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**CANADIAN MANUFACTURER**  
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DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 42.

TORONTO, APRIL 19, 1901.

No. 8.

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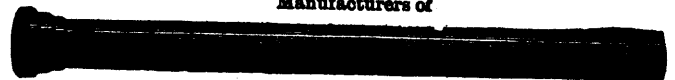
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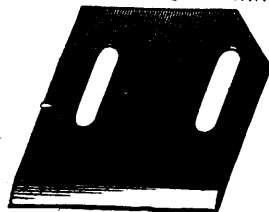
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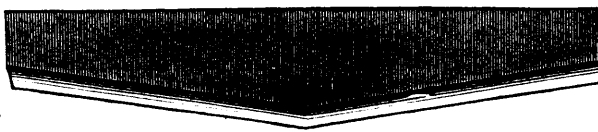
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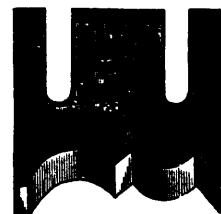
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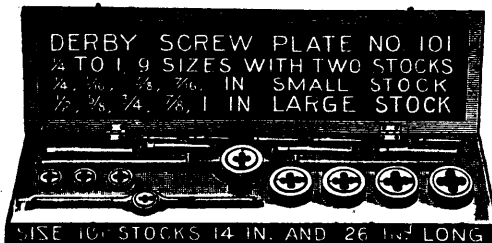
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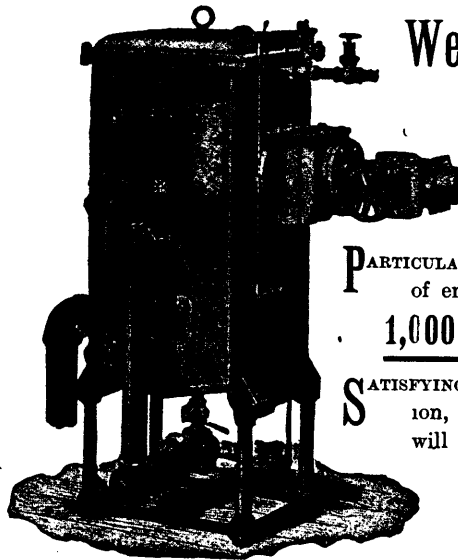


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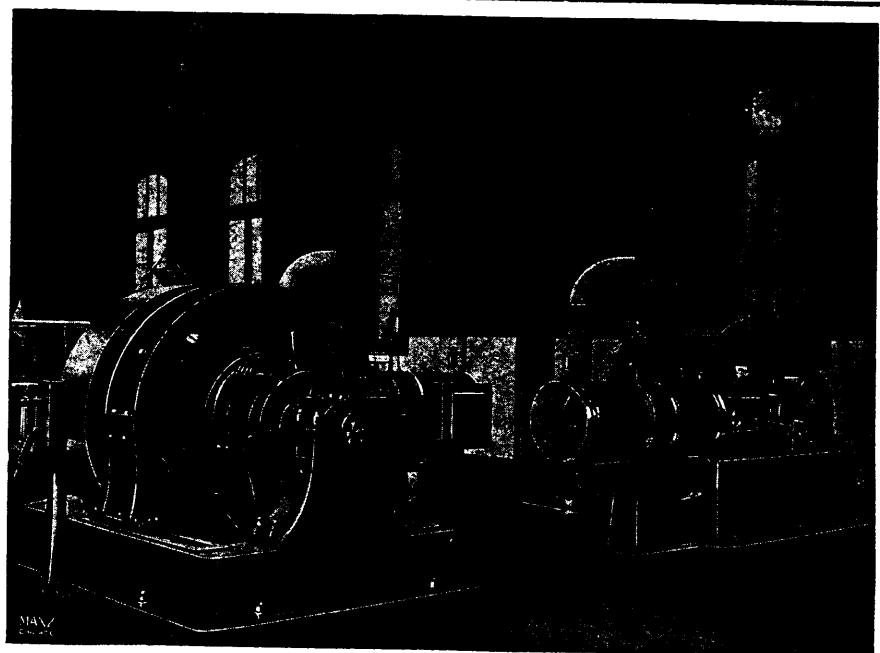
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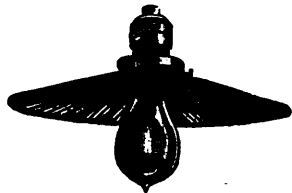
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**Imperial Lamps and Helios Upton Enclosed Arcs** Give BEST LIGHT with LEAST CURRENT  
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164 Federal Street, - Boston, Mass.

AGENTS FOR UNITED STATES.

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J. J. CASSIDY, - - Editor and Manager

**THE FOUNDATION STONES OF PROSPERITY.**

In an address delivered by F. H. Clergue, Esq., at a banquet given in his honor by the citizens of Sault Ste. Marie, Ont. a few days ago, after having alluded to the different enterprises in which he and his associates were interested, he devoted some time to the exposition of the logical foundations of these undertakings, stating that the first source of employment of labor and employment of capital the world over, in industrial affairs, is raw material in some form, the second being the force necessary to transform the raw material into a condition sufficiently finished for its use by mankind. These, Mr. Clergue said, are the two foundation stones upon which every industrial edifice has been constructed. If a combination of the cheapest and best raw material, and the cheapest and best force be available, it is certain that until the world shall have been surfeited with the products of that force, there will be no limit to the amount of capital which can be profitably invested in the development of that raw material and that force. While those who originate the development of such conditions will enjoy the first profit, the whole civilized world will participate, since the inevitable result will be a distribution of a necessary material at a lower cost. If similar enterprises, conducted in less favored localities, suffer from competition, and if they be obliged to abandon their undertakings, that will be the inevitable result of an illogical foundation; and while some individuals may suffer, the great community is benefitted. This is a natural law which neither trusts, tariffs, or labor unions can overcome; and this is the sort of reasoning which led Mr. Clergue and his associates to plan and carry out on an unprecedented scale, the development of the hydraulic power at Sault Ste. Marie, and the utilization of the raw material adjacent thereto, where every operation and process has been based first upon the resource of raw material, and second, on the power originating on the spot. Mr. Clergue pointed with pride to the conservatism and caution which has been practiced in connection with his enterprises in the fact that every dollar of the vast expenditure has been provided directly from the pockets of the shareholders, and that no mortgage or bond of the company has ever existed.

Mr. Clergue mentioned his pulp and paper mills as illustrating the common sense basis of his many enterprises, and their interdependence one upon another. He showed that paper, so essential in the arts, is prepared and produced from the trunk of the tree; that the wood is reduced to pulp by the application of power; that the development of the necessary power can be accomplished at Sault Ste. Marie at a cost as low as at any other location in the world, and that the wood most desirable for paper making exists in large quantities throughout that section of country. To utilize the water power the pulp mill was built, and to procure the pulp wood the railway was built. These being built the pulp wood must be cut from the land, and the land being thus cleared is taken possession of by the farmer who immediately finds a remunerative home market for all that he can produce. This sequence is logical and conservative.

Alluding to the use of sulphur in paper making; that sulphur can be recovered in commercial quantities and at low cost from the nickel ores found in large quantities in that section of Ontario, and that iron ores suitable for making steel also abounds there, Mr. Clergue directed attention to the fact that there is now under construction at Sault Ste. Marie a works for the production of nickel steel intended to produce 600 tons a day, and which is intended to be increased until the output will reach 3,000 tons a day, when it will have become the largest steel plant in one location in the world. The vast forests tributary to the Algoma Central Railroad include more than a million acres of growing hardwoods, available for charcoal, which makes it possible that charcoal pig iron can be made as cheaply as coke iron can be made in any part of the world. Twenty-five acres of this land must be cleared daily to supply fuel for the Sault Ste. Marie furnaces, and 300 farms of twenty-five acres each, will thus be cleared every year. The laborers to provide the fuel to these furnaces will be Canadian workmen.

