the competition Canadian millers would have to face if the duty were removed, pointed out that one mill in Minneapolis turned out 8,000 barrels of flour a day. It had a trade for 7,000 barrels a day at good prices in the United States, but with the surplus it could send to Toronto it could close the mills here in a remarkably short time.

Sir Richard Cartwright—Is not the question of the discrimination in freight rates more grave than that of the duty?

Mr. McLaughlin—No; not nearly so. The question of freight rates is a serious thing, but to the millers it is not anything compared with the removal of the duty. We have only to look at the result of American competition in the milling business in England. In spite of the drawbacks of being handled at such a distance, the American milling interest has practically ruined the English milling business.

Sir Richard Cartwright—There is a great deal to be said about that. There are other causes than the American millers at work to interfere with the English milling business.

Mr. McLaughlin—Well, I am pretty well informed on that subject; it's my business to know a great deal about it, and I assure you that the one cause of the present impoverished condition of the milling business is the competition of the American mills. There is only that one chief cause. The American millers have simply sent flour over there determined to shut up competition, and they have done it. Pillsbury's company went into the business with a capital of \$8,000,000. They are paying no dividends at all, but they are slaughtering the English market.

FURNITURE MAKERS.

A deputation from the Dominion Furniture Manufacturers' Association, consisted of the following:—J. S. Anthes, Berlin, president; S. Snyder, Waterloo; Charles G. Pease, W. B. Rogers, Toronto; J. Acton, Furniture Journal; D. Knechtel, Hanover; T. Gibbard, Napanee; Geo. McLagan, Stratford, chairman of the Tariff Committee of the Association; and J. C. Sieman, Warton.

The views of the deputation were admirably summarized in the following statement, read by Mr. McLagan:—

Whereas the manufacture of furniture is one of the most important in the Dominion, representing, as it does, a large amount of capital, employing a large amount of skilled labor:

And, whereas, any change in the fiscal policy of the Government affecting this industry must necessarily involve both capital and labor, the Dominion Furniture Manufacturers' Association would respectfully submit the following reasons why the present tariff as affecting furniture should be maintained.

Owing to the competition that already obtains among the existing factories in Canada, investigation will show that regular lines of furniture are being sold in this country at figures as low as, if not lower, than in the United States. To this general rule there may be isolated exceptions, such as, for instance, upholstered goods, in which the coverings and

other materials, which form a large proportion of the cost, are subject to a heavy duty.

Owing to frequent changes in styles amongst American manufacturers, a systematic effort is made to dispose of obsolete styles in the Canadian market at a sacrifice of from fifteen to thirty per cent.

The special inducements afforded by multiplicity of design and style in a market such as that of the United States naturally attract buyers who are willing to pay more for the goods than they would in the home market.

The Canadian manufacturer is confined to the Canadian market, which extends from the Atlantic to the Pacific, necessitating the payment of very high freights by eastern and western buyers. The lowering of the duty would encourage them to buy from adjacent American points, the saving of freights thus affording an offset to the duty paid.

Much of the material used in the construction of furniture is manufactured goods, a great part of which is imported, and pays a heavy duty. A reduction of this would be a benefit to the furniture manufacturer only in so far as it would enable him, by reduced prices, to keep out a small percentage of the goods brought in from the United States. Any saving thus effected on account of the keen competition would at once be given away in the reduced price of the finished article.

There never has been, and is not now, any combination or understanding amongst furniture manufacturers as to prices. In fact a combination of this kind is impossible, on account of the ease with which small wood-working establishments can undertake the manufacture of furniture.

In the course of discussion the Ministers, and in particular Mr. Fielding, strove to obtain some admission from the deputation that they could compete with the American manufacturers if the duty were removed. He received an emphatic assurance that they could not do so, and that the removal of the duty would simply result in the Canadian market being swamped with American goods. While the American manufacturer would capture the Canadian trade, the manufacturer in this country would be shut out from the United States, where the styles of furniture made here are not appreciated. The removal of the duty would injure all the Canadian manufacturers more or less, and one-half of them would go under.

Mr. Fielding thought the Canadians less patriotic than the Americans, in preferring, as it seems they do, American to Canadian furniture. He professed himself unable to understand why Canadian furniture could not find its way into the United States with a tariff of twenty-five per cent. against it, while large importations of American furniture were made into Canada, despite the thirty per cent. tariff.

ONTARIO TANNERS.

A deputation of Ontario tanners, consisting of Messrs. Charles King, Jas. Robson, I. E. Bowman, George W. Beardmore, Louis J. Breithaupt, Joseph Carrington, S. R. Wickett, C. G. Marlatt, A. R. Clarke, George Lang, Charles Knees, W. Beardmore, Jos. King, and W. J. Bickell, appeared before the Commission. Their complaint had reference to sections 219, 220, 221, 222, 223, 224 and 225 of the present tariff act. No. 219 they desired altered to seventeen-and-one-half per cent., and No. 222 to twenty-five per cent., an addition in each case of two-and-one-half per cent. This amount was taken off in 1894 and had resulted, together with depression in the States, in an immensely increased importation of American leather.

Sir Richard Cartwright asked them whether there does not exist a combination having the effect of forcing Canadian

purchasers to buy sole leather exclusively from those who compose the combination. The answers were hazy and not to the point Sir Richard aimed at until the Minister produced a printed declaration in blank which is to be signed by persons desirous of obtaining a rebate of five per cent. on their purchases. This certifies that the persons interested have not imported any sole leather, with the exception of English oak-tanned, during a specified period. If they have they forfeit the rebate. The spokesman explained the existence of the document by saying that an immense American concern has become annoyed at the large exports of Canadian tanneries and caused notice to be given that the exports must become subject to their desire as to price or trouble would follow. To meet this demand the first step taken was an attempt to secure the home market, and the extra rebate was offered to that end. There is no combine to make prices, the speakers said, every tanner selling at such prices as he can or chooses. The tanners, who, as Mr. William Beardmore expresses it, "are unfortunately all Grits," do not believe in protection, but protest that if the tanning industry is to continue in the country there must be some means taken to offset the American tendency to fill the Canadian market with their surplus products at a price below cost. Some interesting features of the trade were discussed by the speakers. Among other facts, it appeared that the manufacturers of shoes are becoming more and more insistent upon buying large orders of leather of a certain grade. As the raw hides come to the Canadian tanners, it is impossible, by Mr. Beardmore's statement, for any of them to grade the finished leather in sufficient quantities to supply a factory of the size of some of the American ones. A United States company, by amalgamation and enormous capital, is able to do this successfully, grading all the various results and in enormous quantities. Mr. Beardmore thought this would prevent successful Canadian competition with American firms in the event of their having the larger market.

Sir Richard and Mr. Fielding suggested that if the market were opened up Canadian tanners could easily compete with Americans.

Mr. Beardmore replied:—"We have already stated that we cannot possibly compete with these immense American concerns, but if the Government say they want free trade, then we have nothing to say in reply. It is all over with us; we shall all have to at once go out of business. On the other hand, if the Government desire to see the country thrive, to see the tanning industry thrive, and give employment to thousands, then we must have a protective policy."

Mr. Beardmore further said if the duty on leather were raised fifty or even 100 per cent., it would not in the least increase the price of boots in Canada, except, perhaps, on the very finest grades of ladies' boots, few of which are sold here.

BOOTS AND SHOES.

Messrs. J. D. King, of J. D. King & Co.; Edmund Weston, of F. J. Weston & Sons; W. B. Hamilton, of W. B. Hamilton & Sons, Toronto; and Louis Marsh, of W. A. Marsh & Co., Quebec, composed a deputation in the interests of the boot and shoe manufacturers. In the interests of the trade generally these gentlemen desired an equalization of the duties on goods used in the manufacture of boots and shoes. At present there was too great a discrepancy between the

cost of the raw material and the duties paid on the manufactured article. Their raw material consisted of kids, linings, inks, dressings, blackenings and machinery, on which there was an average duty of twenty per cent. On the finished article the tariff was twenty-five per cent., which only allowed a protection of five per cent. to the Canadian manufacturer. If the duty on the raw material were to be lowered they would ask a proportionate increase in the duty on the manufactured goods.

Mr. Fielding asked what would be the result if the trade were to have free trade all round.

To this the deputation answered they were opposed to free trade. If such were to come about the Canadian would have to entirely change his method of manufacture. They would have to specialize in the manufacturing of their output, instead of manufacturing all lines as at present. This would be a great disadvantage to them, as the American would be prepared, as he is now, to step at once into the market and monopolize trade while the Canadian manufacturer was making his changes, and gaining experience in the special lines which he might undertake to manufacture.

PAPER AND ENVELOPES.

Mr. John F. Ellis, of the Barber & Ellis Company, Toronto, showed that the duty on paper is twenty-five per cent. and on envelopes, which are manufactured by the company, thirty-five per cent. Mr. Ellis suggested that no change be made, but if any change were made, the present margin of ten per cent. between the raw material and the finished product should be maintained.

A FALSE DEVOTEE.

The Canadian Trade Review has as a motto, or declaration of principles, standing at the head of its editorial page "Devoted to the Manufacturing Interests of the Dominion." If it did not so declare itself no one would ever have known it, if it may be judged by some of its utterances. In its issue of October 30th., in an editorial entitled "The Tariff and Wood Pulp," after discussing the probable doings of the Tariff Commission, and guessing at changes that may or may not be made, it says:—

There is one point that it is to be hoped the lumbermen will not fail to impress upon the Commission, and that is the advisability of placing machinery for the manufacture of wood pulp on the free list the same as is the case with mining and smelting machinery not manufactured in Canada.

The development of the wood pulp industry is just as important a factor in increasing our national prosperity as that of our mineral resources, and deserves just as much encouragement. Why, then should not machinery for the manufacture of pulp enter this country on the same terms?

