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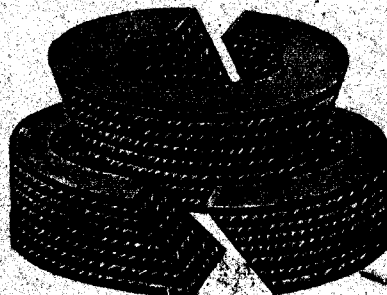
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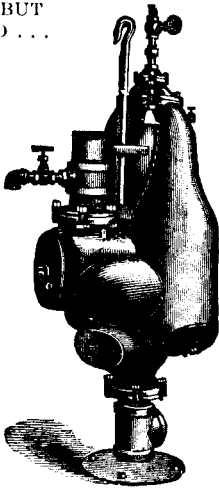
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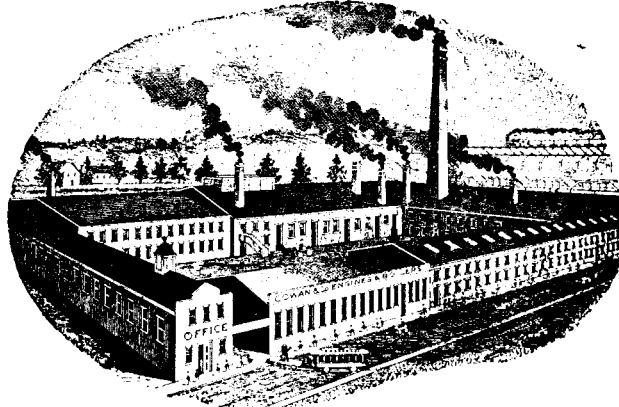
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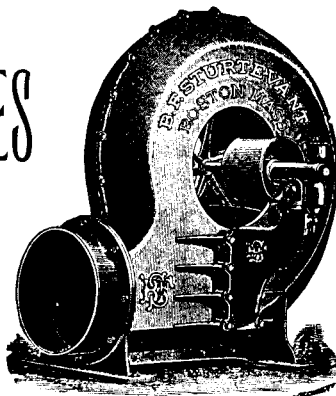
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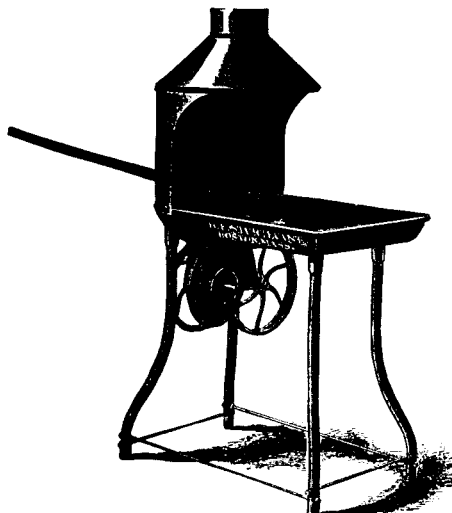
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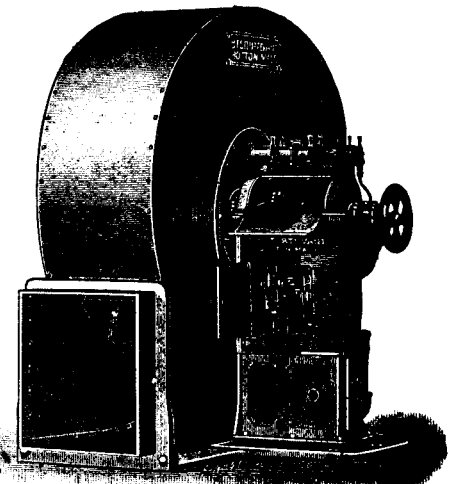
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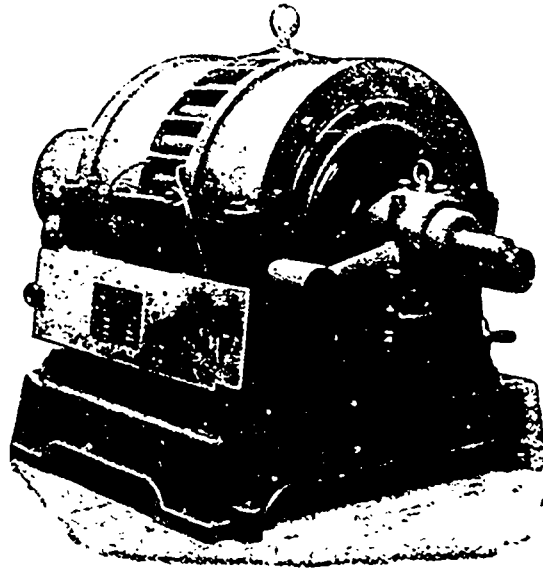
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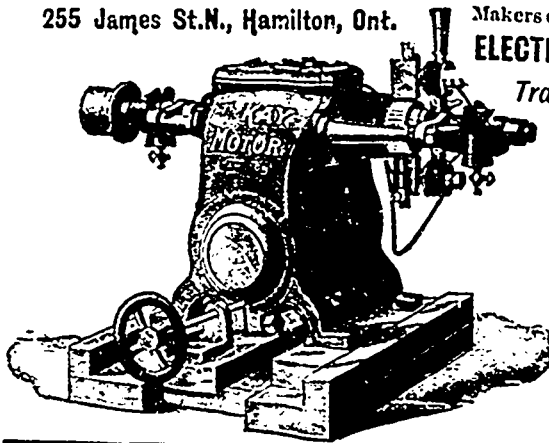
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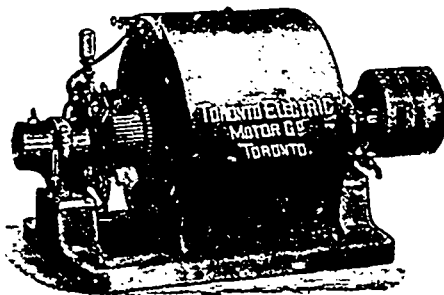
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The "Plansifter" in
125-Bbl Mill.

GLENCARR, ONT.,
January 28, 1897.

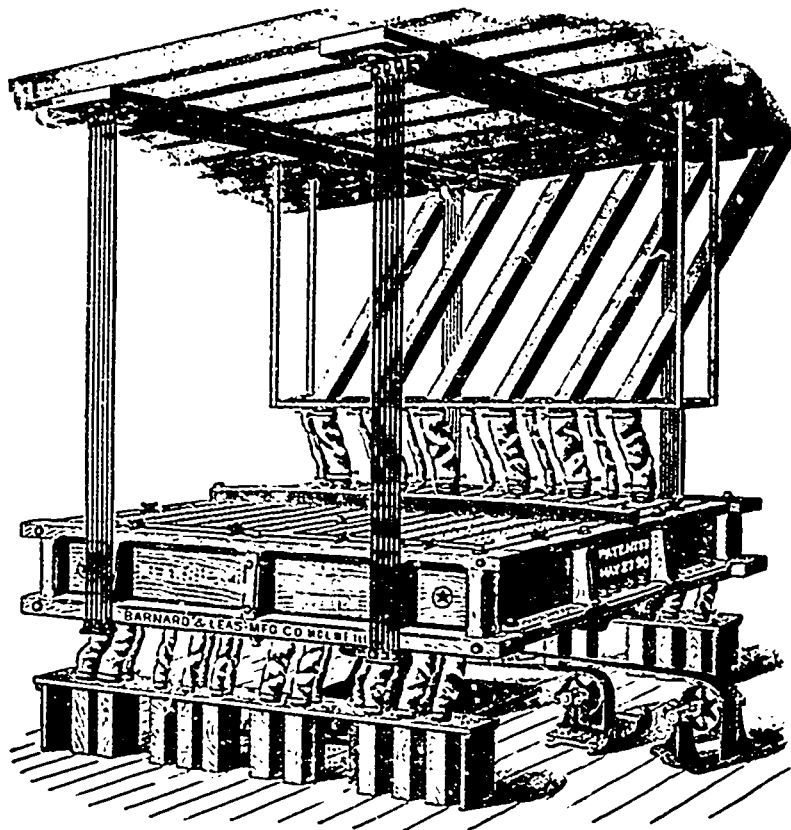
MESSRS. WM. & J. G. GREY,
Toronto, Ont.:

DEAR SIRS:—We would have written you sooner with reference to the "Plansifter" which you put in for us about four months ago, but thought it better to wait until we had given it a pretty fair trial. This machine has taken the place of six reels, and after four months' constant use, we find a decided improvement in color of both "Patent" and "Break" flour, and a better yield, and a largely increased capacity, with the same power. The "Plansifter" is most certainly a wonderful machine, and with our present knowledge of it, we would not be induced to return to the old system of bolt ing flour on reels.

Wishing you every success, we remain, Yours very truly,

M. N. STEPHENS & SONS.

The above letter is a good illustration of how easily the "Plansifter" can be satisfactorily operated by millers having no previous experience with the machine. In the case of the above machine, owing to an accident with Messrs. Stephens Mill Pond, our millwright had to come away before the machine was started. None of us have been near the mill since. This testimonial is therefore full of meaning as to the excellence of the "Plansifter."



The "Plansifter" in a
50-Bbl Mill.

WARSAW, February 1, 1897.

DEAR SIR:—In answer to your letter I can recommend the "Plansifter" as being a first-class machine in every respect. It does its work first-class, runs without any trouble whatever in the hands of a practical miller, and is a great saving in power from the Reel system, as it does not take any more power to drive a "Plansifter," than it does to drive one round reel. We have a No. 2 "Plansifter" in our mill here, and it does all the scalping and bolting for ten pairs of 9x15 inch rolls with the aid of two Little Wonder Reels to dust the tailings or shorts. We have made several tests as to capacity and yield. The mill was guaranteed to grind fifty bbls. per day, but we have made ten bbls. more than that with ease. Our last test was made on No. 2 Manitoba hard wheat, we made a barrel of flour out of a shade less than four bushels, twenty-six pounds, with a low grade taken off. The flour was of excellent quality, and I feel confident that I can make a lower yield and still have good flour. If you are going to build a mill I should certainly say, put in a "Plansifter," as it is in advance of the Reel system, especially on hard wheat.

I remain yours truly,
ALFRED BLIGHT, Head Miller
and Manager for

John Watson.

The above letter was written by Mr. Blight, in answer to an enquiry from a party desiring information regarding the "Plansifter," and speaks for itself.

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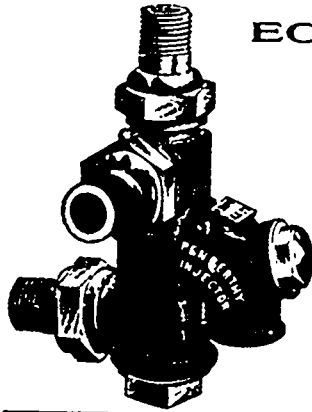
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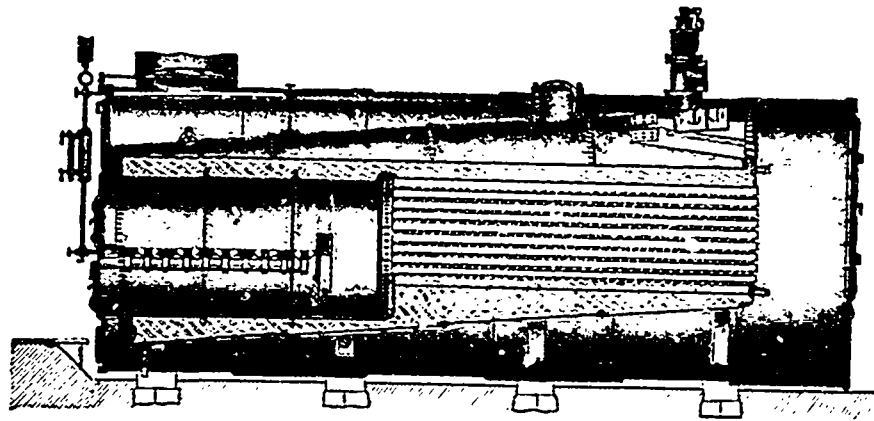
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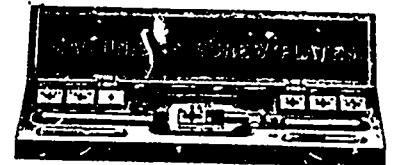
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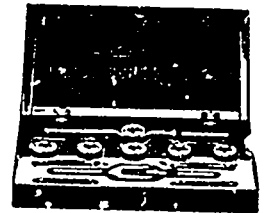
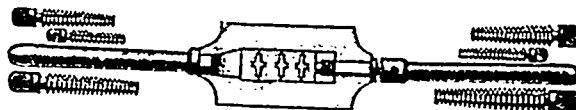
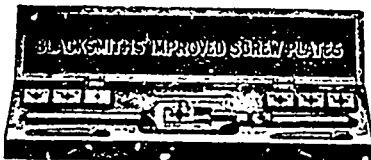


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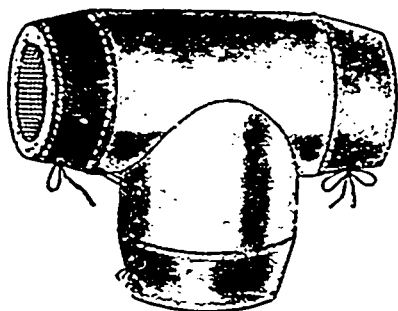
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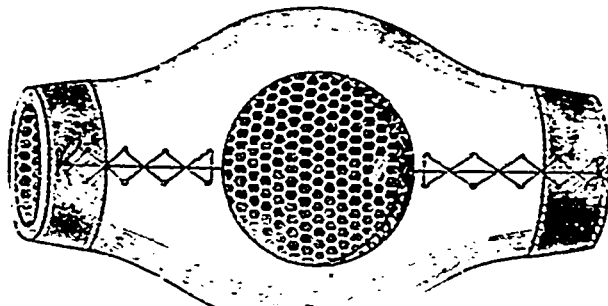


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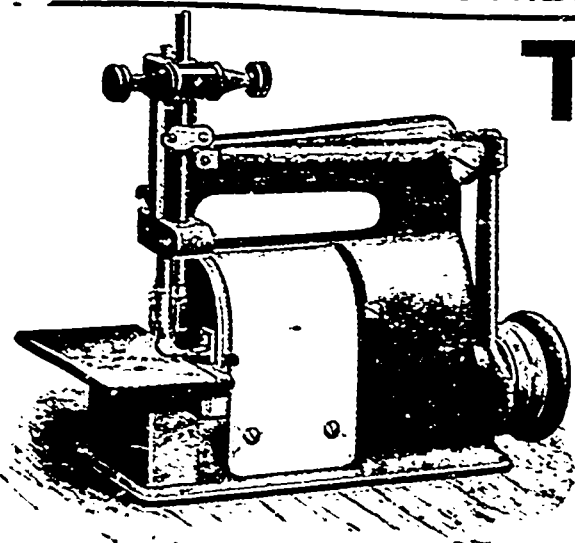


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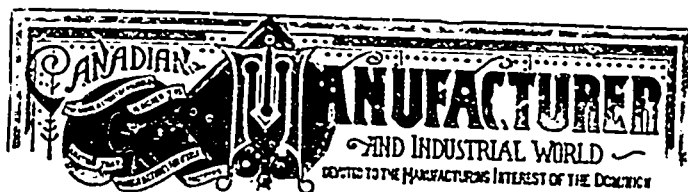
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RECIPROCITY.

As anticipated in the last issue of this journal, Messrs. Cartwright and Davies have returned from their official visit to Washington, to report the same failure in their efforts to establish a fair treaty of reciprocity between Canada and the United States which had been experienced by their forerunner, Mr. Charlton, in his semi-official attempt in the same direction. When will our politicians learn that the great mass of the people of Canada are heartily sick of the con-

temptuous and humiliating manner in which all Canadian overtures for improved facilities of commerce between the two countries are treated by Yankee politicians? As we have formerly contended, the speeches and action of the Reform press, and the leaders of that party, afford ample evidence of gross insincerity or crass stupidity in dealing with this question. What would be thought of the business capacity of any man who, being desirous of exchanging one piece of property for another, would depreciate the value of his own and exaggerate the value of the other? This is just what the Reform party has been constantly doing since its leaders were entrapped by Mr. Wiman into approval and support of the ridiculous fad of unrestricted reciprocity.

If the style of argument employed at Washington by Messrs. Charlton, Cartwright and Davies in favor of reciprocity was similar to that used by Mr. Charlton in a recent address to a Reform club in this city, it can hardly be a matter of surprise that so far from assisting him in his efforts they virtually excluded his proposals from any favorable consideration. He is reported as saying:—"Under that treaty (referring to the old reciprocity treaty), our exports to the States increase four-fold. In 1851 the exports were ten and one-half millions; in 1866 they were forty millions." And again:—"Had the increase of trade been what the earlier experience would warrant our assuming it would have been under favorable conditions, last year would have seen a trade between these countries amounting to 250 millions of dollars instead of the ninety-five millions shown by the returns." If such an argument had been submitted to the committee at Washington appointed to deal with this question, they would naturally refer to their official returns which show for the year ending January 30, 1866:—Exports to B.N.A. provinces, \$24,828,880; Imports from B.N.A. provinces, \$48,528,628; showing that their imports nearly doubled the exports. They would very naturally reply to Mr. Charlton, that, accepting his figures and conclusions, the increase of trade which he assumed would have resulted in 1896 in imports from Canada \$167,000,000, as compared with exports to Canada \$83,000,000. This would be a very one-sided arrangement and one that we have no desire for. Why did not Mr. Charlton, if really anxious for a fair reciprocity treaty, and desirous of placing the subject candidly before the people of both countries, state that in order to a proper understanding of the question it should be judged by the conditions which existed up to the outbreak of the war of secession, which, during the last five years of that war, created an abnormal demand for all Canadian products. In the year ended June 30, 1860, the imports into the United States from British North America amounted to \$23,572,796; the exports from the United States to British North America, \$22,902,386; the imports and exports being nearly equal. During the seven years from 1853-54 to 1859-60, in which the commerce was not affected by the war, the exports from the United States to British North America exceeded its imports from these provinces by \$53,455,567. This is the true test of the direct operation of reciprocity, and this affords a reasonable argument in favor of reciprocity. But all efforts really in favor of reciprocity are subordinated to serve the purpose of deluding the farmers of Canada with the impression that the prosperous times and big demand for Canadian products from 1860-61 to 1865-66 were due to the natural working of

reciprocity, when they were really created by the unnatural working of a long protracted and fierce civil war. If anything can be effectually accomplished towards more friendly commercial intercourse between the two countries, it must be done through the influence of the business men on both sides of the line. No good result need be expected from conferences between Canadian and United States politicians, few of whom have any practical knowledge of business methods, or can judge of the probable effects of a change of policy; but on the other hand, are far more interested in the results to their party of such a change, than they are in its effects upon the prosperity of their country.

The Republican party in the United States is reported as being generally favorable to the principle of reciprocity, but decidedly opposed to including Canada within the scope of any Act in that direction which may be introduced. As their own official returns show every probability of a safer and more extensive expansion of commerce with Canada than with any other country, the cause of this exclusion of Canada is to be found in political, not in commercial consideration. A recent circular issued by the United States Department of Agriculture, (No. 6), relating to imports and exports, shows that Canada ranks as third highest importer of United States merchandise, of all the countries of the world, being only second to the United Kingdom and Germany.

During the three years ended June 30, 1893, 1894 and 1895, their own returns show that their exports to Canada amounted to.....	\$156,353,341
Imports from Canada.....	105,102,590
Excess of exports	\$51,250,751

This amount of exports, and excess of exports over imports, would be much larger but for the defective system under which exports by rail are reported.

The annual average of exports to Canada was....	\$52,117,780
The exports to Spanish West Indies, Brazil, Mexico, Central America and Hayti, in 1895 amounted to.....	56,240,300

If the decision as to which direction reciprocity arrangements could be turned to best advantage were confided to business men instead of politicians, can there be any doubt as to their decision in favor of Canada?