In the course of his address Mr. Clergue produced some figures relating to his various enterprises in reciting which he said:

We commenced the operation of the Algoma Iron Works with the present superintendent as foreman, and two machinists. The machine shop, foundry and blacksmith shop now employ 300 men and the annual pay-roll amounts to \$200,000. We have expended for supplies and material for the iron works, almost wholly in Canada and principally in Ontario, over \$300,000. For wages we have expended \$200,000. The increase in the capacity of these works, which our business now demands and construction for which will commence on the opening of spring, will require an expenditure of \$100,000, and the increase in the number of artisans to 600. The Sault Ste. Marie Pulp & Paper Co. has expended in the labor and material for the construction of its works over \$2,000,000, and has expended for labor in operation over \$1,000,000. The number of men now on its pay-roll is over 1,000 and the annual pay-roll amounts to over \$500,000. The new pulp mill, coming into operation in the spring, will increase the number on the pay-roll to 1,500.

The Tagona Water & Light Co. has expended on construction of its works over \$300,000 and has paid out in wages over \$50,000. The increase to its system to be undertaken on the opening of spring will cost \$50,000 and will employ 200 men during the construction.

The Lake Superior Power Co. has expended over \$3,000,000 in construction, and employs 1,000 men with a daily pay-roll of \$1,500. The additional works to be undertaken on the opening of spring will require 2,000 more men on its pay-roll, and an additional expenditure of \$5,000,000. These works include an electric street railway, the new power canal and the blast furnaces and steel plant. The Algoma Central Railway has already expended over \$3,000,000 in construction, and has had as many as 2,000 men on its own and contractors' pay-rolls. Four thousand men will be required to carry on the

construction this year. The total cash expenditures estimated to be required for completing the Algoma Central Railway is \$5,000,000. The Algoma Commercial Co., operating the Algoma Central land grant, will require 1,000 men to conduct its works projected for the coming year. The steamers and steamship lines now owned and operated by the Algoma Central employ 250 people, and the new line to be opened in connection with the Algoma Central this season will employ 250 additional. Expenditures for the steamship line have already exceeded \$600,000, and the addition to our fleet will cost \$500,000 more. The Reduction & Refining Works, under construction, will be completed this season and will afford employment for 500 people.

A summary of these figures shows that we have already expended in works at Sault Ste. Marie or tributary thereto over \$9,000,000, that we have over \$9,000,000 more to expend before the projected works are completed; and these sums do not include our outlays at Sault Ste. Marie, Michigan. It indicates that the 3,000 men now on our pay-roll will be increased to over 8,000, and that about \$10,000 in cash will be distributed daily at Sault Ste. Marie among the builders and operatives of these works. There is a great advantage, which should not be lost sight of, to the community in which capital is expended for industrial works, which does not result from a similar expenditure in railroad construction or buildings of any other nature. In industrial works the artisans engaged in the construction thereof invariably remain either as artisans in the works themselves, or as employes on new works, the necessity of which is caused by the original industry.

#### THE OLD GUARD AND THE NEW.

One of the most notable incidents that presents itself to Canadian manufacturers at this time is the fight being carried on within the Canadian Manufacturers' Association over the question whether the Association shall lend its influence to inducing the Dominion Government to remove the duty on illuminating oil. A member of the Association, who is not a manufacturer of such oil, but a dealer in American oil, gave a "notice of motion" to the Executive Committee of the Association that he would introduce a resolution to the effect indicated; the notice was referred to the tariff Committee, where it was discussed, the prosecution being the aforesaid member, who is not a manufacturer, and the defendants, who are, many of them, members of the Association, and who are manufacturers in Canada of an article in which they and their associates have invested very large capital. The tariff committee found the question of too large proportions for their ability to decide, and it was referred back to the executive committee for further consideration.

No such question as this was ever before presented for the consideration of the Canadian Manufacturers' Association, and it would not be there at this time had it not been that the present management, in their desire to increase the revenue, adopted a policy of indiscriminate admission to membership of persons and concerns who are not manufacturers. The operation of this policy is as the sowing of winds with the resultant whirlwinds. The Old Guard, the fathers of the Association, never contemplated that any but bona fide Canadian manufacturers should be members, and they were well satisfied that, standing shoulder to shoulder, the foe that they would always face would be those who might venture to antagonize the principle of tariff protection to Canadian manufacturing industries. The new policy is bearing its legitimate fruit. The Old Guard considered the refining in Canada of crude Canadian petroleum a Canadian industry fully entitled to tariff protection; and for many years that industry has been represented in the Association. The charges that are now brought against it within the Association are not new. Just such men as are now fighting it within the Association have

for years battled against it from the outside. They claimed then that the industry was dominated by a "trust," as they do now, and under just such influences as they are now endeavoring to utilize, they procured the enactment of laws, the penalties of which they are now endeavoring to put in operation. The laws against "trusts" and undue combinations in trade were put on the statute books, but they never have been enforced, simply because they were not violated; but, strange to say, we now find these enemies of a valuable Canadian industry entrenched as members within the Association, and doing all they can to induce the Association to do what they could not previously do—destroy it; and stranger still, we find a certain element in the Association lending its willing assistance to that end.

#### THE CANADIAN OIL INDUSTRY.

In the last issue of this journal allusion was made to the fact that Mr. E. R. Clarkson, of the Sun Oil Refining Co., of Hamilton, who is a member of the Canadian Manufacturers' Association, and also, we understand, of the executive committee, had introduced a notice of motion before that committee, having reference to the removal of the duty on oil; that the matter had been brought before the tariff committee of the Association, where it had been discussed, and, unable to arrive at any conclusion in the matter, had referred it back to the executive for their consideration. The question to the extent indicated was reported in full in the March issue of Industrial Canada, the official organ of the Association, and a notice given therein that at the next meeting of the executive, on April 9, the matter would be brought up for final consideration, and that any members of the Association who felt interested were invited to be present and express their views thereon. The meeting of the executive was held as announced, and, according to the reports in the Toronto daily papers of the following day, the motion of Mr. Clarkson was superseded by an amendment, which was passed, to the effect that the committee had examined the facts laid before it; that they had not shown that the price of oil had been raised to an exorbitant extent as a result of the duty; that it could not therefore endorse Mr. Clarkson's request, and that the Association, through its executive committee, placed itself on record to the effect that the Government should, before taking any action, appoint a commission to fully investigate the facts connected with the Canadian oil industry.