Last year we exported to the United States spruce blocks to be made into wood pulp to the value of \$458,613, which might just as well have been manufactured here, and the wages and other expenditures paid in this country. There was a two-fold reason for this. For one thing the absence of any export duty on blocks, enables American manufacturers to denude our forests without any recompense beyond the payment of stumpage, and for the second thing, the duty of twenty-seven and a half per cent. upon pulp-making machinery severely handicaps Canadian manufacturers. These are two drawbacks that should be remedied at once. The present heavy outlay for duties which retards the expansion of the Canadian pulp industry should be abolished, and a sufficient export duty placed upon pulp blocks to prevent the Canadian manufacturer

being deprived of his raw material in the interests of his heavily protected competitor.

If it were not that both pulp and paper making machinery can be and are manufactured in Canada there might be some very faint apology made for The Trade Review making such a bad and inexcusable blunder. The placing of such machinery upon the non-dutiable list would be quite on a par with the fearful and inexcusable blunder of the recent Government in placing in that list all mining machinery of a kind not made in Canada, the interpretation and enforcement of which law has always been exceedingly favorable to the importers and disastrous to our manufacturers. In the matter of mining machinery a slight and unimportant difference between home made and foreign made machinery, sometimes nothing more than the difference between names, is generally sufficient to procure the admission of the foreign machinery duty free; and this unjust discrimination has often been extended not only to technical machinery, but to such things as steam engines and boilers, pumps and even steam and water pipes. And now the Trade Review, "Devoted to the Manufacturing Interests of the Dominion," comes forward to demand that machinery for the manufacture of wood pulp be also placed in the free list.

It tells us that this demand is made in the interest of the lumberman, but why free pulp making machinery for him any more than free lumber making machinery? Are not both pulp and lumber substantially in the same category? And why should lumbermen and miners be favored in this direction any more than those engaged in other industries? If these why not all? Why not free machinery for the farmer, the planing mill men, the cotton and woolen factories, and in fact every industry that requires the use of machinery? If the wood pulp industry, the mining industry and all other industries are important factors in increasing our national prosperity, why should the industry of manufacturing wood pulp machinery and mining machinery be treated less favorably than any of the others?

Attention is directed to the fact that last year Canada exported to the United States spruce wood to be there made into wood pulp to the value of half a million dollars which might just as well have been made here, and the reasons given for this by our contemporary is that there was no export duty on the wood, and that there is an import duty upon pulp making machinery. The explanation is not sufficient—it needs explaining. Because there was no export duty upon spruce wood, therefore spruce pulp cannot be manufactured to advantage in Canada; and because a duty is laid upon machinery for the manufacture of pulp, the industry is also unfairly handicapped. This is what The Trade Review says: but the fact is, Canada not only manufactures all the pulp required in the home industries consuming that article, but is also a very large exporter of pulp; and it is also a fact that there are a number of establishments in Canada that manufacture pulp making machinery, that of the Algoma Iron Works at Sault Ste Marie, Ont., being of greater capacity to produce such machinery than any similar concern in the United States. Indeed we have before us a statement from Mr. F. H. Clergue, president of the Sault Ste Marie, Ont., Pulp and Paper Co., whose works are decidedly the largest in either Canada or the United States, that the Jenckes Machine Co., of Sherbrooke, Que., the William Hamilton Co., of Peterborough, Ont., the Watrous Engine Co., of Brantford, Ont., and the Algoma Iron

Works had built a very large part of all the machinery in the Sault Ste Marie mills. This is a fact that ought to be most strongly impressed upon the Tariff Commission and the Dominion Parliament, and also upon Canadian newspapers, particularly upon The Trade Review, that so loudly proclaims itself devoted to the manufacturing interests of the Dominion while it is equally vociferous in demanding that the duty upon pulp making machinery imported into the Dominion be abolished. This is queer devotion!

The Christmas Scribner has another of those brilliant and beautiful covers in gold and colors that first attracted popular favor on last summer's Fiction Number. Another example of successful color printing, is in the twelve pages of decorative designs which Oliver Herford was made to accompany Kenneth Grahame's story, 'The Magic Ring.' This story describes the first visit some children to a circus. Another novelty in illustration is Greiffenhagen's quaint pictures and cross-texts to accompany F. J. Stimson's "Law-Latin Love Story" a thirteenth-century romance. The departments and poems complete the most attractive Christmas number that Scribner's has ever published.

The Christmas Ladies Home Journal far surpasses in general excellence and attractiveness any previous issue of that magazine. Its delicate-toned cover most artistically symbolizes Christmas, and the sentiment and spirit of the holiday season are reflected in its pages. An appropriate opening is a characterization of "Scrooge," from Dickens' "Christmas Carol," the first of Charles Dana Gibson's series of sketches of the great novelist's best-known characters. Not less interesting, and revealing the humor and pathos of the Christmas of the children of the very poor, is a page of M. F. Woolf's waifs. In sharp and bright contrast is an article by Lady Jeanie, telling "What Christmas Means to Queen Victoria," and a feature of romantic interest is a delightfully illustrated article on the Creoles of New Orleans, by Ruth McEnery Stuart. There are the usual departments, poems, articles on Christmas gifts, Christmas dainties, Christmas entertainments and festivals, and the home. The current Journal is exceptionally rich in illustrations and interesting in every line. One dollar per year.

Outing for December bears every evidence of a well-deserved prosperity. The king of sporting publications was never better dressed or more entertaining. Two strong complete stories, and a wealth of wholesome sketches of sport, travel and adventure, round out a most acceptable number. The contents are: Hares and Hare Hunting, by Ed. W. Sandys; A Bohemian Couple Wheeling Through West England, by Alice Leo Moque; Racing Schooners, by R. B. Burchard; American Amateur Athletics in '96, by W. B. Curtis; Golf in America to Date, by Price Collier; The Pectoral Cross, a story of the stage, by Justine Ingorsoll; Hunting the Mule Deer, by Rollin Smith; At the Top of Europe, by E. M. Allaire; A Winter Day With the Ducks, by James R. Benton; Zinto, of Great Slave Lake, by H. T. Munn; A Day's Sport in Costa Rica, by A. H. Verrill; Lenz's World Tour A-wheel. How Peg's Runners Rusted, by C. F. McChfro; National Guard of Maine, by Capt. C. B. Hall. In the complete story, The Pectoral Cross, a story of the stage, by Justine Ingorsoll, we are given a view of the play of passion behind the scenes, together with some masterly character sketching. This story will be read and appreciated.

Methodist Magazine and Review, for December, completes the forty-fourth volume of this popular magazine. The announcement for the forthcoming year is particularly strong, embracing illustrated articles on Cabot's Discovery of Canada, Making the Empire; or, Around the World With the Union Jack, Canadian Caricature Art, The Storm-Centre of Europe, Rural England, The Icelanders in Manitoba, etc. A number of serial and short stories are also announced. A special feature of this magazine is its Popular Science papers; among these will be: The Reign of King Trolley, The Story of the Railway, The Curiosities of the Microphone, Britain's Role in Science, Lord Kelvin and His Work, etc. Social and religious topics, and missionary articles fully illustrated, will also be given.

Popular Science News, formerly Boston Journal of Chemistry, since its removal to New York has been enlarged and very much improved by the absorption of some sixteen other similar papers. It is a real popular scientific journal, free from technicalities, profusely illustrated and full of short, practical and interesting articles. Its departments of nature, science, archaeology, invention, electricity, health, hygiene and medicine are conducted by able specialists, and are of great practical usefulness and interest to all

CAPTAINS OF INDUSTRY.

The following items of information, which are classified under the title "Captains of Industry," relate to matters that are of special interest to every advertiser in these pages, and to every concern in Canada interested in any manufacturing industry whatever, this interest extending to supply houses also.

If a new manufacturing enterprise of any kind is being started, or an electric lighting plant instituted, or an electric railroad, or a telephone, or a telegraph line is being constructed; or a saw mill, a woolen, cotton, or knitting mill; or if any industrial establishment has been destroyed by fire with a probability of its being rebuilt, our friends should understand that possibly there may be something in the event for them. Do you catch on to the idea?

The starting of any such concern means a demand for some sort of machines, machinery, or supplies, such as steam engines and boilers, shafting, pulleys, belt-
ing, lubricants, machinery supplies, wood or iron working machinery, ventilating and drying apparatus; pumps, valves, packing, dynamos, motors, wire, arc and incandescent lamps, and an infinite variety of electrical supplies, chemicals, acids, alkalis, etc. It is well worth the while of every reader of the Canadian Manufacturer to closely inspect all items under the head of Captains of Industry.

Messrs. J. Matheson & Co., New Glasgow, N.S., manufacturers of engines, boilers, stamp mills, hoists, ore breakers, etc., are sending out a neat folder fully describing a three-stamp prospecting mill, which will, no doubt, have an extensive sale.

Messrs. D. Hibner & Co., Berlin, Ont., whose furniture factory was burned a few weeks ago, are making preparations to rebuild on the old site.

The Ottawa Citizen says it has been learned that Mr. J. R. Booth has a scheme on hand for the construction of a large saw mill at Barry's Bay, Ont., in which to saw the logs taken out of his limits in the Upper Ottawa district.

Cowansville, Que., is agitating for a system of waterworks.

The East Kent, Ont., Plaindealer, says that Mr. Edgar, of the Hamilton Smelting Works, has made a big find of bog iron ore in Kent County, and will soon begin shipping it to the works at Hamilton.

J. P. Browning and F. Fawkes, Brantford, Ont., have recently had patented what is described as an ingeniously contrived snap link with which a broken bicycle chain can at once be mended.

The McEachren Heating and Ventilating Company, Galt, Ont., have sent us their new No. 4 catalogue, which has reference to the McEachren ventilating fans, lumber dry kilns, hot blast steam heating apparatus, the McEachren system of heating and ventilating school houses, churches, public buildings, etc. In another column is an inter-

esting article on the value of exhaust steam clipped from this catalogue, which will be of interest to steam users.

A malleable iron foundry is being put into the Niagara Falls Metal Works, at Niagara Falls, Ont., for the manufacture of harness hardware.

The Armitage Manufacturing Company have started a new industry at New Toronto. They will manufacture leatherette and book binder's cloth, floor oil cloth, table cloth, window-blinds, etc.

