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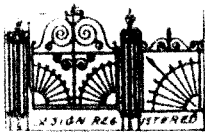
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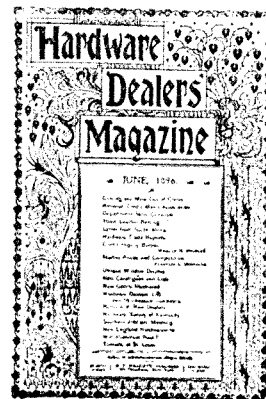
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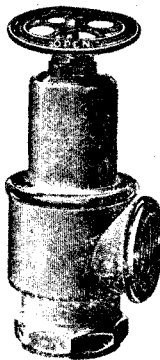
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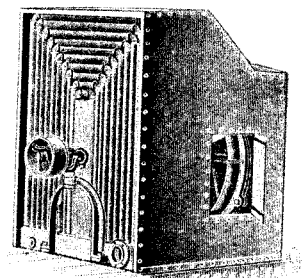
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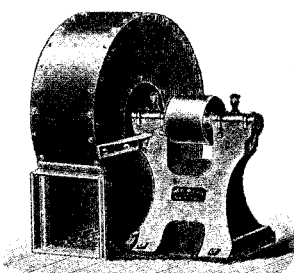
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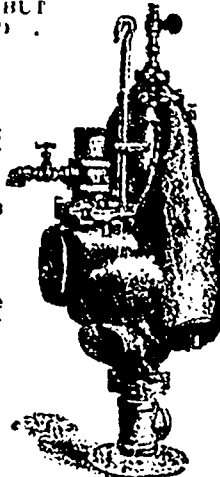
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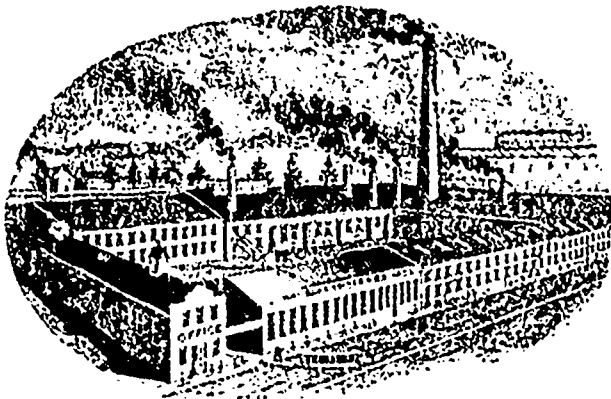


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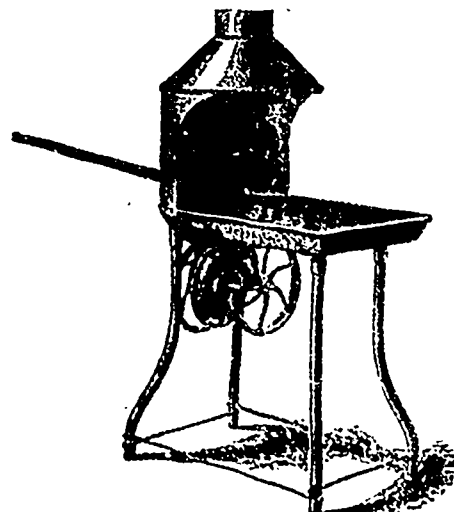
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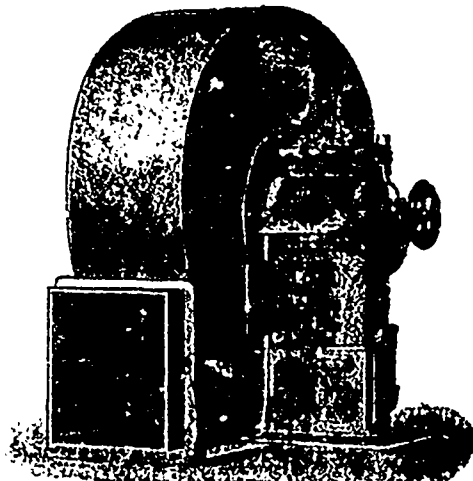
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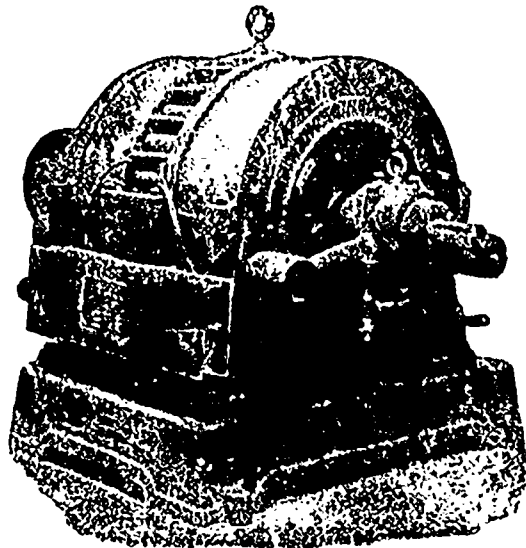
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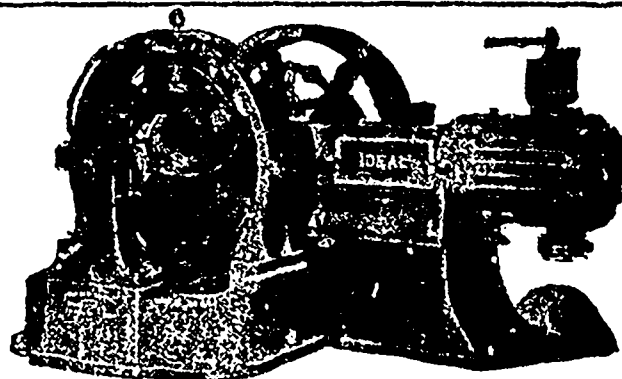
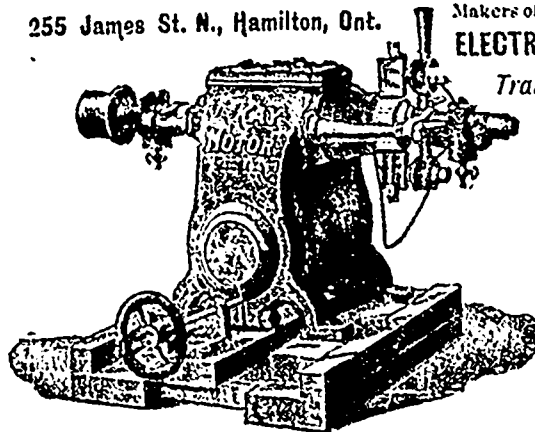
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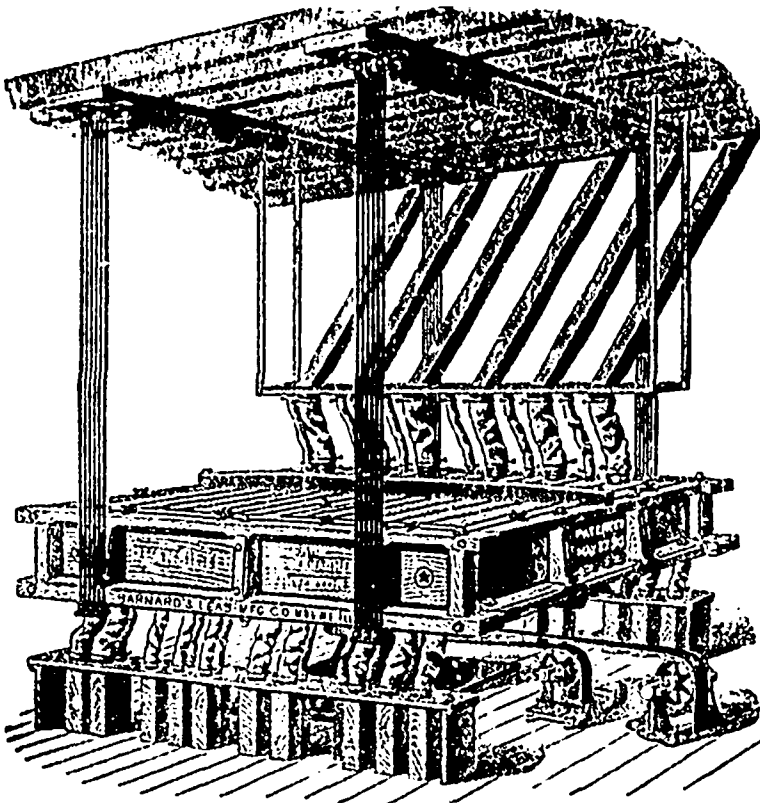
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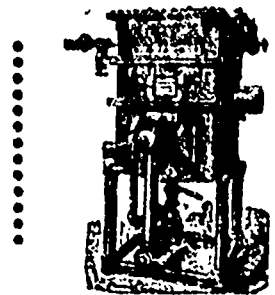
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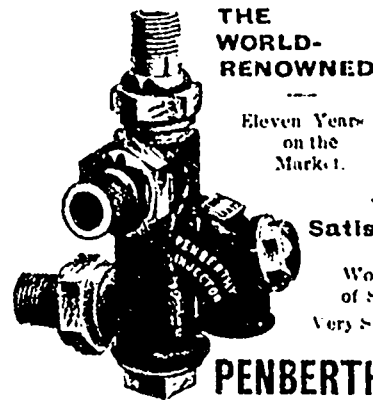


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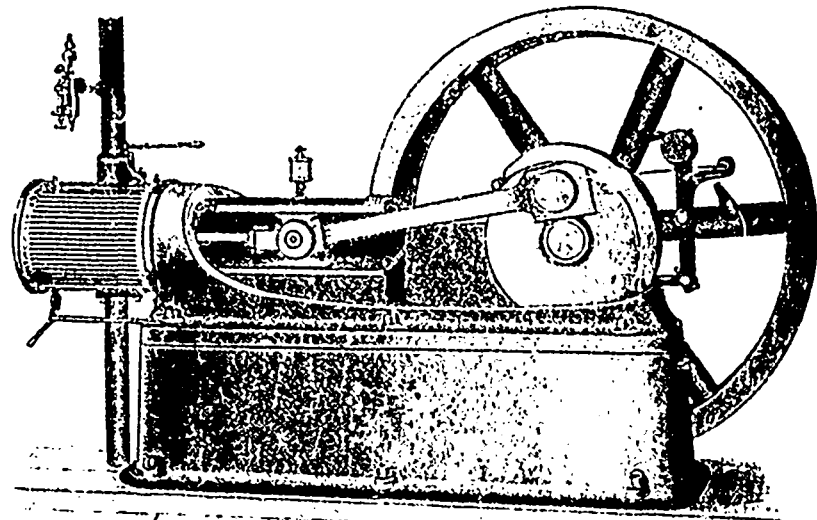
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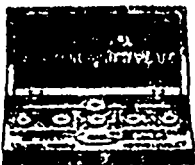
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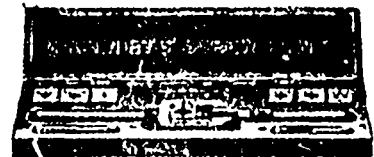
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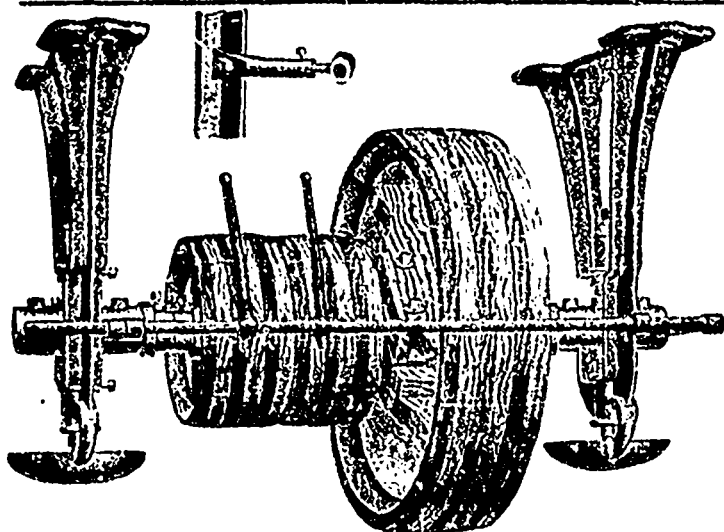
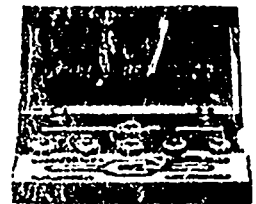
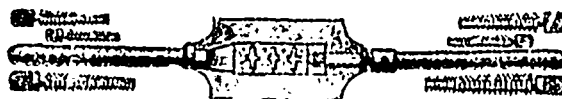
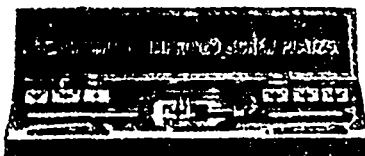