In the present temper of United States politicians, who will only entertain the consideration of reciprocity with Canada on the basis of unjust discrimination of the Canadian tariff against all other countries, and especially against England, it is not surprising that all the efforts of the Canadian Government should prove unavailing. Yet, why should the United States not insist upon this condition? It is just what the party now in power at Ottawa has been promising for many past years to concede, and a condition which it has been constantly blaming the late Government for not conceding. Now that the party has been entrusted with the responsibilities of office, and stands face to face with the political difficulties which it formerly contended were no difficulties at all, its leaders are compelled to abandon their position on this question which they so confidently maintained when in opposition.

Canada has surely humiliated itself long enough in vain efforts after more friendly intercourse with its zealous neighbor. It is now time to abandon such efforts. Enough has been said about the seventy million market; too little

about the fact that the five million people in Canada purchase fifty per cent. more from the seventy million people in the United States than they sell to them; too little about the fact that Canada affords a market for over twenty million dollars worth of United States manufactures. It is time that Canada should assert itself, and resent the treatment dealt out to it by its haughty and domineering neighbor. It seems probable that the next meeting of Congress will adopt a tariff imposing duties ranging from 50 to 100 per cent. on such agricultural products of which Canada has a surplus. When Parliament meets at Ottawa next month, it is to be hoped that the Government and all the members of both houses of parliament will have backbone enough to let the politicians in Congress understand that the imposition of such duties will be followed by a like policy in Canada, and that similar rates of duty will be imposed upon Yankee manufactures coming into Canada, such as all implements, machinery, tools, iron and steel, rubber and gutta percha goods, paper and stationery of all kinds, drugs, dyes, chemicals, etc. When the United States politicians find that in order to shut out a few million dollars worth of Canadian raw products, they have sacrificed the sale of over twenty million dollars worth of finished manufactured goods, perhaps they may realize that restriction is a policy that two can play at. And perhaps too, Canada may find that through the adoption of this policy, it will have increased its own manufacturing population to such an extent that this increase will create a larger and better demand for its products than it may have lost through the exclusive policy of the United States.

THE OTTAWA CANAL.

This journal has frequently expressed the opinion that if, on completion of the Canadian canal system via the St. Lawrence River to a uniform depth of fourteen feet, it should be found inadequate to the traffic from the West, and if the additional traffic which can be secured should prove large enough to justify any great expenditure, such expenditure could be more advantageously invested on a capacious large canal route from French river via Lake Nipissing to Montreal, than on any other scheme which has been proposed. We believe that by this canal route, transportation could be conducted more cheaply than by any other, and that the local advantages to be derived are immeasurably superior to those of any other route. We have taken occasion, again and again, to complain that Parliament granted a charter to a company for the construction of such an important work, which should be undertaken by the Government alone. We can only treat with ridicule the propositions which the promoters of this work have laid before the Government for public assistance, and can hardly believe that these promoters could expect in the present position of the company, that any propositions for assistance could even be considered. By their own showing, they have not yet progressed far enough to obtain a survey and estimate of the feasibility and probable cost of the work, and yet they ask the Government for large stock and bonding powers, for a guarantee of an immense bonus for twenty years, and actually have the assurance to ask for a grant of money to get a survey made. It is time this farce should be ended. If this company cannot produce reasonable evidence of its financial ability to construct the

work, let its charter lapse. This journal would cordially approve of any reasonable grant by Parliament for getting a survey and estimate of cost, if the work were to be undertaken by the Government, but the sooner the charter of the present company is allowed to expire, the better.

THE WESTINGHOUSE COMPANY AND THE HAMILTON SPECTATOR.

A few days ago the Toronto Mail and Empire, in its news column, announced that the Dominion Government, by an Order-in-Council, had admitted free of duty a lot of machinery for the Westinghouse Company, of Hamilton, that would otherwise have been subjected to duty, and that if held liable to duty would, in all probability, have been made in Canada. It was shown that the machinery is of the kind used in the manufacture of air brakes. There are numerous manufacturers of machinery in Canada, and these could have made a large part of the plant. When the question of making the machinery here, or of importing it instead, arose, the Westinghouse Company, properly enough from its point of view, sought the right to bring it in free, thus avoiding the necessity of having it made in Canada by Canadian labor, or the alternative of paying the duty which other importers in like circumstances would have to do. The Government was faced by the fact that the law called for a duty of thirty per cent., and was met by the appeal to abolish the duty in this particular case. In other words, it was asked to set aside the protective principle altogether. There is no provision in the law authorizing the Government to suspend duties in favor of any particular concern. As regards machinery, however, it can admit it for mining purposes free, but only such as is not made, or cannot be made, in Canada. The appeal for the admission of this particular machinery was nevertheless favorably heard, and \$50,000 worth of machinery was allowed to come in without duty by an Order-in-Council, which repealed the law of the land. The discovery of this remarkable invasion of Parliamentary authority, this reversal in anticipation of the protective policy, has caused much comment, and it will be discussed when Parliament meets. It looks like a foretaste of the attack that is yet to be made upon Canadian labor and industry.

Discussing the matter, editorially, The Mail and Empire said:—

The statement that the Government has admitted free of duty machinery that could be made by Canadian labor is serious from two points of view. First, what is the use of a law imposing a duty, whether for revenue or for protection, if a committee at Ottawa can repeal it at will? Is not Parliament the law-making power? Why should a Cabinet issue its mandates setting aside the law that Parliament has made? If the Cabinet can thwart the operation of the law in any one case, where is the thing to stop? What guarantee have we that there is no discrimination, no favoritism? That there is any authority for the admission of articles for which the law prescribes a duty the Government ought to prove, and without delay. In the second place, the setting aside of the law deprives the treasury of the revenue which Parliament has said it should have, and the workman of the protection which Parliament has accorded him. The haste to knock off the revenue is open to criticism; the wiping out of protection is a procedure into which the workers ought to look. No blame is attachable to the company that asked for the exemption and got it. It has a right to get all it could.

We fail to observe wherein our Toronto contemporary made any bad break either in stating the fact that the Government had allowed the Westinghouse machines to be brought into Canada duty free, or in commenting upon the fact. The statement of the fact was legitimate news; the comments were timely from a political standpoint, and there was nothing said evincing any ill will towards Hamilton.

But The Spectator does not thus view it. It should be understood, from what our Hamilton contemporary says upon every possible occasion, that it is a devotee at the shrine of protection, and that nothing—absolutely nothing can induce it to swerve from that devotion. It is very inconsistent in making this claim, but it makes it. Hear what it says regarding this matter:—

The Toronto Mail is chewing soap because certain machinery for a by the Westinghouse Company, Hamilton, has been admitted free of duty. The Mail claims that if the duty were insisted upon the machinery would have been made in Canada, and asserts, moreover, that the government was guilty of overriding the law in admitting the machinery free, by special Order-in-Council. We will not discuss the constitutional aspect of the case, that would be an endless and most unsatisfactory job; but the machinery being of a peculiar nature, built specially for this company, it would have entailed enormous expense to have forced the making of the machinery in this country. Special patterns would have been necessary for each machine, and the cost would have been very heavy. It is barely possible that if the Westinghouse Company had chosen Toronto as the location for its Canadian factory, the Mail would not have been so exceedingly anxious about the alleged infraction of the law by the Governor in Council; and that it would not have insisted that the machinery should have been made in Canada. The presence in Canada of the Westinghouse factory will do the country so much good that any little irregularity there may have been in the matter of throwing off the duty—if there was any irregularity—may be overlooked as being entirely out-balanced.

Arrangements made for the purpose of securing an entirely new and most important industry for Canada should not be criticised too closely. Let us rejoice that Canada has been able to secure the factory.

Usually The Spectator allows no opportunity to escape unimproved for criticising the Government when it thinks any overriding of the law has occurred; and it is instant in season and out of season in discussing the constitutional aspect of any such case as that here alluded to, or in fact of any case where it thinks it can exhibit its knowledge of constitutional law, never caring whether the doing so was an endless and most unsatisfactory job or not; but it pushes aside this view of the case as regards the Westinghouse incident as not being worthy of consideration, and condones the sin against protection committed by the Government in view of the fact that Hamilton is the beneficiary of it.

The explanation it gives for this gross violation of the law by the officers of the law, are ridiculous in the extreme, and do not bear examination. It tells us that the machinery, being of peculiar nature, built especially for the Westinghouse Company, it would have entailed enormous expense to have forced the making of the machinery in Canada; that special patterns would have been necessary for each machine, and the cost would have been very heavy. We rejoice with The Spectator that the Westinghouse Company are establishing their extensive works in Canada—yes—in Hamilton; but our very inconsistent contemporary, and The Mail and Empire also, neglects to tell the public what induced the company to

come. Some couple of years ago the late Conservative Government enacted a law to the effect that at the expiration of a certain time all railroad cars in use in Canada should be equipped with good and sufficient air brakes. This was done for the protection of the traveling public, and of the employes on the railroad against possible accidents and mishaps. Some of the cars are thus equipped already, but the law required the universal use of the equipment. The Westinghouse Company; whose chief works and head office is, we believe, in or near Pittsburgh, Penn., are the owners of the patent of what is generally conceded to be the best and most efficient air-brake known, and they are the owners of the Canadian patent also. In fact they control an absolute monopoly for the manufacture of the appliance. The imperative use of this air-brake in Canada affects, in the main, but the railroads that are obliged to use it and the company that manufactures it. If the manufacture of the article is done in the United States, either the buyer or the seller would have to pay the duty imposed upon it; and it is quite certain there could be no plausible demand made upon the Government to allow the appliance to be brought in duty free, for there is no sufficient reason why it should not be made in Canada. If, the appliance being made in the United States, it would fall upon the railroads to pay the duty, it would be the policy of the railroads to themselves pay the whole duty upon the machinery imported into Canada if it could not be manufactured here. If the duty was to be borne by the Westinghouse people, then it would be to their interest to pay the smaller amount of duty upon the machinery they desired to bring in to enable them to build air-brakes in Canada. Having an entire monopoly of the manufacture of air-brakes in both Canada and the United States, and not having to contend against any competition whatever in either country, they could well afford to pay the duty upon their \$50,000 worth of shop machinery, having it in their power to recoup themselves many times over from what would be saved in the transaction should they have declined to start works in Canada. Why then should the Canadian treasury be denied the revenue when the only parties interested in the transaction are the railroads and the Westinghouse Company? This is an aspect of the matter that we would like The Spectator to discuss.

The argument advanced by The Spectator that the duty should be remitted on the Westinghouse machinery because of its being of a peculiar nature and expensive to produce, is very diaphanous. It may not be aware of the fact, but it is a fact that all machinery is of a more or less peculiar nature, and expensive to produce; but that fact does not imply that such machinery should be imported duty free; and if that rule is to be hereafter observed, we shall very quickly see hundreds—yea thousands of claims presented to the Government for repayment of duties paid upon quite as peculiar and expensive machinery. There is not a cotton mill nor woolen mill in Canada that is not supplied with peculiar and expensive machinery, imported from abroad, and upon which full duties were paid—then why make an exception in this case? Within the past few years a very large and important industry has sprung into existence in Canada—the manufacture of bicycles—but a very large portion of the machinery involved was turned out of Canadian machine shops, that which was imported paying duty without grumbling. Why, then, should not the Westinghouse Company pursue the same course? The Spectator

tells us that the remission of duty in favor of the Westinghouse people, made for the purpose of securing an entirely new and most important industry for Canada should not be criticised too closely, but its utter failure to stand up for and to speak good words for protection indicates the hollowness of its pretensions. In this instance it shows no regards for its previous preaching, nor for Canadian manufacturers.

CHEAP, NASTY AND DANGEROUS.

A few days ago the local columns of The Montreal Star contained the following item:

The Board of Health this morning received a complaint of another case of lead poisoning due to the use of cheap enameled utensils. A city family for a week back had been suffering from symptoms of poisoning, and called in a doctor who decided that the trouble was due to a cheap enameled teapot used by the family. The interior plating had worn off, leaving the tea exposed to the action of the lead in the material of which the pot was made. The utensil in question was made in Germany, and Dr. Laberge intends to try and discover the importers.

On the same day The Montreal Herald contained the following relating to the same circumstance:

A number of cases of poisoning have been reported to the Health Department during the past few months. Fortunately none of the cases have proved fatal, though one lady has become paralyzed. The medical health officer, Dr. Laberge, explains that, so far as he has been able to ascertain, the poisonings have been caused by cheap tin and agate kettles, teapots, etc., which are being sent into the city from Germany and other foreign countries, and sold in various stores for a small price. He is of opinion that a large amount of common lead is mixed in the manufacture of these articles hence the poisonings. In order to verify this suspicion he has sent a teapot and one or two kettles to be analyzed by experts in Ottawa.

It will be remembered that when the Tariff Commission were in session in Montreal certain representations were made to them by some of the manufacturers to the effect that large quantities of cheap tin and enameled culinary articles were being imported into Canada, chiefly from Germany, and that these goods were, intrinsically not worth the price they were being sold for, and that the use of them was really prejudicial to the health of the users. These statements were vehemently combatted by the importers of the goods, the arguments being advanced that in the first place no possible danger could result from the use of the articles, for while they might, for some slight and unimportant defects in their manufacture, not be considered first-class in all respects, yet they were quite as good and useful and safe as the higher grades; that because of the slight and unimportant defects, which did not affect their usefulness, they were sold at exceedingly low prices, which made it possible for the poorer classes to purchase them, and that it would be unfair to these poorer classes to exclude such goods from the country by increasing the duty upon them.

If the facts stated by the manufacturers were correct, the importation of such goods should be prohibited by the imposition of very high duties, if the manufacturers were wrong in their assertions, and the contention of the importers correct, and that it was a boon and benefit to poor people to be able to purchase this cheap German ware, well and good; but the poor, having it within their ability to purchase the

stuff, we are brought face to face with the condition that prevails in Montreal, and probably in many other places, where innocent users are poisoned, and much pain and suffering resulting from precisely the condition that the manufacturers brought to the attention of the Tariff Commissioners.

Of course the importers and their friends are always loud in their declamation that the consuming poor are always possessed of sufficient intelligence to discriminate and discern the difference between articles that are wholesome in their use and those that are unwholesome, and therefore there should be no shadow of prohibition in the introduction of them into general use, but this postulate is, upon its face, both false, ridiculous and dangerous. Why should Canada be made the slaughter market for this cheap, nasty and poisonous line of domestic utensils? Why should the users of such be allowed to run the unnecessary risk of losing health or life merely because the articles can be purchased for a few cents less than is charged for a really first-class article? Why should our manufacturers be compelled to compete against such fraudulent and wicked business? What redress is open to those who may be injured by the use of these dangerous articles coming from Germany? If it could be shown that illness or death resulted from the use of Canadian made goods, the manufacturers of them could be held amenable to the law, but not so with the imported goods. The reputation of the German exporter nor of the Canadian importer, does not suffer when people are poisoned as in the Montreal case; but if it could be shown that the poisoning was done by Canadian made goods, the manufacturer of them would be made to suffer severely by the infliction of punitive damages to the sufferers, and his business reputation would also be damaged beyond repair.

It is no kindness to the poor or to any class in the community to allow the importation of inferior and really dangerous articles, and to encourage their use, merely because they are what is called "cheap."

A FARMER'S IDEA OF FREE TRADE.

The Farmer's Sun tells with startling headlines and exclamation points of a recent meeting of what it calls representative farmers that was held at Welland, Ont., on January 20th. Mr. James McClive, it announces, was the principal speaker, and the first resolution he presented to the meeting, which was carried unanimously, endorsed absolute free trade—making a clean sweep of customs duties and customs officers, irrespective of what other countries might do. Farmer J. F. Beam attempted to introduce an amendment favoring a modified tariff, saying it would be better to go step by step, but Mr. McClive declared that he did not believe in going by steps, but wanted to go to free trade by jumps and bounds. Mr. McClive also introduced a resolution which, like his previous one, was carried unanimously, which declared against imposing duties on manufactures, against subsidies to fast steamship service, either for passenger or cold storage, and asking that commission merchants be compelled to put up security with the government for a proper accounting for farmers' produce received for sale.

Of course Mr. McClive does not want much—everything in sight, or that might ever come in sight, that he thinks it would be to his advantage to have, will answer his purpose

for the present. Mr. McClive is one of those really good souls who wants to swim in the sea of prosperity even if every other soul in Canada must sink. Mr. McClive wants a wider market in which to sell his produce; which of course means that he wants to have free access to the markets of the United States. And he also desires that the farmers of the United States shall have free access to the Canadian market. He says so, and is quite willing to make the surrender to them, whether there is to be any reciprocity or not, for in his unanimously passed resolution he distinctly says that he wants a clean sweep to be made of customs duties and customs officers in Canada, irrespective of what any other country might do.

Without alluding to the injury that Canadian farmers would suffer under such a regime, we commend to him the contemplation of the fact that the American farmer is not desirous that Mr. McClive should have free access, or, indeed, any access to the markets of that country. Our rampant free trade farmer friend should remember that no matter how diversified his crops may be, the American farmer practices an equal diversity; and inasmuch as the American farmer suffers from a lack of consumption in his own market of his diversified crops, it is not likely that he would welcome with open arms the crops of his Canadian neighbor.

The great need of the American farmer, as a bulletin of the United States Department of Agriculture points out, is more markets for crops, not more crops for markets. That department publishes a tabulated statement showing that during the year ending June 30, 1893, the United States exported products of the value of more than \$847,000,000, and that during the following year, notwithstanding the stagnation and depression of manufacture and commerce in that country, the exports were valued at more than \$889,000,000. This was an increase over the previous year of more than \$42,000,000, or about five per cent. Of these exports from the United States, about three-fourths were directly evolved from the farmers of the country, and of the remaining one fourth, four-fifths consisted of domestic manufactures, the materials of which were largely furnished by American farmers.

Mr. McClive should note the fact that three-fourths of the exports of the United States consist of the products of American farms, and four-fifths of the balance consisted of manufactures, the raw materials of which were also products of American farms. Of course all that would be required to make Mr. McClive, a Canadian farmer, prosperous and happy, would be to tear down our Canadian customs houses along the American frontier, and to discharge the Canadian customs officials, and thus give his American farmer friends full and free access to our markets. That proceeding, according to Mr. McClive, would raise the price of every farm product he may have to sell.

We would request the attention of Mr. McClive and other free trade Canadian farmers to the fact that the United States is not the market in which to sell their products. Our neighbors find their largest and best market in Great Britain, for that country leads all others in that trade. During 1893-94 the United Kingdom bought \$131,000,000 worth of American exports out of a total of \$899,000,000 worth; nearly one-half of the total exports of the United States finding a market in Great Britain. Further, taking the British possessions all together, in that year they took \$523,000,000 worth of American products, or nearly 60 per cent. of the whole.

THE GLOBE'S LOVE FOR CANADIAN MANUFACTURERS.

A manufacturer from Middletown, Conn., proposes to establish a factory in Quebec for the manufacture of cotton hammocks, provided a reduction on the duty of webbing cloth can be obtained. We will never know till the restriction policy is abolished how many industries it obstructed and prevented.—Toronto Globe.

If the Connecticut manufacturer of cotton hammocks is allowed to import his webbing cloth duty free, as he modestly asks, and which request The Globe endorses, it would be interesting to learn how much Canadian labor he would employ in his Quebec factory. As far as that industry is concerned the Canadian weavers of such fabrics would be left out in the chilly atmosphere of idleness. If our information is correct this same Connecticut manufacturer, a few years ago, supplied the Canadian market to a large extent with his hammocks, but since then several factories have been started up in Canada to supply the same line of goods. These employ Canadian workmen, and they purchase all their webbing cloth and other supplies from Canadian mills and workshops.

The Globe advocates the abolition of what it calls the "restriction policy," and it tells us that until that is done we will never know how many Canadian industries are obstructed and prevented. But it fails to tell us how many Canadian industries would be obstructed and destroyed should the policy of protection be withdrawn. Under The Globe's propositions the writer of the brilliant paragraph above reproduced could purchase his hammocks in Connecticut, and while obtaining a no better article than those of Canadian make, would have the satisfaction of knowing that he had given employment to labor in a foreign country, at the same time depriving similar labor of employment at home.

If he makes enquiry in Toronto, Paris and several other places in Canada he will discover that we now have sufficient hammock factories to supply the home demand.

THE CANADIAN CARPET TRADE.