There is no step in the progress of the discussion of this question by the executive and tariff committees of the Association that has not presented some remarkable features. Under the old regime the membership in the Association was restricted to those who were actively engaged in some Canadian manufacturing industry. Under the existing order of things Mr. Clarkson, the representative of the Sun Oil Refining Co., has been not only admitted to membership but has been made a member of the executive committee. He is not a Canadian manufacturer in any sense of the word. He is in some way interested in a company, the incorporators of which are the chief officers and shareholders of the Cornplanters' Oil Refining Co., of Warren, Pa., Mr. Clarkson's business being to receive the products of this American concern and distribute them to his customers in Canada. Both the companies with which he is connected are competitors of the several companies who are engaged in refining Canadian oil and selling it in Canada; and it can be plainly seen that his desire to have the duty on oil removed is to cripple his competitors and advance his own interest. It is strange, therefore,

that Mr. Clarkson should have been admitted a member of the Association, stranger that he should have been placed upon the executive committee, and, strangest of all, that the committee should have lent itself to his effort to cripple a valuable Canadian industry, a number of the personnel of which are members of the Association and have been for many years. It is remarkably strange that the committee should have entertained Mr. Clarkson's motion; should have published it in full and broad-cast it throughout the land, and have proceeded to discuss and act upon it without first having given proper notice to the members whose interests were in such peril. In view of Mr. Clarkson's disqualifications, the committee went far astray in giving any entertainment whatever to his proposition, went astray in publishing it in *Industrial Canada*, and blundered in the final action thereon. In the eyes of the Old Guard it was a stranger sight to behold a representative of a foreign concern who manufacture their goods in a foreign land, and whose only interest in Canada is to sell them, asking the Canadian Manufacturers' Association to lend its influence to break down and destroy a valuable Canadian industry to the end that the foreign competitor might prosper more vigorously; and stranger still to see the earnestness and complaisance with which the foreigner's views were carried out. It is true that Mr. Clarkson's resolutions were not adopted, but the substitute resolution was not much better. All the publicity possible was given, through *Industrial Canada*, to his charges, and he has cause to congratulate himself upon the result of his efforts.

THE INDUSTRIAL EXHIBITION.

At a recent meeting of the board of directors of the Toronto Industrial Exhibition Association, Mr. George Booth brought up the question of awarding prizes to manufacturers for their exhibits of machinery, Mr. Booth's idea being that if prizes were given there would be an increase in the number of exhibits.

Mr. Booth, as a manufacturer, a representative of the Canadian Manufacturers' Association, and one of the oldest directors on the board, should remember that this question was thoroughly discussed years ago, in which about all the exhibiting manufacturers took part, the conclusion arrived at being against the awarding of prizes. At that time and for a number of years thereafter much more enthusiasm was exhibited by the manufacturers in displaying their products than has been apparent of late years, and therefore we fail to see why the awarding of prizes now would be an inducement to manufacturers to exhibit who might be otherwise inclined. The falling off in the number of exhibits for a few years past has been so noticeable that in many lines an exhibitor would have no competition—that is to say, there has been but one article of a kind; and should Mr. Booth's idea be adopted, the prize for such an article would have to be awarded, not because of successful competition, but rather for lack of competition. Under present conditions the idea is unworkable and impracticable.

As we have heretofore pointed out, the very nice, respectable gentlemen who have the management of the affairs of the Industrial are not up-to-date in such business, and do not know how to handle it. They did well enough, perhaps, in days gone by, but they do not comprehend that method that prevailed ten, fifteen and twenty years ago are now obsolete, and that what is needed now is active, energetic men who, for the sake of the success of the exhibition are willing to take off their coats, roll up their sleeves and work, each in some

particular sphere, and thus give to Manager Hill the active assistance he does not get but should have. Time was when it was a great and glorious privilege to be a director, wear a big and beautiful badge, march in imposing procession to free dinners, occupy a prominent seat upon the grand stand, and have the unrestricted entre to the side shows, but such things are not now considered essential to the success of the Fair, the requirement being, as Kipling says, work, work, work. It should call forth strong efforts on the part of these gentlemen to be useful as well as ornamental.

Mr. Booth, instead of proposing an impractical thing, lost a fine opportunity to advise his board that an absolute qualification for a director should be that he should not only be an exhibitor, but, if a manufacturer, his exhibit should consist of a process of his business or machinery in motion. Mr. Booth wants other manufacturers to exhibit their machinery or products, and is willing that prizes should be awarded for so doing, but our impression is that not one of the directors, manufacturers as many of them are, ever make such exhibits. A few years ago an enterprising manufacturer at considerable expense to himself took a loom from his factory and began to operate it in a building at the Fair. It was indeed a most interesting exhibit in which the process of the manufacture of carpet was shown, but unfortunately it interfered with the sale of pop corn at a neighboring stand for which the proprietor had paid, and the carpet-making nuisance had to be abated. It drew too big a crowd.

The directors are discussing the erection of some new buildings on the Fair grounds, but those do not include one specially adapted for, and appropriated to exhibits of processes of manufacture. Why do not the directors erect a building for that particular purpose, and utilize it themselves by making exhibits in the production of which they are experts. Why don't they set an example for others to follow. They should either do so or resign.

CANADIAN IMPORTS OF LEATHER BELTING.

The following statements show the value of leather belting imported into Canada from Great Britain and the United States respectively in the years named. These imports are divided into two periods—Table 1, including three years previous to the inauguration of the preferential tariff in favor of British merchandise, Table 2, including a similar term of three years under the preference.

	G. B.	U. S.
1894 .....	\$8,150	\$6,144
1895 .....	9,846	15,623
1896 .....	8,383	26,519
Total .....	\$26,379	\$48,286
Proportion .....	35.4 p. ct.	64.6 p. ct.

	G. B.	U. S.
1898 .....	\$11,331	\$30,931
1899 .....	17,697	24,078
1900 .....	38,690	33,474
Total .....	\$67,718	\$88,483
Proportion .....	43.3 p. ct.	56.7 p. ct.

In 1897 the imports were:

	G. B.	U. S.	Total.
1897 .....	\$10,577	\$28,567	\$39,144
Proportion .....	26.5 p. ct.	73.5 p. ct.	100.0 p. ct.

The general duty on leather belting in the years under consideration was twenty per cent. ad valorem, which was

imposed alike upon both British and American belting, except that in the years 1898, 1899 and 1900, a discount of duty of 33½ per cent. was allowed on the British article.

### CANADIAN IMPORTS OF FILES AND RASPS.

The following statement shows the value of files and rasps imported into Canada from Great Britain and the United States respectively in the years named. These imports are divided into two periods—Table 1 including three years previous to the inauguration of the preferential tariff in favor of British goods, Table 2 including a similar term of three years under the preference.

	G. B.	U. S.
1894 .....	\$13,099	\$51,042
1895 .....	11,049	51,654
1896 .....	11,233	53,714
Total .....	\$35,381	\$156,410
Proportion .....	19.0 p.c.	81.0 p.c.

	G. B.	U. S.
1898 .....	\$9,038	\$63,736
1899 .....	10,918	65,546
1900 .....	13,022	88,714
Total .....	\$32,978	\$217,996
Proportion .....	13.0 p.c.	87.0 p.c.

In 1897 the imports were :

	G. B.	U. S.
1897 .....	\$9,349	\$42,695
Proportion .....	18.0 p.c.	82.0 p.c.

Steel of which files and rasps are manufactured, is imported duty free, and the value of such imports into Canada were as follows :

1894 .....	\$13,506
1895 .....	9,252
1896 .....	10,090
1897 .....	14,636
Total in four years .....	\$47,484

An average of \$11,871 per year.

NOTE.—The Trade and Navigation Returns for 1898 and subsequent years do not, as previously, classify steel for the manufacture of files and rasps except with steel imported for other purposes, which is admitted duty free. The general duty on files and rasps is 30 per cent. ad valorem, from which a deduction of one-third, or 33½ per cent. is allowed upon imports from Great Britain.

This statement shows that the value of imports of files and rasps from Great Britain, alluded to in Table 1, previous to the inauguration of the preferential tariff, was greater than during the period alluded to in Table 2, subsequent to that event; and it also shows that the imports from the United States increased from \$156,410 during the first period to \$217,996 during the second period. It also shows that the manufacture of files and rasps in Canada is not in as flourishing a condition as might be hoped for in view of the fact that no duty is imposed upon the raw material, and there is a protective duty of 30 per cent. on imports. An idea of the extent of the home production may be had from the fact that the value of the raw material amounts to only about \$12,000 per year.