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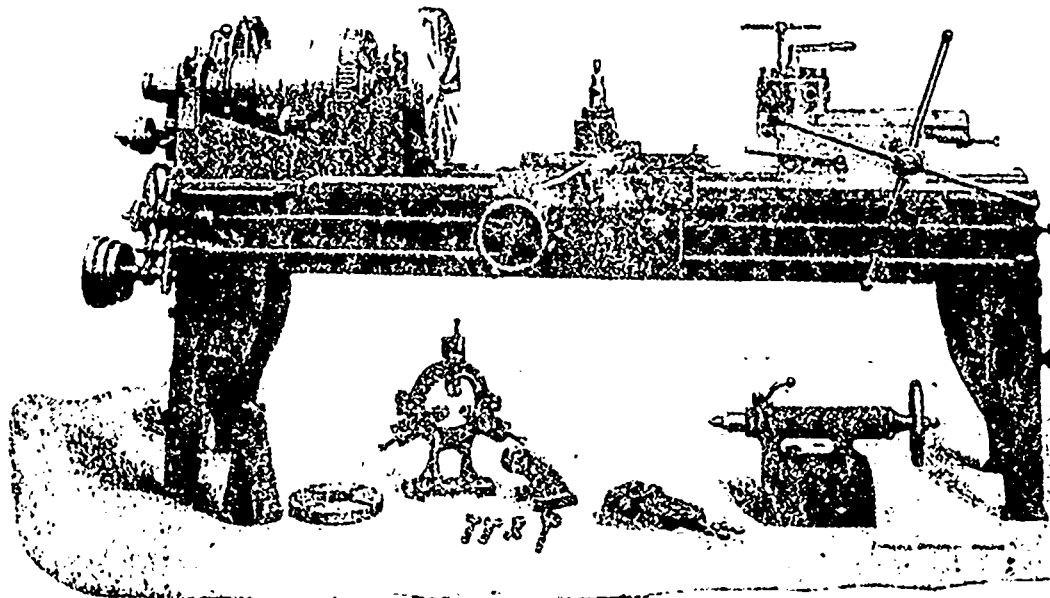
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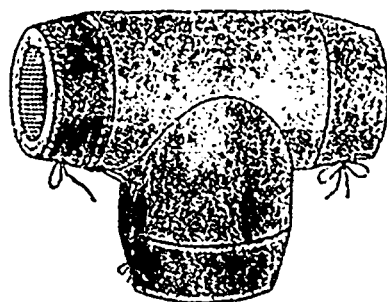
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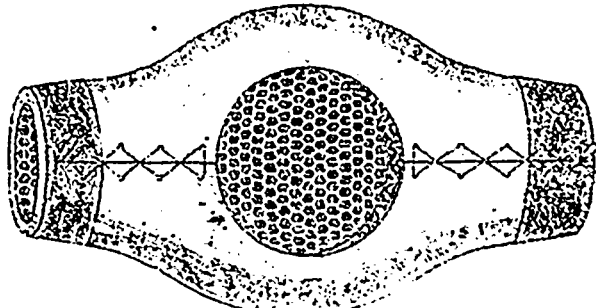
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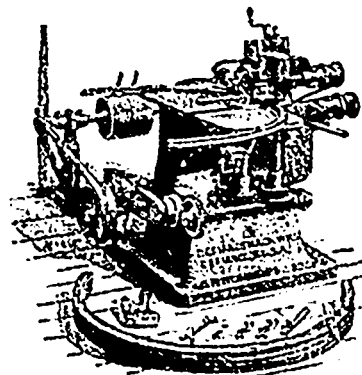
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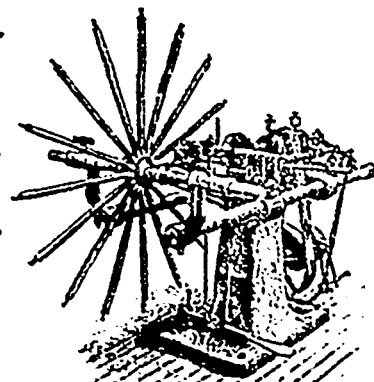
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PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

J. J. CASSIDY, . . . . . Editor.

Subscription, \$1.00 per year.

ADVERTISING RATES:

\$12.00 Per Column Inch per year: Thirty Inches to Page.

The Canadian Manufacturer Publishing Co, Limited.

McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.

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THE CANADIAN MANUFACTURERS' ASSOCIATION.

The Canadian Manufacturers' Association is an organization, not for the support of party but for the support of principle. It has been abused and berated throughout the length and breadth of the land, time and time again, editorially and on political platforms from Halifax to Vancouver. It has been charged with dictation to the Government at Ottawa, with undue influence exercised to secure improper favors from the Dominion parliament, and with even bribing the Government by tremendous contributions to what the

Liberal press used to term "The Reptile Fund." The charges that the Association was simply an organization to further the political ends of the Conservative party have disappeared from public view. Perchance those who were wont to iterate and reiterate those charges have arrived at a correct understanding of the facts and are in possession of knowledge that the Association is not associated with the Conservative party, and is not associated with the Liberal party, that it has never had, and never sought to have, any iota of political control over its members, but simply attended to its own affairs and endeavored to secure recognition of its principles by every fair means in its power.

The political bias of every member of the Association is not by any means difficult of discovery. The gentlemen who compose that body do not need to be searched out with a telescope in any community. They are the first men whose names the enquiring stranger will hear in business circles. They are men of affairs. They are men whose opinion is consulted in every matter of public interest. They are the men whose names are to be found in the nomination papers of the business candidates in our various elections. He who runs may read, and no man with a desire to be correct or to be fair will commit the error of charging upon the Association affiliation with, or subjection to, any political party. The gentlemen who compose the Conservative party have not a monopoly of the various manufacturing interests of the country. No more have the Liberals. And the Association has a membership composed of gentlemen of both political parties, but united with the one idea of furthering, as best may be, the manufacturing interests of the Dominion of Canada.

Any political influence the Association may have is of a very practical nature. That it has political influence is not for one moment to be denied. There is no reason for such a denial, nor yet is there reason for denying that its political influence has been made use of for its own ends. The question lies in the nature of its influence and the manner of the use of that influence. In the first place, the political influence of the Association is at the polls and there its extent is limited by the number of its members who have votes. In the second place, it has an influence commonly called political but really industrial. This is limited only by the Government's estimation (as correct) of the opinions held by the Association. Like any other body of men, the Association lays its opinions before the Government. In so doing they are acting within their right or that of any other organization, or even of any individual. The individual standing of the members of the Association as citizens whose experience, and, in degree, whose success, warrants the assumption, or, better, the conclusion that their advice is sound, or is worthy of consideration, determines whether the Government's action shall be along the line which the Association favors. The Association desires a protective tariff for the protection of manufacturing interests in the Dominion of Canada, and cares not whether such a tariff be granted by a government over which presides Sir Charles Tupper, or a government whose premier is Sir Wilfrid Laurier. It is the principle, not the man, its protection, not party, that is the constant aim of the Canadian Manufacturers' Association.

Recently in the city of Toronto occurred an example of the independence of the Association. Their influence was exerted

—exerted at the polls—exerted without concerted arrangement of any kind—exerted individually and according to the best judgement of each individual who exerted a portion of it. The result of that influence was apparent when Mr. George H. Bertram was declared elected to represent the constituency of Centre Toronto as their member in the House of Commons, at Ottawa. Mr. Bertram declared upon the hustings of Centre Toronto with reference to the tariff that "there is not a single article in these schedules that I did not go over and send to the Government my opinion of what the duty should be." The Mail and Empire took occasion to express its august dissatisfaction with the tariff that emanated from Mr. Bertram's consultations with the Government. Unfortunately, The Mail and Empire's tariff arguments are not always unimpeachably sound, and the Canadian Manufacturers' Association cannot always see eye to eye with its peculiarly narrow views.

Mr. Bertram declared his personal connection with a tariff that The Mail and Empire condemns. A little reflection would lead any intelligent person to the conclusion, that while there are unsatisfactory clauses in the new tariff, yet, as a whole, the tariff may be generally considered as fairly satisfactory. Mr. Bertram's sound position, as declared by himself during his campaign, satisfied the manufacturers of Centre Toronto that their interests would be safe in Mr. Bertram's hands. Any political proclivities they may have had were laid aside in favor of the necessities of business and the certainty that Mr. Bertram's practical business knowledge would lead him to practical lines of action.

The business men of this country should be glad that a business man has had an influence on the tariff legislation of the Laurier Government. The business men of Toronto took the opportunity to put Mr. Bertram in a position where he can still more have the ear of the Government. Business men supported a business man and business principles. Mr. Bertram was not a member of the Canadian Manufacturers' Association, but his principles were such that the gentlemen of that Association felt themselves safe in supporting him. What more argument is needed to prove that the Association is not in any sense subservient, as has been charged against it, to the Conservative party?

There never was one atom of truth in one of the hundred assertions that the Canadian Manufacturers' Association was a political organization, much less, that it ever attempted any corrupt political dealing. Surely it was nothing contravening usage, or contravening political purity or individual honesty if the Government of Sir John Macdonald chose to accept from it or from any member or members of it exactly the same office that Mr. Bertram boasted of having rendered the Laurier Cabinet in their tariff revision. The Canadian Manufacturers' Association exists for purely business reasons. Just now it rejoices that the recent tariff changes were not largely inimical to the manufacturing interests. It desires by every legitimate method to foster Canadian industry. It desires to further the movement towards preferential trade. It opposes any move in the direction of commercial alliance with Washington, and its members, and this journal will be always found to the forefront in the battle for the best interests of Canada in the settlement of the many important questions just now arising, and which will need the honest help of every honest

man to decide in the manner best suited to advance the best interests of the Dominion of Canada—the younger Britain, where the shamrock, the thistle, the lily and the rose are all blended together, and where will arise a nation that shall uphold the historic fame of the Mother Land in peace, and if needs must be, in times of war.

#### STOP EXPORTING SAW LOGS.

The timber policy of the Ontario Government is just now under discussion in the Legislature of the province. The supporters of the Hardy-Ross administration have come forward with calculations of all kinds. They have told the House that the supply of pine timber in Ontario will last 152 years. They have also displayed remarkable consideration for the interests of the lumbermen of Michigan who are accustomed to supply their own sawmills with logs they cut in limits in the Georgian Bay district, where they hold thousands of miles of timber limits from the Ontario Government. The Opposition have been scarcely so considerate as the gentlemen of the ministerial benches, and some statements made on the floor of the House were of a nature to make the ears of sundry American lumbermen tingle.

The trade and navigation returns for 1893-4 show that the export of Ontario saw logs for the year ending June 30, 1894, amounted to 312,340,000 feet. On this the province lost about \$2 per thousand, or \$624,680 which was expended in wages to the benefit of American workingmen. Mr. Whitney spoke stongly on this question. Following are excerpts from his speech:—

If the Government were working in the interests of the people of Ontario they would agree with him when he said that this should not be lost by the people of Ontario. It is the duty of this Government, and of every person in authority and possessing influence, to bring it to bear upon the Government, so that restrictions should be put upon the exportation of saw logs, so that the people of Ontario may have the advantage of what is left. The members of the Opposition have advocated this policy for a long series of years, and only three or four years ago had brought the question before the House. He did not propose personally to explain any statement he had made in reference to this question, but any statement he had made he was prepared to stand by. It is the duty of the Government, he repeated, to do something to save the remaining saw logs of the country for the people of Ontario. Deputation after deputation had waited upon the Government, and urged upon them to do this, but they had failed to act, and to-day they would give no inkling of what they intend to do.

The Attorney-General seems to fear legal difficulties. He, at any rate, made many demurrers to the hasty enactment of such legislation as the province generally seems to desire: legislation to conserve to Ontario every dollar she can right-fully put into the pockets of those toilers whose sweat is the indication of that labor to which the province owes every step of its progress. Mr. Whitney has taken occasion to warn Mr. Hardy, that unless he took immediate action along the line of stopping the export of round timber, he would make a mistake, and a fatal mistake. Should Mr. Hardy decide to take action, Mr. Whitney will have the credit of being first to take that position. Listen to what we may expect if Mr. Whitney should become premier at the next general election for Ontario. These are Mr. Whitney's own words on the floor of the Legislature, on Dec. 2nd. He said:—

I am prepared, as I said months ago in an interview, that a restriction should be put on at the earliest hour. If legislation is necessary, let us have legislation. If it is necessary to pass an Act to do this common, simple justice to our own people, the neglect of whom under the circumstances is shameful, then let us enact the necessary legislation. I am prepared to-morrow morning to take the responsibility of endeavoring to put legislation of that kind on the statute book of Ontario, and I am prepared to do it because I know the people of our own Province desire it, and I know also that they would not desire it if it were not a proper thing to desire. The sooner we arrive at some conclusion as to whether we are to be guided by the interests of the people of the Province of Ontario, the sooner we will do that duty which belongs to legislators to do.

### THE TARIFF COMMISSION.

When the Laurier Government's tariff commission was abroad in the land it heard the evidence of hundreds of manufacturers in almost every line of trade, and that evidence was so strong that no sane person who considered it would for one moment propose to do away entirely with protection. Liberals and Conservatives alike, the managers of the great producing concerns agreed upon the necessity for the preservation of the extant conditions of trade in Canada so far as governmental erection of those conditions were concerned. The manufacturers everywhere laid it down as an axiom necessary to their interests, and to the interests of the whole country, that the principle of protection be upheld. And not manufacturers alone, but the men whose daily sweat contributed to the upbuilding of Canadian industries, told Messrs. Cartwright, Fielding and Paterson the same straightforward story.

Down at Halifax the commissioners had the very strongest kind of propositions laid before them by the authorized representatives of organized trades of workmen. These men represented the great industry that deals with the iron and steel products. Three hundred members of the Royal Society of the workmen in the steel department of the Nova Scotia Steel Company assembled and delegated five of their number to appear before the Tariff Commission and state their views. They pointed out that the works employed 450 men and the average wage was \$1.51 per day. The men owned houses valued at \$250,000, and all but two of them were Nova Scotians, most of them trained in the iron business and knowing no other. If deprived of work there they would be obliged to go to the States, or some other iron-producing country. Their statement to the Commission concluded in this wise:—

Fully one-half of the men in the employ of the Company are in sympathy with the Liberal party, and voted for its candidates at the last election, having the fullest confidence in the oft-repeated assurances of the leaders of the party that no change would be made in the tariff that would injuriously affect the interests of the working men. While it was well known that the management of the Company was strongly in favor of the policy of the late government, every man in the employ was allowed the fullest liberty in voting for the candidate of his choice, no pressure being brought to bear on them to do otherwise.

With reference to the duty on steel, the men are all of one mind, and are most decidedly opposed to any change in the way of lowering the same.

We unitedly and earnestly request that the tariff shall not be made any more unfavorable to us than it is at present, and that the encouragement that we have had for the past few years

be continued, so that our country with its vast resources be developed, and thereby help the people of the east to pay for the manufactured goods of the west.

We consider the lowering of the duty at the present time would certainly bring disaster and ruin to very many of our population.

The workmen of the Ferrona Iron Works of the Nova Scotia Steel Company sent a representative to tell the Commission how the tariff question appealed to them. Here is the statement of their reason to wish protection on pig iron:—

1. Because the price of labor is the largest factor in the cost of producing iron, and any reduction in the price of iron must naturally lower wages.

2. Because the wages now paid at Ferrona have practically reached the minimum that will support life in this latitude at a kind of work which compels a large outlay for boots and clothing.

3. Because we cannot support ourselves and families upon wages, which will not enable us to compete with the convict labor of the Southern States, where the only wages paid by pig iron manufacturers is some thirty-seven cents a day per head paid to the State for convict laborers.

Because a large number of workmen have invested all their savings in dwelling houses about the furnace. The closing of the works, by reduction in price of iron or otherwise, will render these properties valueless, and leave these people destitute.