The London (Eng.) Textile Mercury has the following on the carpet manufacturing industry of Canada:—

The protectionist idea, as is well-known, occupies a strong position in Canada, as we are frequently reminded from time to time. Manufacturers in the Dominion, however, are not satisfied with the existing duties on certain goods. That is not surprising, for the perfectly contented protectionist, on the American continent at any rate, has never yet been discovered. A Commission appointed to inquire into the workings of the Canadian tariff has been listening to the complaints of the carpet manufacturers of the Dominion. Mr. J. A. Murray, of Toronto, said that by branding ingrain carpets with strictly Canadian names, whatever that may mean, they had convinced the public that the domestic article was equal, if not superior, to the American made. He added: "A great difficulty still remains, and that is the unloading on the Canadian market of the surplus production of the enormous American ingrain plants. There are more ingrain looms in operation in the United States than any other country in the world; and the mills are quite willing to sell their over-production below cost in Canada rather than disturb their own market by selling at low figures. This is particularly so in the union carpets, which we prove by memo. attached, showing that the imports in 1889 were 47,300 yards, and in 1895 they had increased to 130,600 yards, of which latter amount 11,800 yards were brought in from the States at an average cost of

23½ cents, being, as a rule, a low thrashy carpet, but which, nevertheless, cut into our trade and left our mills idle." Mr. Murray proposes to get over this difficulty in a way which has the merit of originality, and one which Philadelphia might try in the matter of China and Japan matting. "We do not," he says, "ask the Government for an increase of duty, but we do request it to protect us by putting an upset price of not less than fifty cents on all-wool, and thirty cents on union carpets. You will notice that as late as 1893 the average price of wool carpets was fifty-five cents, and of unions 34½ cents, and it is only since the Americans started to flood our markets with their surplus that the average price of wools has come down to 45½ cents, and of unions to 25½ cents." Axminster carpets and rugs are now made in Canada, and Mr. Murray stated "that there is even now a possibility of exporting the Axminster carpet, a prominent firm in Kidderminster having asked for samples to put on the road." Mr. F. B. Hayes, of Toronto, pointed out before the Commission that the manufacturers of the United States had not a sufficiently large market for all they produced. Rather than close their mills they kept them going, and disposed of the surplus in Canada. This composed the bulk of Canadian importations. Commissioner Fielding asked whether Canadian manufacturers would not, if they had a surplus stock on their hands, cut prices in order to obtain the market at a distance. The reply was that while the American manufacturers cut the rates in Canada they did not do so in their own market, and the quotations for American goods in the United States and Canada were very different.

WOOL AND WOOLENS.

At the time that the Tariff Commission were in session in Toronto in November last, Mr. John Hallam, a prominent wool merchant of this city, gave expression to his views regarding wool and the Canadian woollen industry. Mr. Hallam is perhaps the largest dealer in wools in Canada, and his views are entitled to much consideration. He has always been known as an uncompromising free trader, and to many protectionists his views will no doubt appear untenable. With some of them we agree—with others we differ widely. He takes a deep interest in all matters relating to the business with which he is identified, and is a keen observer of the progress of events. Speaking of the influence which the election of Major McKinley and the triumph of the Republican party in the United States would have, he said: The result has been to restore confidence. The different woollen and worsted industries throughout the country have commenced working full time, and tens of thousands of hands that were previously unemployed are now working. This has been brought about by the defeat of Bryan, whose election would have kept wool and other articles of raw material on the free list, with a fluctuating currency and a consequent uncertainty in its value. This has been happily averted. Wool has gone up in the United States from one to three cents per pound. Combing wools of the Leicester, Lincoln and Cotswold type have gone up the most, being fully three cents more than they were some ten weeks ago. The manufacturers of the United States, while they are pleased at the result, are not in favor of any radical change in the tariff, not even on the higher grades. Any alteration in the tariff must be made gradually and thoroughly, so that present arrangements may not be upset. It is thought by men who understand the wool business that there will really be a shortage of wool in the United States, owing to the hundreds of thousands of sheep that have been slaughtered during the past two years, because it did not pay the

ranchmen to keep them. The shortage is estimated at many million pounds, and, if that be the case, wool must go up in the United States. It remains to see how this shortage will affect the wool markets of the world. Prices in Marseilles, Australia and River Platte are decidedly stiffer, and holders of wool and sheepskins are asking higher prices, and are not desirous of making sales, unless they can do so at higher values than present market prices warrant.

With respect to the Canadian trade, the woolen manufacturers have been waiting to see what would be done by the Tariff Commission. A great deal depends upon how the tariff is dealt with. It is evident to anyone who understands the woolen business that it will never do to change the specific duty on wools, as all tweeds, blankets and other articles of like manufacture are just about as low in price now and much better, in my opinion, than those imported at equal price. Any change in the specific duty will have a tendency to displace these goods, and every pound of tweeds that is imported from England would displace just so much that can and would be manufactured in Canada. No doubt the manufacturers will be able to put their case fairly and squarely before the Commission, and whatever is best for the public will be done.

The worst of the business in Canada is that it is in its infancy. There are some very good and desirable worsted goods being manufactured. Considerable worsted yarns are imported that are necessary to give Canadian tweeds a character for style and wearing qualities. That part of the tariff that affects worsted yarns will be the most difficult to deal with, as some tweed manufacturers want to get this class of yarns in free or at nominal duty, while the worsted manufacturers want to retain the duty, and so enable them to compete with the imported yarns. On the whole, I think the tariff as it now stands on this article may be a little modified, but I think that it is satisfactory to those manufacturers who use these yarns.

Blankets to-day of Canadian manufacture are sold just as cheap as, and of better quality, than those imported from England. In the matter of quality, the imported article is not in it at all. It is thought that some of the manufacturers will ask the Government for higher protective duties. This I do not agree with at all. With free raw material, and a lessening of the duties on machinery that cannot be manufactured in this country, I think our woolen manufacturers can get along fairly well and hold their own.

ALUMINUM.

The only producer of aluminum in the United States is the Pittsburg Reduction Company, whose reduction plant at Niagara Falls has been recently enlarged. As power is the main element of cost in the production of aluminum, beyond the cost of the raw material, the advantages of this site are peculiarly great in this case, says an American exchange. The aluminum produced at Niagara Falls is made into sheets, bars, rods, wire, tubes, angles, channels and other structural forms, at the company's original works at New Kensington, Pa., where formerly all their aluminum was made. From their commercial advantages and from their ownership of valuable patents, the Pittsburg Reduction Company have been the sole United States producer of aluminum for some years. They control the Georgia Bauxite Company. The bauxite, which is chiefly used as a raw material in producing aluminum,

is shipped to the works of the Pennsylvania Salt Manufacturing Company at Natrona, Pa., where it is worked up into alumina, and the fluorides of aluminum and sodium used in the reduction process.

There is a rapidly increasing use of aluminum in the manufacture of household utensils which recent reductions in price have greatly stimulated. These household utensils are said now to be cheaper than nickel-plated brass. A great deal of aluminum is used in the manufacture of various alloys, in some cases only a very small percentage of the metal being used, while in others the percentage of aluminum is very considerable.

The total production of aluminum in the past six years has been as follows, with its total value in each year :

Year.	Pounds.	Value.
1891.....	168,075	\$126,056
1892.....	295,000	191,750
1893.....	312,000	202,800
1894.....	817,600	490,560
1895.....	900,000	495,000
1896.....	1,300,000	527,000

The output has been steadily increasing, without setback in any one year, notwithstanding depression in general business; but the values have not quite kept pace with the quantities, as the price per pound has been steadily reduced. For 1896 the average price is taken at forty cents.

The production in the United States has been somewhat over one-third that of the world. The principal European producer is the Aluminium Industrie Gesellschaft, with works at Neuhausen, Switzerland, and controlling the Societe Electro-Metallurgique de France, with works at Froges, in France. In 1895 the Neuhausen works turned out about 650,000 kgs. and the Froges works about 100,000 kgs. The British Aluminum Company, using Irish bauxite, has been making extensive preparations and will now appear as a producer. The total output of aluminum in the world during 1896 has not yet been reported, but in 1895 it was approximately, 2,535,290 lbs., or 1,268 short tons.

No doubt the chief cause of the great reduction in value from about seventy-five cents per pound in 1891 to about 32½ cents in 1896 was the use of cheap electrical power, as developed at the Niagara Falls works; and as it is possible to obtain even cheaper power on the Canadian side of the Falls, there is no good reason why the industry should not become an important one in Canada.

EDITORIAL NOTES.

A few years ago when Mr. Edward Gurney was president of the Canadian Manufacturers' Association, in an address before that assemblage he said, in substance as follows :

The Governments, Provincial and Federal, have always been keenly alive to the value of the Manufacturers' Association as a means of securing facts, technical information about trade, and the opinions of the leading manufacturers of the country regarding questions of legislation affecting our manufacturing industries; and happily the attitude of this Association has not been affected by party politics in any instance within my recollections so as to invalidate their influence; and it shall be my aim to have this Association during my administration maintain this character, and perhaps there never was a time in our history when it was so desirable that advice tendered to the Government should represent the business views of the members, untinctured by their political affiliations and prejudices. The Federal Government has

given every public pledge possible that there is to be a business administration, and that revolutionary action is not contemplated or to be expected. As a result of these pledges a degree of confidence is entertained which could not otherwise have existed; and although there must be in the nature of things some apprehension, there is not any such hopelessness as I feared at one time. The publication of new tariff rates will define pretty clearly the issue as between several parties on the tariff question, and enterprise will not be limited as hitherto by complete uncertainty as to the meaning of certain political shibboleths which have been capable of almost any construction; definiteness will be of extreme value to trade.

This is pretty much what Mr. Gurney said on this subject a few days ago when he assumed the duties of president of the Toronto Board of Trade.

The Shareholder is at it again—this time it is weeping bitterly over the recent troubles in the woollen industry, and after giving much advice that may not be worth the paper it is printed on, says:

We again maintain that this state of affairs is due to over-production arising out of the establishment of too many mills in the country, results which owe their origin to the high protection furnished under theegis of the National Policy.

And thus it is that the National Policy is made to bear the sin of every ill that The Shareholder discovers in Canada. At one time it berates protection because, it says, it increases the cost to the consumer of the protected article to the extent of the duty. At another time it bewails the so called fact that protection interferes with the shipping trade of the country, and therefore injurious to both ship owners and importers; and now it tells us that protection is to blame for the situation here alluded to in that it causes too much competition in which the cost of woollen goods to consumers is much lower than what it would be under free trade. The people of Canada are not grieving because they are permitted to buy cheap goods—they rather like it, and as the National Policy is what brings the cheapness, the National Policy is what they want and will have.

Alluding to the recently enacted provision in the constitution of the State of New York regarding prison labor, that went into effect last month, which says that the product of the labor of prisoners in penal institutions in that state shall not be brought into competition with free labor, and that all such goods are required to be branded as "convict made," The London Free Press calls attention to the fact that it is intended principally to stop the selling of prison-made goods in New York State which are manufactured outside the State. An effort is being made, however, to declare the law unconstitutional. The dealers in prison-made goods declare that the people will not buy them if they brand them "convict-made," as required by the New York State law. The legislature in 1894 passed a law requiring that persons selling prison-made goods manufactured outside of the State, should secure a license therefor from the State Controller. The license fee was fixed at \$500. It will be seen that the competition of the convicts is felt to be a severe interference with the interests of free labor in the States. Formerly the goods produced in American prisons were admitted into Canada without question. The Government of Sir John Macdonald, however, put a stop to this unloading process, the same regulation being insisted on as that which New York has now put into force. It is to be hoped that our present

rulers will do nothing to alter this arrangement. It is bad enough to have the contract system at the Central Prison at Toronto turning out articles which have competed destructively with free labor. We don't want any more of it from the States.

It is a very great pity that Sir Oliver is not premier of Ontario these days.—Hamilton Spectator.

Our esteemed contemporary has much to be thankful for. Sir Oliver was a very, very good friend to Hamilton when he made it possible and advantageous to that city to establish a blast furnace there, for without the material assistance afforded by this bad Grit premier there would have been no blast furnace. It also has much to be thankful for in that another bad Grit premier, to wit, Mr. Laurier, the premier of the Dominion of Canada, by an Order-in-Council, allowing certain machinery to be imported duty free, made it possible for the Westinghouse Company to establish work in that city. The Spectator no doubt feels as thankful that Mr. Laurier is premier of Canada as it is regretful that Sir Oliver is not premier of Ontario. This is just what might be expected from such an inconsistent source.

Mr. Laurier has been assuring the people of Simcoe that the impending tariff revision is to injure no legitimate Canadian industry, and the assurance is greeted by the Conservative press as if it were something new. It is not new. It is considerably older than the general elections. It is, indeed, an integral element of the Liberal policy. Without it the Liberals might have remained in Opposition. The Liberals don't want to hurt Canadian trade, they want to do it good.—Montreal Herald.

If it is indeed an integral element of the Liberal policy that any tariff revision the Government may make will not injure any legitimate Canadian industry, we suggest that Liberal statesmen and orators, and Liberal newspapers cease telling the country in effect that the manufacturers are robbers who will receive scant consideration at the hands of the Government. Talk is cheap. What the manufacturers desire is that such talk as that above quoted be lived up to. If it is lived up to, we are confident that the party now in power will remain there a long, long time, and the manufacturers will help to keep it there. But there must be no monkeying with the principle of protection.

Mr. George Johnson, Dominion Statistician, Ottawa, is preparing a history of the Royal Canadian Academy of Arts which cannot but possess the greatest interest to Canadians. Regarding it Mr. Johnson says that the Academy was founded by the Marquis of Lorne in 1879. The first meeting of the members took place in Ottawa, March 6, 1880. The first exhibition was on the same date opened by His Excellency the Governor-General. The title Royal Canadian was conferred by Her Majesty, June 22, 1880. The objects of the Academy are, first, the institution of a National Gallery at Ottawa; second, the holding of exhibitions in the principal cities of the Dominion, and third the establishment of Schools of Art and Design. The first President was Mr. L. R. O'Brien. Since the formation of the Academy, eighteen exhibitions have been held, one in Halifax, one in St. John, and the others alternately in Ottawa, Montreal and Toronto. The Academy has contributed the paintings and sculpture in the National Gallery, Ottawa, and donates \$500 annually for

the support of drawing classes from living models in Toronto, Montreal and Ottawa. Her Royal Highness the Princess Louise took a lively interest in the formation of this society.

The New York Evening Post, discussing the tariff situation in this country, says:—

The Canadian Ministry are finding it as hard as the framers of our Wilson bill to reform the tariff without crippling the revenues of the Government. With customs and the excise almost the only sources of revenue for the general Government of Canada, the possibility of actual or even approximate free trade is seen at once to be very small. The case in a nutshell is as follows: Revenue to the amount of \$20,000,000 must be had from customs duties. These may be levied on a total value of imports amounting to about \$125,000,000. But under the present tariff something like one-half these imported goods comes in free. The problem is, therefore, to raise \$20,000,000 revenue on \$70,000,000 of imports. There you get at once a *prima facie ad valorem* duty of nearly thirty per cent., and no way of twisting the figures can make it much less on any considerable items. It is clear, then, that Mr. Laurier's promised revision of the Canadian tariff in the interest of freer trade, must in the nature of the case, be a very meagre and tentative affair. But he was clear sighted enough and frank enough to perceive and declare this to be the fact before his triumph at the polls last June. The fact is that neither in Canada nor in the United States, nor in the Australasian colonies, can a general tariff for revenue fail to be sufficiently protective. A few articles may be singled out, as in the British tariff, simply and solely for customs revenue, and the great body of imports left untaxed. But if you tax all along the line and count upon your main income from duties on imports, you cannot avoid giving incidental protection to domestic manufactures. The only resort is to some other form of taxation. Without the income tax and death duties, England would be obliged to have what would be in effect a protective tariff. Historically, the income tax preceded free trade in England. Sir Robert Peel had an income tax of 7d. in the pound in operation and yielding a revenue of from \$25,000,000 to \$30,000,000 a year for four years before he repealed the corn laws in 1846. But a country long accustomed to the ease and secrecy, even with unjust incidence, of indirect tariff taxation, will not take kindly to an income tax, or any other form of direct taxation. It would undoubtedly be highly unpopular in Canada, and Mr. Laurier is said to have no intention whatever of experimenting with it.

American paper is now being exported to many foreign countries, notably to England. Several London journals are now printed on white paper manufactured in the United States. English paper makers did not take kindly at first to the use of wood pulp, but competition is forcing them to drop rags and esparto grass in favor of American and Swedish wood pulp. England has no forests suitable for pulp wood, and hence must import either the wood, the pulp or the paper. Wood pulp has so cheapened the cost of paper in England that its use is rapidly increasing. Journalists are hedging against a rise in the price of the raw materials. Mr. Lloyd, the proprietor of Lloyd's Newspaper and of the Daily Chronicle in London, has bought one hundred square miles of Norwegian forest to make wood pulp for his paper. It is a serious problem with wood pulp and paper makers the world over what the effect will be on the price of forest lands if the produc-

tion of wood pulp and paper continues to increase in the future as it has in the past.—Northeastern Lumberman.

Ex-Ald Bates has been expelled from the Fifth Ward Conservative Association for working against the party candidates. The defence of Mr. Bates seems to be that it was the party that went back on its pledges, and that he could not honestly support its school policy.—Toronto Globe.

The Toronto Evening Telegram has the following kind remarks to make regarding the Finance Minister:—

If the words and actions of both men during the sessions of the Tariff Commission are an index to their purposes, Canadian industry has a good deal more to fear from Hon. W. S. Fielding than from Sir Richard Cartwright.

Signs of a fine dignity, a quick intelligence, a broad, almost sympathetic, comprehension of industrial needs and difficulties have so far adorned Sir Richard Cartwright's career as a Tariff Commissioner.

So much cannot be said for Hon. W. S. Fielding. Throughout the sessions of the Commission he has occupied a school-masterly attitude. He is the teacher. The leading manufacturers of Canada are the class. He encourages them to talk in order that they may blunder into fallacies and then Mr. Fielding's superior wisdom intervenes. A protectionist error is transfixed with the point of one of Mr. Fielding's remarks, and these points look like extracts from the free trade editorials in the Hamilton Times.

Canada understood that the Tariff Commission was created for the purpose of acquiring information for the guidance of the Government. The Minister of Finance evidently understands that the Commission was created for the purpose of acquainting Canada with the truth that Hon. W. S. Fielding is an excessively able statesman. The country is quite willing to believe that Mr. Fielding is smart, and it is almost unnecessary for him to be continually cultivating his own fame by efforts to show that his knowledge is greatly in excess of the knowledge of the witnesses he should be helping to examine.

Speaking of the manufacture of bicycles in the United States The Boston Home Market Bulletin says:

The evolution of the wheel industry in this country is little short of wonderful. Prior to 1885 the number of domestic manufacturers of wheels was only six, and in that year 11,000 machines were turned out. In 1890 there were seventeen factories, with an output of 40,000 cycles. In 1894 the number of factories increased at a rapid rate, and 125,000 machines were made. In 1895 the production bounded up to 600,000, and the number of manufactories was more than 500, counting none which turned out less than 1000 machines a year. The capital invested in these large factories is placed at \$90,000,000, and the lowest estimate of the output of the present year is 1,000,000 completed bicycles, worth \$60,000,000. The capital invested in the manufacture of bicycles is about \$125,000,000 and 150,000 people are employed in designing, making and selling the various products appertaining to them.

No complete cycles are now imported into the United States, and the American manufacturers, in the half-year ending June 30, 1896, exported cycles and parts worth \$1,654,291, or nearly seven times the amount sent abroad in the previous half-year. Nearly half of this export has gone to England, and it is now said that American makers actually stand a chance of capturing the English market. If the American manufacturers will build a somewhat stronger machine, fitted with gear cases and mudguards, it is looked upon as more than probable that from 40,000 to 50,000 American cycles will be sold in England in the year 1897.

In 1895 the best bicycles were selling at \$140; now the same quality of machine—perhaps much better—sells at \$100.

More than 3,000,000 bicycles are in use in the United States; in other words, one person out of every twenty-four has taken to the wheel. In France the proportion is only one in 250. The wheel is unquestionably going to revolutionize the roads of the country. It has reduced and in some places practically put an end to the demand for horses and carriages, besides affecting the income of street railway lines and livery stables. In the first two weeks of July the railways running out of New York carried 75,000 bicycles for outgoing passengers.

It may be remarked that the industry in Canada is also in a most flourishing and satisfactory condition.