### CANADIAN IMPORTS OF YARNS.

The following statement shows the imports of all kinds of yarns into Canada from Great Britain, United States and all countries in the year ending June 30, 1900, as given in the Trade and Navigation Returns :

	Great Britain.	United States.	All Countries.
YARNS—DUTIABLE.			
Cotton—Knitting and hosiery, plain or colored .....	\$52,781	\$15,920	\$68,921
Cotton warps on beams .....	89	1,271	1,360
“ “ n.e.s. ....	4,089	1,729	5,818
Jute—tapestry .....	649	none	649
“ n.e.s. ....	241	791	1,032
Woolen—on the cop .....	196,298	8,321	257,654
“ n.e.s. ....	81,387	9,257	121,289
	\$335,534	\$37,289	\$456,723
YARNS—FREE.			
Wool or Worsted—for Mfrs. ....	\$24,946	\$513	\$25,459
Coir .....	none	6,757	6,757
Cotton—for shoe laces .....	346	894	1,240
“ No. 40 and finer .....	173,110	41,572	220,372
Jute, plain or colored for Mfrs. .	113,948	34,861	149,139
	\$312,350	\$84,597	\$402,967

### PATRIOTISM AND PAPER.

After the great outburst of alleged patriotism which has taken place during the last twelve months or so, it is rather unsatisfactory to notice the trifling quantity of paper which Canada is taking from that Mother Country for which she is supposed to entertain so filial a regard. Considering that the Dominion is, territorially speaking, by far our greatest Colonial possession, it is certainly not a little disappointing to find that she only took just over three per cent. of our exports of paper last month, notwithstanding that practically the whole of her six or seven millions of inhabitants are of European descent.

Compare this with the British East Indies; here the population is of course vastly greater, but then only an infinitesimal proportion are Europeans, and the individual requirements of the average Hindoo in the matter of paper are scarcely worth speaking of. Yet this country of aliens, both in birth and religion, takes nearly twenty per cent. of the entire quantity of paper exported from Great Britain, or say six times as much as Canada does. In this particular, at any rate, Canadian patriotism seems at rather a low ebb. If the country swarmed with paper mills one could understand it, but the thirty or forty or so at present in that huge territory (nearly all of them in the eastern provinces) do not surely fill the wants of a great population so fully as to leave a large margin for export.

Just let some of the enthusiastic shouters for closer union with our Colonies procure the Canadian Government returns of imports, and see what proportion the receipts of paper from the United States bear to those from Great Britain. The fact seems to be that some of our Colonial brethren can talk a lot about the unity of feeling between us and our kin over the sea, but when it comes to placing an order that is quite a different matter, and in five cases out of six perhaps the man from “over the boundary” gets it, and Imperial considerations can go hang, so to speak.—London Paper Trade Review.

It is this kind of nonsense and whine that makes one tired. Our contemporary should bear in mind that its criticisms are two-edged; and that the prevailing sentiment in Canada with regard of trade is one that obtains to a large degree in Great Britain. During the fiscal year ended with June 30, 1900, Canada sold abroad one finished paper product—wall paper, of which Great Britain took less than five per cent., and the United States more than seventy-nine per cent. In the same year Great Britain purchased less than five per cent. of the pulp wood we exported, and the United States ninety-five per cent. In the same year Great Britain took only thirty-one per cent. of our exports of paper pulp and the United States sixty-five per cent. Of course, it is rather disappointing to British paper makers to find that Canada takes such a comparatively small quantity of their products from them; but what are Canadian paper makers to think where they can sell so little of the same kind of goods to the Mother Country? So, too, regarding our imports of paper and manufactures of,

for we find that in the year alluded to, of the \$1,261,382 worth bought from the two countries, Great Britain supplied us with only twenty-one per cent. and the United States with seventy-nine per cent. Why? Because the United States could supply us with more suitable goods at cheaper prices. That's why.

Great Britain is quite willing to take advantage of the preferential reduction of duty Canada offers, which preference the United States does not enjoy, and yet this latter country of aliens can do better for us than our beloved Mother Country. As our contemporary observes, the fact seems to be that our British brethren can and do talk a lot about the unity of feeling between us, but when it comes to making just such goods as we require, as our Yankee neighbors do, and at competitive prices, they are simply not in it. They either will not or cannot do it.

#### EDITORIAL NOTES.

Congress can do nothing to prevent a recurrence of Russia's retaliation. The pitcher goes to the well till it breaks. We have gone on till we touched a nation that dared to do what every nation from the White to the Egean Sea would like to do—retaliate. They may some day try it; then will begin for them and us a long train of evils.—The Manufacturer.

At a recent meeting of the Manufacturers' Club, at Vienna, Austria, which was attended by representatives of the Ministry of Commerce, the dangers threatening Austrian industry and agriculture through the fiscal policy of the United States were discussed at length. A resolution was adopted urging the necessity in case of any fresh adjustment or commercial relations, of putting Austro-American relations on a basis of complete reciprocity and equality in regard to the customs tariff and its administration, which means reciprocity of tariffs.

A few days ago a delegation of the lumbermen of Ontario and British Columbia, backed by the Canadian Manufacturers' Association, waited upon the Dominion Government, petitioning that a duty be imposed upon foreign lumber entering Canada. Now the furniture manufacturers are protesting against the imposition of a duty on the ground that much of the raw material used in their business is imported. Thus it is that brotherly love prevails.

The Bell Telephone Co. are inaugurating a new system in Winnipeg, by means of which there will be no necessity for "ringing up central." The taking down of the ear phone will be sufficient signal to the central station that connection is desired. This method is already in use in Ottawa, we believe.—Monetary Times.

We suggest to our respected contemporary that it should change its condition of latency to one of alertness, and to become alive with concentrated energy sufficient to discover that the "new system" of the Bell Telephone Co., has been in use in Toronto for months.

The Architect and Builder wants the Federal and Provincial Governments to make a liberal appropriation towards a Canadian exhibition "to be held in Canada."

The information comes simultaneously from the Dominion Government, at Ottawa, and the United States Government, at Washington, that an arrangement has been made by the post office authorities of both countries, under which the charges for issuing post office money orders have been greatly reduced, and such orders issued by any money order office in

the one country will be payable at any money order office in the other. This arrangement went into force on April 1, inst., and are as follows:—The maximum amount for which such orders can be issued is increased from \$50 to \$100, and the rates chargeable are, on orders up to \$5, three cents; over \$5 and up to \$10, six cents; on \$10 and up to \$30, ten cents; on \$30 and up to \$50, fifteen cents; on \$50 and up to \$75, twenty-five cents; on \$75 and up to \$100, thirty cents. Rates are applicable to orders payable in Canada, as well as orders payable in the United States. That a very substantial reduction has been made can be seen by reference to the rates formerly charged for orders payable in the United States. These were, for \$10, ten cents; for \$20, twenty cents; for \$30, thirty cents; for \$40, forty cents, and for \$50, fifty cents. The old domestic rates began at three cents for \$2.50, and ran up to forty cents for \$100.

The Mail and Empire announces that at the forthcoming dinner of the Canadian Manufacturers' Association the subject for discussion will be "Blemishes as Applied to Manufactures and Fine Arts." Of course the intelligent compositor and proof reader should have followed copy and said "Chemistry and its Application to Manufactures and Fine Arts," but such things will happen. Perhaps an explanation will be made at the dinner how it is that people who are not manufacturers, and who do not represent any manufacturing industry in Canada can become members of the Association except upon the principle that every ten dollars counts.