5. Because we know no other business, and have no other means of gaining a livelihood, except at the furnace.

The Iron Ore miners of Bridgeville, N.S., also had a brief of their views laid before the Commissioners. They pointed out the number of men employed and the wide-reaching distribution of their wages among the farmers and merchants. Their statement concludes as follows:

Any reduction of the present iron duties must tend to restrict the operations of the Company, and will be detrimental to the miners and others dependent on the industry for a livelihood, and would be a direct repudiation of the promises made by the friends of the Government that no tariff changes would be made which would in any way injuriously affect the miners or iron workers of this country, which promise we now respectfully ask the Government through your Commission to faithfully carry out.

The correlated industries of the important iron industry form an immense interest to be dealt with. The workmen as well as the manufacturers realize that the industries cannot be developed except under a policy of protection. Their doctrine is sound. Their views are given here as an interesting example of the understanding of the tariff at which the Canadian artisan has arrived. They are well worth reading and presenting to the notice of your employes, as an indication of how correct principles, properly promulgated, are a strong factor in securing their own embodiment in law.

### PREFERENTIAL TRADE.

After all, the chances for the establishment of preferential trade appear to be extremely good. The Conservative party are in favor of it and believe that it is possible, and not only that, but they believe that Great Britain will concede a tariff to the demands of her colonies and for the benefit of the colonies and the Motherland. The Liberals of the practical class have faith also in this proposition, and union of these two parties in a Preferential Trade party will carry it to a successful issue. During the recent campaign in Centre Toronto,

Sir Louis Davies took occasion upon the platform in that riding to assert his conviction that it would be scarcely possible to induce Great Britain to impose a tariff upon her imports even for the benefit of her colonies. It is refreshing to find that no less a person than Hon. G. W. Ross, Ontario's Minister of Education, considers that the chances for obtaining preferential trade are extremely good, and utterly abhors the idea of reciprocity with the United States.

Mr. Ross has no gift of infallibility, but his position on this question seems to be thoroughly sound and practical. He quoted Hon. Joseph Chamberlain's Glasgow speech in which the Colonial Secretary said that "the basis of all true patriotism is preference," and dwelt upon "the surprisingly generous expressions of good will from the press and public men of the mother country, called forth by preference for British goods accorded under the new tariff." In favor of preferential trade with Great Britain Mr. Ross propounded strong arguments which we will sum up as briefly as possible:

- (1) The advantages of the British constitution.
- (2) Confidence of Canadians in the institutions and the political and commercial possibilities of the Dominion. The waning of racial and religious strife.
- (3) That the way is paved for rapid commercial development.
- (4) That preferential trade would induce closer social relations and better understanding of Canada in Britain.
- (5) England's greatness depends on the maintenance of her colonies.
- (6) Her naval supremacy necessitates the permanence of the harbors and coaling stations under her flag.
- (7) The congested settlements of the old country would be relieved and our wild country would be populated. This would mean profits to British manufacturers and to ours.
- (8) Britain would be secure against a lack of food supply in case of war.

Great Britain and the United States are our two great markets, and so as in addition to the reasons for preferential trade the arguments against reciprocity with the United States are set forth. They, too, may be summed up in brief:

- (1) A reciprocity treaty might foster a feeling of dependence of the weaker nation on the stronger which would mar the spirit of Canadian nationality.
- (2) The repeal of such a treaty could be used by the stronger nation as a threat to terrorize the weaker through fear of a loss of trade, and made a lever towards political union.
- (3) We have nearly \$1,000,000,000 invested in canals and railways, and could not justly divert our traffic to American railways and canals. There is also a labor question involved in this.
- (4) A market secured under a treaty is temporary, while Great Britain would be a permanent market for the people of Canada.
- (5) Trade follows the flag and preferential trade would strengthen the Empire.

The Minister of Education is to be congratulated on his splendid statement of these cogent reasons for imperial preferential trade. It is to be hoped that he will not rest content with this contribution to the contest, but that he will enlist under the preferential trade banner and help to fight the good fight. His admitted ability as a thinker, a writer, and

speaker, would make his influence a strong accession to the cause. His arguments in support of the general statement were decidedly convincing. Great Britain imports some \$790,000,000 of food products annually. Of this only about \$100,000,000 worth cannot be produced in Canada, all the other \$690,000,000 worth of edibles can be produced here. Canada wants that trade and will develop to meet its demands. Great Britain should be willing to give us the trade because it would make her independent of any other source of food supply. In order to secure it Canada must have first-class transportation facilities and must produce the various articles of consumption of as good quality as any other country, and place them on the market in good condition in Great Britain.

The Colonial Secretary, the London Times, Sidney Buxton, late under secretary of state for the colonies, Col. Howard Vincent, M.P., Sir Albert Rollit, M.P., His Grace, the Duke of Devonshire, and Right Hon. A. J. Balfour, were all brought under contribution towards proof that in Great Britain the cause has friends.

The Times said:—

It is getting to be understood that free trade is made for man, not man for free trade. . . . The British Empire is so large and so completely self-supporting that it could very well afford for the sake of a serious political gain to surround itself with a moderate fence.

Mr. Buxton said:—

Though, on the whole, I am a free trader, I, for one, do not say it might not be requisite to reimpose certain duties which, in the past, were taken off British importations.

Sir Albert Rollit said:—

I deliberately say that there may be circumstances in which an economic sacrifice may be more than justified for the greatness of the political, social and commercial ends which we have in view.

Mr. Balfour said:—

If the commercial federation of the Empire has a justification at all, what justification is to be found in the fact that it will draw closer together the various distant and far separated members of this great community. If it does that, I say it is no affair of any foreign nation what we do in the matter. They do not consult our convenience in the formation of their tariffs. I am not aware of any reason why we should consult their convenience in the formation of our tariffs.

Canada is being constantly attacked—not from a military, but from a commercial standpoint. The intention of American legislation is very apparently directed against Canada, and expected to cripple us. Every endeavor to remove us from these disadvantages has been remarkably satisfactory. The Washington treaty of 1871 was hardly as disastrous as the Ashburton treaty of 1846, but yet Canada has made the experimental discovery that not even fair play is to be expected from the United States in any international commercial arrangement.

Then, too, there were certain unpleasant occurrences in 1812 and 1866, for Canada cannot see her way clear to take the blame, and which she has not altogether forgotten. Any benefit from the Elgin treaty of 1854 was caused by the American Civil War. We should not forget that commercial interests are apt to lead to political connection. We should keep the arguments adduced by Mr. Ross carefully before us. We should welcome him to our aid, and if he persists frequently, and as energetically as he has done on this first occasion, the

movement must advance by leaps and bounds, and the time for the enactment of preferential trade arrangements will be much hastened.

AN INDUSTRIAL EXAMPLE.

In three years' time Germany has increased marvellously her exports to China and Japan. In very few articles has her trade with these countries fallen off, and her development shows that Germany is losing no opportunity to corral any part of these markets that possibly can be brought under contribution to her manufacturers. Other countries have facilities for production equal or superior to those of Germany. Canada is nearer to Japan and China than Germany is. There are many articles supplied by Germany to these countries that Canada might supply. The trade is well worth going after, and Canadian manufacturers are very foolish if they do not make an effort to secure a share of the trade. Here are some figures to illustrate how valuable a market is to be developed in these countries. They show the increase of Germany's trade with China in several lines of export from 1894 to 1896. In some articles the increase has been nothing short of phenomenal, while a decrease is very seldom noticeable. Here is the list of exports with the value of the quantity sent to China from Germany in 1894, and the value of the quantity of each class sent to China from Germany in 1896 :-

Cotton and cotton goods	\$ 117,800	\$ 261,800
Drugs, chemicals and colors	1,843,900	2,223,600
Iron and ironware	2,111,300	4,401,800
Earths, ores, precious metals, asbestos and asbestosware	14,300	29,000
Glass and glassware	42,800	51,000
Hides and furs	39,000	21,900
Carvings of wood and other material	61,600	137,500
Instruments, machines and vehicles	89,000	73,000
Rubber and gutta percha, and ware therefrom	91,700	40,900
Clothing, underwear and articles of dress	11,400	17,100
Copper and copperware	813,500	960,000
Fancy hardware	99,900	243,500
Leather and leather goods	100,700	28,800
Linen, linen yarns and linen goods	4,300	8,000
Confectionery, spices and groceries	106,600	330,100
Paper and paperware	32,600	49,200
Silk and silk goods	23,500	47,100
Soap and perfumery	47,600	75,700
Earthenware	5,700	2,600
Wool and woollen goods	915,000	905,600
Zinc and zincware	61,100	64,000

Thus in three years Germany's exports to China have increased from \$6,681,300 to \$9,972,800, or an increase of \$3,291,500, being nearly fifty per cent. gain. Three and a quarter millions of dollars coming into a country is a great help to prosperity, when it is considered that this amount is distributed among a very large percentage of the 45,000,000 inhabitants by way of wages to artisans. Canada must keep open eyes and our manufacturers must have a care lest Germany gets all the good things of the far west.

Now let us consider the figures relating to Germany's trade with Japan. The island empire is much more progressive than the country of Li Hung Chang. Their civilization has developed very quickly, and they have taken up with the ideas of the more civilized countries of the world, with a rapidity that is proof of their intelligence. That same intelli-

gence will ultimately lead them to do their own manufacturing, and in process of time the Japanese will come to realization and practice of protection for their own industrial development. As it is, the figures of Germany's exports to Japan in 1894, and in 1896 show such a remarkable difference that it seems almost incredible. In 1894 the sum total of the exports was \$1,022,300. In 1896 it was \$8,896,000, or an increase of over 100 per cent. Here are the details for each year :-

Cotton and cotton goods	\$ 31,600	\$ 55,400
Lead and leaden goods	4,500	52,000
Drugs, chemicals and colors	879,100	1,172,400
Iron and ironware	1,181,400	1,347,800
Earths, ores, precious metals, asbestos and asbestosware	23,100	30,400
Grain and other agricultural products	11,400	60,200
Glass and glassware	11,200	26,900
Hair, horse and human, and bristles, feathers, etc	2,200	16,200
Hops	9,100	22,000
Instruments, machines and vehicles	158,300	336,300
Rubber and gutta percha, and ware thereof	45,400	62,300
Clothing, underwear and articles of dress	8,800	57,100
Copper and copperware	131,300	73,000
Fancy hardware	39,500	212,300
Leather and leather goods	16,400	39,700
Linen, linen yarns and linen goods	3,000	5,400
Confectionery, spices and groceries	49,700	1,307,300
Paper and paperware	309,100	486,900
Silk and silk goods	60,400	141,600
Soap and perfumery	3,800	19,900
Wool and woollen goods	866,300	2,999,700
Zinc and zincware	124,700	174,500
Tin and tinware	20,900	73,300
Carvings of wood and other material	11,000	109,700

American trade journals are urging the manufacturers of the United States to take immediate steps toward driving Germany out of this market. It is incumbent upon us, in no less degree, to see that every possible encouragement is given the manufacturers of Canada to work along this same line. Let them organize and secure to themselves, as they can secure it, a large part of the trade with the new-ledged commercial nations of China and Japan.

PROTECTION IN GREAT BRITAIN.

The development of the industries of Great Britain by free trade during the past fifty years is the subject of continual argument by the free traders of Canada to-day. It is strange how they fail to appreciate to what extent protection aided those same industries before the era of free trade. The editor of the Philadelphia Bulletin has dealt with this subject at great length, and the facts in the case will doubtless be accepted by the gentlemen who are always holding up Great Britain as a wonderful example of a successful commercial policy. In the days of Edward III., in the former half of the fourteenth century, the export of English wool was prohibited as also was the importation of wear of foreign cloth or furs. Thus Sir William Blackstone tells us, and he adds that cloth workers from other countries were encouraged to settle in England. Restrictive legislation of this kind was for a long time crude, and continental countries supplied Great Britain with tapestries, silks, linens, laces and other fine lines of goods. Edward IV. prohibited the importation of many



manufactured articles, and Henry VIII. and Queen Elizabeth were protectionists of the most pronounced type. English artisans learned well the lessons taught them by the skilled workmen of Belgium and Flanders. Thus we find Henry VIII. summarily expelling thousands of them from England, and Elizabeth taking steps to destroy the power of the Hanseatic League which practically controlled the commerce of England.

From the reign of Queen Elizabeth our historians date the commercial prosperity of England, and in no small degree was the progress in the mechanical arts during her reign due to the influx of Huguenots from France, and miners and smelters from Germany. By the beginning of the seventeenth century English manufactures were in the markets of the world and English ship-builders and sailors were in employment. This branch of industry was founded firmly by Cromwell's navigation acts, under which goods imported in English bottoms paid less duty than the same goods imported in foreign bottoms, and colonial products were forbidden to be brought to England except in English ships. These acts were subsequently supplemented, and with particular efficiency in the time of Charles II. In 1849 the Acts were much modified, but the end had been already accomplished and the bonus system, extending even to present years, secures to England supremacy on the seas.

Many curious extracts may be made from the ancient tariff laws. In Elizabeth's reign it was enacted that the export of live sheep was punishable by forfeiture of goods and a year's imprisonment for the first offence, and the cutting off of the left hand for the second offence, while a cutting off of the right hand was punishable by death. The prohibition of the export of wool, sheep, and fuller's clay was not repealed till the present century. In the reign of Charles II. and William III. export of these articles was punishable by confiscation of the ship and cargo and three year's imprisonment of the master and all the mariners. In the reign of George I. a statute was enacted against the destruction of home manufactures by inducing artisans to go abroad. The first offence was penalized in £100 fine and three months in prison. In the second offence the fine was discretionary and imprisonment was for one year. Artisans who left Britain and did not return within six months after being warned by the British ambassador were declared aliens and their lands and goods were forfeit. In the reign of George II. a first offence under this act meant £500 fine and twelve months' imprisonment, and a second offence £1,000 and two years' imprisonment. George III. increased the stringency of these laws and fixed a penalty of £200 and forfeiture for the export of tools or utensils used in manufacturing silk, linen, or wool (except wool cards to North America); £100 penalty for the captain of a ship or a custom's officer implicated, and £200 for collecting such tools and utensils for export. Practically the same regulation was re-enacted in 1825 and again in 1833, when it held good till 1845.

In the reign of William III. the export of knitting machines was prohibited. In 1782 engraved copper plates and blocks were also stopped from export, and inducing a workman employed in calico printing to leave the country was made an offence punishable by £500 fine and a year in prison. These regulations of artisans were not entirely abolished till 1825. The colonies were even more severely

dealt with and Great Britain attempted to prevent them from establishing industries that England carried on, or was able to supply them with the products of. It would not be believed the extent to which England went in this, were not the laws open to be read upon the old-time statute book of the mother land. High duties and complete prohibition were the rule and the rule was rigidly enforced. To prohibited importation was frequently added a bounty on goods exported. Iron, brass, copper, silk and leather manufactures and hats were common objects of prohibition, and the rates of tariff ran from twenty to seventy-five per cent.