In connection with the indictment of the tobacco trust by a New York Grand Jury, The Chicago Tribune publishes the following list of trusts with their capitalization:—

Sugar trust.....	\$ 75,000,000
Coal trust	85,000,000
Cottonseed oil trust	20,000,000
Wall paper trust	20,000,000
Lead trust	30,000,000
Rubber trust	50,000,000
Linseed oil trust	18,000,000
Match trust	8,000,000
School furniture trust.....	15,000,000
Type trust	6,000,000
Dressed beef and provision trust	100,000,000
Condensed milk trust.....	15,000,000
Strawboard trust.....	6,000,000
Leather trust.....	125,000,000

Regarding which the Toronto Globe says:

The greater part of this capitalization is wind. One trust whose capital is set at \$100,000,000 has in reality only \$5,000,000 actually invested. The products of these concerns have of course to be sold at prices which will pay dividends on this bogus capital, and as the element of competition is removed the companies are enabled to make the prices to suit the requirements. The indictment of the tobacco trust is likely to make it somewhat interesting for these organizations.

If it were not for the duty upon these articles similar industries in Canada would first be frozen out by their unfair competition, after which the Canadian consumer would be in identically the same condition as the consumers in the United States; but this is just what The Globe advocates when it howls for reciprocity.

Before the development of the Canadian fields, the Italian asbestos was supreme in the market. For nearly twenty years Italy has been looked to for the best grades of the fibre. But the Italian asbestos industry, once so important, is already on the down grade. The difficulties of mining are very great, and unduly increase the cost of production. The asbestos itself, judged by the latest standards, is of inferior quality. It is not easy to spin, and it does not pulp well in the making of paper. As a matter of fact, Canada contains the greatest asbestos region of the world, in the sense that while its mines are practically unlimited in productive capacity, the product is of a quality which fully meets the requirements of the newest and most exacting of the innumerable uses that are daily being found for it.—Paper Maker.

Mr. E. Morgan of Delhi deserves to be known as the egg king. During 1896 he paid out \$24,300 for eggs, and he is therefore entitled to say a word with respect to this by-product of the farm. He has said the word in a modest circular which he is distributing amongst those interested in the business. Mr. Morgan says that the British market is the only market

for our surplus eggs, and that if we want to get the greatest amount of benefit from that market that is possible, it will be necessary to pay attention to what the Englishmen require. Among the requisites is that the dozen should average in weight a pound and a half and should be clean and bright in appearance. Mr. Morgan urges on poultry-keepers the desirability of marketing once a week at least, and on store-keepers the duty of culling from their purchases the small eggs and also those that are chipped and dirty. He suggests that these might be treated as second-class eggs. The reason for this care is very well summed up in the sentence: "We must produce what the people want or lose their trade."—The Globe.

The award of the Dominion note contract to an American firm should please the Canadian protectionist. The tariff enquiry has revealed the existence in Canada of many American concerns whose goods the National Policy would have excluded from the country if the American manufacturers had not established their works on this side of the border. Under its contract with the Canadian Government the American Bank Note Company of New York must do the work at Ottawa. Thus a new and extensive business is set up in Canada. What could better satisfy the protectionist idea?—Montreal Herald.

Nothing whatever. That is just what protection means.

A new use is suggested for the wood pulp of which we have so plentiful a supply in Canada. Silk has for some time been manufactured from pulp. There is a large factory for the purpose in France, one is being established in England, and it is said that American capitalists are putting money into a similar enterprise at Niagara Falls. In the French factory 12,000 artificial silkworms made of glass are used. We shall hear next of the little busy bee being superseded by some machine without a hum or a sting.—The Globe.

The production of pig iron in Canada more than doubled last fiscal year, according to the official returns. It reached \$4,607 tons, as against 31,641 in the previous year. On this a bounty of \$2 a ton was paid, amounting to \$169,214. It is now twelve years since the bounty system was begun. At that time the Canadian pig iron production was 29,500 tons. Under the stimulus of the bounty the trade has expanded three-fold under the present law. The bounty is to be paid until 1899 on the product of all furnaces in operation in 1894. Furnaces beginning operations subsequent to 1894, and prior to 1899, are to enjoy the bounty for five years.

Another article on which Canada gives a bounty is the manufacture of beet-root sugar. This industry is not thriving, according to the latest returns. The bounty earned and paid during the last fiscal year on beet-root sugar was \$11,733, as against \$29,419 in the previous year. The bounty was inaugurated in 1892, in which year the sum of \$23,707 was paid. The legislative term for the payment of beet-root sugar bounties will expire July 1, 1897. So that Parliament will have to decide at the coming session whether or not the system shall be continued.

Mr. W. H. Walker, the graphite mine operator, whose recent failure caused heavy losses in Toronto and elsewhere, is still confident that the investments he made were justified. In a letter recently written by him he says:—"The property is worth many times more than every dollar expended, and

had I \$100,000 now I would gladly invest it, so satisfied am I of its great value." Speaking of the graphite mines, he says:—"The best mining expert in Canada, one of international reputation, after inspecting them, declared there was no gold mine or silver mine, or any other mine in Canada or the United States or elsewhere, that he knew of, or had ever heard of, that was as valuable as these mines and works, adding, but 'they are absolutely starved to death. You should have one hundred thousand dollars cash capital, and then you will have a grand success.' He was, and is, right, but the capital not being forthcoming the result of starvation ensued."

According to The Chicago Record history is repeating itself at the Washington tariff seance:—"Manufacturers come asking for higher duties on the commodities in which they deal in order to enable them to charge higher prices for their products. It is noticeable that no one appears before this committee asking for lower duties. The consumers are not represented by spokesmen. Only the demands of the special interests are heard. No voice is raised in behalf of the general interests of the public at large. It is not for this reason that these 'hearings' give rise to apprehension. Theoretically their purpose is to give the committee the benefit of expert knowledge on the subjects under consideration. As a matter of actual fact they but give opportunity for special interests to say what legislation is desired in their favor."—Toronto Globe.

This journal has heretofore directed attention to the similarity of circumstances attending the tariff investigations in the United States and in Canada. It cannot be truthfully said that any restraint whatever has been or is being put upon the freest and fullest expressions of opinion by any class of people to these Commissions, as might be inferred from the above quotation. It might naturally be supposed that the manufacturers, who have so much at stake in any change that might be made in the tariff, should present their view to those appointed to hear them. It cannot be said that the Commissions in either country entertained specially favorable leanings towards the manufacturers, certainly not in Canada; and it should be said that when our manufacturers appeared before our commission they were received with courtesy and were allowed to present their views fully and freely; and such being the case why should not those who entertained different views appear and present them? We are told that no one appears before the Commissions asking for lower duties; that the consumers are not represented by spokesmen; that only the demands of the special interests are heard, and that no voice is raised in behalf of the general interest of the public at large. These be senseless assertions. If these protestants against the principle of tariff protection and the operation of a protective tariff are non est inventus, it is simply because they have no complaints to make. They are well inclined to let well enough alone. They have nothing to kick about.

The pulp manufacturers of Canada, who are anxious to have the Dominion Government impose an export tax on pulp wood, have evolved a new idea, and one which, they believe, will prove less objectionable to Premier Laurier than the demands they have made heretofore have been. It is that a law shall be passed, imposing such a tax upon pulp wood going to a country which imposes an import duty on Canadian pulp, but removing such a tax when the pulp wood goes to a country which admits Canadian wood pulp free of duty. As Mr. Laurier's dearest hope is to make a reciprocity dicker with the United States, they believe that he cannot object to

their new scheme. Of course it is in the nature of a bid for free entry for Canadian pulp into the American market. But it is hardly probable that the American Congress will put wood pulp on the free list.—The Paper Mill.

In which event the American mills will have to bear the burden of the McKinley duty on the Canadian pulp they may use for paper making, and also the Canadian export duty upon the pulp wood that may go to that country. The export of Canadian pulp to Great Britain is a new industry that will increase rapidly under the pressure of McKinleyism.

The St. John Telegraph catches on to what the bold, bad, scheming manufacturers are doing in the following manner:

The Canadian Manufacturers' Association have issued a circular to the manufacturers of Canada asking them to return answers to a number of questions in regard to the industries under their control. These questions, which are five in number, relate to the value of the manufacturing plant and buildings, and number of hands employed, the amount of wages paid, the value of the raw material and the character of the product. These statistics are asked for so that they may be used before the Tariff Commission: in short they are for the purpose of impressing upon the Commissioners the value and importance of each particular industry so that its demand for the maintenance of a high protective tariff may come with greater weight. Thus the manufacturers are taking concerted action for the purpose of what they term "protecting themselves," and if possible overawing the government by the bold front they present.

This common action on the part of the manufacturers suggests that the importers of Canada, the farmers of Canada and the consumers of Canada generally should be prepared to present their views before the Commission. The importers in particular should take steps to make their voices heard in an effective manner.

It is really too outrageous that the manufacturers should have the temerity to make a plain statement of their case to the Government.

The sudden growth of the power transmission branch of the electrical industry is due to the recent developments in the knowledge and application of the alternating current, says an American electrical exchange. The use of the direct current, while perfect so far as the motor is concerned, became too costly as soon as it required to transmit power by its means over long distances. Thus, when it became necessary first to transmit power over long distances and then to utilize the energy in motors, the necessity compelled invention. The introduction of the multiphase system solved the problem and gave to the electrician a means of transmitting power over many miles, supplying him at the same time with an alternating current motor in which to utilize it. The new system found a field ready for it in the far West, and indeed all over the country in places where coal was scarce and consequently costly. Waterfalls were eagerly acquired, and examined as to the possibility of their utilization. In California and Oregon three noted water-powers are now transmitted over many miles—the waters of the Willamette give power which is employed to run motors in Portland, Ore., twelve and a half miles away; those of the American River at Folsom supply light as well as power to Sacramento, twenty-four miles away; those of the San Joaquin to Fresno, thirty-five miles away. At Ogden a power house is in course of erection which will contain water wheels driven by water brought through a pipe nearly seven miles

long. These wheels will drive generators from which the current will speed by wire to Salt Lake City, thirty-six miles distant, and even as far as the mines of Mercur, some thirty miles further on. Other notable power transmission plants are operating successfully in many different places in the United States, some exclusively used to drive and light mills and mines, other to operate all kinds of machinery, street railways and arc and incandescent lamps. One district should be mentioned—that of the Lachine Rapids, where twelve 1,000 h.p. dynamos will be set up to supply current to Montreal for all imaginable purposes. Each plant represents a very large investment in water rights, real estate, buildings, hydraulic and electrical machinery and line, and yet each will, if it has not already, prove a success, warrant the disbursement and reimbursing the investor.

(Our Australian Correspondent.)

CANADIAN MANUFACTURERS AND AUSTRALIAN TRADE.

GOODS ENQUIRED FOR IN AUSTRALIA.

To the Editor of THE MANUFACTURER—

I have before told of the difficulty of introducing new lines of manufactured articles, and it is particularly so as many Canadians cannot afford to go to the expense of advertising and paying salaries for a year or two to agents to get their wares on the market as is done by the large English, United States and foreign firms. To get a large house to take up a new line it is practically necessary to get their customers to enquire for them.

When advertising is not done a certain salary, usually four or five hundred dollars per annum and a reduced commission, is given to a good man to introduce the goods to retailers and sometimes to consumers.

A large amount of the trade in this colony is done by indenting. In nearly every town there is a house that imports directly by giving orders to the agent of the manufacturer. Shipments are made through a bank which collects the bill before delivering the goods. In this way the trade is pretty safe. It reaches more nearly the consumers than selling to a wholesale firm. It is very expensive travelling and few agents will undertake it for an ordinary commission. When an agent with experience, character and connections can be found who will personally do this trade I am glad to get hold of him for Canadian goods.

I have enquiries from one or two persons of this sort for the following lines:—Iron clothes wringers; lawn mowers; preambulators; chairs and kitchen utensils and household articles generally; labor saving devices; axes; shovels, saws; mechanics', farmers and gardeners tools and implements; brushes and druggists' supplies.

I should be glad to hear from firms making such goods who wish to get an Australian connection. It will be necessary to send catalogue and prices. The latter is important though generally neglected. State price you would like and very best you can do. This will be confidential. The information should include freight to Sydney via Vancouver and freight to New York. It should also state how goods are packed, giving number of articles in package with weight and measurement of same. The latter is to enable the agent to calculate the cost of the delivery of the goods here via New York. It is an important element in making a sale as United States goods are commonly quoted in New York.

The manufacturer should also state whether he is willing to forward sample if an examination of catalogues and prices should indicate that it is probable that a trade can be secured. The samples, if of any value, should be sent to me so that if the effort to do business should not prove successful I could retain control of them and either try some other agent or sell them and remit the proceeds to the consignor.

Yours truly,

Sydney, N.S.W., January, 1897.

J. S. LARKE.

THE TARIFF COMMISSION AT MONTREAL.

(Continued from last issue.)

TANNING.

Mr. Charles T. Shaw acted as spokesman for representatives of the tanning and sole leather industry, and submitted reasons why these businesses sought the retention of the present tariff of fifteen per cent. He stated that it was doubtful if even this could be considered any protection at all. Labor in their works was paid for equal service rendered as high or higher wages than in any other country. All the usual arguments advanced in favor of the principle of protection are applicable to the sole leather industry. They were peculiarly affected by the slaughter-market theory, as the largest sole leather tanners in this country have adopted the principle of extending their business into foreign markets, thereby decreasing the cost of production. Great Britain is the only neutral market they have. There they are met by one of the most powerful corporations in existence, with \$130,000,000 capital, who heretofore have had a monopoly of that market for hemlock sole leather. They naturally would be at war with Canadians for the possession of this market, and as their exports alone amount to \$8,000,000 per annum, whereas the total consumption of sole leather in this country does not exceed \$3,000,000, it will readily be seen with what ease they could paralyze the sole leather industry in the Dominion.

It may be of interest for the country to know, said Mr. Shaw, that the results of our action in developing foreign business and securing to a large extent the home trade has been that the users of sole leather in Canada have obtained their leather at a lower cost than in Great Britain and in most cases as low as the United States. The present basis of price, to the shoe manufacturer, for the most standard trade of leather, in Canada, is 18 7 10 cents net cash, whereas, in England, we obtain not less than 1) 8-10 cents net cash and in no instance have we accepted from the English consumer a less net price than we exact from the Canadian. The higher grades of leather, such as oak and union are being produced on a larger scale with improving quality in spite of the greatest natural disadvantages. The freight on the oak bark, which is not native to Canada, is equivalent to over a hundred per cent. of its value. As this grade of leather is only used in the most expensive shoes and consequently of limited quantity we consider the shoe manufacturer with twenty-five per cent. duty is left with ample protection for at least with as much as we have.

Mr. J. A. Stevenson, representing the black leather merchants, stated that, whereas the late Government had lowered the tariff a matter of 2½ per cent., all the tanners and leather manufacturers had realized that this was a severe blow to the industry, particularly as it was the means of directing trade and of their making a renewed effort to unload the surplus stock of the United States into our market. They would, therefore, urge that the tariff be restored to the old rates, which as they all knew were moderate and really nothing more than a revenue tariff. Some tanners, he stated, were engaged in the manufacture of patent leathers and patent calf, others again in fine lines of Douglas, others in bookbinders and fancy colored leathers, all of which industries are fairly entitled to a reasonable consideration as these lines necessitate the employment of the best skilled labor and of numerous workmen. A glance at the figures of importation in 1894 as compared with 1895, shows that the large increased importation under the lowered as against the old tariff must seriously affect our limited market.

We have to contend against very large concerns in the United States, whose surplus of certain lines can easily flood our market to the very great detriment of our industries. This is especially the case in glazed kid and dongolas. Surplus lines are often sold here below the cost of production. They would most respectfully and unanimously ask that the tariff be on section 220, twenty per cent.; on section 222, twenty-five per cent. They would also beg to say their machines and parts of the same and a portion of the oils, greases and other tanning and finishing materials, are imported under a high duty, and that, further, they have to contend with the use of tan bark largely inferior in percentage of tanning to those to the south of us.

LEATHER AND SHOE GOODS.

The Commissioners were addressed by Messrs. Thos. Ecroyd and J. H. Wardlow, who spoke on behalf of the leather and shoe goods industry of Montreal.

Mr. Wardlow read a statement showing duties on various articles of shoe goods. There was only one mill in Canada, he said

which furnished shoe linings. The result was that there was no competition. The shoe manufacturers were compelled to buy from one jobber.

Hon. Mr. Fielding—What is the result of this in price? Is the price more than in the States?

Yes, sir, it is more.

A discussion here took place on the subject of patent calf. Mr. Wardlow claiming that it was not produced in Canada, as it was too difficult to make, and that even in the United States very little was made, as ninety per cent. of what was used there was imported from Germany. The duty in Canada was 22½ per cent. He suggested a duty of ten per cent. on this article.

Referring to glove leathers, Mr. Wardlow said that if this class of goods was imported by other manufacturers it was charged only ten per cent. duty, while he would have to pay 17½ per cent. himself. He wished it to be the same for all. There should not be any distinction.

On oak sole leather he would suggest a lower tariff than the present one of fifteen per cent., as it could not be made in this country owing to the want of bark. He thought 7½ or ten per cent. would be enough.

Hon. Mr. Fielding—The tanners who have been before us have represented to the contrary.

Mr. Wardlow considered the duty of twenty-five per cent. on cut sole too heavy. The boot and shoe trade would consider it a great benefit if the duty on this article was reduced to not more than fifteen per cent. It was partly manufactured when it came here. A reduction would benefit the smaller manufacturers, especially.

Hon. Mr. Paterson—What would the tanner say?

Mr. Wardlow—We shall hear from Mr. Ecroyd in a minute. He is a tanner.

Referring to Dongola Mr. Wardlow stated that it was not sold at a lower price in Canada by the American houses than it was in the United States. When goods were brought in it was because they were spoiled in the manufacture, and they brought poor prices here, being job lots.

Hon. Mr. Fielding having referred to the slaughtering of the markets as spoken of by former delegates, Mr. Wardlow said that it did not apply to these goods sent in by American houses.

Mr. Thos. Ecroyd, a tanner of thirty years standing, now read a paper showing that when leather was freely imported his position was better than it was now. There was no fear of a lower tariff making this a slaughter market for the Americans. A ten per cent. duty would be sufficient. The bark of this country was not inferior to that of any other country, except in the case of certain localities. His contention was that if a man knew his business no duties would make or mar his success. High duties led to the formation of combines from which he himself would suffer severely. He advocated a lower protective duty on both sole and upper leathers. He was frozen out by the combines. He wanted a fair field and a free fight, and there would be a survival of the fittest. He had succeeded principally when competing against opposition from outsiders during the time of the low tariff.

SHOE DRESSINGS.

Mr. Daignault, of the American Dressing Company, Dec. 30th, said:—We, the American Dressing Company of Montreal, are engaged in the manufacture of leather dressings used by boot and shoe manufacturers, curriers, etc. We also manufacture for domestic use a complete line of shoe dressings. On the above, the duty is now twenty-five per cent. ad valorem; this duty is just sufficient to enable us to compete with American manufacturers, and is not high enough to debar them from the Canadian market, owing to their manufacturing for a larger market, and being able to buy bottles, corks, paper boxes, sponges and labels, which are practically our raw materials, at a less figure than we can, owing to the above goods being highly protected here.

The American manufacturers are invoicing their goods shipped to Canada twenty-five per cent. less than they are getting in their market.

We therefore humbly pray that there shall be no reduction made in the present duty of twenty-five per cent., unless we are able to obtain our raw materials free, and we also pray that the duty be collected on the selling price in the United States, instead of the special prices at which goods are invoiced.

Hon. Mr. Fielding—Speaking generally, is it your contention that the protection as applied to the thing you use increases its price?

Ans.—The bottles are really our raw material. If the bottles were free we could compete with the Americans.

Hon. Mr. Fielding—But what would become of the man who makes the bottles?

Ans.—We are in favor of maintaining the same duty as exists

to-day all round, and furthermore that the duty should be levied on the selling price in the United States.

Hon. Mr. Fielding—That is the intention of the law now.

Mr. Daignault—But it is not done.

Hon. Mr. Fielding—If you can show that the invoices of any of these goods entered are not the fair selling price in the United States, the goods will be seized.

SHOE-MAKING MACHINERY.