Bell's furniture factory, Wingham, Ont., has orders on hand for nearly 400 writing desks, which they are getting out to meet the holiday trade.

Gennelle & Co., Revelstoke, B.C., are about to build a large lumber mill at Arrowhead, B.C., which will have a capacity of from 75,000 to 100,000 feet per day. They will also add a sash and door factory next summer.

The contract has been let for the construction of an automatic can factory to be built at Westminster, B.C., for D. Bain, who will manufacture salmon cans and other tin supplies, which have hitherto been imported. The buildings will be 250 x 90 feet and the sides and roof will be of corrugated iron. Operations will be commenced by the middle of next January.

The Hart Emery Wheel Company, of Hamilton, have asked the Bureau of Mines, through the Crown Lands Department, to supply them with a sample of the corundum recently discovered in Carlow township, Hastings county, Ont. They propose to test it, and to compare it with the corundum found in North Carolina. Hon. Mr.

THE BEST BELTING DOES THE MOST WORK
IT RUNS THE STRAIGHTEST
STRETCHES THE LEAST, AND LASTS THE LONGEST

THIS IS THE KIND WE MANUFACTURE

ROBIN, SADLER & HAWORTH

TANNERS AND BELT MAKERS

ORDERS SENT TO OUR TORONTO OR MONTREAL FACTORY WILL HAVE PROMPT CARE

Wilson, Commissioner of Crown Lands, has instructed Mr. W. W. Roach, manager of the Government diamond drill, to procure a supply of the mineral, part of which will be sent to the Hart Emery Wheel Company, while the balance will be retained by the Bureau of Mines for distribution among such others as may desire samples.

The Waterous Engine Works Company, Brantford, Ont., are going largely into the manufacture of mining machinery for the gold mines of the Pacific province.

The Rossin House, Toronto, is to be overhauled and between \$50,000 and \$100,000 will be spent upon the improvements, which include the construction of a large and handsome rotunda, the tiling of the first and second flats, the introduction of electric light, new elevators, a new office, a new grand staircase, etc.

Jacob Morley and J. Zurbrigg have purchased the Central Block Mill and mill property, at New Hamburg, Ont., and have already got a gang of men repairing the dam. It is the intention to add steam and run the mill on a much larger scale.

A number of American capitalists are said to have recently visited the Chats falls in Fitzroy township, twenty-nine miles from Ottawa, with a view to the development and utilization of the power. Negotiations for the purchase of the falls are pending, and if carried through will see the development of power to transmit electricity to a number of distant places. The falls are owned by Mr. Charles Mohr, of Fitzroy, and a number of Ottawa gentlemen.—Almonte Gazette.

The Kemp Manufacturing Company, Toronto, have re-opened their extensive factory at Gerrard and River streets, which has

been closed down for a few days during the installation of a magnificent new steam plant. An extensive new boiler house has been erected in the rear of the factory which greatly improves the appearance of the premises. Formerly this was a tin dump, but the hillside has been excavated and the new boiler house and engine room erected, crowned by a chimney 200 feet high. The new boilers are 250 horse power. The engine, which will henceforth drive the many machines in this extensive works, is a 175 horse power tandem compound, Wheelock pattern, made by Goldie & McCulloch, of Galt. By its side stands an ideal high speed engine by the same firm, operating a dynamo which will furnish 400 incandescent lights, all that are required in the factory. In a few days an under-riter's fire pump, capable of pumping 1,000 gallons per minute for fire protection will be installed. The new steam engine will greatly improve the plant of the factory, while the new buildings are in a very conspicuous place and decidedly relieve the unattractive appearance of the Don flats.

The Kay Electrical Manufacturing Company, of Hamilton, Ont., are about to build an extension to their already commodious premises. This firm are among the pioneers in the electrical business, and their goods are in operation in almost every city and town in the Dominion, and are giving such good satisfaction that the demand has increased so rapidly that they were compelled to increase their plant to enable them to supply goods more promptly. They also have a repair shop and offices in Toronto.

The following is a partial list of their more recent sales: Kemp Manufacturing Company, Toronto, two motors; H. R. Cudon,

St. Catharines, one motor; M. Hutchinson, Toronto, wood yard, one motor; A. Moore, Toronto, one motor; Aylmer Electro Plating Company, Aylmer, one dynamo; Steel Clad Bath and Metal Company, Toronto, one four-pole motor; Wehrle Brush Company, Toronto, one motor; Leitch & Turnbull, Hamilton, three motors for elevator purposes; A. R. Williams, Toronto, three motors; Davis & Henderson, Toronto, two motors; Mr. Garner, Toronto, one motor; Mr. Enright, Toronto, one motor; Mr. Bomberg, Toronto, one motor-dynamo; H. C. Hunter, Dundas, one four-pole 400 ampere dynamo; Haskins Wine Company, Hamilton, one motor; McPherson & Glassco, Hamilton, one motor; Munderloh & Co., Montreal, one dynamo; J. Turner & Son, Toronto, one motor; Wm. Beers, Toronto, one motor; T. Bell & Co., wood yard, Toronto, one motor; Barber Bros., Georgetown, one thirty h.p. four-pole motor; H. A. F. Hoerr, Toronto, one fifteen h.p. motor; Ontario Agricultural College, Guelph, plant for light and power; Small & Fisher, Woodstock, N.B., one dynamo; A. Laidlam, Toronto, one motor; Mr. LuWilliams, Toronto, one motor; John Forman, Montreal, three motors; Wilson Pub. Co., Toronto, lighting plant; T. E. Brandon, Toronto, one motor; Davison & Holmes, Toronto, one motor; Bennett & Wright, Toronto, two four-pole motors; Diamond Machine and Tool Company, one electro plating dynamo. This firm have also sent ten electric machines to the North-West and British Columbia.

The largest cargo of sugar that has ever entered the port of Montreal was recently received by the steamship Assaye of the Elder-Dempster Line. The cargo consists of 42,000 bags which figures up the

The Royal Electric Co'y

MONTREAL, QUE.

Western Office... TORONTO, ONT.

S.K.C. Two-Phase Alternators

Incandescent Light, Arc Light and Power from same Dynamo and Circuit.

Highest Efficiency

Best Regulation

Slow Speed

Least Attention



No Collector

No Moving Wire

No Exposed Parts

No Compounding

S.K.C. 50 Kilowatt Two-Phase Generator

enormous quantity of 9,000,000 pounds. The Assaye is from Hamburg, and the sugar is of the German beet variety. The nearest approach in size to this cargo came in this season on the steamship Aladdin, and was something like 36,000 bags. The present cargo is consigned to the St. Lawrence Sugar Refinery. The steamship Romulus, also with a cargo of raw sugar is on her way to this port. This is for the Canada Sugar Refinery, and is the last sugar ship of the season.

The Ontario Electric and Engineering Company, Toronto, is being incorporated with a capital stock of \$10,000.

The Annapolis Manufacturing Company, Lequille, N.S., have begun the manufacture of staves, hoops, barrel stocks and all kinds of barrels, casks, etc.

The St. Jerome Power and Electric Light Company, St. Jerome, Que., has been incorporated.

The Reviving Tool and Cutlery Company, a new concern, propose to locate at St. Henri, Que. They will erect a new factory and employ 125 hands.

The firm of McDonald Bros., Sherbrooke, Que., who own the Owl's Head, Galena Mine on Lake Memphremagog, Que., say that the ore yields from thirty-five to fifty ounces silver and from sixty to seventy-one per cent. of lead to the ton. They will operate the mine extensively next season.

Work will begin at once on the erection of a brewery in Maisonneuve, Que., the enterprise has been granted a bonus of \$10,000 by the town.

Another lot of cars will soon be shipped from the Rathbun Company's works, Deser-

onto, Ont., to Montreal, where they will be put on the Montreal Park and Island Railway line.

The Hobbs Manufacturing Company, London, Ont., will supply two stained glass windows for the nave of Christ Church, Amherstburg, Ont., one to be erected by the Masonic Order and the other by the sailors in connection with that port.

Messrs Wm. Gray & Sons, carriage manufacturers, Chatham, Ont., have received a large order for buggies, traps and spring wagons, from South Africa.

The Moto Cycle Company, Montreal, will at once begin the manufacture of horseless carriages, bicycles, etc

Kingston, Ont., electors will decide whether or not the city shall grant a bonus of \$25,000, towards the erection of a 500,000 bushel elevator.

R. P. Deputy, who represents a rich company of New Orleans, is at present in this district with the intention of buying a large tract of land to convert into a sugar plantation. The company had leased of the thousands of acres of swamp land in Kent and Essex which has been reclaimed during the past few years, and finding much of it on the market it is the proposal of the company to purchase a tract of about 2,000 acres if possible. If the company's representative reports favorably and the purchase is made it will be the first sugar plantation in the country of any size. Chatham Planet.

The Brantford Machine Tool Company, Brantford, Ont., is being incorporated.

The A. S. Whiting Manufacturing Company, Cedar Dale, Ont., has removed to St. Catharines, Ont.

An attempt is being made to establish a shoe factory at Shediac, N.B. Local capitalists have subscribed \$25,000 in the enterprise.

The Londonderry Iron Company, Londonderry, N.S., have been working on an order for the Dominion Coal Company for car rails.

The Hopewell Gold Mining Company, Hopewell, N.S., has been incorporated with a capital stock of \$15,000.

The Brookfield Mining Company, Brookfield Mines, N.S., is being incorporated with a capital stock of \$500,000.

A Montreal Syndicate has bought the Rossland (B.C.) water and light plant and franchise, and will put in a complete electrical system.

The Fraserville Company, Fraserville, Que., is being incorporated with a capital stock of \$50,000, to manufacture wood pulp and articles made from wood pulp.

The Ingersoll Sergeant Drill Company, Montreal, have received an order for a hoisting and pumping plant for the mine known as the Galena Farm, and a ten-drill compressor, hoisting engine, drills and pumps for the R. E. Lee Company, Rossland, B.C.