In 1842. the abandonment of the tariff began. Protective duties on many foreign products were retained till 1859. Silks, boots and shoes, and gloves were protected till 1860, timber till 1866, and sugar till 1874. Duties are to-day imposed on beer and spirits. With less than a half century of free trade Great Britain is losing her hold, and her great thinkers are already casting about for some means of maintaining the status she reached supreme in the world of commerce. Five hundred years of the strongest protection in the history of a world of protected countries placed her in the pre-eminent position, the credit for which is claimed by free traders for the few years of free trade. The principle of protection to her own industries is the cornerstone of British diplomacy all over the world to-day. There is many an indirect way of protecting her manufactures and she has made good use of them all, but every day strengthens the proof that a tariff is the best protective engine, and it is but a matter of a short time until the British protective system will be extended into a harmonious tariff wall about the whole Empire.

#### SIR WILFRID'S POLICY.

The British Trade Journal, in its issue just to hand, deals with Sir Wilfrid Laurier's preferential trade policy, and its cause and effect. The Journal's suggestion is so apt that we give it here in full:—

New South Wales is likely to fall in line with Canada, as well as New Zealand in the matter of preferential treatment for British manufactures, for it appears from the financial statement lately made in the New South Wales Legislative Assembly, by Mr. G. H. Reid, the Premier and Colonial Treasurer, that he has the warmest sympathy with the action of Canada in lowering her duties in the interests of the productions of other parts of the British Empire which treat her well; and he thinks the colonies, which maintain high tariffs, may well make a similar distinction in favor of the Mother Country. Mr. Reid, as a man of business, must see the enormous advantage which a position such as that of Canada confers upon a colony when it wishes to negotiate treaties with countries whose tariffs are opposed to the admission of colonial produce. Had New South Wales a double-barrelled tariff under which British manufactures came in at lower duties than those from Germany, how powerful a lever it would have ready to hand to force down the duties in Germany on commodities from New South Wales.

It is upon this line that Sir Wilfrid Laurier is working in his negotiations with the United States. We have all along suspected that his preferential tariff scheme was prompted, as much by the idea of obtaining a weapon wherewith to obtain concessions from Washington, as by the ideally patriotic sentiments to which he gave expression as regards the Mother Country; and we shall be surprised if he does not use his new powers, resulting from the denunciation of the Belgian and German treaties, with remarkable effect in obtaining better

treatment for Canadian produce from the United States as well as from continental powers. So far, the United States manufacturers have not felt the incidence of the new tariff arrangement, but next August, when British manufacturers begin to cut into the United States exports to Canada, with a twenty per cent. difference in their favor, the manufacturers in the Republic will bring pressure to bear upon Washington, and then Sir Wilfrid may be tempted, if sufficient inducement is held out, to give the United States manufacturer the same terms as those given to England. That will not only be opposed to much of his sentimental eloquence as regards this country, but also to the interests of Canadian manufacturers, who will naturally experience more severe competition from the United States than from the Mother Country.

#### EDITORIAL NOTES.

The United States sends large quantities of pickles to Hawaii. Where are the Canadian pickle manufacturers?

In Norway there is a chance for the sale of self binding harvesters. Second and third prizes recently went to Canadian machines, and this market is worth developing.

China is each year increasing the amount her citizens pay out for soaps. England and Belgium are supplying them. Why shouldn't Canada open up a trade in this direction?

British manufacturers are arranging for great displays at the Paris exposition. Canada cannot afford to be in the rear. We must vindicate our claim to recognition as a great

country, and Europe should have every chance to understand thoroughly our resources and what we have accomplished.

Plans for the establishment of a warehouse in the city of Caracas, Venezuela, by the National Association of Manufacturers of the United States, for the purposes of displaying samples of American manufactured articles and to serve in other ways in establishing more intimate commercial relations between Venezuela and the United States, have progressed to the point where the early opening of the warehouse has been decided upon, and a large number of those who have engaged space in the warehouse shipped their exhibits from New York on Tuesday last. Why don't Canadian manufacturers take similar steps to encourage trade with Japan wherein we have so many possibilities?

In a recent speech at Manchester, Lord Roseberry endorsed the termination of the treaties with Belgium and Germany, and gave Canada great need of praise for her preferential treatment of British products. At the same time he condemned the idea of an Imperial Customs Union. It would appear that Lord Roseberry is rather covetous of our consistency in this action.

We are glad to hear that several Canadian firms are corresponding with Australia with a view to establishing a trade in carriages. Our position to Australian necessities opens a market. May they be successful in capturing a share of the Antipodean trade.

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American manufacturers returning from European trips are full of enthusiasm over export possibilities. They find that the cost of producing iron and steel in Europe, especially in Great Britain, is so far above the cost in this country that unless some radical change takes place in conditions here or abroad our people are permanently in the lead at the very foundation of the trade. —The Iron Age.

How many times has this journal pointed out that protection perfects an industry from an economic standpoint? Here is another proof of it.

A 125-ton furnace is considered quite a good plant in England, while here a furnace producing no more than that in a day is out of date and has been for years among makers of Bessemer metal. British steel works appear to have made no progress in ten years. The machinery and methods now used are the same as were then in vogue. —The Iron Age

The artisan must be educated, and when he makes a study

of his work from a scientific standpoint, progress shows itself. Great Britain cannot afford to be behind the United States.

Mr. J. G. Larke, Canada's commercial agent in Australia, says.

I have heard of samples of Canadian boots and shoes having come here from England, but I have never been able to find them. During the last two years I have initiated correspondence between manufacturers' agents here and manufacturers in Canada, and one or two of these agents have gone to Canada with the view of securing a business connection, but their efforts have been without avail so far. Recently I have had inquiries from Canadian firms that may lead to some result. The demand for United States made boots and shoes has fallen off. In part, this has been through the poor material used, and consequent failure to wear well, and also to the shapes being unsuitable to the market. The Australian requires an easy-fitting boot, and the English proportions are demanded. The United States' makes are too narrow. There is room here for a boot that will combine the strength and shape of the English manufacture with the better finish of those from the United States.

The Canadian factories must be working to the limit of their capacity, otherwise, there would be a rush for this market.

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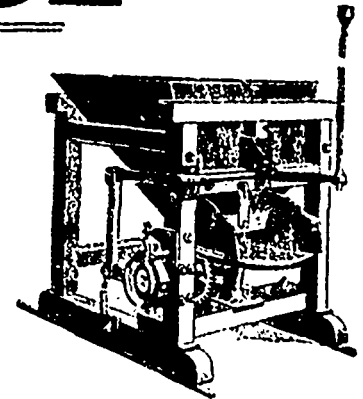
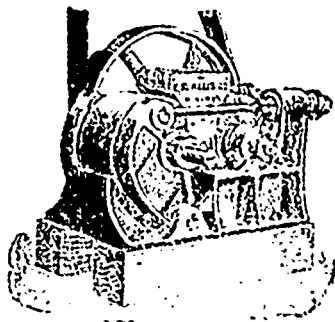
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A great deal has been written recently about the falling-off in British trade. It is true that the British producer is not making the same rate of progress as his foreign rivals in some directions, but there must be a limit even to commercial extension, and it has yet to be proved that the German and American manufacturer are bound to pass the British competitor in the race. Much of these pessimistic fictions are due to the source that we have named—the wilfully false statements of American journals, whose only object is to make it appear that the country is flourishing under the administration which they happen to support.—*Demorara Daily Chronicle.*

Our friend, Mr. Chronicle doubtless states a truth that is applicable in many instances, but he will scarcely call in question the statements of The London Times and kindred British papers.

The effect of electricity on the city of the future is the subject of an interesting paper in Cassier's Magazine. Owing to the direct conversion of natural forces, as at Niagara, into electricity, the geographical distribution of the cities of the world will in time be changed. No longer will there be any special advantage in nearness to a coalfield or to coal ports and depots. Electric waterfalls will be the grand desideratum. The power wanted for our industries will be produced in the mountains, while the cities will be scattered far and wide over the foothills. The writer develops the suggestion of Lord Kelvin that the Highlands of Scotland may become industrially more important to Great Britain than the comparatively flat Midlands. Switzerland, Norway and Sweden, the Austrian Tyrol, and Transylvania, may become the industrial centres of Europe owing to their superiority in water power.

A strong element in Canada is determined to establish reciprocity with the United States if equitable terms to that end can be made. Germany manifests a like disposition to observe such amenities of trade as will be of mutual advantage. In England governmental authority is still aggressive in its efforts to exclude American products, but the methods to which it is driven show a popular preference for many of our goods that can be relied upon to survive any enactment of Parliament looking to their exclusion. Prohibitory Tariff laws could alone bring about such a result, and there is not the slightest danger of Great Britain departing from so cherished a tradition as that of free trade.—*Detroit Journal.*

Don't be so sure, Mr. Journal. Canada's reciprocity experience is not conducive to any more of the same. Great Britain has a good many traditions that precede her fifty-year-old Free Trade, and her recent lessons have not been lost upon her. Don't be too sure!

Most of the Grit organs are dallying with the preferential trade question; they dare not oppose it just now, but they are endeavoring to damn it with faint praise. To read much of the labored utterance these sheets indulge in on this question is hard reading—it must also be hard writing. To have to treat a vital issue in such a manner as to say nothing and offend no one is a form of literary patch-work rather hard to construct. Sir Wilfrid Laurier has, we know, "sunny ways," and a "silver tongue," but he has no settled opinions, and no statesmanlike capacity or breadth of view. He is tripping all the time, and it is for the Canadian people

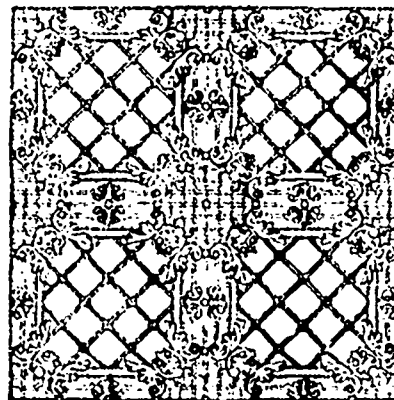
who have opinions and the courage of them to tell Sir Wilfrid just how he is to bear himself to-day.—*The Flunear in The Mail and Empire.*

Foreign commerce is important and desirable. On this main proposition there is no disagreement between protectionists and free-traders. The vital difference between them lies in this, that while free-traders hold that foreign commerce is all important, and is the one chief aim to be sought, protectionists insist that domestic commerce comes far nearer to the nation's life and is even more indispensable to its well being.—*Boston Journal.*

Canada has taken her pulp wood and timber into politics "for keeps," and is now disposed to give the United States a slap in the face about the matter, regardless of the consequences to herself. The problem is now a leading one before the Ontario Legislature, the question being over the choice of two lines of action. One is to put an export duty on timber and pulp wood. The other is to prohibit the exportation until the material is manufactured into its ultimate product. Of course the Ontario Government will pay some attention to the Dominion Government, but as Sir Wilfrid Laurier has become discouraged at the prospect of winning the hearts of Americans to reciprocity, he may not oppose the Ontario people if they get real pugnacious. We may have to "go shy" of Canadian pulp wood for a time.—*The Paper Mill.*

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Etc., Etc.

It ought not to need the assurance of Prof. Goldwin Smith for Canada to understand that the Dingley Tariff was not aimed against the Dominion. Canadian industries are so limited that even in the absence of tariff restrictions Canadian competition would amount to little comparatively in the American market. The Dingley bill is simply a measure of industrial defense against all outside competition, and is intended to stimulate American industries, not to injure those of other countries. It is not surprising, however, that Canada looks longingly toward a neighboring market of 70,000,000 progressive people. There is no other like it on the globe. That is what makes its market valuable to itself.—New York Commercial Advertiser.

That explains why the United States has always been so ready to throw its market open to Canada. It enlightens us as to the reason why the Canadian artisan is received with open arms when he seeks work in the United States. The United States desires to help Canada, not to hurt her. How kind! how thoughtful! What a good Samaritan. Canada should take hope. Uncle Sam will take care of her if he gets half a chance.

Sir Charles Tupper need not be alarmed. The United States has no desire to "coerce" Canada by means of its tariff. The duties imposed by the Dingley act are not for offense but protection, and if Canada desires to "retaliate" by protecting her own industries the United States will not object. The thing is a plain matter of business, and as such leaves no occasion for patriotic hysteria and red fire.—San Francisco Chronicle.

That's all right for California, but what about Michigan sawmills that cut Ontario's logs and sell their lumber culls to consumers in Ontario near the border?

A decade ago England stood at the very head in the manufacture of iron. Two decades ago the products of her foundries and machine shops were unexcelled. Her rolling mills were the largest on earth, her machine shops the best equipped and her cutlery and edge tool works without rivals. Through the benign influence of protection all that has been changed, and the United States stands to-day in the manufacture of iron where England stood only ten years ago.—Grand Rapids, Mich., Herald.

The condition of affairs stated by the Herald is the greatest lever we have working towards the establishment of a preferential trade including Great Britain and all her colonies.

LITERARY NOTES.

What would you do if war should be declared to-morrow with a European power? How would it change your home life? How would it affect your business connections and business? It is such interesting problems which a writer in the December Cosmopolitan has undertaken to sketch under the heading of "A Brief History of Our Late War With Spain," at the same time vividly describing the exciting scenes which would attend the opening of hostilities. This same number of The Cosmopolitan has a contrast of the characters of Henry George and Charles A. Dana by John Brisbane Walker, and Wells' story, "The War of the Worlds," which has been so widely read reaches its conclusion in an unexpected way.

Bright, seasonable and handsomely illustrated, Outing for December well sustains the reputation of the world's magazine of sport and pastime. Among the many good things it contains are: "Christmas Week Among the Lagoons of Louisiana," by Andrews Wilkinson; "International Speed-skating," by R. Tait McKenzie; "The Old She-Bear of Bayou Seche," by Harry Ball; "With the Quail in December," by Ed. W. Sandys; "The Trend and Drift of Yachting," by A. J. Kenealy; "River Duck Shooting in Winter," by John W. Knevels; "Through Europe Awheel," by W. T. Strong; "A Snowshoe Hunt in Bluenose Land," by Frank H. Risteen, and the usual editorials, poems and records.

THE IMPROVED AUTOMATIC INJECTOR,

Pat. by T. J. CARROLL.