Mr. J. T. Hagar explained to the Commission that the machines used in the manufacture of boots and shoes could not be manufactured in the Dominion, and the wholesale shoe man was consequently at a serious disadvantage in this respect. High grade sole leather had also to be imported, as had also the silk and satin for the tops. At the present time, the average duty on these was thirty per cent., and the manufacturers would like to see this reduced. In the matter of cottons suitable for shoes, there were cottons made in Canada, but they were placed in the hands of a man to sell, so that any competition that might arise was stifled. Further, the Canadian manufacturer of fine lines of goods was handicapped to a very great extent, owing to the numerous lines he had to make. Some manufacturers had to run as many as 300 samples, whereas in the States many lines could be run with from twenty-five to thirty samples. The distances in Canada were so great that it made the item of selling a very heavy one. If the population were large enough, a manufacturer could confine himself to a few particular lines, and business could be run at much less expense than was now the case.

LEATHER BOARD.

The Dominion Leather Board Company, Montreal, Dec. 17th, was represented by Mr. J. R. Walker, vice president; to give the views of the trade. Mr. Walker announced that the manufacturers would like to see the present duty of twenty per cent. raised to the old standard of thirty per cent. if any alteration was made. It was an expensive class of board, being made from rope fibre; so that to class it the same as strawboard or woodboard would be no help to the manufacturers of it; it cost from \$100 to \$120 a ton, and was used in the manufacture of cheap boots and shoes.

DRUGS AND MEDICINES.

A deputation from McGill University, headed by Principal Peterson, had a private interview with the Commissioners, after which another large delegation from the Montreal wholesale drug trade appeared to give public expression to their views. Mr. David Watson was the speaker, and the statement of the case was as follows:

Gentlemen—Your attention has already been called to the subject of the excessive protection afforded to the Canadian distillers by the present customs tariff, amounting to 412 per cent. upon the cost in the United States as the following figures will show:

One of our number has been quoted American alcohol of the standard strength of sixty-five over proof, at twenty-three cents per imperial gallon delivered here, which would certainly not be over twenty-two cents at point of shipment in the United States. The duty at \$2.25 per proof gallon, figures out \$3.71½ per imperial gallon of this strength. The Inland Revenue tax of \$1.70 per gallon figures out \$2.80½ per imperial gallon, and the difference, viz.: .90½, is the protection afforded the Canadian distiller, which, as stated above, is equivalent to 412 per cent. upon the price in the United States.

We have every reason to believe that with our vast grain fields, alcohol can be manufactured nearly as cheaply in Canada as in the United States, and the fact that alcohol only cost fifty cents per gallon in the "sixties," while the "combine" price is at present \$1.15, clearly proves that the price charged is excessive.

We respectfully submit that so excessive a protection should not be accorded to any industry; and would suggest that the import duty be made a specific duty of \$1.70 per proof gallon, which is the same as the excise duty, and an ad valorem duty of fifty per cent., which we think should be amply sufficient protection.

This concession, if accorded, would not reduce the revenue by a single cent, as all alcohol of Canadian manufacture would still pay the present excise duty, and if any were imported it would pay a still higher duty.

Spirits Ammonia Aromatic.—Present duty thirty per cent., and \$2.25 per gallon.

Spirits of Nitre.—Present duty thirty per cent., and \$2.25 per gallon.

Sulphuric Ether.—Present duty thirty per cent., and five cents per pound.

We submit that the above duties are very high, in spite of which, comparatively little is manufactured in this country, and we suggest that these articles be classed as drugs, and the duty

made twenty per cent. on the price in bond in the countries from which imported.

Acid Acetic Glacial.—The duty upon this article is at present \$1.81 per gallon, but for manufacturing purposes .98 per gallon. This we consider excessive, as it amounts to a protection of 200 per cent. Further, we are opposed to different rates being charged upon the same article, as we think that all importers should pay the same duty, and we suggest that the duty be placed at twenty per cent. for all purposes.

Uniform Classification. This is a subject of, perhaps, greater importance than the actual duty levied upon any particular article, as great injustice is caused by strictly similar goods being rated under different sections of the tariff as the following instances will illustrate:

Vin Mariani and various other medicinal wines or liquors are rated at fifty per cent. as proprietary medicines.

Vin Chevrier and others are rated at the spirit duty of \$2.25 per gallon and thirty per cent.

Toilet articles, such as Rimmel's Vinegar, are sometimes rated as perfumed spirits at \$2.25 per gallon, and forty per cent., sometimes as liquid proprietaries at fifty per cent., and sometimes as toilet articles at thirty per cent.

Similar variations of rating have been made in the case of Barnett's Cocaine and Lavender Salts, and many other instances could be adduced did time permit.

Uniform rates of duty at all ports.—This is a subject intimately connected with the above, as these different ratings most frequently occur at different ports, although they also occur at the same port and in Customs decisions made in the Department at Ottawa.

Ground and powdered drugs and chemicals are, as a rule, admitted at the same rates of duty as the same articles unground, which we think a hardship to all the drug mills of the country, and we think there should be some slight protection afforded to these interests. In view of the very considerable protection accorded some industries we think that any article which is admitted free when unground should pay a duty of twenty per cent. when ground or powdered.

English patent medicines are subject to an inland stamp tax, but when exported in bond are exempt, and we think that we should not be required to pay duty upon the value of the stamps.

There are certain sections of the tariff which are of extremely doubtful interpretation, as the following examples will show:

Olive oil may be graded under three rates of duty. Section 650 makes "Olive oil, n.e.s., for manufacturing and mechanical purposes," free.

Section 143 reads, "Olive oil, prepared for salad purposes, thirty per cent."

And if any olive oil is entered for any other purpose it would, as an unenumerated article, pay a duty of twenty per cent. Section 128 places all medicinal, chemical and pharmaceutical preparations compounded of more than one substance (and hence applicable to all except the chemical elements) which are not included in the British and United States Pharmacopœias and the French Codex as official, in the same category as patent medicines, and rates them at fifty per cent. duty if liquid and twenty per cent. duty if not liquid.

This we maintain is far too sweeping a classification, and leads to all sorts of anomalies, some appraisers holding that the article must be recognized by all three publications in order to be entitled to entry as a drug at twenty per cent. As an example:

Citrate of iron and quinine is recognized by all three; citrate of iron and strychnine is recognized by the United States Pharmacopœias only; citrate of iron and quinine and strychnine is unrecognized. A further point may be made that these official publications are not issued every year, but only at considerable intervals, while new remedies are being placed on the market all the time.

Chlorate of potash is another item, the classification of which is very indefinite.

Section 666 places upon the free list:

"Potash, chlorate of, in crystals, when imported for manufacturing purposes only."

Section 769 places upon the free list:

"Potash, chlorate of, not further prepared than ground, and free from admixture with any other substance."

Thus this substance when ground is free of duty for all purposes, but when in crystals it is free "for manufacturing purposes only."

Rebate discounts are trade discounts with one or more conditions attached, generally that the goods shall not be sold under a certain minimum price. At present they are not recognized by the customs law which enacts the duty upon the long price.

This we submit is a hardship, and we claim that they are as much entitled to recognition as any other trade discount.

The right of manufacturing perfumed spirits in bond at a considerable reduction upon the regular excise duty upon alcohol hav-

ing been conceded, we claim that the same privilege should be extended to the manufacture of the principal medicinal preparations, which are, from their nature, incapable of being converted into potable spirits, or used instead of potable spirits.

Perfumery is admittedly a luxury, while medicines are unfortunately a necessity, and a cheapening of these would be a benefit to the whole community.

The privilege already conceded has not, we believe, been very extensively availed of, on account of the regulations being such as to greatly hamper such manufacturing except in very large quantities, but would be much more largely availed of if extended to the principal medicinal preparations as suggested above.

Sir Richard Cartwright—I presume you have seen the statements made by other deputations at other points, in the same line. Generally I think your memorandum agrees with theirs?

Ans. Yes.

Sir Richard Cartwright—I suppose the trade is pretty unanimous about these matters?

Ans. I think they are unanimous throughout the whole Dominion.

Sir Richard Cartwright—Have you had communication with other similar bodies to your own?

Ans. No, sir.

Sir Richard Cartwright—You simply judge from your knowledge of the feelings of the trade and what you have read in the report of similar interviews elsewhere?

Ans.—Yes, that is the case.

Mr. David Watson—In our line of business particularly, we are very desirous that the tariff should be as explicit as possible. In one invoice, for example, where the amount would perhaps be more than £80 sterling, we have as many as twelve or fourteen rates of duty on the different articles in that invoice. Some of them are capable of interpretation in two or three different ways. Take, for instance, an atomizer—the bottle is of the value of three or four cents, while the rubber attachment is the expensive portion, varying in price from \$8 to \$10 a dozen. Yet the Customs Department insist that we should pay thirty per cent. on these articles, instead of twenty-five per cent., because the bottle is the largest duty. Therefore we would ask that the tariff should be made as explicit as possible to avoid these constant irritations, which are so unpleasant.

Hon. Mr. Fielding—This same matter has come up before, and it was suggested that the atomizers should be specified.

Mr. Watson—Well, sir, we would like as many of these articles as possible specified so as to avoid this difficulty, which is constantly recurring.

MARBLE AND GRANITE.

Mr. Robert Reid, representing the marble and granite industry, was next introduced, and said that the state of the tariff just now with reference to marble and granite, created a hardship for the manufacturer, as the raw material was subjected to a very heavy duty, which he thought in the interests of manufacturing should be removed. Marble at present bore a duty of from ten to twenty per cent. according to the condition in which it was brought into the country. Italian marble entered very largely into various works in his industry. It would promote the industry very much if it was admitted free in its raw condition. As the tariff was now, there was a duty of twenty per cent. on slabs sawn on more than two sides. On slabs in a finished condition the duty was thirty per cent. The result was that where this marble was used for wall purposes, etc., in competition with wood, the addition of the duty precluded its use. Formerly it was admitted free. Then the business was as great as it is now.

Hon. Mr. Paterson—I suppose that we produce marble.

Ans.—I can hardly say that we do, sir, in the sense that you ask the question. There is no marble produced in Canada that is in the market to-day. There was some at Arnprior, but it could not be used for such purposes as the Italian marble.

Hon. Mr. Fielding—Have they not been trying to produce marble further East?

Ans.—Not that I know of.

In answer to a question by the Hon. Mr. Fielding as to whether there had not been some marble works started in the Eastern Townships and Cape Breton, Mr. Reid stated that samples had been got out, but that the marble was not on the market.

Hon. Mr. Fielding—It is ready for the market, is it not?

Ans.—No, sir, I have not seen any specimens.

Hon. Mr. Fielding—The freight would not prevent you from bringing the Cape Breton marble to Montreal?

Ans.—No, sir, but the texture, color, etc., which elements are very important in the use of marble, would prevent its use. No specimens that I have seen fill the requirements.

Hon. Mr. Fielding—There was an attempt made in Cape Breton to put some marble on the market, was there not?

Ans. Yes, sir and there was also a quarry opened at St. Armand, but it never did much. I remember now that I got some samples of Cape Breton marble, but I am sure that even if it is good, they are not in a position to supply the demand.

Mr. Reid said that his remarks concerning marble applied pretty much to granite. In 1891 there was a duty of \$1 per ton of thirteen cubic feet, on granite and rough stones. Now the duty was twenty per cent., which was a serious charge on the Granite industry. They had no such granite here as could be got from Rhode Island or from Scotland.

Hon. Mr. Fielding—Are you speaking now of the grays or the reds.

Ans.—Of both, sir. A change in the tariff would not diminish the use of the domestic article one iota. It will still be used for the same purposes as it was now. We cannot use our own native granite for the same purposes for which we use the imported article.

Hon. Mr. Fielding—Are you familiar with the New Brunswick granite?

Ans. Yes, sir; but the demand for grey granite and olive colored granite is greatest. We have no substitute for them. There is no grey granite which has come before my notice which is equal in texture to those I have spoken of. Under the old arrangement of a tax upon the ton it was not a hardship, but under the present condition it was.

Hon. Mr. Fielding—I suppose the object of the present tariff was to induce you to use the native article.

Ans. Yes, I suppose it was; but we have simply had to pay more for the article which we require.

WALL PAPER MANUFACTURERS.

A deputation of manufacturers of wall paper appeared before the Commission, when Mr. Colin McArthur, of Messrs. C. McArthur & Co., Montreal, said:—

Gentlemen,—In order to save you time, we have put what we wish to say in connection with our interests in writing, and Mr. Staunton, of the firm of Staunton & Co., Toronto, will read you the report.

Mr. Staunton—Gentlemen of the Commission,—This report is written by the wall paper manufacturers, Colin McArthur & Co., Montreal, Watson, Foster & Co., Montreal, and M. Staunton & Co., Toronto. We have to go somewhat fully into the matter, and may have to allude to one or two things that you have already heard in the shape of this market being made the dumping ground for foreign goods, but we feel that we suffer from that a great deal.

We take this opportunity of urging the necessity for the continuance of the tariff on paper hangings in its present form, and beg to give the following particulars pertaining to this industry.

For some years the tariff consisted of an ad valorem duty, but it was found this was utterly inadequate as a protection to the home manufacturer for the reason that the surplus and partially damaged stocks of the United States were dumped on this market regardless of cost, and so ruined our trade. After some three years, prices having fallen, the duties were reduced to meet the change, the specific form still being retained. At the last readjustment in 1894, it was proposed to make the tariff thirty-five per cent. ad valorem, but we convinced the Government that the competition from over-production in the United States was such that this ad valorem tariff would simply close up the Canadian factories.

The tariff was then finally decided as follows, viz.: Paper hangings, printed on plain ungrounded paper (this is the cheapest grade), thirty-five per cent. All other paper hangings, 1 1/2 cents per roll, and twenty-five per cent. You will observe that the cheapest grades of wall paper made, viz., those printed on plain ungrounded paper, are provided for under the ad valorem clause. Sixty per cent. of our output is in these ungrounded papers. This fact very considerably offsets the protection given us in the second clause of twenty-five per cent. and 1 1/2 cents per roll. We desire that these rates be maintained, although the ad valorem clause works to our disadvantage on account of dishonest classification, which is difficult for appraisers to detect. We cannot too strongly urge upon the Government the necessity of a specific, or a partially specific, duty; in fact, it would be impossible to manufacture wall paper in Canada without it. Our reason for requiring a specific duty is the present state of business in the United States.

There are several reasons why wall paper cannot be made as cheaply in Canada as in the United States. First: we would beg you to bear in mind that wall paper manufacturers only print the paper, and that what is our raw material is the finished product of the paper maker, and the color maker, &c. Practically the only raw material we use, not on the dutiable list, is clay, but owing to the freight, this article costs us from forty per cent. to fifty per cent. more than it would in the United States. The duties on our

other raw materials varies from twenty per cent. to forty per cent., and for the paper we use in the cheaper grades, we pay as much as 32 1/2 per cent. more than the American price.

Second: a limited market. The cost of wall paper, like all other printed matter, depends largely on the quantity sold of each pattern, thus it would cost less per roll to print 50,000 rolls of a coloring than 3,000, these figures representing the average difference of "runs" in the United States and Canada. The output of Canadian factories consists principally of low price papers, seventy-five per cent. of it being sold at five cents and under per roll.

Third: in getting up new samples each year the Canadian manufacturers are at a very much heavier expense in proportion to the amount of output than their American rivals, three months of each year being occupied in the striking off of new designs, the samples being of no commercial value, as they are only used to sell from. This expenditure is made sixteen months before payment is made for the product by our customers.

The poor man can have no quarrel with Canadian goods, as they retail as low as three cents per roll and an ordinary room in a small house only takes about ten rolls, so that thirty cents worth of paper will cover it, and cover it with good paper.

The effect of abolishing the present specific duty would not benefit the consumer, as Canadian made papers are retailed as low here as American goods are in the United States, if we except "job lots" and "push goods," the only result would be that instead of being manufactured in Canada, all our wall paper would be made in a foreign country—this is our last and strongest argument.

Hon. Mr. Fielding—Did not the statement which has just been read indicate that, while it was not to the advantage of the manufacturer or dealer, the public got the benefit?

Mr. Foster—If anybody got the benefit the public did.

Sir Richard Cartwright—You stated, Mr. Staunton, that you consider at present that you were able to place goods on this market as cheaply as they could be manufactured elsewhere?

Answer—We stated that we could not manufacture them here.

Sir Richard Cartwright—But in the latter part of your remarks I thought you said that you were as a matter of fact selling them as cheaply?

Answer—No, sir, they are retailed as cheaply here as they are in the United States, if you leave out those special brands of "job lots" and "push goods."

Sir Richard Cartwright—And you do not state that as a matter of fact you are manufacturing them as cheaply, but that you are retailing them as cheaply?

Answer—Goods are being retailed here as cheaply. We wish to point out that the Canadian consumer gets his goods practically as cheap as elsewhere with the exception of those particular goods I mention.

Sir Richard Cartwright—"Practically" is a wide word. Do you mean as a matter of fact that in this market of Montreal, for instance, or in Toronto, that similar goods to these are sold as cheaply as similar goods would be sold in Buffalo, for example?

Answer—Yes, they are sold as cheaply here as in the United States.

Sir Richard Cartwright—Have you verified that statement?

Answer—We know it from the prices that are being quoted and the prices at which goods are being sold right along.

Hon. Mr. Fielding—If you find that your manufacturing is more extensive, then I suppose you must be content with smaller profits than the American dealer gets?

Answer—Yes, in a great many instances that is the trouble,—there are so many cheap goods and the competition is so strong.

Sir Richard Cartwright—You named several causes why the American had the advantage of you. Which is, in your opinion, the most serious. One cause you named was that the American obtained his raw material (if I understand you correctly) very materially cheaper than you do. His paper was much cheaper and some other things I think you mentioned that he obtained much more cheaply?

Answer—Yes, the raw materials are much cheaper.

Sir Richard Cartwright—What I wanted to know from you at the moment was which you considered the most formidable factor against you, the fact that the American gets his raw material of every kind much cheaper than you do, or the fact which obtains in many lines, that by reason of having a very much larger market he can manufacture much more cheaply.

Answer—I think in the manufacturing of all paper it is pretty evenly divided. I think that the greater cost of the material might perhaps not be just as bad, but it is a very serious affair, and the other matter that I spoke of—that is the great output he has on the other side.

Sir Richard Cartwright—The same thing could apply in a great

many other lines. A large market has and always will have to the Day of Judgment, a great advantage over the small market. Are the Americans in the habit of using superior machinery to you?

Answer—No sir; I think we can say that the machinery is just the same right through.

Sir Richard Cartwright—Is this wall paper that we use manufactured to any extent out of wood pulp nowadays?

Answer—Yes; there is a very large proportion of wood pulp used in the paper we print.

Sir Richard Cartwright—We ought to manufacture, I think, as cheaply as the people of the United States?

Answer—Well sir, it is not so. It ought to be, but they turn out such immense quantities there that they are able to turn it out much cheaper.

Sir Richard Cartwright—Some of our friends are in hope that Canada will become a great wood-pulp exporting country, and there is a great deal in the idea I think?

Answer—If some large concern were to open up a large export trade it ought to be as cheap here as in the United States.

Sir Richard Cartwright—I think we do export some wood pulp?

Mr. Foster—Not very much.

Mr. McArthur—One point I would like to bring before your attention is the fact that the wall paper manufacturers have annually an expense of from \$15,000 to \$25,000 in getting up new patterns which change every year. That is an expense which we have annually that no other manufacturer I know of, unless it is the Magog printing factory, has to put up with except ourselves. Of course that has to be taken into consideration. It costs us as much to get up a set of samples for five million people as it does for the United States manufacturers for their sixty-five million people.

Sir Richard Cartwright—That would be a very strong argument that unless we could increase our population we would always be manufacturing here at much greater cost than in the United States?

Hon. Mr. Fielding—How many wall paper factories are there in Canada?

Answer—Three.

Hon. Mr. Fielding—Where are they located?

Answer—One at Toronto and two at Montreal.

Hon. Mr. Fielding—Are they distinct companies?

Answer—Yes.

Hon. Mr. Fielding—In your factory in Toronto how many employes have you?

Mr. Staunton—We have sixty employes.

Hon. Mr. Fielding—How many employes are there in the Montreal houses?