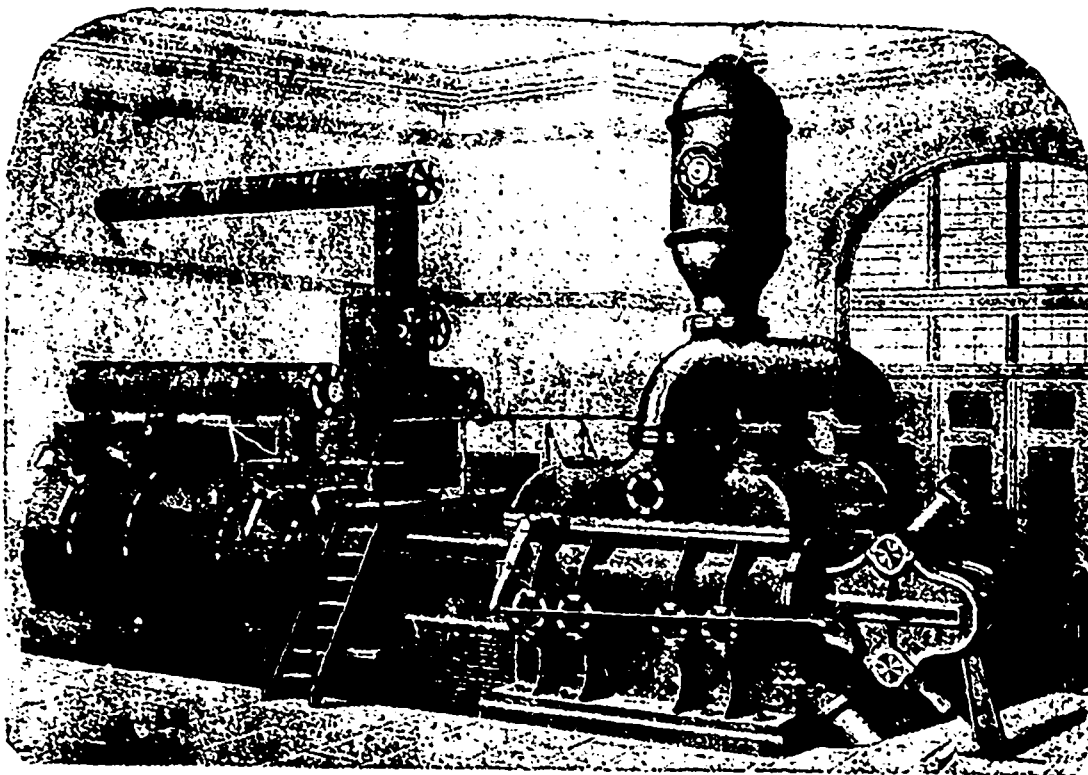
The Cataract Construction Company of Niagara Falls, N.Y., will soon begin the construction of a tunnel on the Canadian side of the Falls to develop 25,000 electrical horse power.

The new shops of the Bedford Manufacturing Company, Bedford, Que., manufacturers of edge tools, etc., are nearly finished. They will give employment to about sixty men.

JOHN McDOUGALL

CALEDONIAN IRON WORKS,

MONTREAL, QUEBEC



General Agents
in Canada for

THE FAMOUS

Worthington
Pumps

Hydraulic
Machinery

Condensers

AND

Water Works
Supplies

WORTHINGTON PUMPS ARE UNEQUALLED FOR EFFICIENCY AND ECONOMY

The town councillors of Magog, Que., are discussing the question of lighting the town by electricity.

The Iron Hope Mining and Milling Company, Seattle, Washington, has been registered in British Columbia.

The following companies are being incorporated in Canada:—The Smuggler Gold Mining and Milling Company, St. John, N.B., capital stock, \$1,000,000; The Moncton Manufacturing Company, Moncton, N.B., capital stock \$60,000, to manufacture baling presses, farming implements and machinery, etc.; The Howell Lithographic Company, Hamilton, Ont., capital stock \$49,000; The Southam Printing and Lithographing Company, London, Ont., capital stock \$20,000; The Inter-Ocean Mining and Prospecting Company, Toronto, capital stock \$1,000,000; The Booth Waggon Company of Ontario, Toronto, capital stock \$25,000.

The following mining companies are being incorporated in British Columbia:—The Ethel Group Gold Mining Company of Rossland, Rossland, capital stock \$1,500,000; Montezuma Gold Mining Company, Rossland, capital stock \$1,000,000; Bonanza Mountain Gold Mining Company, Grand Forks, capital stock \$1,500,000; Queen Victoria Gold Mining Company, Rossland, capital stock \$1,000,000; Grand Forks Gold Mining Company, Grand Forks, capital stock \$1,500,000; Victoria-Triumph Gold Mining Company, Rossland, capital stock \$1,000,000; British Columbia Tunnel and Development Company, Rossland, capital stock \$500,000; Red Eagle Gold Mining Company, Rossland, capital stock \$1,200,000; Occidental Mining and Milling Company, Vancouver, capital stock \$600,000.

The Great West Gold Fields Development Company of Vancouver, Vancouver, capital stock \$100,000; Gold Mountain Mining and Milling Company, Vancouver, capital stock \$1,000,000.

The Montmorency Electric Power Co., of Montmorency Falls, have placed an order with the Royal Electric Co. of Montreal, for two 600 K.W., "S.K.C." two phase alternating current generators and switchboards complete. One of these generators is to be placed at The Montmorency Falls where it will be driven by a water-power, and the current carried nine miles into the city of Quebec to the sub-station of the Montmorency Electric & Power Co. where the second 600 K.W. alternating current generator will be located. This generator at the Falls will deliver 5,000 volts direct to the line and the generator in the sub-station will be used as a synchronous motor, and receive the current at 5,000 volts direct into the machine, so that no step-up or step-down transformers or any intermediate apparatus is required. The synchronous motor is to be direct connected to a direct current railway generator, which is to furnish power to the new Quebec Street Railway, which will be built early the coming year.

The Colonial Canning Company, New Westminster, B.C., is being incorporated with a capital stock of \$30,000.

The British Columbia Electric Company, Tacoma, Washington, has been registered in British Columbia, to establish telephone, telegraph, electric light systems, etc., throughout the province.

Two interesting booklets have been received from the Pratte Piano Company, Huntington, Que. One gives a history of the

Pratte piano, the other contains portraits and autograph letters from eminent artists, together with press notices and a list of some of the purchasers of the instrument.

Mr. R. F. Mendenhall, representative of the Rand Drill Company at Rossland, B.C., estimates the value of mining machinery placed in the Trail Creek country during the past year at \$1,250,000.

The following companies have very recently been incorporated in Canada:—The Dominion Paving and Contracting Company, Toronto, with a capital stock of \$25,000; The Hopewell Gold Mining Company, Hopewell, N.S., with a capital stock of \$15,000; The Western Ontario Mining Company, Rat Portage, Ont., with a capital stock of \$1,000,000; The Mikado Gold Mining Company, London, England.

B. B. Barnhill's saw mill at Two Rivers, N.S., was destroyed by fire Nov. 22nd. The mill contained five boilers and an engine of 150 h. p. with a rotary mill, lathe machines and planers.

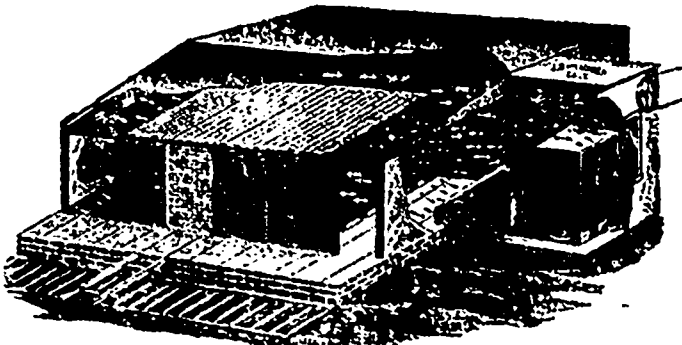
The Moncton Manufacturing Company, Moncton, N.B., is being organized to manufacture hay presses and other machinery.

The Royal Electric Company, Montreal, have sufficient orders on hand to keep them occupied for the next twelve months. To meet the heavy demand for their machines, they have added recently to their equipment some of the largest tools of their kind, such as planers, boring mills, drills, etc.

Messrs. M. Brennan & Sons, will build their saw mill at Huntsville, Ont. by electricity. They have ordered a seventy-five light dynamo from the Storey Motor & Tool Co., Hamilton, Ont.

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In construction and process of drying this Kiln differs widely from all others in use. They have given entire satisfaction where all others Dry Kilns have failed. They will season More Lumber in a Given Time, with a given heating surface and a given quantity of steam than any other Kiln now in the market. Their construction and mode of operating is such as to season lumber without Case Hardening, Checking or Warping. They work equally well on Lumber Blight from the Saw and on Air Seasoned Lumber, the only difference being that one takes a little more time than the other. By a Peculiar Arrangement Found Only In Our Dry Kilns we extract the moisture from the heated air, return it through the heater again and thus preserve the heat passing from the Kiln instead of wasting it as is the rule with all other Blast Kilns.

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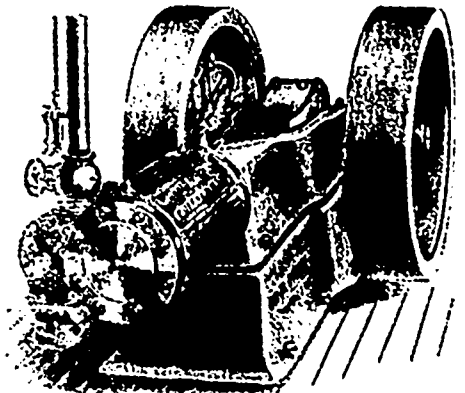
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NEW YORK, CHICAGO, PHILADELPHIA, LONDON
PARIS AND ST. PETERSBURG

The Merrow Machine Co., Hartford, Conn., have sent us their catalogue describing the Merrow system of crocheting machinery and methods for finishing the edges of fabrics. The proprietors say that so far as they know they control every patent in their line and have done probably more original work, and offered the public more improvements in their line than all the rest of the world. Their very attractive business card appears in page 434 of this issue.