No.	PRICE.	GAL. PER HR. 65 LBS. PRESS.	SIZE OF PIPE CONNECTION.	HORSE POWER.	
				8 to 16	16 to 300
10	\$7	120	1	8 to 16	
15	10 50	300	1 1/2	16 to 40	
20	15 00	540	2	40 to 72	
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35	30 00	1,710	3	120 to 220	
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THE T. J. C. IMPROVED AUTOMATIC INJECTOR AND CONNECTING. Made of BRASS. TO BOILER. DELIVERY. WATER DROP. OIL DROP.

For STATIONERY, MARINE, PORTABLE and LOCOMOTIVE BOILERS Simple, Reliable, and Durable. Range 20 to 150. Will lift 20 feet. A written guarantee with each Injector for two years.

REDUCED PRICES OF

Michigan, Eagle, and Queen Lubricators.

SIZE.	BRASS.	NICKEL.
1 Pint.....	\$1 50	\$2 00
1 Pint.....	3 00	6 00
1 Quart.....	11 00	12 00
2 Quarts.....	16 00	18 00

HAMILTON BRASS MFG. CO., Limited, 259 to 265 James Street North HAMILTON, ONT.

Count Goluchowski, Austrian Minister of Foreign Affairs, is becoming prominent by his prophecy of an economic struggle between Europe and America. His ideas are supported strongly in Germany and France, and the proposition for a coalition to defend the commercial existence of Europe is demanded by the press, and very strongly by the press of Berlin. Hasten the day, for with the formation of such a union Britain and her colonies must enter into preferential trade. Then with the continental countries of Europe allied to destroy the export trade of the United States, and the United States fighting against the coalition, the British Empire trade league will spread prosperity wherever the lion's clan is set the wide world round, and a vote of thanks to Count Goluchowski will be quite in order.

In August the exports of the products of the forests, crowded out of the home markets by Canadian lumber and compelled to seek cheap foreign markets, were \$3,720,220, but dropped in the following month to \$2,989,156. The home market absorbed the balance.—New York Press

The American lumbermen who tried to enlist Canada's Trade Commissioner, Mr. J. S. Larke, to secure them contracts with Australian lumber dealers, would hardly agree with the Press. It is very nice to have Canadian logs, but they don't want Canadian lumber.

Japan, in 1896, imported suitings to the value of about \$1,750,000 from Germany, England and France. Canadian manufacturers should go after this market. The import duties are as follows:—Fifty-five cents per ten yards when the breadth does not exceed thirty-four inches, ninety-two cents per ten yards not more than fifty-five inches broad, and one franc fifteen per ten yards for widths exceeding fifty-five inches. These stuffs are usually imported in tin-lined cases, containing from ten to twelve pieces of from thirty to forty yards, according to quality

The December letter of the Anthracite Coal Operators' Association says: Throughout the past month the market

has been one of weakening prices and slow and irregular demand. Dealers have, almost without exception, reduced their stocks to a merely nominal amount, and the few days of cold weather brought about a momentary activity in buying from first hands, which, however, disappeared quickly. The entire trade of the tidewater and Eastern markets has been in the buyers' hands, and they have set a figure which they would pay, in the certainty that if the coal could not be purchased at that price from one seller it could be had from some other one. The ease with which this could be done demoralized prices, until, at the close of the month, no figure could be named for the maximum, minimum or average of the market. Beginning with December, there is to be a radical change in the methods which have been pursued. Colliery time will be reduced nearly one-half, bringing the probable output to 3,000,000 or 3,500,000 tons for the month. This will enable the companies to dispose of both the tonnage mined and that held in stock along the lines, and at the same time will strengthen prices in all markets. This latter will be more easily accomplished since dealers have exceptionally small stocks on hand and will be compelled to purchase for their current demand.

## ABBEE IMPROVED CHILLED SHOT CO.

(LIMITED)

### NEWCASTLE.

THIS SHOT IS NOW MADE BY A NEW PROCESS.

Samples sent on application.

Read the following Reports on our New Make of Shot:—

*Sporting Goods Review* states:—"The size and shape of pellets are good and are exceedingly hard. We understand that the demand for this shot has considerably increased and gaining in favor with sportsmen, to whom its excellence of manufacture appeals."

*Arms and Explosives* states:—"For soundness and general regularity of surface the pellets possess a very high degree of excellence."

W. W. GREENER, "the Great Authority on the Gun," speaks highly of Chilled Shot, and strongly recommends it in preference to soft shot.

# MACHINERY and EQUIPMENT FOR Mines

MADE BY  
MANUFACTURED BY

Canadian Rand Drill Co.,  
MONTREAL.

Phosphorous,  
Pure  
Chemicals  
Sal. Ammoniac,  
Muriate Ammonia,  
Sal. Soda,  
Bicarb. Soda,  
Hyposulphite Soda, Epsom Salts.

**FINEST QUALITY.**

Manufacturers Prices and Terms.

**Arthur P. Tippet & Co.,  
MONTREAL.**

Canadian Agents.

Buffalo has fifty-two grain elevators with 16,000,000 bushels storage capacity, and capacity to handle 6,000,000 bushels in twenty-four hours. In 1896 these elevators handled 170,000,000 bushels, the receipts of flour by lake exceeded 10,000,000 barrels, and live stock over 7,000,000 head. Other receipts of lake freight aggregated nearly 3,000,000 tons. In 1896, Buffalo received 51,400,000 bushels of wheat, 47,800,000 bushels of corn and 10,384,184 barrels of flour. Montreal the same year received 9,400,000 bushels of wheat, 6,600,000 bushels of corn and 1,590,000 barrels of flour. What better argument could be adduced in favor of an all-Canadian ship canal to the sea

Seven-tenths of the ocean freights of the world are carried in British vessels, and it is estimated that the revenue paid to Great Britain by all the nations amounts to \$800,000,000 annually, for the use of British ships. Great Britain has too strong a hold on the ocean freight traffic for the United States to destroy it by legislation, in which there is tariff discrimination against the \$400,000,000 worth of goods which British vessels bring to the United States annually.

New South Wales has about 1,200,000 population. It became a free trade colony with 1896. Victoria is its neighbor colony. It has about as great a population and is fifty years younger. Victoria is protectionist. New South Wales has coal. Victoria is rich in gold. New South Wales never had proper protection. Victoria's factory products are annually worth \$10,000,000 more than those of New South Wales. Victoria's average per capita wealth is \$2,000. That

of New South Wales is \$1 600. Victoria's debt is \$100 less per head than that of the other colony, and New South Wales pays annually \$10,000,000 more interest on loans than Victoria pays. Complete free trade found New South Wales presently flooded with cheap goods that closed up her factories by the score, and protectionist Victoria in 1896 reaped \$800,000 more than they did in 1895, on a list of one hundred articles they exported to New South Wales. What have the free traders to say to this condition of affairs?

The government experimental station at Purdue University, in Indiana, has found at Hamlet, Stark county, a sugar beet raised from seed, and under working directions furnished by the station, which yielded 29.9 per cent of sugar and had a purity coefficient of 84.5. This is the best sugar ever raised in Indiana. The yield to an acre of washed and trimmed beets was fourteen tons. At \$4 a ton this is better than wheat. What is Canada thinking of that she does not secure a sugar beet industry of her own?

The more thoroughly foreigners investigate the industrial conditions in America to-day the more fully too, do they realize that the fruits are now being marketed of the new policy of high wages paid to intelligent labor employed to supervise machinery or enormous power superseding puny hand labor. They realize that while older nations have been either "marking time" or "marching backward," this young and vigorous nation has been marching forward at a lively pace, and, as a consequence, is now far ahead in the race for industrial supremacy.—Philadelphia Record (Free Trade.)

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Sole Agents for SCHEEFFER RECORDING WATT METERS  
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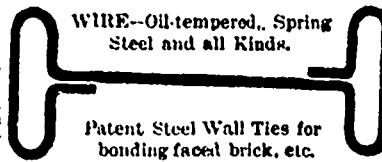
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CLEVELAND, OHIO, U.S.



Tempered Steel Machine Springs  
A Specialty.

SPECIAL SPRINGS  
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to order, and for  
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Furniture, Beds,  
Chairs, etc. Close  
prices upon appli-  
cation.

**TEMPERED STEEL MACHINE  
SPRINGS.**



WIRE—Oil-tempered, Spring  
Steel and all kinds.

Patent Steel Wall Ties for  
bonding facial brick, etc.

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PITTSBURG, PA.

Manufacturers of STEEL  
PLOW SHAPES, HARROW DISKS,  
CULTIVATOR PLATES, and  
AGRICULTURAL STEEL of all kinds.

**FINE TOOL STEEL**

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**DIES, DRILLS, TAPS,  
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And for all purposes where  
requirements are exacting.

For Prices, Etc., Address,

**W. G. BLYTH,**

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29 Melinda St., - Toronto, Ont.

**The DRIER the STEAM the GREATER the POWER.**

"Eureka"



**OUR SECTIONAL PIPE AND BOILER COVERING**

Almost Entirely Prevents Condensation of Steam when Passing Through the Pipes

**EUREKA MINERAL WOOL & ASBESTOS CO.**

132 BAY STREET, TORONTO.

ASBESTOS GOODS.

MINERAL WOOL

ENGINE PACKING.



Speaking of the big cycle show in Stanley Hall, Islington, Invention says:—The motor cycles and cars are in their clumsy infancy and contrast poorly with the light elegant Clevelands, Columbias, Mohawks and Humbers. Still a few dates given in the Stanley Show catalogue will show the maturity of the thing.

September 27, 1880. H. J. Lussan patented the first oil-driven motor car.

October 15, 1895.—Sir David Salomon's display of motor cars at Tunbridge Wells.

December 10, 1895. Public meeting at Cannon Street Hotel to advocate motor-cars.

May 9, 1896.—Exhibition of motor-cars at Imperial Institute.

August 14, 1896.—Motor-car Relief Bill procured Royal assent.

November 14, 1896.—Great motor-car parade to Brighton.

The establishment of manual training schools, however, is filling a serious gap in our mechanical development, resulting from the causes enumerated. The instruction given is of such a wide scope in any branch taken up that the completion of the course fits the student to enter his vocation as a wage earner with a much more ample equipment than either the modern or the ancient apprentice. He not only possesses the practical knowledge requisite, but also has the scholastic training which makes him a thinker. The poorest manual training school gives instruction in drafting, mathematics and other studies, enabling the student to work from plans and, if he has any originality or mechanical talent, to prepare designs when required. But within very recent years a great impetus has been given to instruction of this character by the endowment of schools and colleges by wealthy men, who discern in the proper mechanical training of the rising generation a correct outlet for their own philanthropic impulses as well as a patriotic duty devolving upon them. This has resulted in signal instances in the equipment of these institutions with machinery and appliances of the most advanced character, far better than anything found in the average shop—The Iron Age.

#### THE POETRY OF PROTECTION.

Just a little dollar, on its mission sent, makes a lot of people glad each time the coin is spent. You pay it to the butcher, for meat to give you strength; he takes it to the grocer from whom it goes at length, some pretty bit of cloth or lace his better half to buy, or helps to get her winter hat to make her rival sigh. The dry goods man sends on the coin to pay his market bill, and though the coin is often spent, it stays a dollar still; and every time 'tis spent at home, some act of good is done in "booming" local industries, ere setting of the sun.

But if you take that shining coin and break the local chain, the chances are that from afar 'twill not return again. If once it

passes out of town, the butcher and the baker, the grocer and the dry goods man, the cook, the undertaker, the carpenter, the carriagewright, the blacksmith, everyone, will lose the chance to touch that coin ere setting of the sun.

Just keep the little coin at home, just keep it moving well, and every time it changes hands somebody's goods 'twill sell. That single little dollar has thus a wondrous power to make somebody better a dozen times an hour. It pays the bill and wards off ill, and no'er its power relaxes to soothe the doctor, buy the coal and pay for clothes and taxes.

The Gutta Percha and Rubber Company, Toronto, have had the steam pipes and heaters in their factory covered. The Eureka Mineral Wool Company, Toronto, had the contract.

The Standard Chemical Company, Fenelon Falls, Ont., a new concern that has commenced the manufacture of wood alcohol, have given a contract to the Eureka Mineral Wool Company, Toronto, to cover all their steam pipes and four large stills.

The Eureka Mineral Wool and Asbestos Company, Toronto, have completed a contract to cover the boilers and steam pipes of the Post Office and Custom House at St. Thomas, Ont.

The Eureka Mineral Wool and Asbestos Company, Toronto, have the contract to cover the steam pipes at the Mimico Industrial School.

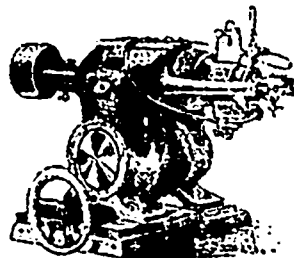
The Ontario Paving Brick Company, Toronto Junction, have had their complete steam plant covered by mineral wool. The Eureka Mineral Wool and Asbestos Company, Toronto, had the contract.

The Hamilton and Toronto Sewer Pipe Company will build a 200-foot addition to their factory at Hamilton, Ont.

The Columbia Mills—a grist mill, a sawmill and a planing mill the property of Mr. Robert Caldwell, Bolton, Ont., were destroyed by fire a few days ago. Loss, about \$5,000.

The Shediac shoe factory, which has been in very successful operation for the past six months or more, is employing about sixty hands at the present time, a small falling off since the summer months. The factory is admirably equipped with first-class machinery of the most modern type, and the company have found no trouble so far in disposing of their manufactures in the maritime province, to which part of Canada their goods are specially adapted. The building is 140x40 with a 10x40 ell and is heated by steam. The company intend putting in an electric light plant in the near future. The capacity of the Shediac shoe factory is 600 pairs a day. The goods placed on the market so far have given every satisfaction and the enterprise is meeting with the encouragement it deserves.—Times, Moncton, N.B.

## ELECTRIC BARGAINS.



ONE EDISON MOTOR,  
ONE BALL MOTOR,  
TWO DYNAMOS.

Almost new.

We install complete plants at lowest possible figure. Write us before buying.

Motors, Dynamos and Platers  
Manufactured in all sizes

THE JONES & MOORE ELECTRIC CO.  
22 Adelaide Street West,  
TORONTO.

## VALVES AND PIPE . . . FITTINGS

WRITE FOR LATEST PRICES

## RICE LEWIS & SON, Limited

Corner King and Victoria  
Streets  
TORONTO



TRADE MARK.