Mr. Foster—I think altogether from 275 to 300.

Hon. Mr. Fielding—And there is no association between you?

Mr. Staunton—No sir. I might just explain in that connection that we have an understanding in regard to certain minimum prices in goods, that is, a minimum price for certain grades of goods, but it does not govern the whole line. We are left entirely to follow our own judgment as to what patterns will be put into those lines or not. It is simply to form a basis of prices for ourselves and the trade. You understand that the value of a wall paper lies a great deal in the appearance of it, and it would be impossible to get every one to think alike on that subject.

Hon. Mr. Fielding—Then there is an understanding between you as to prices?

Answer—Yes, as to minimum prices.

Hon. Mr. Fielding—That is an agreement that you will not sell below a certain price?

Mr. Foster—There is nothing binding about it. There is no forfeit or anything of the kind in connection with it. We merely have an understanding as to minimum prices.

Hon. Mr. Fielding—You agree that you will only sell at certain prices?

Answer—Yes.

Hon. Mr. Fielding—Of course you keep that agreement?

Answer—We keep it pretty fairly.

Mr. Foster—I may say, gentlemen, in that connection, that all papers sold at less than 4 cents we are actually selling at a loss as it is, and we have to protect ourselves in some of the other lines, or else we could not continue business at all.

Hon. Mr. Fielding—What is the nature of the arrangement? Is it simply that you fix a standard of prices and agree that you will not sell lower?

Mr. Foster—Yes, as to the minimum prices—that is, the lowest price of each line of goods.

Hon. Mr. Fielding—You would not like to call it an association?

Mr. Staunton—No sir, it is simply an arrangement; it is not an association in that sense of the word.

Hon. Mr. Fielding—Do you find a market for the full capacity of your factories?

Mr. Foster—We could do more.

Mr. Staunton—It is a very simple matter to increase the output by putting in more machinery.

Hon. Mr. Fielding—As a matter of fact do you find sales for all you do produce?

Mr. Foster—We sell the goods first—we get orders before manufacturing, as the patterns change every year.

Hon. Mr. Fielding—Is the trade done in the same way in the United States?

Answer—Yes, to a certain extent.

Hon. Mr. Fielding—Why then do they get loaded up with such a large surplus stock?

Mr. Foster—Well you have got to estimate what you are going to sell of any one particular pattern, but it is a fact that they do have a very large surplus stock.

Hon. Mr. Fielding—I want to find out whether you gentlemen ever have trouble with surplus stock?

Answer—No, because we make it as close as possible.

Hon. Mr. Fielding—And when you do happen to have more than you can handle, what do you do with it?

Mr. Foster—We have to sell it at a discount.

Hon. Mr. Fielding—It seems to me then that that is very much like "push goods."

Mr. Foster—No, sir, it is not the same thing at all. "Push goods" are goods that are made up for the express purpose of pushing other goods out of the market.

Hon. Mr. Fielding—It is a new phase—it is a thing peculiar to your trade?

Answer—Yes.

Sir Richard Cartwright—What is your total product among the three factories per annum?

Mr. Staunton—\$465,000.

Sir Richard Cartwright—That would represent the gross output?

Answer—Yes.

Sir Richard Cartwright—Can you tell me what proportion the value of your raw material bears to your finished product?

Mr. Foster—About seventy-five per cent.

Sir Richard Cartwright—And the twenty-five per cent. would represent wages, interest on your plant, and running expenses and selling expenses.

Mr. Foster—No sir, I thought you asked as to the cost of the actual raw material. The total cost including the running expenses would be about fifty per cent.

Sir Richard Cartwright—Seventy-five per cent. of the finished product, and the other twenty-five per cent. in wages?

Answer—Yes.

WALL PAPER DEALERS.

The Dominion Wall Paper Association was represented by Mr. Samuel Woods, who said that he had come by appointment, being the honorary secretary of the Association. The great difficulty that the dealers in Canada had had during the past seven or eight years was the immense amount of duty which, especially in the past, had been such as to make their business unprofitable. On several occasions he had acted on delegations to Ottawa and had brought the matter before the Government there. Their representations had been listened to and several alterations had been made, especially recently, and in the direction suggested by the Association. The duty was very high. Many invoices averaged eighty per cent. of duty. On the lowest grade of paper on which there was almost no labor, there was a duty of thirty-five per cent. On higher grades the duty is 1½c per roll of eight yards or less, making a duty of fifty to sixty per cent. He contended that this duty was unjust and unfair, that the man who could afford to put a thirty or fifty cent wall paper pays less than the one who pays for a five or six cent wall paper. The Association contended that the manufacturers of Canada (there were only three of them) who have really done very well have an understanding among themselves by which the prices are regulated just enough to keep out foreign papers. The lowest class of papers produced in England are sold at three farthings.

Sir Richard Cartwright—What class would that be?

Answer—Ungrounded at thirty-five per cent. duty. I know all these three men would say that this class of paper amounts to one-fifth of the better class. The duty to-day averages fifty to seventy per cent. As to job papers a good deal was heard about them from the States. I was here listening to-day when it was stated that they were made specially. No person in the United States having ordinary intelligence would make these papers unless he could make a profit. The interests of the consumer and the pro-

ple generally would not suffer if there was a twenty-five per cent. ad valorem duty.

Sir Richard Cartwright—Would you just say what is the average price of what you call ordinary paper of English manufacture?

Answer—Three to five cents, on which there is a duty at present of 1½ cts. per roll of eight yards and twenty-five per cent. ad valorem. Some of the papers are less than eight yards but have to pay the 1½-2 cts. per roll.

Sir Richard Cartwright—That price is similar to the price of American paper?

Answer—American papers are called grounded. They produce about the same rate.

Sir Richard Cartwright here observed that the views expressed by Mr. Woods were in direct opposition to the statements made by the manufacturers, to which Mr. Woods replied that he knew this.

BUILDING PAPER, ETC.

Mr. C. T. Williams, representing roofing, felt, and building papers, said that strawboard and straw sheathing were cheaper in Canada than in the United States. These industries in Canada represented an invested capital of, at least, \$100,000, with an annual pay-roll of about \$200,000, and this for those directly employed, without reference to the many indirectly interested. The annual output was some \$725,000 and the ruling prices of the goods were lower in Canada than in the United States. American goods coming into this market were sold regardless of the prices obtained at home. The present rate of duty hardly enabled the Canadian manufacturer to receive a little profit, and any reduction of it would force him out of the business altogether. It was asked that the present specific duty of thirty cents per 100 lbs. for the strawboard and straw sheathing be maintained, and that for building papers be placed under the same ruling as tarred felt, viz., twenty-five per cent., and that coal-tar and coal-tar pitch remain on the free list as at present.

PAPER BOXES, WIRE GOODS, ETC.

Mr. E. J. Major, of the Major Manufacturing Company, manufacturers of paper boxes, woven wire cloth, etc., spoke for these industries. He stated that since the last tariff had been in force his firm had not been able to compete with the Americans, the protection accorded being altogether inadequate. The duty on the wire which the firm used in the manufacture of its wire goods was twenty-five per cent. and the cost of the wire represented about sixty per cent. of the cost of the manufactured article. The raw material for paper boxes was strawboard, the duty on which was \$6 a ton, representing an ad valorem duty of thirty-three to forty-three per cent., according to the value of the board, which represented about half the cost of the manufactured material.

In answer to a question put by Hon. Mr. Paterson, witness said: We were driven to foreign markets by the combination of strawboard manufacturers in this country, which took effect some years ago. Lately we have obtained most of our strawboard from Holland. The woodboard we can buy here; but it is not so strong as the strawboard and won't make as good boxes. We would be very glad to buy our strawboard from the Canadian mills if they would give us as good stuff as we get from the other side, and would sell it at a fair and reasonable price. We can afford to pay a small duty on strawboard; we don't want to get anything duty free.

CEMENT MANUFACTURERS.

Thomas M. Morgan, representing the cement manufacturers, was introduced and spoke as follows:

Gentlemen,—I am not as well prepared as I would like to be, as I expected to meet the Commission in January, and had written to others engaged in the same industry as myself. I have received a reply from the Rathbun Co. but have not yet received a reply from the Owen Sound Company. For my own part, gentlemen, I am satisfied with the tariff as it is. The duty is forty cents per barrel. Certain importers have interviewed the Commission with a view of having it lowered. They stated that the duty is excessive, that it is equivalent to sixty and 120 per cent. Well, in answer to that statement, I have a trade circular here, in which it is quoted best London brands five shillings. Now, taking the average price at five shillings for \$1.25, forty cents is thirty-two per cent. Now that is not sixty or 120 per cent. It was also assumed that it was brought out as ballast so that the freight gave us no protection. Well, according to the trade circular here, the freight is five shillings a ton, equivalent to twenty cents a barrel. My works are situated at Longue Pointe, and I cannot get carters to bring it to the city for less than fifteen cents, so that I have no protection whatever in the matter of freight. It was also stated by the spokesman of the delegation that they would like the duty to remain specific, and that it should not be higher than the American duty. The American duty is eight cents per hundred

pounds. The argument which they used for the reduction is that it would bring about a larger consumption, as the cement would largely replace lime in certain works. In answer to that I would say that all our modern buildings are made with cement in place of lime. Some of the importers wished the duty to be specific instead of ad valorem. We are in accordance with them in this respect. The manufacturers have had a good deal to contend with. The price of cement in Montreal was \$2.50 a barrel in 1889. At the present time the same cement is sold at \$1.80, and the price of our raw material and labor has remained the same. The manufacturer has had to meet this cost by adopting the latest machinery, because it is the improvements in the machinery that have caused this chiefly. That has always entailed a great expense upon them. The price of manufacturing as it is, is not excessive. Six companies went into this business six years ago—out of them three have retired from the field, but the three remaining companies are succeeding fairly well. They make more than the six companies made at first, and if let alone will continue to progress. We make now about one-fourth of the cement used in the country, and there is no reason why we should not make the whole of it, and, if let alone, in time we will, no doubt, make the whole of it.

Cement is not a raw material for any other industry. It is all used in permanent works. It does not enhance the price of any other manufacturing industry, and therefore its protection does not interfere with any other. The price now is very low, and the public have no reason to complain. There is no combine, and there is no possibility of having a combine. The expense of starting new works would not be very great and there will always be competition. It is also an industry well adapted to the country.

Hon. Mr. Fielding—How many factories are there in Canada which manufacture cement?

Mr. Morgan—There are three; one at Deseronto, one at Owen Sound, and my own at Longue Pointe.

Hon. Mr. Fielding—Are they extensive establishments?

Mr. Morgan—They are not very extensive yet. I employ about twenty-five men summer and winter, and the Rathbun Company probably employs double that number, and the Owen Sound Company probably about the same. The Owen Sound Company manufactures in the neighborhood of 25,000 barrels a year. The Rathbun Co. manufactures about the same quantity, while I make about 15,000.

Hon. Mr. Fielding—What are the various ingredients which enter into the manufacture of cement?

Mr. Morgan—Limestone and clay.

Hon. Mr. Fielding—These, of course, you have in the country?

Mr. Morgan—Yes.

Hon. Mr. Fielding—You do not have to import materials?

Mr. Morgan—No, sir, the cost of the cement is almost all in the fuel and in labor. Our raw material costs us practically nothing. We have to mine the limestone and the clay and we have coal in the country, and the cost of manufacturing the cement is made up in the cost of coal and labor.

Hon. Mr. Fielding—Getting your raw material very largely if not wholly free and with a duty of thirty-two per cent., do you not think that is quite a large margin? It is more than most manufacturers get.

Mr. Morgan—But, sir, our cost is almost entirely labor.

Hon. Mr. Fielding—But that is true of all manufactures. Of course the material is a small item with you.

Mr. Morgan—It is no item at all. The cost is in the labor. Belgium labor and German labor is very low priced. I suppose they get workmen there for fifty cents a day. I have to pay \$1.40 on an average, so that that heavily handicaps us.

Hon. Mr. Fielding—You speak of the quality of your cement naturally as being remarkably good. Is it the opinion of contractors generally that it is equal to Portland cement?

Mr. Morgan—Yes, there is no question about that.

Hon. Mr. Fielding—Do you think the contractors and the engineers of the country would agree with you in that statement?

Answer—Yes, certainly. I forgot to state that the special grievance of the importers is that the success of the western men is driving their cement out of the market. That is their real grievance. They wish to lower the duty in order to get an entrance into the western market.

Hon. Mr. Fielding—If the engineers and contractors generally believe that your cement is equal to Portland cement, how is it that you only make such a small proportion?

Mr. Morgan—Well, sir, it is a growing industry, and there are a great many people who still have a prejudice in favor of Portland cement. Some contractors specify only Portland cement to be used.

Hon. Mr. Fielding—They must do that for a reason?

Mr. Morgan—No other reason than prejudice.

Hon. Mr. Fielding—Well, we can call the opinions of our neighbors prejudice or anything we like, but that does not dismiss the subject.

Mr. Morgan—I may say that if I may specify names, the Canadian Pacific gives us the preference, and the tests made at McGill always show the Canadian cement the best.

Hon. Mr. Fielding—It being an article so natural to the resources of our country, I should think a very small protection would enable you to flourish if the people are ready to recognize that it is good!

Mr. Morgan—I do not think so, because we have no protection in freight. It would cost more for the Rathbun Company to send cement to Montreal than for the English or Belgium manufacturers to send their cement here.

Hon. Mr. Tarte—Are there any wharves built with your cement?

Mr. Morgan—There are no wharves made here with cement, but my cement has been used in the Cornwall canal.

Hon. Mr. Tarte—How long has it been used there?

Mr. Morgan—Two years.

Hon. Mr. Tarte—I suppose my engineers did not test it. I will certainly have it tested with the greatest of pleasure. We use the imported cement. If yours is as good, I will certainly give you an order.

Hon. Mr. Fielding—Your competition is entirely from England and Belgium?

Mr. Morgan—Yes.

Hon. Mr. Fielding—Are they making any cement in the United States which competes with you?

Mr. Morgan—No, we have sent cement to the other side of the line.

CEMENT DEALERS.

Mr. Wm. McNally, representing the importers and dealers in Portland cement, said that about fifty-five per cent. of the cement imported came from Belgium, forty-five per cent. from England. Casks containing cement weighed 450 and 475 pounds: 282,000 casks had been imported in 1895. The present duty is forty cents per cask of 275 pounds. The present specific duty of forty cents per cask is equal to fifty-three per cent. ad valorem duty. This duty originated in March, 1896.

Owing to improvements in manufacture the sterling cost of

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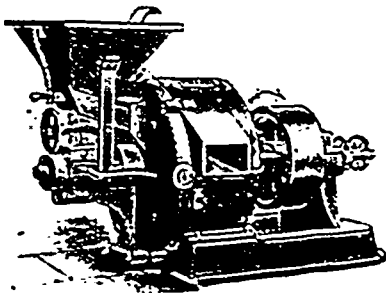
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cement had been reduced, so that the duty now represented a sterling cost of sixty to 120 per cent. The present duty was abnormally high and unwarranted. A reduction would bring about a larger consumption, as the cement would largely replace lime in various works. Mr. McNally's suggestion was that the duty should remain specific as a maximum, and be no higher than that charged under the American tariff.

[NOTE. The foregoing is only a part of the testimony taken at Montreal. The publication of it will be continued in our next and other issues.]

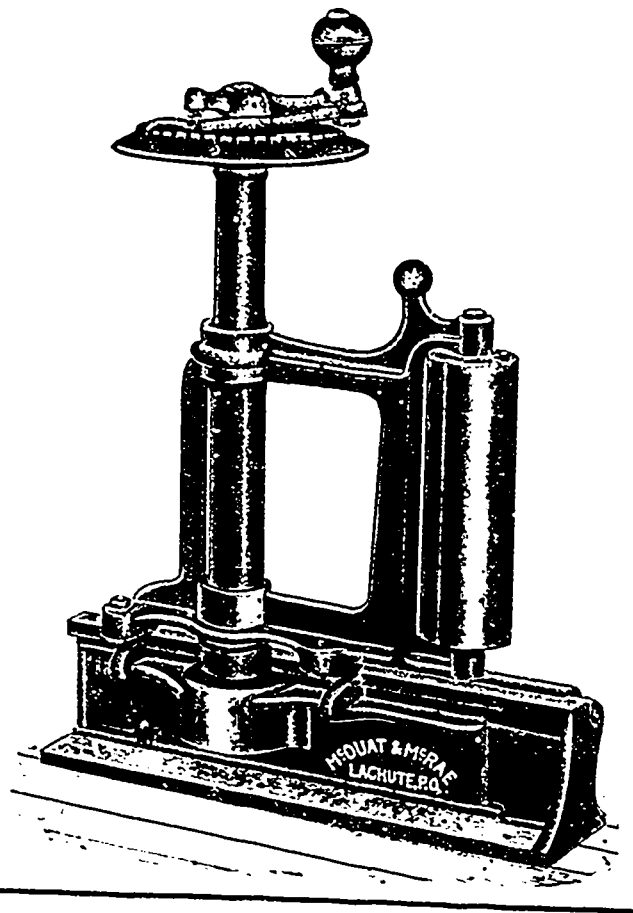
CLIMAX TIMBER GAUGE.

The accompanying illustration is of the Climax timber gauge manufactured by Messrs. McQuat & McRae, Lachute, Que.

Some of the many points of excellence possessed by this gauge, which will be readily appreciated by sawmill men, are:—

1. The roller arm swings over the bed, and is so arranged that if the log strikes it through accident or carelessness, it merely knocks it out of place, and it can be replaced instantly and without injury. This feature is one of much value to millmen.
2. The standard is not stationary, but moves back with the roller bracket. It is never nearer than eleven inches to the saw, and will move back twenty-two inches clear of the saw. If that distance is found to be not sufficient, it can be quickly removed entirely, and without loosening a bolt.
3. It can be changed in half a minute from a right to a left hand machine by changing a small stopper from one side of the standard to the other.
4. The dial plate is accurately divided into inches and quarter inches, with distinct figures cast thereon, and notches cut deep to hold index hand, so that there is no possibility of slipping or shaking out of position.
5. The roller can be changed for different sizes of lumber by simply pressing down on the crank, turning to the required notch and letting go. No pin is required.
6. To cut lumber heavier or lighter than the exact size, it is not necessary to move the machine on the saw frame, as the index hand is provided with an adjustment for that purpose.
7. In the construction of this machine special care is taken to

see that no place is left where sawdust can possibly lodge and clog the operation of it. All millmen know the importance of this feature, and the makers give a guarantee to this effect.



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Orders addressed either to our Toronto or Montreal Factory will have prompt care. Goods will be forwarded same day as order is received.

8. The gauge is built with symmetrical proportions. There are no weak places, and no waste or unnecessary metal.

For further information address Messrs. McOuat & McRae, Lachute, Que.

Arnprior, Ont., is to submit a by law to the rate-payers to raise \$15,000 for constructing a sewerage system.

The E. B. Eddy Company, Hull, Que., have distributed a circular among their employes which explains itself as follows:—As the accident insurance held by many of you in The Canadian Railway Accident Insurance Company will soon expire, and believing it for the best interests that all in our employ should protect themselves and their families, as far as possible, by insurance, we have decided to introduce a general protective policy, to be issued by the Canadian Railway Accident Insurance Company. This system of insurance will give you the special privilege of paying your premium in twelve small monthly instalments, without any extra charge being made for collection, and at a special reduced rate of premium on any reasonable amount of protection any of you may desire. Application forms will be left with the foreman of each department, so that all men wishing to insure may have their names entered on the same at once and thus be protected.

Mr. R. Smith, Sherbrooke, Que., who bought the Burten brewery buildings in that city last fall, has made the necessary alterations and installed machinery for the manufacture of pulp and paper, mill machinery, electric dynamos and motors, etc. In connection with his pulp and paper mill machinery, Mr. Smith builds his own specialties for which he holds patents, namely, pulp agitators, automatic calender feeders, automatic steam regulators, automatic felt guides, etc. Mr. Smith is now building agitators for paper mills at Holyoke, Mass., and Wilmington, Del., and calender feeds for mills at Bellows Falls, Vt. and in Connecticut.

THE ROYAL ELECTRIC COMPANY.