A furniture factory is being started at Chesley, Ont., Messrs. Krug Bros., of that place are interested.

The sale of the asbestos mine and plant near Danville, to an European firm of capitalists, for a large sum, is a reminder that there is mineral wealth in the Eastern Townships as well as in British Columbia. The new owners it is said, propose to engage a still larger number of hands than is already employed there (some several hundred) and considerably increase the output of "asbestos." This is the remarkable plaster (made from the short fibred asbestos) which has the merits of hardness, whiteness, penetrability and noncombustibility. Incidentally, it illustrates a frequent feature of modern industry and invention. What was the "waste" for many years of the gas factories is now more valuable by far than the gas itself, as the source of aniline dyes. For years, too, the sulphur in the commonest of copper ores was allowed to waste in the air and devastate the vegetation for miles around. It is now converted into sulphuric acid that brings more profit even than the metal that is left behind. The

"asbestos" made from the short fibred asbestos (hitherto disregarded as useless) is now proving more useful and valuable than the fine long fibres of that remarkable mineral. The lesson taught is that the metamorphic rocks of the Eastern Townships can bear plenty of investigation and study yet for economic results. - Sherbrooke, Que., Examiner.

Messrs. Cowan & Co., Galt, Ont., manufacturers of all kinds of wood-working machinery, steam engines and boilers, saw mills, Moffatt's patent heaters, etc., have made an arrangement with the Toronto Machinery Supply Co., 164 King Street West, of which Mr. A. J. Lindsay is manager, by which the latter concern become the Toronto selling agents for Messrs. Cowan & Co., and will keep in their warehouse in King Street lines of the machinery, etc., manufactured by the Galt company. The arrangement will be a great convenience to those living in or visiting Toronto, who may require any such machinery as is manufactured by Messrs. Cowan & Co.

NEW DYES.

Azo Crimson L. - The widespread popularity of Azo Fuschine G. and B. has led the Farbenfabriken to produce a new color, belonging to the same series, but possessing additional good qualities. Azo Crimson, an acid wool dyeing color may also be used for half silk dyeing in a broken soap bath. This color is especially suitable for combination shades and works level with Fast Green Bluish. Fast

Acid Violet 10 B. and Orange 2 B., etc., producing many new and pleasing fashion shades. As regards fastness to acid, alkali and light, this color will give excellent satisfaction and so closely resembles the Azo Fuschins that for dyers who already have Azo 1 machine in their combination shades, it would scarcely be advantageous to change.

Double Ponceau 4 R. a new red and wool dyeing color, but somewhat taster to storing than the former Ponceaus. This color is easily soluble and dyes very level, may be adapted to set in a broken soap bath. In most respects this color resembles the ordinary Crocenes, also in milling; but in fastness to washing it surpasses the former Ponceaus. In price it being somewhat lower we expect this color will meet with a ready and willing demand.

Pattern cards, samples and all information about new colors will be immediately forwarded on application to the Dommien Dye-wood and Chemical Co. sole agents in Canada for the Farbenfabriken, vorm. Friedr. Bayer & Co. Elberfeld, Germany.

Alizarine Cyanine Green - A want has been felt for a considerable period in the dye trade for an Alizarine Green of the usual fastness and bright in shade and tone. This want is at last supplied by the Farbenfabriken who are now placing on the market Alizarine Cyanine Green in paste or powder form. This new color dyes on a chrome mordant, excellent results are obtained by using chrome with lactic acid. It combines well with all the Alizarine colors, but where depth of shade is required and no brilliancy Coeruleine Green will still hold its high standing.

D. K. McLAREN

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Manufacturers of Fancy Tweeds, Etc.
Selling Agents, D. MORRICE, SONS & CO., Montreal and Toronto.

An Advertiser may occupy this
space at

75 Cents per issue.

This new green may be also dyed in one bath with the aid of sulphuric acid resulting shades being equal in tone, but nearly as fast as those dyed on a chrome mordant.

For dyed patterns and samples apply to the Dominion Dyewood and Chemical Co., Toronto.

LACTIC ACID

The recent manufacture of lactic acid for commercial purposes, which reflects much credit on Prof. C. E. Avery, promises to work a revolution in the mills and dye houses, where chrome and tartar or oxalic acid are being used. Its advantages over tartar are almost without limit. It causes the dye to fall on in a more level manner, looks far bloomier and less coloring matter (as in the case of logwood) is required to get same results.

In price it is considerably lower than tartar. Lactic acid is attracting the greatest attention among wool buyers on account of its great chrome fixing and chrome reducing power. These properties promise to place lactic acid in an important position as a chrome assistant for wool dyeing in the various branches and also to make it a new and effective means for fixing the alizarine colors, which have such a good reputation for fastness.

Lactic acid is used in co-operation with bichromate of potash.

For logwood blacks, about one per cent. lactic acid with three per cent. chrome gives good results.

For alizarine light shades, one-half per cent. lactic acid with one-half per cent. chrome. For medium shades, one per cent. lactic acid and one per cent. chrome and for dark shades use two and one-half per cent. lactic acid with three per cent. chrome.

In the dyeing of wood extracts a more complete exhaustion takes place, also the wool has a softer feel and appears with a bluer bloomier tone. As the chrome goes on at a lower temperature with lactic acid it is perhaps not necessary to boil, except at the end of the operation. As means for fixing the alizarine dyes on leather, lactic acid promises to give excellent results. Up to

the present this has not been done with any great success. A Yorkshire Botany spinner says: I find the net gain in spinning blacks on wool mordanted with lactic acid, over wool mordanted with sulphuric acid, average three per cent. less waste. A Bradford piece dyer says: -On some goods I see a saving of ten per cent. to twelve and one-half per cent. logwood.

A Yorkshire slubbing dyer says: With logwood blacks I save ten per cent. of wood by using lactic acid, even if this were not the case, I should still use it because it gives such excellent results in softness and in bloom. The Dominion Dyewood and Chemical Co. will be pleased to forward trial samples and give any information required.

COMPRESSED AIR.

The printing presses of the Dominion Cotton Company's mills at Magog, Que., have for some months been run by engines the motive power of which is compressed air, produced by what is now being introduced to users of power as the Taylor Hydraulic Air Compressor, the invention of Mr. C. H. Taylor, of Montreal. The following is a description of the plant as in use at Magog.

The compressor in its simplest form consists of a large vertical tube, down which a full stream of water is flowing, with a small vertical pipe held partly immersed in its mouth. The water flowing down the large tube sucks in air bubbles as it passes the immersed mouth of the small one and carries them down to the bottom where they are collected in a box-like receiver. While in this chamber they are compressed by a head of water equal to its depth below the tail race. It is from this reservoir that the air is drawn to feed the engines. The following is a more elaborate explanation:

The water may be conveyed to the compressor by means of an open flume; or, as through a pipe supplying a tank or stand pipe round the headpiece of the compressor, where it can attain the same level as the water in the dam or source of supply. Around the headpiece are placed a large number of small horizontal air-pipes, drawing

their supply of air through large vertical pipes, which extend above the surface of the water and open to the atmosphere.

As the water enters the down flow-pipe and passes the ends of these small air pipes, it draws in the air in the form of small uniform globules, which, becoming entangled in the descending water, are carried down to the receiver at the bottom of the pipe, compressing the air by the pressure of the water surrounding these globules until they reach the point of separation. This pressure is maintained so long as there remains any air in the receiver.

The receiver is sufficiently large in diameter to allow the air to rise to the surface of the water therein, from whence it is taken through the air pipe for transmission, to be utilized as power or for other purposes. The compressor is so constructed as to permit of its being regulated to furnish any proportion - from one-third of its capacity.

As already stated, a most remarkable feature of this system is that, notwithstanding that the air is compressed by the weight of the water and in actual contact with it, the air so compressed is delivered in the receiver and thence to the transmission pipe drier than when drawn in from the atmosphere. For as the bubbles are compressed the moisture in them is condensed and consequently deposited on the bubble walls.

By this system it is claimed that any fall of water of not less than four feet and varying in working head, may be practically utilized. The horse power being determined by the height and diameter of the downflow pipe and the height and volume of the water in the fall, the pressure depending solely upon the depth of the shaft below the tail race.

During the summer of 1894, Prof. Nielson, of McGill University, made a long series of tests on models of this compressor, and of his report on these experiments the following is an extract:

I have found the efficiency of the model plants to vary from forty-five to fifty five per cent. and in the estimate herewith presented have assumed an efficiency of fifty per cent.; although this will probably be somewhat exceeded on the full-sized instal-

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lation. On this assumption, a square shaft, sixteen feet a side, and two hundred and fifty feet deep, with a cast-iron down pipe eleven feet in diameter within it, and a one-foot diameter pipe within that for compressed air, will be required, in order to furnish enough air for 1,000 horse power at 100 lbs. pressure above the atmosphere.

The cost of this, including excavation, timbering, cast-iron pipes and staving, will come near \$10,000. Dam, sluices, head and tail races may be expected to cost another \$20,000; although this will vary so very much according to locality that no properly defined figure can be given. The total cost, therefore, on this system, of a horse power installation, would be about \$30 per horse power.

This compares most favorably with the cost of turbine plants now at work, which have cost all the way from \$50 to \$120 per

horse power for installation, according to circumstances. The energy obtained from the turbine jack-shaft at the above mentioned price is not in a state suitable for transmission, and must be transformed into either the electric current, or into air at high pressure, before being used for such a purpose.

In case of the Taylor system, however, the energy is given off in the form of compressed air all ready to hand, and this is a most decidedly advantageous feature of the system.

I have tested the air for dryness and have found it to be perfect also in this respect, and this is a most important feature in cold countries.