## ATLAS METAL

Speak louder than words, and ATLAS does not rely on empty talk for its UNDISPUTED REPUTATION.

It Has Been Undeniably Proved that ATLAS METAL is Superior to all, and has stood under Enormous Pressures and Phenomenal Speed.

TRY ATLAS METAL. WHERE ALL OTHERS HAVE FAILED.

### WE CHALLENGE A TEST

Against any Anti-Friction Metal on the Market.

THE ATLAS METAL CO., Limited  
73 Queen Victoria St., London, Eng.

H. G. McLAREN, General Agent for Canada.  
318 ST. PAUL ST., MONTREAL, QUE.

## CAPTAINS OF INDUSTRY.

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

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

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

Messrs. James A. Taylor and T.C. Robertson are going into the manufacture of cream separators at Galt, Ont.

The Hamilton Acetylene Gas Machine Company, Hamilton, Ont., is being incorporated with a capital stock of \$45,000.

Mr. Geo. W. Ward, for several years superintendent for the Almonte Knitting Company, Almonte, Ont., has commenced business on his own account in the knitting mill formerly operated by his father, Mr. Benjamin Ward, at Alton, Ont.

The London Biscuit Company, London, Ont., has been incorporated with a capital stock of \$10,000.

The Royal Electric Company, Montreal, has the contract to install an electric light plant in the Dominion Paper Mills, Kingsley Falls, Que.

The Parkhill Basket Company, Parkhill, Ont., has been incorporated with a capital stock of \$5,000.

Messrs. Edgar & Roy, North Bartley, Que., are enlarging their electric lighting plant, and propose to furnish power as well as light in the future. In order to be in a position to do so they have placed their order with the Royal Electric Company, Montreal, for a 60 k.w. "S.K.C." two-phase generator, which will be installed immediately.

The Merchants Bank of Halifax agency has on exhibition to-day a brick of pure yellow gold, weighing 514 ounces and valued over \$10,000, the result of last month's work at the Libbey mines, Bridgewater (N.S.), Bulletin.

Messrs. Hancy, Selby & Co., Kingston, Ont., write us that they are building three boilers, six feet in diameter, eighteen feet long; for the Montreal Transportation Company's new elevator, one forty horse power boiler for Capt. A. Foster, Smith's Falls, Ont.; one yacht outfit—engine and boiler—for Mr. Nathan Jones, Belleville, Ont.; and are putting in new iron galleys frames and keelson in steamer "North King."

On account of the great number of enquiries received by the Peterborough Canoe Company, of Peterborough, Ont., for large canoes, to which the excitement of the Rossland, Rat Portage, Klondike and other gold fields has called attention, the company have issued a neat booklet illustrating and describing their canoes of large carrying capacity. Their eighteen and nineteen foot canoes are built especially for explorers and travellers. Two men can portage them.

The Klondike boom is benefiting several Almonte wooten mills. We understand that Messrs. Wylie & Shaw are going to run night and day to fill orders received, and that the Baird Mill property is being fitted up with the intention of running on Klondike orders also. The other mills are all running full time, and some of them overtime. Altogether the outlook is as bright as it has been in a long time.—Almonte Gazette.

# Electrical Supplies, Incandescent Lamps.

HEAVY AND COMPLETE STOCKS.

BEST VALUES. PROMPT SHIPMENT.

## JOHN FORMAN, - 644 Craig St., MONTREAL.

SEND FOR CATALOGUE.

## THE CROCKER TURBINE.

The cut shows the direct connection of two 20 inch.

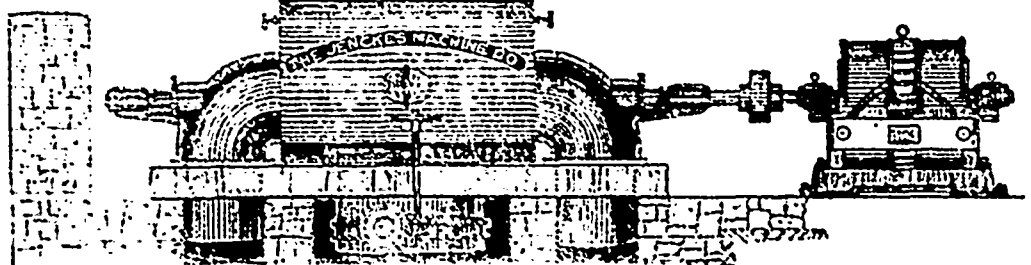
### Crocker TURBINES

Under 50 feet head to  
ELECTRICAL GENERATOR

At Power Station of North Shore  
Power Co., at St. Narcisse,  
Quebec.

Two sets were furnished for lighting  
and power for City of Three Rivers.

17 Miles Distant from  
Power Station



## THE JENCKES MACHINE CO., SHERBROOKE, QUE.

COMPLETE WATER POWER PLANTS  
BUILT AND INSTALLED.

Address for Catalogue and full information - 28 LANSDOWNE STREET

Mr. J. H. Francis has sold his roller mill at Pakenham, Ont., to Mr. Guest, of McKay & Guest, Renfrew, Ont.

The Dowitt-Langlois Milling Company, Montreal, is being incorporated with a capital stock of \$90,000.

While now members are admitted at any time to the several departments of the Central Business College, of Toronto, it will be well for intending patrons of a school of this kind to note that the winter term of this college begins on Monday, Jan. 3rd next, and that in the meantime all information may be obtained by writing for a copy of the latest prospectus issued by this institution.

The London Advertiser publishes the following:—"Mr. R. S. White, collector of customs at Montreal, states that the business in that city is better this fall than for many years. The customs collections for November were \$80,000 in excess of what they were for the corresponding month last year.—An evidence of prosperity among the Manitoba farmers is the sale of the McLaren farm of 640 acres, four miles north of Portage la Prairie, to Dr. Cowan, for \$14,000 cash.—It is said that Sir G. A. Kirkpatrick and Mr. J. B. Carruthers are negotiating to establish a ship-building industry in connection with the locomotive works at Kingston.—Canadian flour is being shipped to South Africa.—Canada's cheese exports to Great Britain are this year by far the highest on record.—In 1895 Canada sent 28,333 hundred-weight of butter in the first ten months. This year the Dominion sent 92,168.—St. John, N.B., continues to ship lumber to Brazil, the Argentine Republic and other parts of South America. One of the largest cargoes of lumber that was ever shipped from that port for South America was cleared this week in the Norwegian ship Maren. The vessel is bound to Buenos Ayres, and carries 1,196,224 feet, boards and scantling.—The shipment of produce for use as Christmas cheer in Great Britain from Canada this year is very much larger than usual, and includes a long list of supplies. There is a great demand for refrigerator cars from Ontario west. Many thousands of turkeys have been sent across the Atlantic.—Montreal woolen manufacturers are working overtime.—Our manufacturing confectioners are working overtime to supply the Christmas trade.—A Winnipeg business man, writing on the subject of commercial and financial affairs in Manitoba and the Northwest, takes a very hopeful view. Referring not alone to actual conditions as shown by payments and new enterprises, he says:—"Things are looking very bright in the Northwest; in fact, never brighter during the fifteen years that I have resided here."

A new class of sleeping car has recently been built by the Canadian Pacific Railway at their Montreal shops and placed in service on their transcontinental train. The first car is named "Qu'Appelle" and is fifty-eight feet long. It is known as a compartment or stateroom car. The interior is divided into six staterooms, two single and four on suite, a smoking and observation room at one end and a baggage room for the use of the occupants of the car at the other. The staterooms are six feet by seven feet; each is self-contained, having a separate entrance from the corridor, and fitted with upper and lower berths, water closets and washstands and water cooler.

## 6 OPTIONS - 6 . . . .

Granted to the holder of the 20-year DISTRIBUTION POLICY of the **Manufacturers' Life**

IF HE SURVIVES THE PERIOD HE MAY

- (a) Surrender his policy and receive (1) Cash, (2) Paid-up Insurance (3) Annuity; or,  
(b) Retain his policy and take his profits as (4) Cash, (5) Bonus addition, (6) Annuity.

If he dies during the term his beneficiaries receive the face value of the policy. These options, together with the liberal benefits guaranteed in the policy, render this plan one of the most attractive ever offered.

HEAD OFFICE, - TORONTO.

GEORGE GOODERHAM, President.

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GEO. A. STERLING, Secretary.

Agents Wanted in Unrepresented Localities.

## PRESSED SPIKES

Washers.

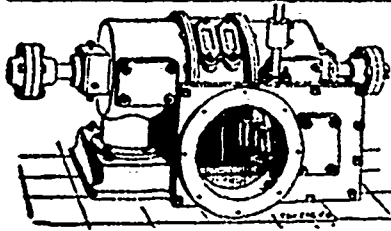
Rhode Island Horse Shoes

Cut Nails

Bar Iron and Steel

Railway Spikes

**ABBOTT & CO., - MONTREAL**



Horizontal Type.

"LITTLE GIANT"  
TURBINE

...FOR ALL PURPOSES...

HORIZONTAL AND VERTICAL.

BUILT IN 44 SIZES.

We guarantee a higher percentage of power from water used than any other wheel on the market.

Water Wheel Governors, Machine Dressed Gearing, Pulleys, Shafting and Bearings.

Catalogue and Gear List mailed on application.

Correspondence Solicited.

**J. C. WILSON & CO., - - GLENORA, ONT.**

**J. A. CULVERWELL,**

LOCAL MANAGER

TORONTO & CENTRAL ONTARIO

London & Lancashire Life Assurance Co.

12 ADELAIDE STREET EAST.

TORONTO.

**AULD MUCILAGE CO.**

Manufacturers of the Celebrated

Premium Mucilage, Lithogram Com-

position, Lithograms Ready for Use.

Printers' Premium Roller Composition.

Write us for Quotations.

759 CRAIC STREET, - MONTREAL, P.Q.

**Leitch & Turnbull**

Canada Elevator Works,

Queen and Peter Streets, Hamilton, Ont.

Patent Safety Hydraulic Hand and **POWER ELEVATORS**

Telephone Connection.

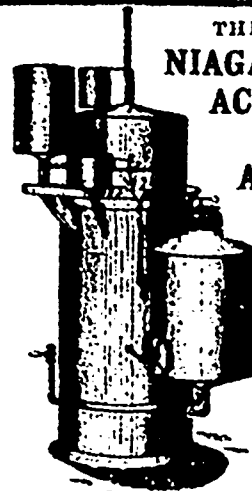
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**NIAGARA FALLS  
ACETYLENE  
GAS  
APPARATUS**



Patented in  
Canada, United  
States and  
Great Britain.

This is the  
only machine  
perfectly auto-  
matic in its ac-  
tion, requiring  
little or no atten-  
tion. Machines  
made in 70 sizes  
ranging 815 and  
upwards.

**Acetylene Gas the Coming Light.**

CHEAPER THAN ELECTRIC LIGHT  
COAL GAS OR COAL OIL

For Private Dwellings, Business Houses,  
Churches, Public Halls and Offices.

For particulars write to the

**NIAGARA FALLS ACETYLENE GAS MACHINE CO.**  
NIAGARA FALLS, ONT. LIMITED.

Sub-  
scribe for **The Canadian Manufacturer**

Mr. James Cameron, Fall Brook, Ont., is erecting a sawmill at Harper, Ont.

The Westinghouse Electric Company has constructed two 300 h.p. two-phase induction motors, contracted for by the Buffalo and Niagara Falls Electric Light and Power Company. These motors will be used for driving alternating current generators, direct current generators, arc machines, etc.

The G.T.R. have awarded to the Crossen Car Manufacturing Company, of Cobourg, Ont., a contract for the construction of twenty-two tourist cars, at a cost of \$100,000. The work will occupy four months.

The town of Goderich, Ont., is asking the local legislature for authority to construct and operate a grain elevator.

Some of the members of the Montreal Corn Exchange have formed a new grain-elevating company, with a capital stock of \$250,000. The elevators which they propose to erect will be on the pneumatic principle, and will cost about \$60,000. The provisional directors are:—Messrs. Thos. Harling, W. M. Macpherson, Wm Stewart and Alex. McFee.

The Acetylene Light and Power Company, Niagara Falls, N.Y., has contracted for two 1,000 h.p. oil converters, water cooled of 3,000 alternations primary, 2,200 volts, secondary, 100 volts. These converters will supply current for arc furnaces for the manufacture of calcium carbide.

The Auburn Power Company, Peterborough, Ont., have placed an order with the Wm. Hamilton Manufacturing Company, of that town, for two new water wheels of 250 h.p. each.

Large deposits of coal recently found near Sydney, N.S., will, it is believed, double the coal area of Cape Breton county.

Hon. A. W. Ogilvie, Montreal, and other capitalists, have been incorporated under the name of The C.O.D. Mining Company, with a capital stock of \$300,000.

Users of the Tunkhannock Bark Mill will be pleased to learn that the grinders and other parts of the mill can now be procured in Canada thus avoiding duty and heavy freight charges. See Messrs. Fleury's Sons advertisement in another column.

The Mathieson Alkali Company, Niagara Falls, N.Y., contracted with the Westinghouse Electric and Manufacturing Company some time ago for a number of rotary transformers, induction motors and oil converters, which were recently installed and consist of eleven 165 h.p. rotary transformers, several small induction motors, twenty-two 82½ h.p. oil converters, four 33½ h.p. oil converters, and two 13½ h.p. oil converters.

The Niagara Electro Chemical Company, Niagara Falls, N.Y., has contracted for a large increase in its transformer station located above the power house of the Niagara Falls Power Company, consisting of three 235 h.p., two-phase rotary

transformers and one 176 k. w. rotary transformer, supplying current for the reduction of metallic sodium from caustic soda. In addition to these transformers the Westinghouse Electric and Manufacturing Company are also making for the same company 800 h.p. in air cooled oil converters consisting of six 133 h.p. converters, 3,000 alternations, which will supply current for rotaries.

**GEORGE WHITE-FRASER.**

Member Can. Soc. C.E.  
Member Am. Inst. Elec. Eng.

**CONSULTING and CONSTRUCTING Electrical Engineer.**

Railways, Lighting, Power Transmissions, Factory Plants, Repairs, Specifications, Tests.  
18 Imperial Loan Building.

TORONTO.



**Canoes for Alaska and Cold Regions**

This cut is one of our 12 foot, No. 60xx Canoes, and shows carrying capacity.  
Write for our catalogue and discounts.

Peterborough Canoe Co., Limited, Peterborough

**TANNERS!**

**Grinders and other parts for Tunkhannock Bark Mills.**

Guaranteed to be superior to the American in WEARING QUALITY and at LESS COST.