Conditions very similar to those ruling in this country were apparently operative in the Canadian iron trade in 1900, judging from the fact that the output of pig iron in the Dominion in the calendar year 1900 was slightly smaller than in 1899. The production for last year is placed at 86,090 tons, against 94,077 tons in 1899. The growth of the industry of late years is illustrated by the fact that the output has just about doubled since 1894; but even more can be said for the production in the United States, which has increased from 6,657,088 tons in 1894 to 13,789,243 tons in 1900, considerably more than doubling. Of course, compared with the enormous production here, the Canadian total is comparatively insignificant, but the reports of new furnaces being erected point to some considerable enlargement of this total in the near future. At the close of 1900 there were ten completed furnaces in Canada and four new ones were building, all of which, by the way, were being erected in Nova Scotia.—Bradstreet's.

President T. C. Search, of the National Association of Manufacturers of the United States, announces that his Executive Committee has selected the dates of June 4, 5 and 6, for the holding of the sixth annual convention of the Association, which will meet in Detroit. These dates, which are somewhat later than the usual time of holding the annual convention, were chosen in order to secure the advantages of a more favorable season in Detroit than would be found in January, during which month the conventions have usually been held heretofore. They were chosen after consultation with the citizens of Detroit, who have manifested a great deal of interest in the coming convention, and who propose to make it one of the most notable gatherings ever seen in that city. We suggest to President Ellis, of the Canadian Manufacturers' Association that it would be in the interest of Canada to have the members of the American Association visit Toronto,



A few weeks ago a collision occurred between two freight trains of the Grand Trunk Railway in the town of Woodstock, Ont., and at the Assize Court in session there a few days later, Judge Sir William Meredith ordered an investigation of the circumstances by the grand jury, who reported as follows :

In accordance with your lordship's suggestion we have investigated as far as possible the circumstances attending the recent railway accident at the Grand Trunk station at this town, and we consider the enormous danger to which the lives and property of the inhabitants were exposed by the conveyance of such large quantities of explosives through the town, call for immediate legislation. We find that on this occasion two cars containing twenty-two tons of stick dynamite and twenty tons of blasting powder were placed next to the engine, and that one car was destroyed by the force of the collision and the other injured. The dynamite was of the ordinary description used for blasting. We find, moreover, that the dynamite lay on the track for some hours without guard after the accident, and that many persons ignorant of its explosive nature possessed themselves of quantities of it, and a quantity is still reported to be scattered about the neighborhood where the accident occurred. As a similar accident may occur at any time with less fortunate results, we consider that special regulations are required for the handling of explosives by railway companies, and the quantity to be carried on one train limited, and arrangements made that trains carrying such explosives should run no risk of collision.

A commission has been appointed by the New Zealand Parliament to consider that colony's attitude towards confederation. Its duty is to enquire into and report upon the advisability or otherwise of New Zealand entering the Commonwealth, or if that is deemed premature or inadvisable, to indicate the lines upon which a reciprocal treaty might be established between the two. After taking evidence in New Zealand, the commission, in April or May, will visit Australia.

Hon. Mr. Ross, Premier of Ontario, in a recent speech in the Legislature, speaking of the industrial developments now going on in this country, said that Canada stood in a strong position, with her resources, comparatively speaking, undeveloped. To-day they were not fighting over any constitutional question, and they had no special dispute in regard to matters of civil or religious liberty. Those questions were settled long ago. But they had 140,000,000 acres of land, of which only 25,000,000 acres were settled, and 16,000,000 cultivated, and the time for the conquest of that land had come. The government, too, proposed to give some attention to old Ontario, and would spend one million dollars on good roads, so the farmers might easily and often reach the market. So, too, they had inaugurated a system of cold storage on railway trains and some of the ocean steamers, and they hoped to have produce reach the markets of the Old Country in as perfect condition as possible. They would encourage also the raising of a better quality of live stock. It was necessary, however, to have industrial development side by side with agricultural. Iron and steel industries had received a great impetus. In Ontario they were commencing to open iron mines equal in quality to the best in the United States. The government, he considered, should expedite this development, as by means of a large mining population, that would be consumers, large industries employing hundreds or thousands of people would be established. They had done something towards this and proposed to do more. The Government would conserve the pine and pulp lands also, and manage them so that for a hundred years to come they would be a source of revenue. The question of railway rates in New

Ontario was touched upon by the Premier, who said the government would maintain control of northern Ontario in the interests of the people of Ontario. He pointed out that at the present time there was discrimination of rates inimical to the best interests of some industries, and said that if driven to it, the Government would build a road from North Bay, connecting there with the Grand Trunk, and run it north into the new country, a distance of about 100 miles. They would then control rates in and out.

The executive of the Canadian Manufacturers' Association on Saturday decided that owing to the lack of proper accommodation at the Pan-American Exposition, the manufacturers of the Dominion will not exhibit there.—Pembroke Standard.

Quite a mistake. The Canadian Manufacturers' Association has no authority to speak for "the manufacturers of the Dominion" in this matter. Further, there is no lack of proper accommodation at the Pan-American Exposition for Canadian exhibits, and to our knowledge quite a number of our manufacturers will have fine and creditable displays there. Further, both the Dominion and Ontario Governments have appropriated generous sums of money to enable representative exhibits of Canadian products to be made at the Buffalo Fair.

When a combination becomes an industrial monarchy, and compels the oath of allegiance from the rest of the world—where are we drifting? asks the Age of Steel. The one-man power has been one of the nightmares of history, but what is that in comparison with a unit of millions of dollars, an exclusive control of patents and processes, and a hopeless public that can do nothing but privately curse a sovereign monopoly? Such power, however, has never yet been vested in any industrial unit that heretofore has set about putting a barb-wire fence around the world. Such a combination would be simply overwhelming, if it had not within itself the seeds of disintegration. The individuality of man, the personal side to his ambitions, and the rivalry that is begotten by competition, are among the torpedoes by which a mammoth battleship is made a scrap pile. There is a limit to everything beyond which there is a cracking of the skin from a bull frog to an elephant. The Tower of Babel was a sublime architectural conception, but it became a ruin when it overtopped the safety line. It will be the same with overgrown combinations.

The various committees which have in hand the arrangements for the annual convention of the Canadian Electrical Association to be held in Ottawa in June, are working enthusiastically for the success of the meeting. A series of interesting papers has been promised, and other features of an interesting and instructive programme are rapidly taking definite form. The local committee of arrangements includes representatives of all the electrical companies in Ottawa and vicinity, besides a number of citizens prominently connected with other enterprises. Having the benefit of the experience of the gentlemen who so successfully arranged the Ottawa convention of five or six years ago, there is sufficient assurance that nothing will be left undone which would ensure a pleasant and profitable meeting. Persons connected with the electrical industry who may not yet have connected themselves with the Association should send in their applications to the Secretary, C. H. Mortimer, Confederation Life Building, Toronto, or to any officer or member of the Association.

## 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 on 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, belting, 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, alkalies, 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.

Mr. J. D. McArthur will erect two saw mills at Lac du Bonnet, Man.

The saw mill of the Conger Lumber Co., Parry Sound, Ont., was destroyed by fire April 10. Loss about \$50,000.

The plant of the Electric Light Co., Amherstburg, N.S., was destroyed by fire April 9. Loss about \$5,000.

The Russell Theatre, Ottawa, was destroyed by fire April 9. Loss about \$100,000. It will be rebuilt immediately.