The Royal Electric Company entertained about three hundred of its shareholders and guests at its work in Montreal on Wednesday of last week. Those present saw in operation a generating station unique in many particulars, and far in advance of most other stations even in the largest cities; it is in fact a model and a standard to which others are conforming. The electrical manufacturing department excited much interest, and this, also, in the character of the machinery and equipment employed, in adaptability to its purpose, and in quality and finish of product, is second to none on the continent. The factory and station, indeed, represent the utmost of development attained to the present moment in the electrical art, as applied to light and power.

The walls of the generating station had been decorated with flags galore, and in a bright room on the second floor of this building, in similar festive attire, refreshments were served, and explanatory and congratulatory speeches made. The president of the company, Senator J. R. Thibaudeau, welcomed the shareholders and invited guests in the name of the company, and said that the social and commercial position of the gentlemen present conclusively showed the great interest felt in the future success of the Royal Electric Company by the citizens of Montreal and other cities. He remarked that employment was given to 500 skilled men, almost all heads of families, to whom over \$300,000 were annually paid in wages. He alluded to the increased plant which the increased use of electricity had at different times rendered necessary, and said that the directors would deserve well of their fellow-citizens the day that they caused a 25,000 horse-power to be delivered in the centre of the city. It would mean cheap lighting, cheap power for all purposes, and a general impulse to the industries of the city. The Chambly Manufacturing Company's Hydraulic Works, in which the Royal Electric Company was largely interested, were being vigorously pushed to comple-

THE - - - -

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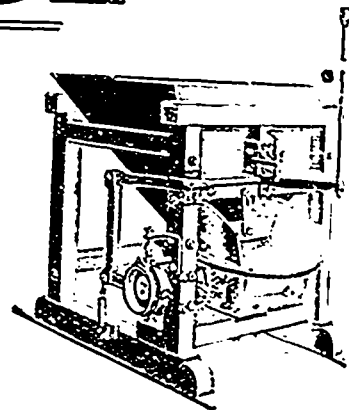
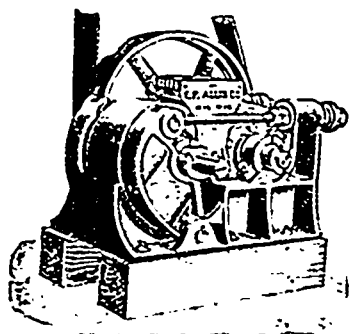
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tion, and it was expected that the immense power which these works would supply would be generated by the middle of next summer.

The factory proper is 192 feet long and 96 feet wide, and is of the most modern design. The ground floor is occupied by the heavier machines, and the four galleries, each 25 feet wide and extending the whole length of the building, are fitted with lighter machinery, while a crane with the capacity of twenty tons traverses the entire length of the building. The whole of the building is framed of steel, and the main portion of the roof and ends of the building are glass. The design is unique and admirably adapted to the requirements of the company. The building was designed and built by Mr. Henry Holgate, who was at the time connected with the company as engineer, and it was completed in ninety days. In the building are the testing room, machine shop, insulating and winding departments. The machinery was all running. The interior of the structure was a scene of the utmost activity, and to watch the powerful machinery at work, each piece being operated with an ease that seemed almost magical, proved a source of deep interest to the visitors, who, for upwards of an hour,

sauntered round and looked on at the various manufacturing operations that were being gone through. Steel plates were cut like tissue paper, iron was drilled like wood, heavy loads of material were shifted here and there by means of a huge travelling electric crane, and scores of yards of copper wire were insulated with cotton by bobbins that wound in and out among each other like dancers around a Maypole, only with considerably more celerity.

Mr. W. H. Browne, the general manager, gave a most interesting resume of the progress of the company and of electrical science. He said:

To the Citizens of Montreal the Royal Electric Company is well and chiefly known by the brilliant illumination which provides the security of daylight to the streets and parks of the city.

It is also known by the cheerful radiance of the numerous incandescent glow lamps, which makes pleasant and decorates so many residences and places of business.

As a manufacturer of electrical machinery and apparatus, it is, however, better known throughout the Dominion of Canada than in the City of Montreal.

It has been manifest on several occasions that many, even of

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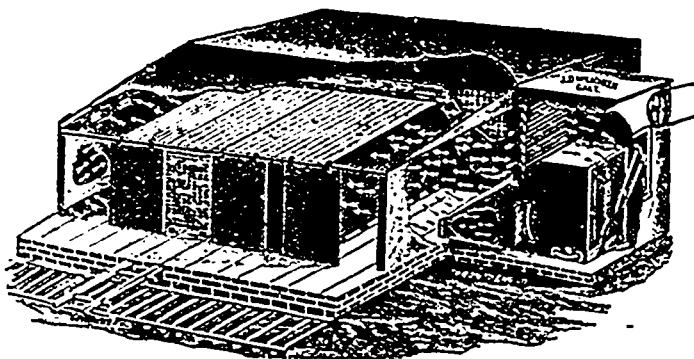
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Contractors for Street Railways, Electric Light and Power Plants, and Power Transmission. Estimates Given

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Under Recent Patents.



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 Right 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 case with all other Blast Kilns.

Ventilating Fans, Shaving Fans, Pressure Fans, all sizes.

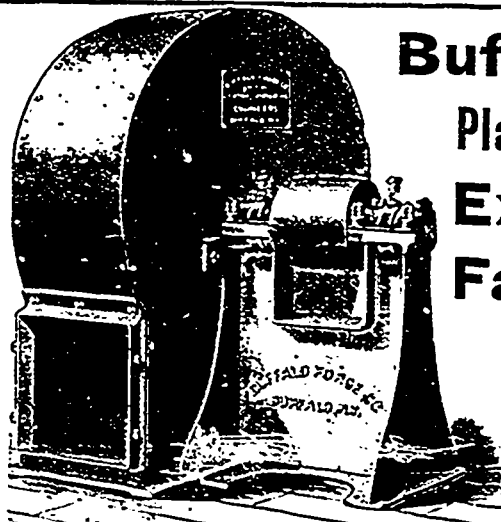
BLAST HEATING SYSTEM FOR LARGE BUILDINGS

Little Wonder Boiler and new Hot Water Heating System half price of usual hot water system. STEAM BOILER CLEANERS, Feed Water Heaters covered by Patents of recent date in Canada and United States.

Second-hand Heaters and Fans made by the best American Manufacturers, only in use a short time, for sale at great reduction. Sold for Illustrated Catalogue and Prices to

MCEachREN HEATING & VENTILATING CO.

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Buffalo Planing Mill Exhaust Fans

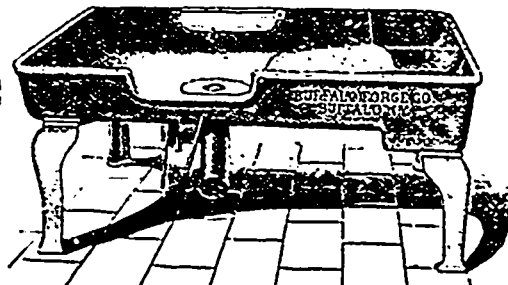
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Thirty Eight other Designs of Portable and Stationary Types.



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those who are intimately acquainted with the company, have very little actual knowledge of the extent and character of the source of illumination they enjoy and have a very inadequate conception of the enterprise represented by or of establishment constituting the Royal Electric Company.

To those throughout the Dominion, who are users of electrical appliances, the company is well known as manufacturers of the best and most advanced types of such appliances and in a general way as conducting the largest operating electrical light and power plant in Canada, but the full extent of this feature of its business is not thoroughly comprehended even by those who purchase and use its manufactures.

The completion of recent improvements made in the generating station and of the equipment of the new factory in full working order and at work in the manufacture of large apparatus, has, therefore, been deemed an appropriate occasion to bring to the personal knowledge of the citizens of Montreal, and to those throughout Canada who are interested in electrical enterprises, the fact that in the Royal Electric Company the City of Montreal and the Dominion of Canada possess an industrial institution of the highest rank.

We have believed that it would be an especial pleasure to you to become acquainted by actual inspection with the details of an electrical manufacturing establishment within your city and country, which in character of machinery and equipment employed, in adaptability to its purpose and in quality and finish of product is the equal of any on the continent—second to none.

We have also believed that it would be to you an equal pleasure to see in operation a generating station unique in many particulars, far in advance of stations even in the largest cities, and containing features which are models and standards to which others will conform.

This is the object and purpose which actuated the president and directors of the Royal Electric Company to extend the invitation which your presence indicates was agreeably acceptable.

The factory and station, which you have seen to-day, represent the utmost development attained to the present moment in the electrical art as applied to light and power purposes, and also represent the development and growth of the Royal Electric Company, which has kept pace with the progress of electrical science.

From a beginning in 1884, with a dynamo of twelve light capacity, a work room containing a few ordinary machines, shop tools, a dozen employees and a capital of less than \$50,000, it has steadily and continuously progressed so that to-day its generating plants provide electric current for street lights, house lights and motive power to the equivalent of 100,000, sixteen candle power incandescent lamps, with capacity for 50,000 more; its factory is equipped with the latest and most modern machinery capable of building the largest electrical machinery used in the world, and is now actually at work manufacturing generators each of nearly 3,000 h.p. capacity; has nearly 500 employees and possesses plant representing \$2,500,000.

It introduced in 1884 a new business into Canada beginning with the manufacture and use of what was then the best and most improved electrical apparatus, and continued to be the leader in its line.

To-day it is manufacturing and using generators and other electrical apparatus, which are so far superior to those hitherto or elsewhere made in Canada as to be considered, even in the electrical world, a new departure, the improvement is so radical and far reaching.

The company began business in 1884 having both its factory and generating station in a small building in Dowd Street.

In September, 1885, the building on the corner of Queen and

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HAMILTON, ONT.
Manufacturers of . . .
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AND
CANNERS' SUPPLIES

WE have special facilities for manufacturing Solder in triangle bars, large bars and wire.....
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THE NORTON MFG. CO.
Hamilton, Ont.

Wellington Streets was leased and became the factory, lighting station, stores and offices of the company.

In July, 1886, the streets of Montreal were first illuminated, 113 lights being placed—to-day, nearly 1,500 lights in the streets render your city one of the best lighted on the continent.

In 1888 the first incandescent lights were supplied, and a dynamo having the capacity to provide 500 lights was installed. The station, which you have just inspected, has connected with it and serves at present about 65,000 incandescent lights, besides electric motors and arc lights, and is capable of supplying 50,000 more.

In 1889 the generating station known as the East End Station on Water and Commissioners Streets was established solely for arc lighting.

In 1891 the building in which you are at present was built and equipped as a generating station to meet the rapidly increasing demand for incandescent lights.

In 1892 the first electric motor circuit was established.

In 1892 the evident extensive field available in Montreal for the application of electric current directed the attention of the com-

pany to the utilization of water power. After an exhaustive examination of all water powers contiguous to Montreal, and after a most thorough comparison of the merits and demerits of each as applicable for electric light and power purposes all were rejected except that of the Richelieu Rapids at Chambly, the rights to which were secured by the company.

In 1894 the building at the corner of Wellington and Queen Streets, which in 1885 was more than sufficient for all the purposes of the company, was found to be inadequate for the manufacturing purposes alone, and plans were prepared for the erection of the new factory building, so that the factory equipment could be placed therein by the expiration of the lease of the former building on May 1, 1895.

In 1894 also the desirability of a greatly improved line of electrical apparatus, and the opening of new fields for such apparatus, resulted in a contract arrangement with the Stanley Electric Manufacturing Company, of Pittsfield, Mass., for the sole right of manufacture and sale in the Dominion of Canada of the apparatus which they had a short time previously introduced in the United States and which almost immediately assumed first

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ALGOMA IRON WORKS

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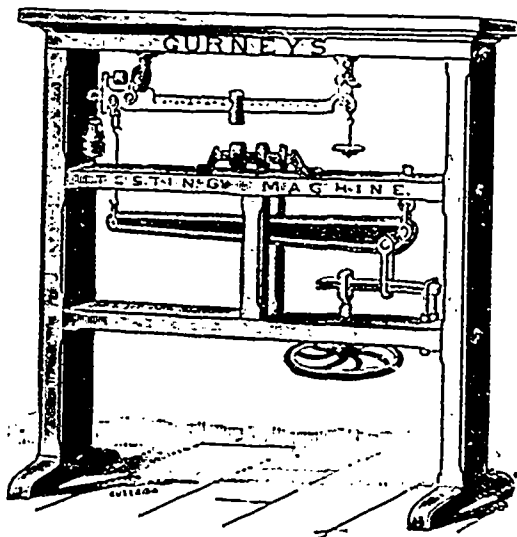
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DESIGNED, CONSTRUCTED and
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FOUNDRYMAN'S TESTING MACHINE

A Durable and Effective
Machine for the Use of Foundry-
men in Testing the Strength
of cast Iron, and
ascertaining the Best Mixture
of Iron for any work,
thus showing positively which is
the Best Iron for the Re-
quirements.
Can be done in a few minutes.

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SUBSTANTIALLY CONSTRUCTED.
HIGHEST CLASS OF
WORKMANSHIP.
CAPACITY, 5,000 POUNDS.
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Manufactured
by.. **THE GURNEY SCALE CO., Hamilton, Ont.**

**Canada Chemical
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Manufacturers of

Sulphuric, Nitric, and Muriatic
Acids — Commercial and
Chemically Pure.
Mixed Acids for Explosives.
Liquid Ammonia, Glauber Salts,
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Tin Crystals, Acetic Acid, Nitrate
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LONDON
ONT.

rank as electrical machinery, and was recognized by all, who were competent by experience to judge as being vastly superior to any hitherto produced, and possessing features entirely unknown to the old style of apparatus, features and character of construction, which placed it as far beyond all that had previously been made as the marine engines of the ocean liners of to-day are in advance of the ordinary stationary engines of fifty years ago.

This apparatus, known and designated by the initials of the names of its joint inventors and designers, Messrs. Stanley, Kelly and Chesney, being capable of supplying from the same machine and from the same wires incandescence lights, arc lights and motors, occupied a new field and made profitably possible the extension of electrical business in directions not hitherto commercially available.

In the manner and details of construction it also occupied a new field, for instead of being the cheap temporary method of construction characteristic of earlier electrical machinery, it is built in the very best manner equal in every particular in finish and character of manufacture to the best machinery in every other line of commercial practice.

The S.K.C. generators completely revolutionized the method of construction and operation theretofore employed. The particular feature, which in all other generators is the source of constant annoyance, expensive and frequent repairs and loss of service, namely, the revolving wire wound mass, known as the armature with its complicated commutator and the constantly wearing and fire emitting brushes, requiring the closest attention of employees and numerous devices for operating and regulating was entirely abandoned and instead is employed simply a solid steel wheel, having contact with no other part and having no wearing or contact surfaces except the journal bearings. To the electrical operator this feature alone was a long coveted boon and is a source of constant delight. To the owners it is a source of great economy and increased net revenue. The record to date of the generators is that the maintenance and repair account has been reduced to nothing.

The S.K.C. system employs the simplest method of what is known as the polyphase system the development of which has made possible the transmission of power commercially to great distances, thereby opening avenues to the manufacturer of electrical appar-

The Packard Electric Co., Ltd.

MAKERS OF

Lamps and Transformers

Sole Agents for SCHEEFFER RECORDING WATT METERS
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Burnham's Percentage

Full Gate	84
$\frac{3}{4}$	84
$\frac{1}{2}$	82

NEW IMPROVED
STANDARD TURBINE

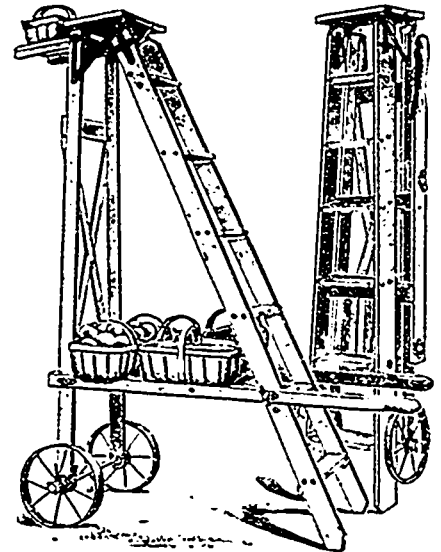
It gives on either a Vertical or Horizontal shaft more power for its price, yields a greater percentage for water used, either with full or part gate drawn, and is the simplest, most durable and best finished wheel made. Send for illustrated catalogue and state head of water and power required.

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An excellent business opportunity is offered in the manufacture and sale of the Orchard Step Ladder, as above shown, for the Dominion of Canada or the United States, excepting Pacific Coast. Address

EZRA F. LANDIS
MODEL CITY, NIAGARA COUNTY, N.Y.
Bids will be received for the Canadian Patent.

Subscribe for The Manufacturer

The COBOURG WOOLEN CO., Ltd.

The well-known Mills of this Company are now offered for sale.

Sealed Tenders will be received by the Assignees up till **THURSDAY, the 25th INST.**, for the Purchase of

THE ENTIRE PLANT AND PROPERTY

The Mill is in excellent condition and at present is at work filling orders. Splendid opportunity to secure a well-appointed Mill at a low valuation. Also a variety of stocks, consisting of

WOOL IN BALES, DYED AND IN VARIOUS DEGREES OF PROCESS, SHODDY, RAGS, WASTE, YARNS, SUPPLIES, Etc.

Prospective purchasers can inspect the Plant and Stock, and obtain further particulars on application to the Assignees. The highest or any tender not necessarily accepted.

Cobourg, February 15, 1897.

W. ROSAMOND, } Assignees.
J. S. SKEAFF, }

atus before impracticable and enabling the development of other-wise unprofitable water power.

In Canada this field promises to be of prodigious proportions. This class of business usually calls for apparatus of large capacity, and the equipment of the new factory has been planned and carried out to meet this new demand. To the former extensive equipment was added larger tools, among them being two boring mills, one adapted to finish parts of apparatus having a diameter of seven feet, the other capable of finishing parts having a diameter of twenty feet (the latter tool, by the way, being built in the factory itself), a planer, probably the largest of its kind in Canada, also an electrical crane capable of hoisting and moving to any part of the building masses of thirty tons in weight, together with several drilling machines, bolt and screw-making machines, punches and other necessary tools. Thus equipped the factory is capable of, and is actually at work now in the manufacture of dynamos, namely, those for the Chambly water-power, each of which will aggregate in weight upwards of 100 tons, and each capable of developing 3,000 h.p., being the largest dynamos, except those at Niagara Falls, that have ever been made. Besides these, there are being manufactured at the present moment for the Montmorency Company of Quebec, two dynamos each of 1,000 h.p. capacity, and two each of 350 h.p. capacity, and there have just been completed for a water-power sixteen-mile transmission plant, from Hareisse to the city of Three Rivers, two each of 400 h.p. capacity, and the dynamos aggregating 2,500 h.p. capacity which you have just seen in operation in the station in which you are now: a total for the four places of upwards of 25,000 h.p.

The S.K.C. system is the only one in which dynamos are made to deliver current at very high voltages directly from the generators. Those now in operation at, as well as those being constructed for, the Montmorency Company of Quebec, are being operated, and will operate at a voltage of nearly 6,000 volts. The

Chambly generators will deliver directly from the machines to the lines 12,000 volts. In all other systems, the high voltage necessary to convey electric current long distances must be obtained by other devices, known as transformers or converters, the generators usually only delivering a pressure of 1,000 volts, and the transformers increasing such pressure to the voltage desired. This transformation involves a loss of energy, and is a source of interruption and expense, besides its increased cost, which is unnecessary with the S.K.C. system.

The S.K.C. system is alone in this feature, and this characteristic opens the way for the Royal Electric Company to be the advanced leader in the electrical field for light and power purposes, and particularly where the transmission of power to considerable distances and in large quantities is required. These conditions practically constitute the Royal Electric Company as the engineers for such systems.

Since the introduction in the early part of 1894 of the S.K.C. system in the United States, which was practically first introduced in the early part of 1894, to the present time, there has been put in use, or are in process of construction under order in the United States and Canada, generators of this system, of a total aggregate capacity of about 900,000 h.p.

Another appliance of the S.K.C. system, namely, the transformer, also revolutionized that necessary adjunct of every alternating current lighting plant, which, as made before the introduction of the Stanley transformer, was a source of the greatest expense to such stations.