DAVILLE TANNING CO., write:

"The Grinders LAST MUCH LONGER and GRIND MUCH BETTER than any we have ever had."

**J. FLEURY'S SONS,**

Founders and Machinists,

AURORA, ONT.

**ELECTRIC MOTORS, WATER MOTORS, DYNAMOS,**

Hand-Feet and Automatic. ... **ELECTRIC LAMPS,**

Cinematographs, Telephones and Graphophones

WRITE FOR PRICES.

**A. SCHNEIDER & CO.,**

41 and 26 Pearl St., Toronto.

**TO BELT USERS:**

IT IS NOT WIND YOU WANT.

RESULT OF MY TRIP:

GENUINE

**ENGLISH OAK**

**TANNED BELTING**

**D. K. McLAREN**

24 Victoria Square, - MONTREAL

**FORD, RUTHVEN & CO.,**

26 PITT ST., SYDNEY, AUSTRALIA.

**Wool Buyers' on Commission.**

Letters of Credit must accompany Orders.

BANKERS: Bank of Australasia, Sydney.

**Dominion Oil Cloth Co.,**

Manufacturers of...

**OIL-CLOTHS OF EVERY DESCRIPTION**

Floor Oil-Cloth, Table Oil-Cloth, Carriage Oil-Cloth, Enamelled Oil-Cloth, Stair Oil-Cloth, etc., etc.

Office and Works

Cor. St. Catharine and Parthenais Sts., MONTREAL, Que.

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...The Canadian Manufacturer

SEND FOR RATES.

A. C. NEFF, Chartered Accountant. JAMES WOOD, Late Secy. to T. Eaton Co., Ltd.  
**NEFF & WOOD**  
 PUBLIC ACCOUNTANTS, AUDITORS, ASSIGNEES, ETC.  
 Room 500 McKinnon Bldg., Toronto

**"Off to the Central"**

Will be a common saying among You Men and Women throughout our Province on Monday, January 3rd, when the winter session of the

**Central Business College**

OF TORONTO

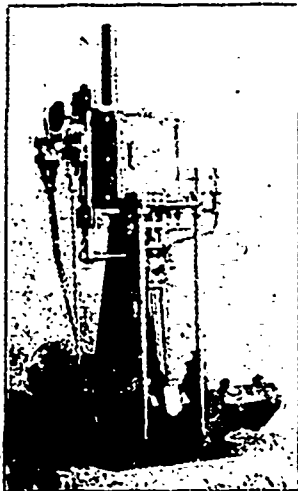
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 DUNNVILLE, ONT.



Maker of

**YACHT ENGINES, 1 H.P. to 50 H.P.**  
**Safety Water Tube BOILERS**  
**PROPELLER WHEELS**  
**Stationary Engines and Boilers**

WRITE FOR CIRCULARS

**Kemp Mfg. Co.**

TORONTO.

**Galvanized Steel Pails**

FOR FIRE PURPOSES ONLY.  
 NO HOOPS TO FALL OFF.

PRICES ON APPLICATION.

We have received from the Toronto Electric Motor Company a list of names about two yards long of what they call their references. The names are of those to whom the Company have sold motors.

We are in receipt of a handsome 1898 calendar from the Morris, Field, Rogers Company, piano manufacturers, Listowel, Ont. This company reports business good. They employ thirty-six more men now than they did last spring.

J. D. Weir & Son's foundry at Moncton, N.B., was burned a few days ago. Loss about \$4,000.

Mr. Andrew Semple, M.P., has sold his mill at Fergus, Ont., to Mr. James Wilson, of Monkland Mills.

Mr. Wm. McKenzie, Toronto; Mr. W. B. Ross, Q.C., Halifax; Mr. R. C. Brown, Halifax; Mr. B. F. Pearson, Halifax; Mr. R. D. McGibbon, Q.C., Montreal; Mr. Granville C. Cunningham and Mr. W. B. Chapman, Montreal; Mr. H. M. Whitney, Boston, Mass.; Mr. F. Pearson, New York, and Mr. James Ross, Montreal, have secured a charter and franchise from the Jamaica Government to build electric tramways on the island. The capital required is over \$500,000, and will be furnished by Montreal and Halifax capitalists. Construction will commence at Kingston, where the old tramway system is to be converted into one of the latest improved electric roads. A large power-house is to be built near the shore, and an electric lighting plant will also be put in. Mr. F. P. Brothers, superintendent

of the construction work of the Montreal Street Railway Company, was, when the mail left, about to sail for Jamaica to take full charge of the work of bringing the island of Jamaica under the sway of the electric king. The work will commence at Kingston, and on account of the black population Mr. Brothers hopes to secure fairly cheap labor in the work of construction. The work of construction is to be pushed on rapidly during the winter months.

Perine & Co's wool and twine mills at Doon, Ont., were burned a few days ago. Loss about \$15,000.

The gentleman who represented the Toronto syndicate and purchased the Smelting Works site and the Frontonac lead mine, situated at Stoness' Corners, yesterday, was Mr. Richey. At one time the properties belonged to Messrs. A. Gunn, J. M. Macfar and Mr. Romanes. The smelting works will be started at once. The syndicate will not have any of their own lead for smelting immediately, but expect to get outside material to go on with. It is the intention to start a new shaft at the level of Mud Lake and allow the shafts on the hills, formerly worked, to remain as they are for a while. It is anticipated that the lead will be obtained a great deal more easily on the level.—Kingston News.

We have received the spring circular of the Empire Carpet Company, St. Catharines, Ont. This Company manufacture all of the different grades in all-wool and union, three-ply and art squares in three and four yards width of any length.

(From "Free Press," London, Ont., December 9th, 1896.)

"Number two Committee of the Board of Education met last night. . . . It was decided to put in two No. 25 Heesen Fire Grates in the Collegiate Institute furnaces. One of these Grates is said to have saved four tons of coal at Princess Ave. School last winter."

These Grates, 16 x 26 inches, are supplied by

**The HEESON ROCKING GRATE BAR CO. OF TORONTO (Limited),**  
 Phone 1924. 120 VICTORIA STREET.

Twelve additional sets of these bars have since been put in for the London Board of Education.

ALEX. CARTSHORE, President. J. G. ALLAN, Sec. Treas. JAS. THOMPSON, Vice-Pres. and Gen. Mgr.

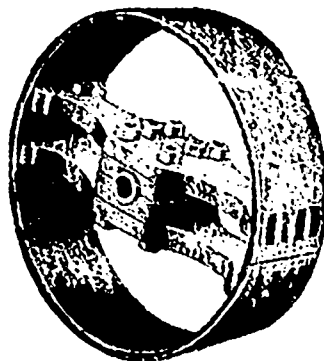
**THE CARTSHORE-THOMPSON PIPE & FOUNDRY CO., Limited**

**CAST IRON PIPE**

3 in. to 60 in. diameter.

**For Water, Gas, Culverts and Sewers**

Special Castings and all kinds of FLEXIBLE AND FLANGE PIPE.  
**WATER WORKS SUPPLIES HAMILTON, ONT.**



**BENT WOOD SPLIT PULLEYS, RIM... (REID'S PATENT).**

The Strongest, Lightest and Best Belt Surface in the World

No Glue, no Nails in Rim like Segment Rim Pulleys, to be affected by Steam, Dampness or Moist Temperature.

**EVERY PULLEY GUARANTEED.**

**The Reid Bros. Manufacturing Co., of Toronto,**  
 102-108 Adelaide St., West, Toronto.

A few days ago the Peterborough Canoe Co. shipped a large canoe to New York, consigned to Dawson City in the far north. The canoe will go by steamer round Cape Horn and up the Pacific coast to Victoria, to be forwarded from there by freight. They also shipped a lot of folding canoes to a New York firm to be sent to parties in the Klondike district.

About six months ago the Cataract Construction Company, Niagara Falls, N.Y., contracted with the Westinghouse people for enormous additions to the power station, consisting of five 5,000 h.p. generators. In addition to these five machines the factory is also building exciters representing a capacity of 675 h.p. The switchboard, with necessary appliances controlling the five 5,000 h.p. generators, are also being made, and all of these machines will be applied to the Niagara Power House as soon as required.

Voting in Sherbrooke, Que., on by-laws to provide for the purchase of the city water system and plant from the Sherbrooke Gas and Water Co., and to spend \$35,000 towards erecting a new bridge to replace the old Aylmer bridge resulted in the by-laws being carried by large majorities.

The Coyne planing mill near Chelmsford, Ont., owned by Hattie & Lepage, was totally destroyed by fire a few days ago. Loss about \$3,000.

Ten car-loads of magnificent dry pulp—the best in the world—is turned out daily by the Sault mammoth mills. The completion of the second mill will double the production.—Algoma Pioneer.

Messrs. Cowan & Co., Galt, Ont., are placing an engine and boiler in the American Rattan Company's new factory at Walkerton, Ont.

Extensive deposits of coal have been discovered at Dominion City, thirty miles from Winnipeg, Man., at a depth of 100 feet. A company is being formed to develop the claim. The coal is of good bituminous quality.

The new iron bridge built by the Record Foundry and Machine Company, Moncton, N.B., at College Bridge, N.B., has been opened for traffic.

E. A. Gidney, Digby Neck, N.S., is building a factory for canning haddies and lobsters.

The prospects are that the lumber on the St John River, N.B., for the present season will not be more than between 80,000,000 and 90,000,000 feet, or about one half of that of last year. If the deal market brightens the estimate may be increased somewhat, but the chances at present are not favorable. Mr. W. H. Murray, who got out about 55,000,000 feet last year, is in this year for between 21,000,000 and 22,000,000. A. F. Randolph & Son's cut last year was about 25,000,000. This year it will not likely be more than 5,000,000 or 6,000,000. Donald Fraser & Sons will get out between 7,000,000 and 8,000,000.—Gleaner.

Messrs. Weddell & Crowe recently finished a new bridge across the Trent River at Campbellford, Ont.

So great has been the rush of orders of late in the Hawthorne woolen mills, at Carleton Place, Ont., that the management have had to increase the capacity of the mill to keep up with the demand. The mill has been running more or less overtime for some time, and we understand the orders at present on file will keep them running steadily until spring.

A by-law to raise \$20,000 for waterworks purposes will be voted upon by Sarnia, Ont., citizens in January.

Twenty first-class passenger cars and ten sleepers will be built at the C.P.R. shops at Perth, Ont., this winter.

John McMurchy's woolen mills, Huttonville, Ont., are at all times running full time. Not for some years have they been so brisk as at present. In addition to the usual orders, foreign and domestic, the mill is at work on a \$5,000 order for extra heavy stockings for the Klondike.

## JOHN J. KELLER & CO.

104 and 106 MURRAY ST.

NEW YORK

220 Church St., Philadelphia.

135 Pearl Street, Boston.

**Aniline Colors,  
Dyewood Extracts,  
Sumac and  
Nutmeg Extracts.**

**FAST COLORS** for Wool Dyeing,  
One Dip Cotton Colors, Novelties  
and Specialties for Calico  
Printing.

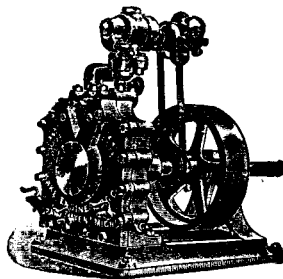
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**JOHN R. GEIGY & CO.**

BASLE, SWITZERLAND

## The Dake Engine

For Running Dynamos in



Small Isolated Plants.

**CONTRACTORS' HOISTS**

STEADY AND EVEN MOTION,

ALSO FOR

Attachment Direct to Fans, Blowers, Centrifuga  
Pumps, Stokers, Steering Gear, Etc.

Correspondence Solicited.

**Phelps Machine Co'y,**

EASTMAN, P.Q.

The name of  
**WESTINGHOUSE**  
is a guarantee.

**Westinghouse Electric**  
Invent, make and sell  
electric apparatus. We  
do so, despite the keenest  
competition. ❀ ❀ ❀ ❀

**Westinghouse Electric**  
Workshops are largest  
and best equipped in the  
world, and the inventions  
manufactured here make  
our output the electrical  
standard of the world.

**Westinghouse Electric**  
Rivals devote much time  
and energy to denunciations  
of our apparatus. That is to be expected.  
But we say nothing  
about their products or  
their methods. We do  
our own business in our  
own way. ❀ ❀ ❀ ❀ ❀

**Westinghouse Electric**  
Work speaks for itself.  
Our motors, whether  
for railways or mills,  
are never supplanted. ❀

**Westinghouse Electric**  
Meters—Shallenberger,  
renowned for accuracy.  
Lightning Arresters—  
Wurts—we give the real  
name of the real inventor  
—the only sure protect-  
ors for electric plant.  
We make everything  
electric. ❀ ❀ ❀ ❀ ❀ ❀

**Westinghouse**

Electric & Mfg. Co.

Pittsburg, Pa.

New York, Boston, Chicago, Philadelphia,  
San Francisco, Buffalo, Syracuse,  
St. Louis, Atlanta, Tacoma,  
Ahearn & Soper, Ottawa.

Westinghouse Electric Co., Limited,  
32 Victoria St., London.

The name of  
**WESTINGHOUSE**  
is a guarantee

Mr. James Fowler, Arnprior, Ont., has been awarded the contract for building the Pembroke Southern Railway from Pembroke to Golden Lake, a distance of about forty miles.

Fire, a few days ago, did about \$6,000 damage to the generating plant of the People's Heat and Light Company, Halifax, N.S.

The Lake Deschênes Milling Company, Ottawa, has been incorporated with a capital stock of \$40,000, to carry on the business of building and operating mills of various kinds.

The Slingsby Woolen Mills, Brantford, Ont., have been working night and day for several months, their whole output going to Alaska.

J. W. Cochrane, Glenboro, Man., writes the Dodge Wood Split Pulley Company, Toronto, as follows: "You should see our rope drive, it is just the slickest thing I ever saw in the way of a drive. If you have any prospective customers for a drive just refer them to me."

The American Tiro Company's premises, Toronto, were damaged by fire a few days ago to the extent of about \$6,000.

The Eureka Mineral Wool and Asbestos Company, Toronto, have removed from 124 Bay street to more commodious premises at 132 Bay street.

The New England Gas and Coke Company, Boston, Mass., have contracted with the Dominion Coal Company for 800,000 tons of Nova Scotia coal annually for twenty years, with the privilege of increasing the order to 1,500,000 tons.

The Deseronto Milling Company, Deseronto, Ont., has been incorporated with a capital stock of \$500,000.