The Toronto Railway Co's receipts for March show an increase of \$7,410.13 as compared with the corresponding period last year. The city's percentage of the receipt amounted to \$10,015.41. In addition to this, the company paid the mileage rental for the quarter ending March 31, amounting to \$16,000. The return made is as follows:

	Receipts.	Percentage.
March, 1901....	\$125,192 63	\$10,015 41
March, 1900....	117,782 50	9,422 60
March, 1899....	103,076 92	8,246 15
Feb., 1901.....	110,475 88	8,838 07

The main building of the extensive blower works of the B. F. Sturtevant Co., Boston, Mass., were destroyed by fire April 14. Loss about \$350,000. The concern manufactured various kinds of machinery and electrical goods, as well as blowers. All patterns and plans were destroyed. The company had recently added \$75,000 worth of tools and machinery, and had a large amount of electrical work ready for shipment. It also had a large number of engines and

blowers for the Government for use on battleships and cruisers in course of construction. All were destroyed. Over 700 men are thrown out of employment temporarily. We understand the works will be rebuilt immediately.

The Keewatin Power Co. will construct and operate pulp and paper mills on Funnel Island, and has constructed water power on the west branch of the Winnipeg River at a cost of \$500,000. The company desires to obtain from the Government the right to cut on Crown lands pulp and other woods for the manufacture of pulp and paper. The agreement provides that the company shall erect a pulp and paper mill in connection with the waterpower, and thoroughly equip the same. The expenditure of these works is to amount to at least \$1,500,000; the output of pulp and paper is to be at least 40,000 tons annually, giving continuous employment to an average of 500 hands. Of the sum mentioned \$500,000 is to be spent within one year of the ratifying of the agreement; \$500,000 within two years, and the balance within three years. The erection of the mills and the establishment of the industry will form part of the consideration of the agreement for the price of the pulpwood. The Government grants to the company the right for twenty-one years to cut and remove spruce, poplar, whitewood and banksian or jackpine from Crown lands, on which these woods are found, and which may be unlocated and unsold, along the rivers and streams

tributary to the Lake of the Woods. In no case, however, will this right extend beyond a distance of five miles back from the shores of the rivers and streams indicated.

James Playfair, who has large interests in lumber, vessels, wrecking appliances, etc., in and around Midland, Ont., is having built at Dundee, Scotland, a steel steamer of Canadian canal dimensions. The Midland Navigation Co., now forming, will own the vessel. Her name will be Midland Queen. The equipment will be modern in all respects.

A note from the British embassy at Washington informs the Department, at the instance of the Governor-General of Canada, that, in consequence of fishing by means of dynamite being carried on in the vicinity of Old Proprietor Lodge, off Grand Manan, New Brunswick, by both Canadian and United States fishing vessels, it has been necessary to take measures for preventing this illegal method of fishing. The officer commanding the fisheries-protection service has been instructed to seize and confiscate any vessels practicing this destructive method within three miles of Old Proprietor Lodge.

The Ontario Powder Co., Kingston, Ont., will apply for incorporation with a capital stock of \$100,000, to manufacture gun-powder, dynamite, nitro-glycerine and other explosives. The provisional directors will include Daniel Smith and C. A. Macpherson, both of Kingston, and Hugh Macpherson, Nelson, B.C.

At a recent public discussion of the smoke nuisance in Boston, Mr. Edward Atkinson predicted the passing of the tall chimney and the substitution of the low stack of large area with draft produced by mechanical means. He prophesied that the next generation would regard our chimneys as monuments to our ignorance, left standing because they would not pay for taking down.

The Nickel-Copper Co., Hamilton, Ont., have purchased the McConnell properties in what is called the Northern Nickel Range. These are supposed to be the largest nickel and copper bearing properties in the entire Sudbury district, and were under operation to the Nickel-Copper Co. for some time, but that company had not evidently succeeded in its refining process until lately, as they

# INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

## PISTON INLET Air Compressors STRAIGHT LINE DUPLEX and COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

JAMES COOPER MANUF'G CO., Limited, - 299 St. James St., Montreal.

Other Offices - - - ROSSLAND, B.O. RAT PORTAGE, ONT. HALIFAX, N.S.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



allowed the option to lapse. By their action in purchasing these properties for over \$300,000 they must have become satisfied that the Frasch system of reducing ores is a thorough success. The company will begin extensive developments at once.

The absolute necessity of thorough technical training as a foundation for the successful heating and ventilating engineer is clearly presented in a recent article by Prof. S. H. Woodbridge, of the Massachusetts Institute of Technology, who says "as an applied science, ventilation involves the movement of air through supply and discharge conduits, and either such effective diffusion of air within enclosures as to furnish air to and remove impurities from all their parts, or else such concentration of air movement as shall prevent the diffusion of impurities locally produced, and as shall effect their removal without diffusion through the enclosures. So considered, ventilation is a department of mechanics and mechanical engineering, a distinctly technical field. Without technical knowledge and training, the question of simple mechanics which are involved in such problems become mysterious in theory and vagaries in practice, and results become a matter

of chance rather than of precision. Ventilation deals with air, an invisible substance; with vitiation, an invisible impurity; with unseen motions; with motive forces often intangible; with courses of motion which are limited within invisible bounds. The field is a wide one for the play of fantasy in its mild and in its most erratic form. The capricious art can become an established science only in the hands of those who are too well grounded in the fundamental principles of ventilation involved to make it possible for them to entertain any theory, advance any explanation, or advocate any practice in matters of ventilation which is not clearly based on the demonstrable laws and well-known phenomena of the mechanics of gases, all of which demands a technical training of no mean order."

The establishment of Messrs. Morgan Bros., manufacturers of saddlery and whips, etc., Hamilton, Ont., was destroyed by fire April 11. Loss about \$50,000.

The Buffalo Forge Co., Buffalo, N.Y., are in receipt of a letter from A. E. Walden, superintendent of the Elmira Water, Light & Railroad Co., Elmira, N.Y., in which he says: In reply to yours of April 2, will say

that we are very much pleased with your direct connected fan outfit for forced draft purposes at our lighting plant. Our saving in the first month's run with this apparatus in use amounted to 175,000 pounds of coal, and in the test for increasing the capacity of boilers, we found that with a fan, one 250 h.p. water tube boiler developed on a continuous run of ten hours a little over 600 h.p.; and while we do not advocate forcing the boilers to any such extent, it simply shows what can be done in this line in case of necessity. The apparatus alluded to by Mr. Walden consists of one Buffalo Standard eighty inch steel plate fan with direct connected 5x5 inch Buffalo single vertical class A steam engine, serving two 250 h.p. boilers.

J. C. Wilson & Co., Glenora, Ont., report increased activity in all departments of their business. Especially noticeable is the increased demand for their machine dressed gears. This line is one of their specialties and the demand for them is constantly growing.

The Midvale Steel Co., Philadelphia, Pa., have installed eight Burt exhaust heads in the last four months. They were furnished by the Burt Mfg. Co., Akron, Ohio.

# Transfer Ornaments, AMERICAN MADE. Guaranteed Quality.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

For HARDWARE, BICYCLES, VEHICLES, POTTERY, FURNITURE, etc.

Sketches and samples submitted free of charge. Being American manufacturers enables us to make prompt delivery. Write us.

## THE MEYERCORD CO., Inc., CHAMBER OF COMMERCE, - CHICAGO,

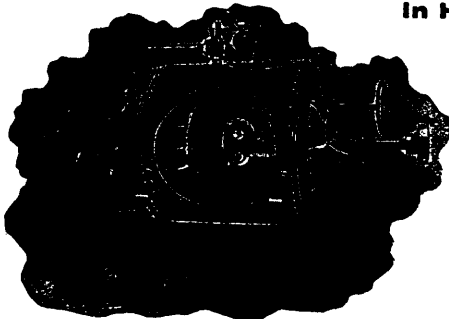
Canadian Travelling Representative,  
CHAS. H. JAGGER, Hamilton, Ont.