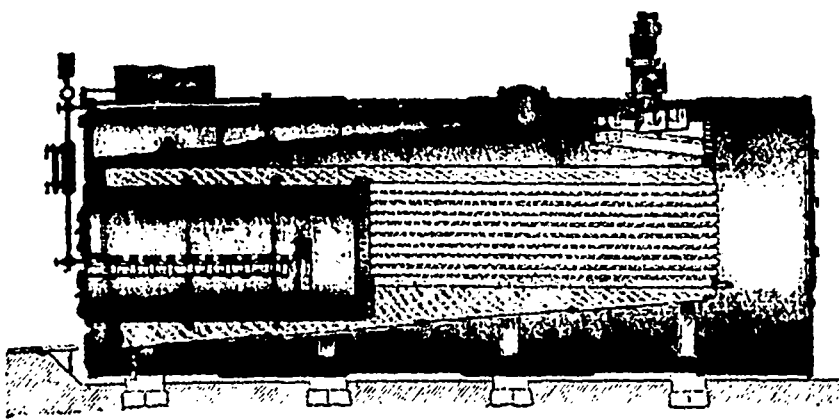
As there is no moving machinery, almost no attendance will be required, and the durability of the plant will be much greater than one on the ordinary turbine system.

I must admit that any prejudice of doubts I may have had (some of which I expressed in conversation) regarding the feasibility of the undertaking, have now completely disappeared, and I entertain a most favorable opinion of the merits of Mr. Taylor's system.

NEW DYE STUFFS.

Oxy-Diamine Black NF, patented.—Oxy-Diamine Black NR, patented.—Shade.—They closely resemble each other in shade, the Oxy-Diamine Black NR being somewhat more violet than the Oxy-Diamine Black NF. Both possess good covering power, giving very deep blacks of great brilliancy with five per cent. of dyestuff.

Solubility.—They are among the most soluble blacks in the market, and hence are particularly well adapted for cop-dyeing, or



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for use in mechanical apparatus where a strong bath is required.

Fastness.—These colors are faster to washing than any known direct blacks that have not been subjected to an after-treatment with chrome or bluestone. To light they are unequalled by any direct blacks, other than our Diamine Jet Blacks, which they closely resemble in this particular. Their fastness to acid is very good.

Uses.—They are well adapted for use wherever depth, fastness to washing and light, and solubility are of importance. They can be applied to cotton yarn, cops, loose cotton, piece goods, or hosiery.

Dyeing Directions.—They are best dyed with the addition of one-half per cent. soda and ten-twentieths per cent. Glauber's salt, boiling being continued for one hour. In

dark shades the bath is not exhausted, and for subsequent baths a corresponding reduction in the amounts of color and chemicals must be made.

Diamine Jet Black, CR, patented.—Shade.—A beautiful deep black, less red in shade than our Diamine Jet Black RB, with a blue reflex when after-treated with Potassium Bichromate.

Solubility.—It is one of the most soluble of our direct blacks, and hence can be used where great solubility is required.

Fastness.—Its fastness to light is unsurpassed by any direct black in the market, and is excelled in this particular by only our diazotised blacks. Its fastness to washing is excellent, and when after chromed

can be used for goods the colors of which must be fast to milling and washing. Its fastness to acid is equal to any of our Diamine Jet Blacks, all of which are noted for this property.

Uses.—Its solubility admirably fits it for cop and machine dyeing, and makes it valuable for the dyeing of greys and slates. Owing to its fastness to light and its peculiar shade it has found a large application in mixed cotton and wool cheviot goods in which the wool is dyed with logwood. For this purpose any shade can be obtained by mixing it with our Diamine Jet Black RB, the properties of which are similar to those of Diamine Jet Black CR. On account of its great fastness to light and washing it

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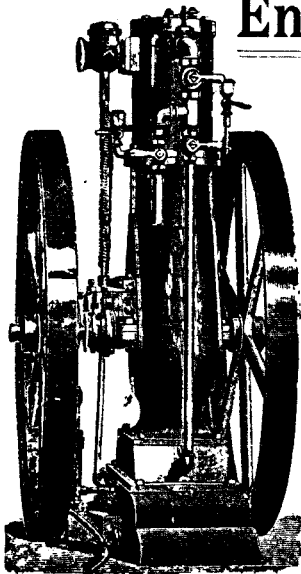
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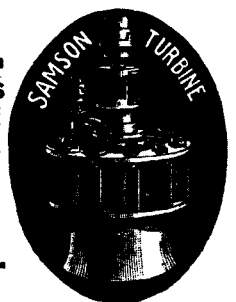
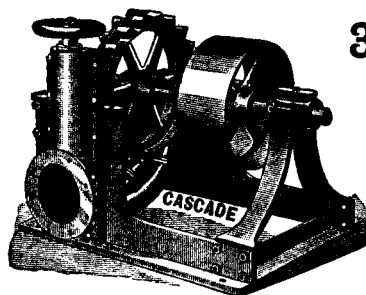
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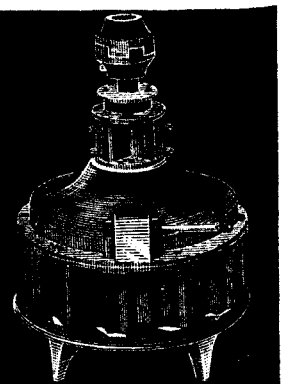
Percentage

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3/4	84
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NEW IMPROVED
STANDARD TURBINE

It gives on either a Vertical or Horizontal shaft more power for its price, yields a greater percentage for water used either with full or part gate draw, and is the simplest, most durable and best finished wheel made. Send for illustrated catalogue and state head of water and power required.

BURNHAM BROS., York, Pa.



is well adapted for the dyeing of sewing cotton.

Dyeing Directions.—It is dyed with the addition of one-half per cent. soda and ten twentieths per cent. Glauber's salt.

The after-treatment consists in boiling for half an hour in a fresh bath containing three-fourths per cent. potassium bichromate.

As the dyeing bath is not completely exhausted, it should be retained for future dyeing, a reduction being made in the quantities of dyestuff and chemicals.

For samples address—Wm. J. Matheson & Co., Ltd., 178 Front St., New York.

VALUE OF EXHAUST STEAM.

In the recently issued catalogue of the McEachren Heating and Ventilating Company, Galt, Ont., is the following interesting article on the value of exhaust steam:

Among the many who own steam engines, and the engineers who run them, there few who have a just appreciation of the thermal value of the clouds of exhaust steam constantly blown to the winds from the apparently numberless exhaust pipes which can be seen from the tops of high buildings in any of our large cities.

When we say that three-quarters of the practical thermal value of every pound of

coal burned in the boiler furnace is lost past recovery to the consumer, we are putting it at less than actual loss. As yet there has been no means discovered whereby this valuable heat can be utilized, except in the heating of air, water, or other tangible substance.

"The first purpose for which exhaust steam is generally used is to warm the feed water, the object being to raise its temperature as high as possible before it enters the boiler, thereby to save fuel.

"The first question which nearly always suggests itself to the engineer is, how hot can feed-water be made? The second, which he sometimes considers, but seldom arrives at a satisfactory conclusion about, is, what percentage of the coal does the heating of feed-water represent? And the following, which rarely comes under his notice, is, how much of the exhaust steam from an engine can be used in heating all the feed-water necessary to supply the loss sustained in the boiler by supplying steam to the same engine? and how much of it is left for use elsewhere to heat the factory in winter, heating water for other purposes than boiler feeding, drying, etc.?

"The answer to the first question is: Water under the pressure of atmosphere cannot be heated above 212 degrees Fahr., and when the feed-water passes the check valve at a temperature of 200 degrees it

should be considered satisfactory, although it is possible to do better. Where water is forced through a heater, the temperature can be raised higher than when drawn by a pump from the heater, as the lessening of pressure also lessens the capacity of the water for sensible heat. Some makers of feed-water heaters claim they can heat the water above 212 degrees, because it is under pressure; but this is evidently a mistake, as both the water to be heated and the steam necessary to heat it should have a pressure above atmosphere, and any attempt to keep a back pressure in the exhaust pipe for the simple purpose only of warming the feed-water above 212 degrees is attended with a loss instead of a gain. The attempt to heat the feed-water five degrees above 212 degrees or 217 degrees, by a back pressure of two pounds, the mean pressure in the cylinder being fifty pounds, is attended with a loss in the engine, greater by more than five times the gain to the feed-water.

"The answer to the second question is: That when the feed-water is raised from mean temperature of 40 degrees to 212 degrees by the use of exhaust steam at atmospheric pressure, it is equivalent to very nearly two-thirteenths of the weight of the fuel necessary to convert water at mean temperature to steam at any pressure, and fifteen to eighteen per cent. of the coal is the greatest possible saving that

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"To find the saving of other differences of temperature in the feed-water, divide the difference between the temperature of the cold water as it enters the heater, and that at which it enters the boiler, into 1,146, less the difference between the cold water and 32 degrees, and the product is the fraction of the coal heap.

"The answer to the third question is: That two-elevenths of the exhaust steam is the greatest quantity which can be utilized in the heating of feed-water, and, making a generous allowance for loss by radiation, etc., there will still be three-fourths of all the exhaust steam for other purposes.

"The next general purpose for which the exhaust steam from an engine can be used is in warming the air in a building or a dry

room, to which purpose it is often applied, though not as much as it should be, as there appears to be an idea among many users of steam that it is just as well to take live steam from the boiler as to cause one or two pounds back pressure on the engine for the purpose of getting circulation, and driving the air from all parts of the coils.

"The loss in power to an engine from back pressure is very nearly directly as the difference between back pressure and mean pressure. Thus, in an engine of fifty pounds mean pressure, with a back pressure of two pounds, there is a loss of four per cent., and, as it is generally conceded that the available energy of an engine cannot represent one-quarter of the practical thermal value of the coal, the loss in full caused by two pounds back pressure cannot represent more than one per cent. of the

coal, and as it is an incontrovertible fact that exhaust steam contains more than three-fourths, or seventy five per cent., of the practical thermal value of the coal, the balance is largely in favor of using exhaust steam. In using exhaust steam care should be taken to have the pipes sufficiently large to convey it freely. A back-pressure valve should be placed in the main pipe of such construction that it can be loaded to suit, so as to reduce the back pressure to a minimum when in use, and to hold it up when not required. An allowance must be made for the increase of area in pipes as the sizes are lessened. It is common for inexperienced fitters to suppose that all that is necessary in piping for air, steam, water, or other fluids is to maintain the same area; thus carrying steam for a short distance through a two-inch pipe, then separating this volume into a coil of four one-inch pipes. Four one-inch pipes gives the same area as one two-inch pipe, but the fact is that it takes nearly seven one-inch pipes to carry the steam supplied by one two-inch pipe. Again, the required pressure is largely increased by the use of long pipes, and an increase of size should be made for every forty feet in length.