The Niagara Falls Hydraulic Power and Manufacturing Company some time ago contracted with the Westinghouse Electric and Manufacturing Company for six 750 h.p. direct current generators, 300 volts, 250 r.p.m. These generators will be direct, connected to Lofell turbines, and they will be used for generating current that will be supplied to the aluminum factory of the Pittsburg Reduction Company at Niagara.

The Guelph Norway Iron and Steel Company's mills at Guelph, Ont., have been sold to Mr. John Taylor.

Application has been made to the Ontario Government for incorporation of The Perth Woolen Company, (Limited), the provisional directors to be Messrs. George D. Ross, Thomas A. Code, and the Hon. John Haggart. All the narrow machinery in the Gemmill Mill will be removed and will be replaced by the latest new broad machinery, which has been already ordered. As the new machinery has to be brought from England, it will be some time in January before the mill will be running. The interval will be spent in making such alterations as the new company deem necessary in the present arrangement of the building, and in the course of a few weeks the mill will be run to its full capacity. In the spring the picker room will be removed from the main building and will be replaced in a new building which will be erected on the property.

The factory of the Westinghouse Electric and Manufacturing Company, at East Pittsburg, Penn., is at the present time very busy on a number of electric machines, all intended for Niagara Falls and other companies in the vicinity of the great electric power centre.

The city of Toronto Board of Control recently awarded contracts for civic supplies as follows: Brass and bronze castings—Dean Bros.; cast iron pipe—St. Lawrence Foundry Company; hydrants—three-way—St. Lawrence Foundry Company, two-way and four-way, Hamilton Fire Escape Company; lead pipe—The Ontario Lead Pipe and Barb Wire Company; iron valves and stop-cock boxes—St. Lawrence Foundry Company; rubber valves and rubber—Gutta Percha and Rubber Company. All the above named firms are located in Toronto except the Hamilton Fire Escape Company, Hamilton, Ont.

## HAHLO & LIEBREICH, BRADFORD, ENG.

### Machinery Merchants and Exporters

**NEW and GOOD SECOND-HAND WOOLLEN MACHINERY**

SHAKE WILLEYS, TEAZERS, RAG PICKERS, GARNETTS,  
AUTOMATIC FEEDS, WASTE CLEANERS, CARDS, CONDENSERS, SELF-ACTING  
MULES, TWISTERS, LOOMS, HYDRO-EXTRACTORS,  
SHEARING MACHINES, ETC.

**GOOD Second-Hand COTTON and WORSTED MACHINERY**

BELTING, CARD-CLOTHING, PICKERS, PICKING HANDS, ETC.

# Hamilton Blast Furnace Co.

HAMILTON, - - ONTARIO

Manufacturers of

## HIGH GRADE PIG IRON

THE . . . DOMINION WATER

SPECIAL FEATURES

**Economy in Use of Water, Great Power  
Equal Efficiency at any Gate-Opening  
Steadiness and Strength of Motion  
Sensitiveness to Change in Gate-Opening  
Ease for Regulation by Governor  
Strength and Durability  
Freedom from Trouble with Step  
Not Clogged by Ice  
Accessibility to all Parts**

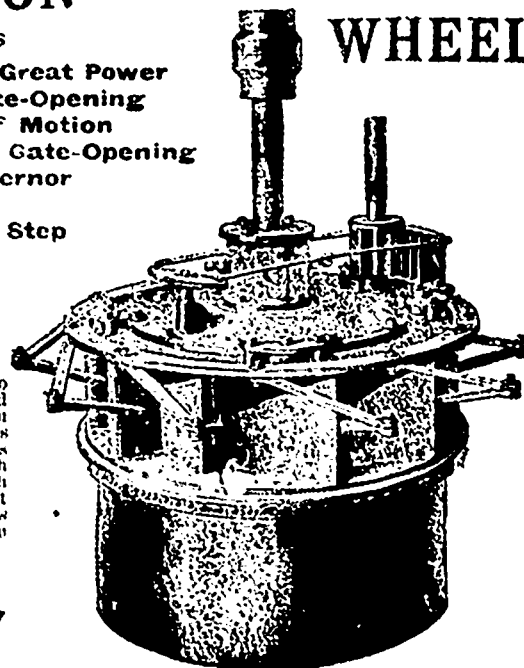
ST. CATHARINES,  
February 9, 1897

Messrs. Wm. & J. G. Greey,  
Toronto.

GENTLEMEN,—Your favor of the 5th to hand. Have been away from home, and hence delay in answering your letter. You ask us how your Dominion Wheel compares with the . . . Well, first, the comparison is this—we have been using two 38 inch diameter, double wheels, and your 51 inch Dominion wheel we put in December last gives us as much power as both, and does not use but a very little more water than one of the 38 inch wheels. Yours truly,  
COOKE & SON

MANUFACTURED ONLY BY

**WM. & J. G. GREEY  
TORONTO**



WHEEL

**THE ELECTRICAL CONSTRUCTION CO.,** OF LONDON,  
LIMITED,  
LONDON, - - ONTARIO.

*DIRECT-CURRENT MULTIPOLAR LIGHTING MACHINES,* From 2 to 40 K.W.  
BELTED OR DIRECT-CONNECTED.

**MULTIPOLAR MOTORS,** up to 50 k.w.

**Knife Switches,** all Sizes and Kinds.

**REPAIRS ON SHORT NOTICE.**

Two Second-hand 150 k.w. Multipolar, and two 50 k.w. Bipolar 500 Volt Generators for Sale at a Bargain.

**Jubilee Smoke Consumer.**

*Advice*  
to  
*Owners*  
of  
*Boilers.*

**THE JUBILEE SMOKE CONSUMER**

Is the only Smoke Consuming Device which at once CONSUMES COMPLETELY Smoke and Gases of every kind.

**THE JUBILEE SMOKE CONSUMER**

Is the only one which can be adapted to locomotive and steamboat boilers, as well as to boilers used in workshops and large factories.

**THE JUBILEE SMOKE CONSUMER**

Is the only one which saves fuel considerably.

**THE JUBILEE SMOKE CONSUMER**

Is sold with a guarantee for at least thirty years; it is so perfect in construction that it will not need repair.

**THE JUBILEE SMOKE CONSUMER**

Is the only one which gives entire satisfaction under every prospect, its work being always perfect and continuous . . . Or no sale.



*N.B.—AGENTS WANTED; Easy and Lucrative Position.*

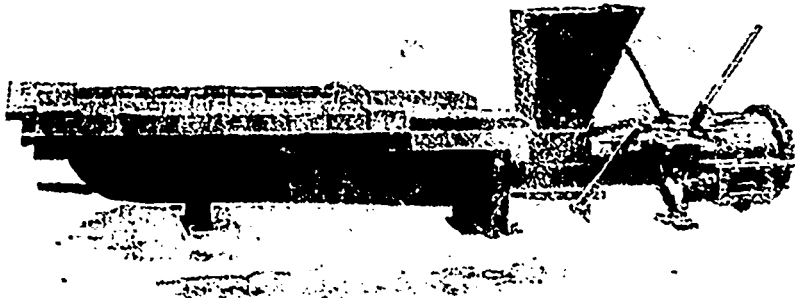
For particulars apply to

**M. ALBERT PAGNUELO,** 58 ST. JAMES STREET, MONTREAL.

**THE WEEKS-ELDRED CO.** OF TORONTO, LIMITED

*Mechanical, Civil and Sanitary Engineers*

GENERAL CONTRACTORS, STEAM POWER, HEATING and VENTILATING. Sewage Disposal Plants a Specialty



Sole Canadian Manufacturers of the

**Improved Jones Under-feed  
Mechanical Stoker**

Perfect Combustion. No Smoke. No Ash.  
Offices..

80 CANADA LIFE BUILDING, TORONTO, ONT.

Send for Illustrated Catalogue



DO YOU REQUIRE   
**Rubber Belting?**

IF SO, BUY THE BRANDS MADE BY

**The CANADIAN RUBBER COMPANY of MONTREAL**

CAPITAL \$2,000,000.

**Manufacturers of all kinds of Rubber Goods**

**ONTARIO BRANCH—Cor. Front and Yonge Streets, TORONTO.**

When Were  
Your

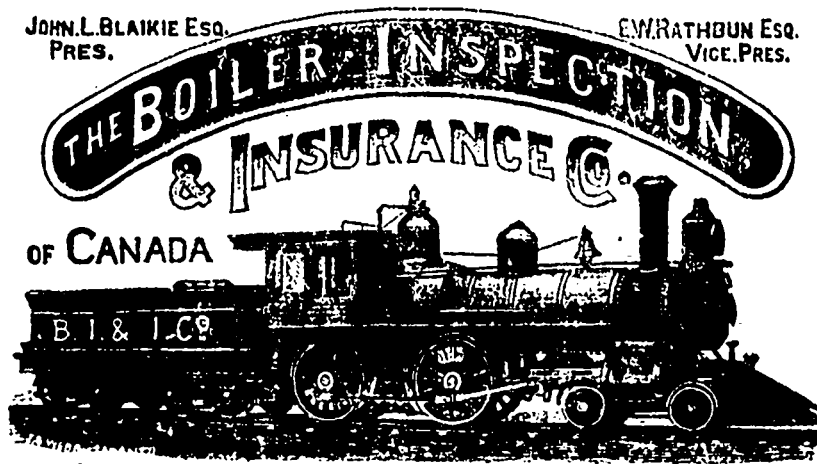
**BOILERS**

Last  
Inspected?

Consulting Engineers—  
**G. C. ROBB, Chief Engineer**  
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JOHN L. BLAIKIE ESQ.  
PRES.

EW. RATHBUN ESQ.  
VICE-PRES.



Head Office,  
TORONTO

Are You  
Sure

THEY ARE

**SAFE**

AND IN

Good  
Condition?

Established 1823

Telegrams: "WILSONS, CORNHOLME."  
A.B.C. Code Used.

**WILSON BROS. BOBBIN CO.**

(Limited)

**Cornholme Mills, TODMORDEN, ENG.**

**Bobbin and Shuttle**

**Manufacturers . .**

**30 Prize Medals Awarded.**

**High-Class Workmanship.**

**Seventy Years' Reputation.**

**LARGEST BOBBIN MAKERS IN THE WORLD**

(OVER 1,200 WORKMEN).

ADDRESS: **CORNHOLME MILLS,**  
**Todmorden, England.**

BRANCH ESTABLISHMENT.

**ATLAS BOBBIN WORKS, GARSTON, LIVERPOOL.**

OFFICE AND SHOW-ROOMS:

**14 MARKET PLACE, - MANCHESTER.**

**ATTENTION** CENTRAL STATION  
MANAGERS!

**A GOLDEN OPPORTUNITY!**

Are you desirous of purchasing

**ARC LIGHTING MACHINERY, LEATHER BELTING**  
**WATER WHEELS, or SHAFTING?**

If so, you cannot afford to miss this opportunity. Owing to extensions necessitated at our generating station we are obliged to discard the above-mentioned material. Communicate with us at once for all information and particulars

**THE MONTMORENCY ELECTRIC POWER CO., - - QUEBEC**

ESTABLISHED 20 YEARS.

**A. KLIPSTIEN & CO.**

122 PEARL ST., - NEW YORK.

**ANILINES, DYESTUFFS, AND**  
**CHEMICALS**

Of every variety, of the best quality and at the lowest prices.  
Delivery made at New York, Montreal or Hamilton

**WRIGHT & DALLYN, Agents,**  
**HAMILTON, ONTARIO.**

**CANADA IRON FURNACE CO., LIMITED**  
*Montreal, Radnor and Three Rivers*

Manufacturers of the well-known

**"C.I.F." Three Rivers Charcoal Pig Iron**

Suitable for Car Wheels, Cylinders and Fine Castings, where the utmost strength is required.

UNSURPASSED IN STRENGTH BY SWEDISH, RUSSIAN OR AMERICAN CHARCOAL IRON.

Offices: *Canada Life Insurance Bldg., Montreal.*

BRAND "SIEMENS"

**Cast Iron Water Pipes**

From 4 in. to 12 in. Diameter.

BELL AND SPIGOT. FLANGED, TURNED AND BORED

And Everything Necessary for a

*Complete Water or Gas System*

Supplied by The

**Londonderry Iron Co., LIMITED,**

LONDONDERRY, NOVA SCOTIA.

The Most Complete Iron Works in Canada. } ... Established 1852.

SEND FOR DRAWINGS AND ESTIMATES OF OUR WORK.

ALL PIPE-CAST VERTICALLY.

**We Make...**

- Pig Iron .....
- Water Pipes .....
- Bar Iron .....
- Puddled Bar .....
- Hydrants .....
- Valves .....
- Pipe Specials .....
- Heavy Castings .....
- Iron Rails .....
- Structural Work .....
- Architectural Work .....
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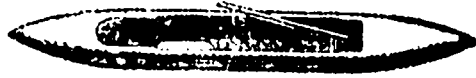
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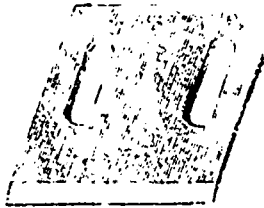
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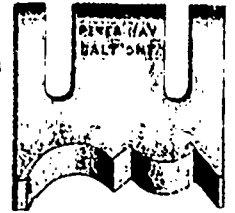
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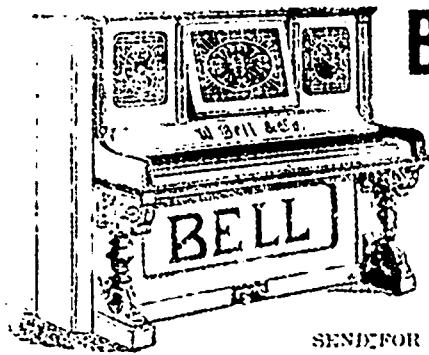
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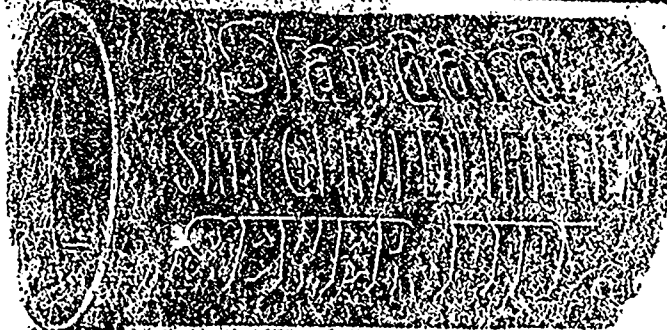
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