Largest Makers in the World of Guaranteed Decalcomania Transfers.

### THE

# Crocker Patent Turbine

In Horizontal Setting, with Quarter Turn Elbow.



Where the nature of the location will permit its use this type has many advantages. It is very suitable for direct connection to dynamos, and many are in operation in this class of service.

Notice how complete and compact this arrangement is, and how easily it may be installed. Can you use anything of this kind? Your inquiries will receive prompt attention.

WATER POWERS examined and  
Reports made. Estimates  
submitted for Complete Equip-  
ments. . . . .

**The JENCKES MACHINE CO.,**  
42 Lansdowne St., Sherbrooke, Que.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

J. C. Wilson & Co., Glenora, Ont., have just shipped McQuat & McRae, Lachute, Que., a fourteen inch Little Giant turbine of the horizontal type for driving P. McIntyre's sawmill at Calumet, Que.

The Delaware & Hudson Co., have installed two cross oil filters, making twenty-three in all that the Burt Mfg. Co., Akron, Ohio, have furnished them.

Amongst recent shipments of Little Giant water wheels by J. C. Wilson & Co., Glenora, Ont., were two 10 inch, one 14 inch, one 18 inch, one 24 inch, one 33 inch, two 38 inch wheels, to Great Britain. Other two 38 inch wheels went to France, for installation in a paper mill there.

The American Steam Gauge & Valve Mfg. Co., Boston, Mass., have favored us with an invitation to attend the celebration of the fiftieth anniversary of the organization of their company, which occurred on Tuesday evening of this week, April 16, at their spacious offices and works at Jamaica Plain, that city. The cabalistic word "Dancing" appears upon the card, which indicates that a very good time was expected, and the terpsichorean artist of this journal regrets his inability to enjoy the cake walk.

Mr. Paul Tourigny has been granted a bonus by Victoriaville, Que., of \$20,000, for a woolen factory to employ 150 hands.

The Midland Iron & Steel Construction Co., Midland, Ont., has been incorporated

with a capital stock of \$40,000. The provisional directors include J. J. Drummond, C. L. Maltby and George Beatty, all of Midland.

The contract for the construction of the new palace hotel, Toronto, has been let to Illsley & Horn at about \$800,000.

The International Mica & Mining Co., Ottawa, has been incorporated with a capital stock of \$15,000. The provisional directors include Thomas Ahearn, W. F. Powell and Hon. Francis Clemow all of Ottawa.

"Effective advertising is the kind that is always fresh and interesting. If there are several things to talk about, talk about one at a time, and talk about it so that it will make an impression. Don't say the same old things over and over in the same old way."

The Spanish River Pulp & Paper Co., Webbwood, Ont., have let the contract to J. W. Munro, Pembroke, Ont., for a pulp and paper mill and dam at Webbwood, at a cost of about \$200,000.

The Von Echa Co., have petitioned the city council of Brantford, Ont., for right of way along one of the city streets to a central point. They state that in a few months Galt, Preston, Hespeler, Berlin, Waterloo and Guelph will be connected by trolley lines and they are anxious to include Brantford in the circuit.

The Muskoka Navigation Co., will erect a large hotel on Big Island, Lake Rousseau, at a cost of about \$70,000, to be ready for this season's tourist traffic. The

structure is to be an extensive one including some 225 rooms. The building is to be three storeys high, done in the Venetian style of architecture. The main building on the ground floor, will include a spacious rotunda and dining room, each 100x50 feet, with large bay windows, overlooking Lake Rousseau. A twenty-foot veranda encircles practically the whole ground floor, and from the veranda promenades extend to pavilions situated on the ground, fifty feet away. The bedrooms will be furnished with stationary washstands, and the hotel will contain some sixty-four bathrooms. The building will probably be lighted by electricity, and it will be steam-heated throughout, so that guests desiring to remain in Muskoka late in the fall may comfortably do so. The rotunda, dining room, billiard hall and cafe will all be fitted with very large fireplaces, capable of burning six-foot logs.

The Ontario Power Co., which has a charter to construct a power canal from Chippawa, Ont., to empty into the gorge below Niagara Falls, has made a contract for all the electrical machinery to be installed in its plant to be delivered by the General Electric Co. in two years. The company also, it is announced, has come to an agreement with the Park Commission to have all the power houses located below the bank, and the work of construction will begin within a few weeks. As the construction will be on a large scale, it will take nearly two years to complete.

# W. A. FLEMING & CO.,

771 CRAIG STREET, - - MONTREAL.

**THE STRONGEST AND MOST DURABLE**



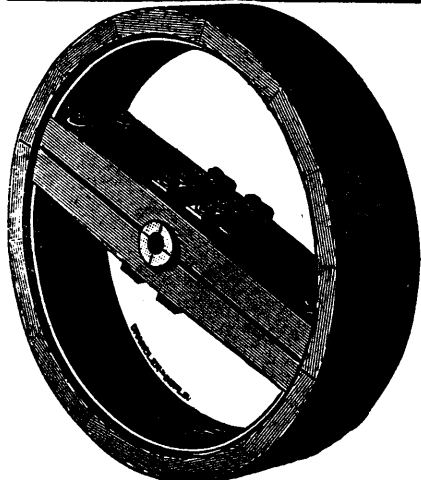
NOT AFFECTED BY DAMPNSS, HEAT OR STEAM  
**MOST DURABLE THE BEST FOR MAIN DRIVES**

**"REDDAWAY"**

**BALATA BELTING**

**STRONG, DURABLE AND NOT AFFECTED BY DAMPNSS.**

WRITE FOR SAMPLES AND PRICES



**"The Reeves"** A HIGH GRADE  
 Wood-Split **PULLEY**  
**BUILT HONESTLY BUILT RIGHT**

**It Does the Work. No Trouble. No Worry.**

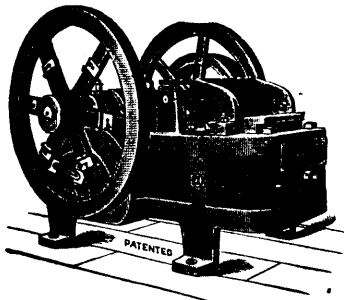
SEND FOR CATALOGUE

**REEVES PULLEY MANUFACTURING CO., Limited**

14 Pearl Street, - Toronto, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

ROLL JAW CRUSHER.



# Crushes

Large Rock

to

# 4 inch.

Send for Circular.

**STURTEVANT MILL CO.,**

104 Clayton St.  
Boston, - Mass.

The Ossekeag Stamping Works, St. John, N.B., have been purchased by A. E. Kemp, M.P., Toronto; J. D. Davidson, Montreal; and Col. Gartshore, London, Ont. The price is reported to be about \$80,000.

Jacob Bach, Berlin, Ont., has been consulting with the authorities of Gananoque, Ont., regarding the opening of a furniture factory there. The town offers him the Gananoque Carriage Works building and exemption from taxes for fifteen years.

The Emerson Incandescent Light Co., Ottawa, has been incorporated with a capital stock of \$800,000, to manufacture light, heat and power machinery, etc. The provisional directors include V. L. Emerson, S. R. Poulin and Leopold Meyer, all of Ottawa.

The Canadian Spool & Bobbin Co., Parry Sound, Ont., has been incorporated with a capital stock of \$50,000 to manufacture spools, bobbins, etc. The provisional directors include Thomas Ker and J. W. Harcourt, both of Parry Sound.