Since the introduction by the Royal Electric Company of these transformers into Canada, their value in the prevention of waste has been frequently demonstrated, and is now so firmly established that every electric lighting station, in the endeavor to improve its earning capacity, is displacing the old types of transformers, which they have in use, and substituting S.K.C. transformers.

FETHERSTONHAUGH & CO.

PATENT BARRISTERS AND SOLICITORS

ELECTRICAL AND MECHANICAL EXPERTS AND DRAUGHTSMEN

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Patents Procured in Canada and all Foreign Countries.

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...GALVANIZED STEEL FIRE PAILS..

NO HOOPS TO FALL OFF



A Pail that will withstand the action of salt and water. More fires are extinguished by pails of water than by all other means combined. They are always ready, simple and effective. The Official Returns of the New York Fire Commissioners, show that 64 per cent. of the whole number of fires were extinguished by pails of water Galvanized, Painted Red and Stencilled, or Plain Galvanized and Stencilled.

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When Were Your

BOILERS

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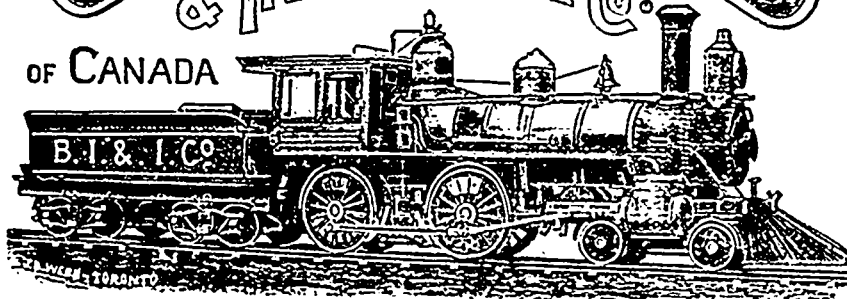
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OF CANADA



Head Office,

TORONTO

Are You Sure

THEY ARE

SAFE

AND IN

Good Condition?

Although first offered to the electrical public but a few years ago, there are in use to-day S.K.C. transformers having an aggregate capacity of upwards of 1,000,000 lights, and the demand for them is constantly increasing.

The peculiar success of the S.K.C. system is due to the new features and principles it embodies, but is also equally due to the extremely high character of the methods and materials employed in manufacture. These methods require the utmost accuracy, the greatest care, the best materials and the finest finish.

The manufacture by the Royal Electric Company of the S.K.C. apparatus is carried on in direct accordance with the plans, specifications, drawings and methods in use by the Stanley Electric Manufacturing Company, in their own works, and in every detail and particular are exact duplicates of those made by them. All the advantages of contact with the widely extended field covered by the Stanley Company in the United States are available to and at the disposal of the Royal Electric Company, and is utilized for the benefit, and is at the service of its customers.

The factory is planned, equipped and manned for the manufacture of high-class apparatus only, and is devoted solely and entirely to work of that character. When the introduction of this class of electrical apparatus was begun by us we were told by some of our good friends that there was no market in Canada for this class of goods. Our experience during the last two years fully and completely refutes that suggestion, for we have found that when we made known, in actual practice, the fact that electrical apparatus of this character was available, the best and only the best was wanted, and the result is the condition of our factory to-day, engaged to its

utmost capacity in the fulfilment of orders, being in many cases the repetition of previous orders.

The S.K.C. system, however, does not constitute the entire business of the factory, the manufacture of direct current dynamos and motors, arc lamps and machines and railway generators and motors adding materially to the demands on the capacity of the works; a recently completed order being the entire new equipment of generators and motors for the Montreal Park and Island Company.

The manufacture of insulated wire and of many kinds of instruments and other appliances is extensively carried on.

Since the beginning of the business of the company it has installed in Canada seventy arc light plants, using an aggregate of upwards of 8,000 arc lamps and 145 incandescent plants, with total capacity of more than 250,000 lights distributed from Victoria in west to Prince Edward Island in the east.

Judging, therefore, by the past of the Royal Electric Company and by its present conditions and demand for its manufactures, with the large new opportunities opened by its S.K.C. system, the future bids fair to tax the capacity of this complete factory to its utmost working power night and day. At the present day, the business already in hand will keep it constantly occupied, at least during the present year, working day and night.

With such improved apparatus available, it became incumbent upon the Royal Electric Company to utilize in its own illuminating business the advantages obtainable from the S.K.C. system. To that end, about a year ago, the Board of Directors authorized the improvements which have recently been completed, in it-

JOHN HALLAM

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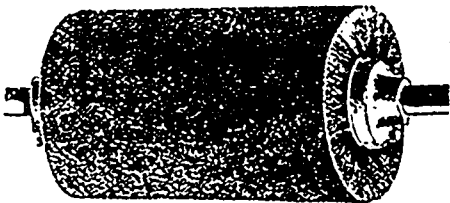
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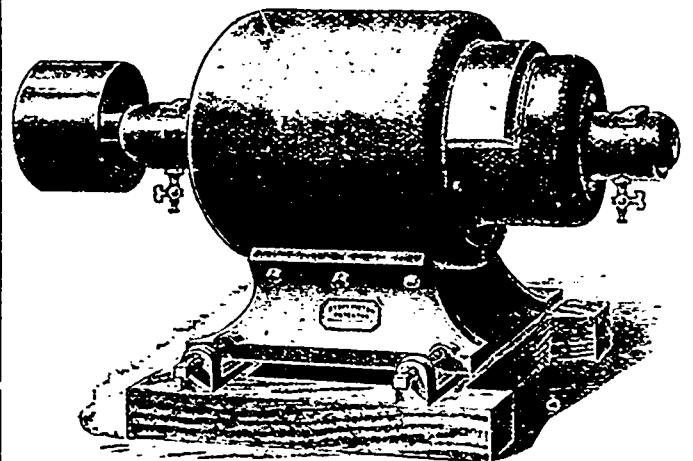
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lighting system. These improvements being the placing of Stanley transformers upon its lines of the S.K.C. generators, which you have just seen, in this station and the erection of the new distributing switchboard.

One of the advantages resulting from these improvements, which will appeal directly to our shareholders, is that with more than 10,000 lights connected to the station at the present time than there were a year ago and although the improvements have practically been only just completed, an economy has been accomplished in the item of fuel to the extent of 6,000 tons, that is there was consumed during the year 1896, with the increased business, 6,000 tons of coal less than during the year 1895.

When the improvements within the station were begun a year ago, the four engines, two of 500 h.p. capacity and two of 1,000 h.p. capacity each, were connected to some thirty separate dynamos by means of lines of shafting on two floors of the station. As you have just seen, three of these engines are connected by belting directly to what are practically three dynamos, the fourth engine being at present not required.

Any of you that saw this station a year ago will remember that the entire space of the first and second floors was completely filled with shafting, pulleys, belting and dynamos and both floors presented an exceedingly crowded condition. As you have perceived to day, the first floor alone fulfills all the purposes of the station and its condition is open, roomy, bright, cleanly and cheerful.

The switchboard which bears the same relation to our lighting and power systems as the pilot house does to a steamship, and controls the distribution of the electric current from the generators to the premises of our customers, has been especially designed and constructed with two important considerations in view. The first to secure an entirely incombustible condition, the second to obtain

a flexibility and facility of operation which will enable the transfer of any circuit to or from any generator so quickly as to be practically imperceptible when all the lights are burning.

The first condition of incombustibility is a necessity to insure permanent service to our patrons, and has been completely accomplished. The second condition secures uniformity of service to our customers, a condition which we have abundant reason every day to realize has also been accomplished.

The switchboard is so arranged that any circuit, with every light thereon burning, may be instantaneously transferred from one generator to another without perceptible change in the light and this is done so frequently without being noticed, that it is the best possible evidence of the complete adaptability of the switchboard to its purpose.

A fact in connection with these improvements and the change from the old system to the new is that all of these changes were made without the interruption for a single instant of the service to the upwards of 60,000 lights served from this station, which is in operation continuously during every hour of every day in the year.

To those familiar with the handling of electric currents, this will be considered a feat almost without parallel and even to those who are not familiar, a consideration of the labor, risk, care and rapidity of action involved in transferring nearly 100 wires, all of them charged with electrical current, from nearly thirty dynamos and the old switchboard to three dynamos and to the new switchboard without the least interruption will represent a work of great magnitude.

This entire change from the old system to the new, from the old to the new switchboard, was made within the period of ten hours, our customers obtaining their service undisturbed.

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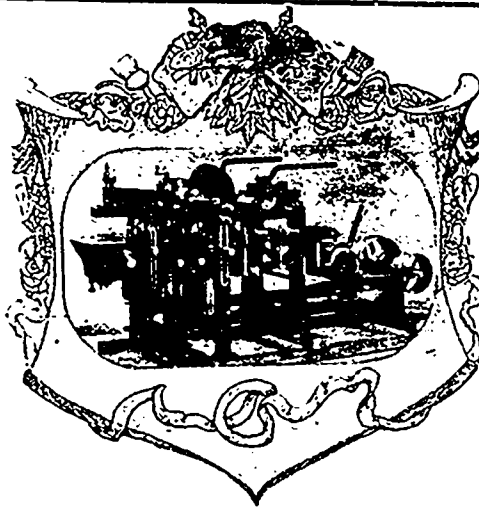
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All of this work and all of this apparatus within the station has been placed not only for the purpose of improving our present system of electric lighting and increasing the opportunity for the use of electric current for motive power, but it has also all been done especially with a view to being utilized in connection with the electric current to be transmitted from the water power generator plant at Chambly.

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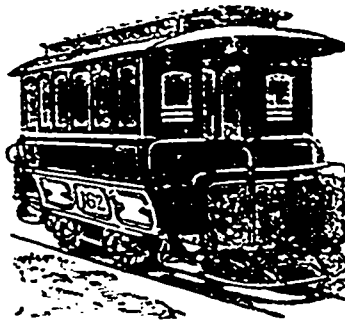
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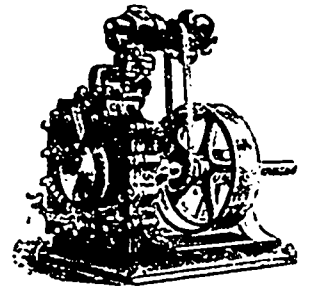
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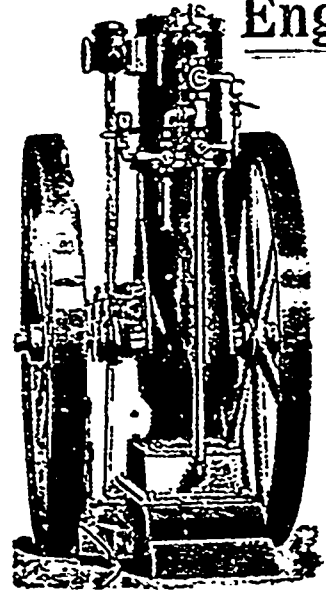
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The switchboard has been constructed so as to be capable of handling and distributing current for upwards of 200,000 incandescent lights and equivalent capacity in electric motive power.

The generators at present operated by the steam engines are designed to be operated by the electric current from the Chambly water power as motors, wherewith will be operated the necessary complement of arc light dynamos to serve current for all the arc lights in the city streets and public places, as well as to operate the direct current generators now supplying current for motive power. The circuits for such direct current motive power will be maintained so that customers having motors available for use on such current can be supplied with such power.

Within this station will be placed transformers to reduce the high voltage on the lines from Chambly to that used for distribution throughout the city. This current will be conveyed to the present switchboard and thence to the lines already extending throughout the city, and also to the generators which will then become motors. The entire system of lighting and power now carried on in this station and at the East End Station will be served entirely from here, as will also any additional current required for increased business; the entire distributing system being concentrated in this station, with practically no alternations in the present equipment.

The East End Station will be maintained in its present condition as a steam generating and lighting station, to be used as a relay, or emergency station only. The steam engines in this West End Station will also be retained in their present position and in the extremely remote contingency of an interruption from any cause in the delivery of the current from Chambly, the motors will immediately again become generators and perform the functions they are now fulfilling. With this arrangement there will exist a water power plant and a steam plant entirely independent of each other ensuring absolute continuity of service.

The maintenance of the East End Station in its present condition, and the arrangement of this West End Station so as to be promptly transformed again into a steam generating station is a precaution taken against what is assuredly a very remote contingency, but it has been so arranged in order to remove all opportunity for interruption of service to our customers.

That there is extremely little chance of interruption in the delivery of current from the Chambly water power into this city may be determined by a consideration of the conditions entering into its development, and at this junction it is appropriate to speak of the Chambly water power generation and distribution of electric current therefrom.

The dam being built is to be one homogeneous mass of concrete, forming practically a monolith or a structure made of but one stone. This dam has been designed and is being built under contract by the foremost hydraulic engineering company on this continent, according to the plans and under the direct supervision of its chief engineer, who is recognized as the most competent authority in this character of construction.

The wheels are also to be provided by and are under contract with the same engineering company.

The entire hydraulic work has been contracted with the above mentioned company under guaranteed results, among which are the maintenance at all times of a working head of twenty-eight feet, and the delivery to the shafts of the electrical generators of not less than 20,000 h.p. There will be eight units or sets of wheels, each of a capacity of 2,650 h.p. Each of these units or sets of wheels will be connected directly, without the intervention of any gearing or appliances to cause loss of energy to the shaft of one electrical generator—in fact, the shaft of each set of water wheels and of each generator will be practically one continuous shaft, thereby reducing to a minimum the loss of energy and the occasion for the expense of repair.

Besides these eight sets of wheels and generators, (the generators we have already described as being under construction in our factory, and each of which will weight 100 tons), there will be two sets of water wheels, each operating an exciting generator of capacity sufficient to supply the station current required by all of the generators.

The dam, as stated before, will produce a head of water twenty-eight feet in height and will utilize the entire water of the Rich-

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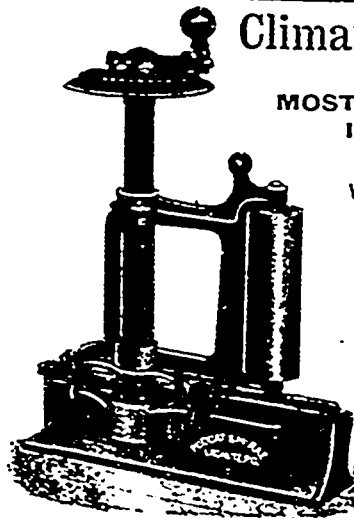
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lieu river, the outlet of Lake Champlain. The reservoir, or head race, thereby created will extend up the river from the dam to a point where the level of the water in the head race will merge with the natural level of the river, such point being a mile and a half or more above the dam, thereby securing a very long deep mill pond, which with the high working head of twenty-eight feet will effectually remove all possibility of that bug-bear of water powers in cold climates—frazil.

The location of the dam has been selected at a point where the highest known rise of the water in the Chambly Basin below the dam, will not effect the level of the tail race. Therefore all possibility of interruption due either to frazil or back water is completely removed.

The character of the construction of dam power house wheels, dynamos, switchboards, is all of the highest order. There are no gears to wear or break, there are no wire wound armatures liable to destruction, there are no commutators, brushes or wearing parts in the dynamos, the only wearing parts in the water wheels and electrical machinery being the shaft and its bearings, consequently every source of danger has been apprehended and guarded against.

The current will be conveyed from the power house at Chambly to the city of Montreal by two separate lines of poles and wires. Should any accident happen to any part of either line of poles or wires, necessitating repairs, the current from such line will be cut off and all of the current required will be transmitted by the other line during the time such repairs are being made. This will permit such repairs to be made without interruption to service or danger to employes, because there will be no current passing over the line being repaired, as the other line will carry all that is required.

Arrangements have been consummated with the Grand Trunk Railway whereby the wires for the crossing of the St. Lawrence River will be carried on the Victoria Bridge, and there also the wires will be so placed that a duplicate system corresponding to the duplicate pole line will be provided. The same duplicate system will be employed within the city from the bridge terminus to the distributing station. No danger of interruption from injuries to pole lines can therefore be apprehended.

All the work and material for the Chambly water power electrical transmission plant is under contract to be completed by September 1, 1897. The progress already made in all the various parts

of the work assure completion in accordance with the contracts, so that in September of this year, this West End Station, which is now a generating station of large size, will become merely a distributing or sub-station of the one at Chambly, the second largest electrical generating station in the world.

The advent of the electric current from Chambly will create new conditions in the city of Montreal.

The low price at which electric current can be supplied will permit its use in many directions not now considered.

Besides accomplishing these material benefits in the commercial interests of the city, the electric current from Chambly will become the handmaid of domestic service, will lighten the labors of the household, affording the means of cooking and heating without the labor of handling coal and ashes, or the disagreeable adjuncts of scorching flames, or of offensive, injurious odors; making easy and agreeable the service in the kitchen, the laundry, and the sewing-room.

And, most important of all, with these results will come vastly increased safety from fire; your insurance statistics will indicate most graphically the numerous sources of danger in this respect which will be removed by the extended use of the electric current above outlined.

The diminished cost of electric current for illumination will very extensively increase the use of light; exteriors as well as interiors of buildings and windows will be illuminated for decorative effect; public or street lighting will not alone be extended into every street, byway and lane, but will be increased in number in every street, which will be possible within reasonable expenditure and the city will become bright, cheerful, helpful and clean, and its streets at night be as safe as under the glare of the noontide sun. This is no idle anticipation nor a fanciful picture but a very probable nearly reality.

The successful progress of the Royal Electric Company is a component of the increased commercial prosperity of the City of Montreal, and through the use of its manufactures the Dominion will obtain similar advantages.

We can, therefore, anticipate with pleasure as the results of your visit here to-day a more intimate knowledge of the Royal Electric Company and in consequence not only your good wishes but your valuable friendly aid and assistance in promoting its enterprises to broader dimensions and still greater successes.

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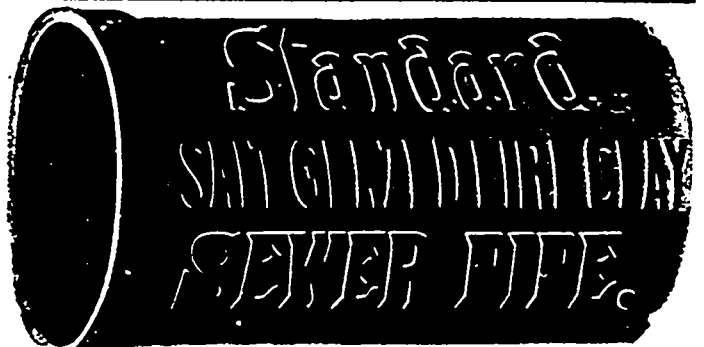
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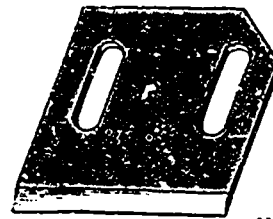
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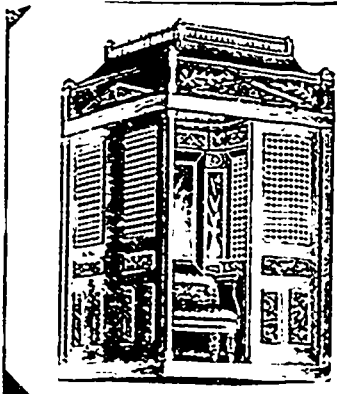
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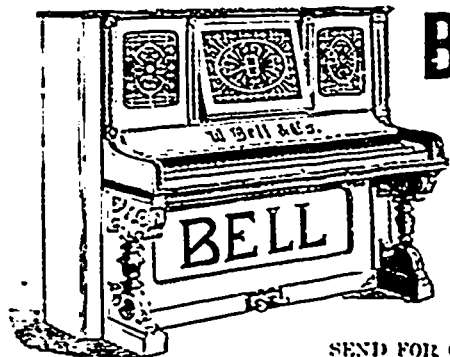
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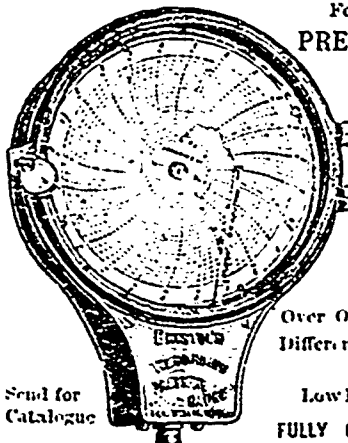
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