"By the use of the McEachron Hot Blast System, and our system of building coils, back pressure to the engine is entirely removed. The exhaust steam is divided into such a large number of pipes, and these so short, the means of disposing of the water of condensation is so perfect, and the action of the air drawn or forced through the coils condenses steam so rapidly as to cause a vacuum instead of back pressure. We can cite instances where the back-pressure valve in a pipe received directly from an upright tubular heater though the roof was held up full upon all winter, and the steam conveyed from a tie in the pipe down to the heater in the basement of the building at a considerable distance from the vertical exhaust pipe, and the whole building successfully heated. To show that our heaters do not cause back pressure, we frequently put on a compound pressure and vacuum gauge, in which cases we nearly always show a vacuum of about one-half inch of mercury, so that in using our system you have no back pressure. We know of a six-set woollen mill driven by two of the most economical types of high-pressure engines.

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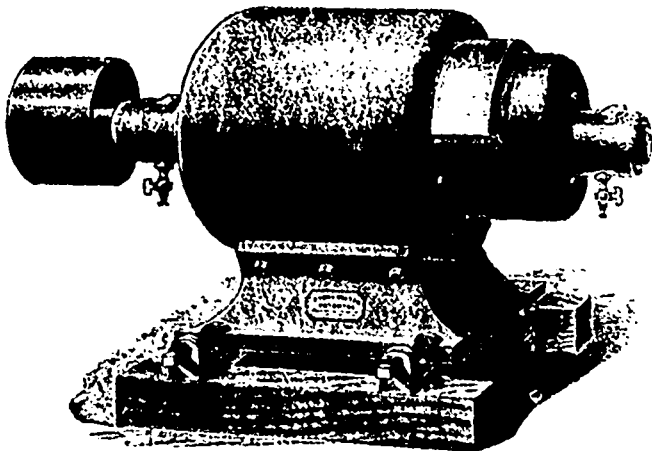


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Hollinger & Ball have bought the old felt boot factory at Hanover, Ont., and are going into the manufacture of chairs.

The B. Greening Wire Company, Hamilton, Ont., manufacturers of wire rope, wire cloth, etc., are placing on the market a new chain, smaller than anything of the kind heretofore made by them, and not shown on the sample board recently issued or in their catalogue.

The Herald Printing Company, Hamilton, Ont., have installed a twenty h. p. Storey motor, made by the Storey Motor & Tool Co., Hamilton, Ont.

CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Office, from September 15th, to September 29th, 1896.

Information regarding any of these patents may be had on application as follows:—

Fotherstonhaugh & Co., Bank of Commerce Building, Toronto.

Ridout & Maybee, 103 Bay Street, Toronto.

C. H. Riches, Canada Life Building, Toronto.

A. Harvey, Central Chambers, Ottawa.

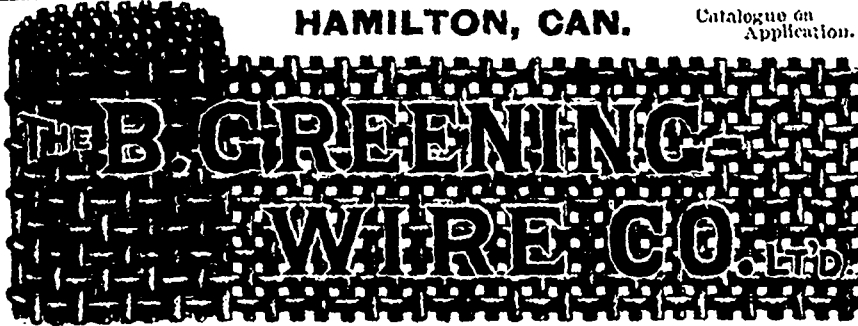
Copies of any American patents can be procured from either of these attorneys for the sum of twenty-five cents each.

53,481 Hot water heater, J. Barclay, Montreal.

- 53,482 Mandrel for forming pneumatic tire sheaths, F. W. Morgan and R. Wright, Chicago, Ill.
- 53,483 Car truck, J. A. Brill, Philadelphia, Pa.
- 53,484 Window, Wm. Randall, Elizabeth, N.J.
- 53,485 Incandescent lamp, J. T. Lister, and W. S. Chamberlin, Cleveland, Ohio.
- 53,486 Apparatus for adjusting garments, L. H. Deaner and J. H. Murray, Muskegon, Mich.
- 53,487 Hat fastener, Kate D. Head, Lawrenceburg, Ky.
- 53,488 Pea harvester, W. Chatterson, Wellington, Ont.
- 53,489 Unicycle, D. Shelly, Bridgeport, Ont.
- 53,490 Hinge, R. B. McClellan, San Francisco, Cal.
- 53,491 Grater, Evangeline Gilmore, Hamilton, Ont.
- 53,492 Baggage loader, G. H. Wall, Cadillac, Mich.
- 53,493 Farm gate, C. M. Abell, Morrisburg, Ont.
- 53,494 Sprocket chain, E. J. Swedlund, Atwater, Minn.
- 53,495 Railroad switch, R. G. Burton, Bluefield, W. Va.
- 53,496 Sleigh truck, S. C. Nutter, Sherbrook, Que.
- 53,497 Carding engine, A. A. Langewald, Warren, Mass.
- 53,498 Mould for butter, Ed. Bartlett, Belleville, Ont.

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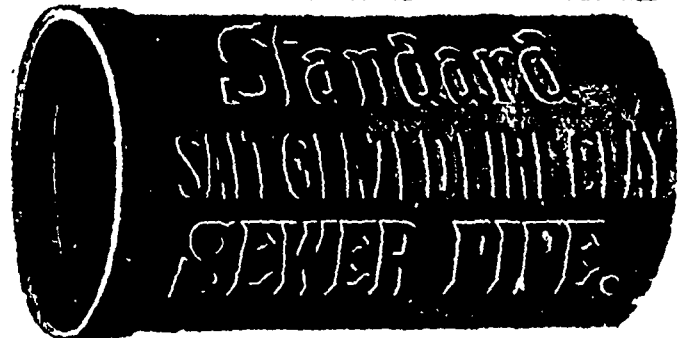
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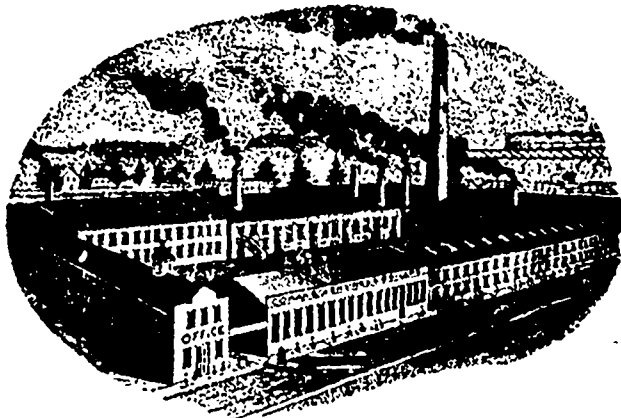
- 53,499 Suspender for pantaloons, A. Brown Ottawa, Ont.
- 53,500 Air pump, L. W. Swem, West Liberty, Iowa.
- 53,501 Straw carrier, etc., O. H. Anderson, Goddard, Kansas.
- 53,502 Bicycle parcel carrier and stand combined, C. A. Kennedy, Conitcook, Que.
- 53,503 Mechanism for changing the point of application of the load on treadles and levers, F. Ljungstrom, Stockholm, Sweden.
- 53,504 Centrifugal creamer, Olof Ohlson, Newark, N.J.
- 53,505 Means of adjusting plough wheels, The Verity Plough Co., Brantford.

- 53,506 Bicycle tire, A. Graff, Brooklyn, N.Y.
- 53,507 Auger, O. E. Wallner, Superior, Wis.
- 53,508 Folding umbrella, H. Emmelen and E. V. Byrne, Vancouver, B.C.
- 53,509 Machinery for cultivating and cleaning the land, T. Cooper, The Elms, King's Lynn, Norfolk, England.
- 53,510 Combined controvertible gardening and field implement, G. W. Biddell, Chattanooga, Tenn.
- 53,511 Pedal for bicycles, etc., M. Matthews, A. Jardine, and Agnes Jardine, Bracondale, Ont.
- 53,512 Coin-freeed apparatus for fluid meters, The Wrights Gas Meters Syndicate, Westminster, England.

- 53,513 Wrench, D. Medical, Troy, N.Y.
- 53,514 Buttonhole cutter, Abby S. V. e. Providence, R.I.
- 53,515 Earth Auger, R. Leighton, Waterloo, Ont.
- 53,516 Safety check for boilers, F. Albin, and P. Henkel, Dodge City, Kansas.
- 53,517 Screw thread cutting device, P. M. Wiebe, St. Louis, Mo.
- 53,518 Cycling machine, J. H. Mitchell and T. J. Cain, Gympie, Queensland.
- 53,519 Enamel paint and combination of material for composing same, G. W. N. Hamilton, Albert Park, Victoria, Australia.

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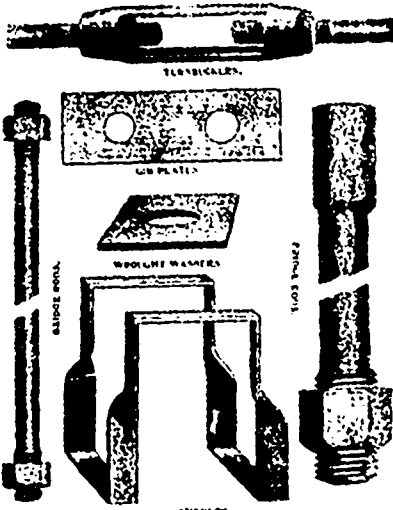
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53,520 Roller bearing, H. H. Ellis, Walkerville, Ont.	53,535 Hub attaching device, H. M. Cromer, Anderson, S.C.	53,550 Apparatus for telephone lines, the Bell Telephone Co. of Canada, Montreal.
53,521 Hydrant, E. S. Manny, Montreal.	53,536 Envelope seal, F. M. Converse, New York.	53,551 Lockout system for telephone lines, The Bell Telephone Co. of Canada, Montreal.
53,522 Self-closing milking bucket, C. F. Cooper and J. E. Mansfield, Melbourne, Victoria.	53,537 Cash register, C. H. Decker, Detroit.	53,552 Telephone circuit, The Bell Telephone Co. of Canada.
53,523 Wool drying, J. McCreath, Trovercargill, New Zealand.	53,538 Arithmetical calculator, W. N. Cuthbert, Toronto.	53,553 Selective signal and lockout system, The Bell Telephone Co. of Canada.
53,524 Pneumatic saddle, O. F. Baker, Galt.	53,539 Mechanism for the transmission of power, H. Bultmann, Bremen, and S. Hartman, Berlin, both in Prussia.	53,554 Suspender, John Smith, Bryson, Que.
53,525 Traction motor, A. J. Pater Noster de Souza, Paris, France.	53,540 Walking or skating bicycle, T. A. Marteeny, Kansas, Mo.	53,555 Spoke thimble, D. J. McLeod and R. R. Morrison, Gaharouse, N.S.
53,526 Car coupler, S. J. Meeker, Newark.	53,541 Pictorial card, W. B. Blackhall, Toronto.	53,556 Pipe hanger, etc., R. W. Clark, Buffalo, N.Y.
53,527 Truck bearing, S. A. Eisele, San Antonio, Florida.	53,542 Lock for order binders, R. J. Cope-land, Toronto.	53,557 Egg holder for shipping crates, A. J. Baker, Auburn, N.Y.
53,528 Bottle, T. N. Sterry and J. J. Murphy Norwich, Conn.	53,543 Hydrant, E. Croustedt, St. Paul.	53,558 Skirt protector, H. Feder, New York.
53,529 Rubbercondenser for carding engines, T. G. Beaumont, Toothill Groove, Rastrick, York, England.	53,544 Plumb level, L. C. Raymond Rutland, Vt.	53,559 Under garment, W. J. Frisbie, Camden, N.Y.
53,530 Apparatus for cooling water, A. G. Heinrich, Luderitz, Hamburg.	53,545 Car buffer, The Gould Coupler Co., New York.	53,560 Bicycle rear creeper, W. T. S. Morrison, Cornish, Me.
53,531 Window Sash Lock, T. W. Crozier, Roanoke, Va.	53,546 Car Coupler, The Gould Coupler Co., New York.	53,561 Grain cleaner, J. C. Willing, Crisp, Mich.
53,532 Device for operating window sashes, P. Marshall, Fair Play, Mo.	53,547 Roller bearing, J. D. Mattison, Saginaw, Mich.	53,562 Machine for making wire fencing, W. Edenborn, Chicago, Ill.
53,533 Metallic Railway Tie, The Hamilton Malleable Iron Co. New York.	53,548 Pipe coupler, E. W. Whitmore and E. C. Dodge, Lynn, Mass.	53,563 Apparatus for utilizing the power of sea waves, B. M. Fletcher, Middlesex, England.
53,534 Buckle, G. F. Stansbury, Weedsport, E. W. Smith, Albany, Eliza Ann Raymond, all in N.Y.	53,549 Weather strip, W. Z. Brown, and the Schatsick Baecker Building Co. Quincy, Ill.	

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| 53,568 Electric switch, E. H. Wright, J. J. Heckman, C. C. Carnahan, A. H. Graves, all of Chicago, Ill., and W. H. Carnahan, Apollo, Pa. | 53,584 Art or process of reducing aluminium, F. A. Gooch, New Haven, and L. Waldow, Bridgeport, Conn. | 53,601 Machine for making matches, The Diamond Match Co., Chicago, Ill. |
| 53,569 Dust collector, F. Prinz, Milwaukee. | 53,585 Electric signal, F. C. Jordan, Wadsworth, Ohio. | 53,602 Electric railway, J. C. Love and J. E. Hodges, London, England. |
| 53,570 Brake beam, The Chicago Ry. Equipment Co., Chicago, Ill. | 53,586 Nut tapping machine, N. B. Wood, Cleveland, Ohio. | 53,603 Dynamo electric machine, The Canadian Gen. Electric Co., Toronto. |
| 53,571 Process for extracting minerals from ores, G. A. Schroter and T. Lowthian, both of Denver, Col. | 53,587 Linotype machine, Ottmar Mergenthaler, Baltimore, Md. | 53,604 Surgical engine, The S. S. White Dental Mig. Co., Philadelphia, Pa. |
| 53,572 Joist hanger, V. E. Gregg, and E. F. Bohn, Cleveland, Ohio. | 53,588 Linotype machine, Ottman Mergenthaler, Baltimore, Md. | 53,605 Telephone key board, The Bell Telephone Co., Montreal. |
| 53,573 Cultivator, S. K. Vaughn, Hydo Park, and D. M. Dickinson, Cambridge, Vt. | 53,589 Velocipede and other wheel tire, J. J. Warry, Birkenhead, Chester, England. | 53,606 Key board apparatus for telephone switch boards, The Bell Telephone Co. of Canada, Montreal. |
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| 53,576 Mining gold and similar metals, Herman Frasch, Cleveland, O. | 53,592 Hot water furnace, J. T. Robbins, Newton, Iowa. | 53,609 Machine for the manufacture of excelsior wrappers and pads, Excelsior Wrapper Co., Sheboygan, Wis. |
| 53,577 Fire-grates, stoves, furnaces, etc., J. D. Hannah and W. C. C. Peole, both of Shrewsbury, England. | 53,593 Self-opening umbrella, F. J. Muller, Schenectady, N.Y. | 53,610 Car coupler, P. C. Brown and J. I. Irwin, both of Columbus, Ind. |
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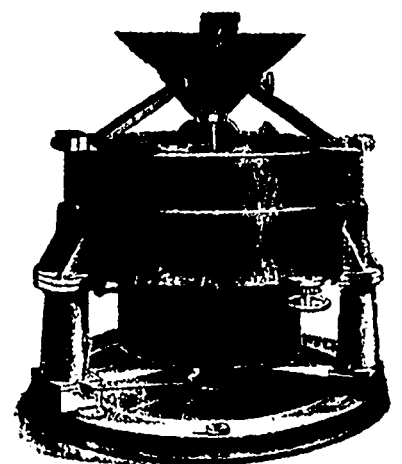
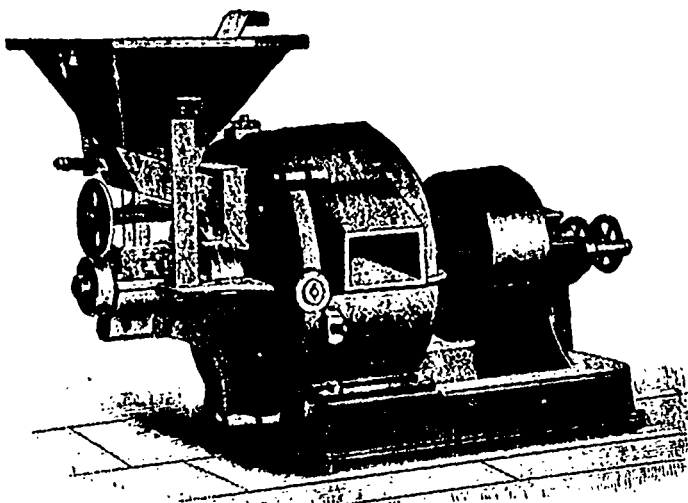
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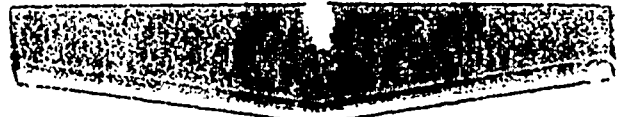
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Galt Machine Knife Works



Stave Cutter Knives

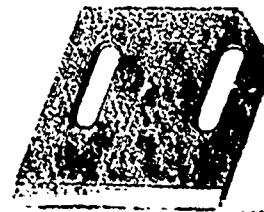
PLANING ..
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Moulding,
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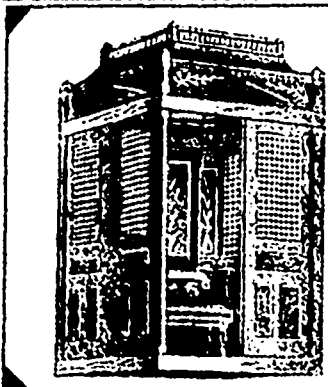
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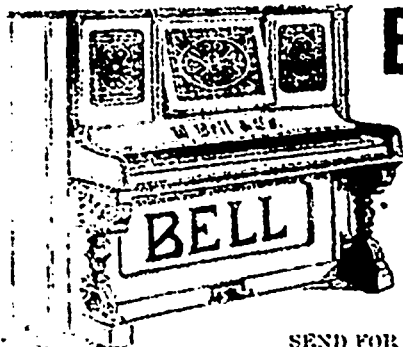
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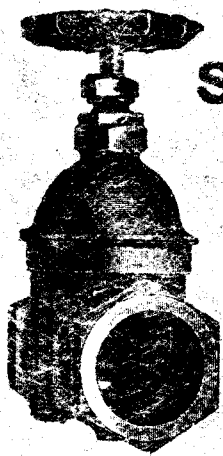
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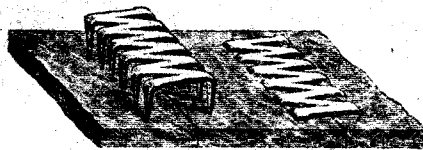
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