The work on the new branch factory of the Cleveland Saw Mill & Lumber Co., at Sarnia, Ont., has been commenced. The company will sink salt wells on their bay shore property, from which an output of from four to five hundred barrels of salt per day is expected. In connection with the salt industry a stave mill and barrel factory will be erected.

The Petrolea Packing Co., Petrolea, Ont., has been incorporated with a capital stock of \$150,000. The provisional directors include Charles Egan, Albert Duncan and J. A. McCutcheon, all of Petrolea.

Negotiations have been completed between the Government of Quebec and a party of New York capitalists, by which the latter will acquire the immense water power of the Upper Saugenay, better known as the Grand Discharge of Lake St. John, which will be utilized for operating the largest pulp mill in the world. From four to five million dollars will be invested, and the mills will be more than double the capacity of those at Grand Mere, Que. The new mills will have sixty grinders and will turn out 600 tons of wet pulp or thirty carloads per day.

The basket factory of John Drake, at Kingston, Ont., was destroyed by fire April 12. Loss about \$2,000.

The Smoky Falls Mfg. Co., Sturgeon Falls, Ont., has been incorporated with a capital stock of \$50,000, to manufacture lumber and other wood products. The provisional directors include H. E. McKee, Sturgeon Falls; and J. W. S. Corley and J. F. Loftus, Toronto.

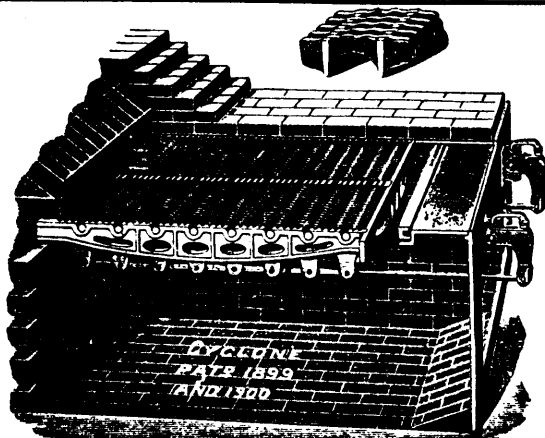
The Veneer & Box Co., Toronto, has been incorporated with a capital stock of \$50,000, to manufacture veneers, boxes, etc. The provisional directors include Charles Marriott, W. G. Humphreys and E. A. Webb, all of Toronto.

The town council of Brockville, Ont., have passed a by-law authorizing the Mayor to enter into an agreement with a company for the establishing of a pork packing factory in that town. The company will receive a bonus of \$5,000 and free water on the completion of the terms of the agreement, which calls for the erection of a \$30,000 building, and the slaughtering of a thousand hogs per week.

The fire which visited the works of the B. F. Sturtevant Co., at Jamaica Plain, Mass., on April 14, proved to be far less disastrous than was first reported. Only the engine and electrical departments were injured. The power plant was started up with but a single day's delay, incident to renewing belts damaged by fire, and the entire blower, heater, forge, galvanized iron and shipping departments with the foundry, pattern shop, etc., were in full operation on that day and the shipments going forward as usual. No valuable office records were lost, the most serious damage occurring in the advertising department, where a large amount of printed matter was destroyed. Fortunately, however, an entirely new general catalogue was in press at the time, and copies were issued on the 16th to meet all demands for information. New offices were established on Monday morning in a nearby building, and on Monday noon the business was running as usual. With these facilities at its disposal there is no likelihood of any delay in shipments except such as may occur in the electrical and engine departments, and arrangements are already made for handling this work.

The St. Paul Land & Hydraulic Co., Montreal, has been incorporated with a capital stock of \$150,000. The charter members include G. F. Benson, D. C. S. Miller and J. H. Wallace, all of Montreal.

The Canada Horse Nail Co., Montreal, has applied for incorporation with a capital stock of \$100,000, to manufacture horse-shoe and other nails. The applicants include James Ferrier, John Torrance and R. F. MacFarlane, all of Montreal.



USE CYCLONE GRATE BARS AND PRODUCE

## CHEAPER STEAM

No individual consumer can regulate the price of coal, but you can regulate the amount of coal burned for a given power by installing Grate Bars that will produce perfect combustion. Write us for particulars.

**E. J. PHILIP, Manager,**

404 TEMPLE BUILDING, - - TORONTO, ONT.

PHONE 8682

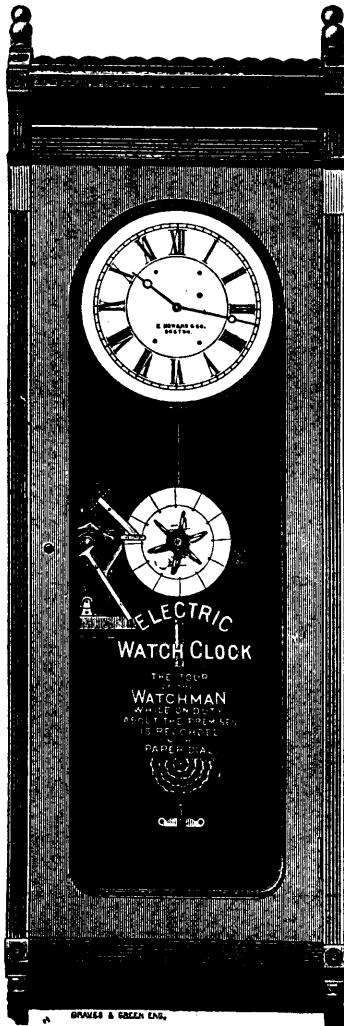
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**THE HOWARD ELECTRIC WATCHMAN'S CLOCK.**

The accompanying illustration is of the Howard Electric Watchman's Clock and Regulator, manufactured by the E. Howard Clock Co., Boston, Mass.

This clock is intended to be used where watchmen are employed, to record the faithful or unfaithful performance of their duty, and is of such construction that it cannot be tampered with without detection.

The clock at which the watchman's record is made, can be arranged for any number of watchmen, it being limited



only by the space assigned it. Any number of stations can be added or taken from the set of stations without interfering with those which remain. Any one may have free access to the interior of the clock, and still a record made in any other way than that intended will surely be detected. At the same time the cases are made in the most thorough manner, the door being set in a rabbit and secured with a Yale lock. When desired a recorder is attached to the door which prevents its being opened without making a record on the dial.

The record is a permanent one which cannot be erased, inasmuch as it is made by punctures through the recording dial, which can be preserved for future reference. This is a matter of considerable

importance when considering insurance rates.

The clock may be placed in the office, or in any place near to or remote from the watchman's duties, two wires only running from the clock throughout the building, being necessary for any number of points which the watchman is required to visit on his rounds. A station is placed at every point which the watchman should visit, into which he inserts his key, which fits all stations alike, gives a turn whereupon the station automatically makes a record, and the electric currents are, by contact, allowed to pass through the wire and record the specific number of each, at the moment it is visited. The record is made upon a disc of paper. It is not necessary that the stations be visited in any particular order or equal number of times, for the record of each box is given independently of any other, and the route of the watchman may be changed, and the record tells the truth of what has been done by him.

It is claimed for this clock that, unlike others, the stations give them distinctive records without reference to their locations on the receiving disc. Each station is entirely independent of the others, and the failure of any one station to respond has no effect on the working of the others. The system does not require that the watchman should be at a given point at a stated time. A watchman may claim that at a stated time he was detained at some other point in his tour, and as a proof of his statement a record from a neighboring station may be produced as proof of his veracity; but watchmen are expected to watch the premises and not the clock. This clock, however, has so little to do in locating the time of the records that the time-keeping qualities are in no way impaired; and it constitutes a time-keeper with which all offices should be equipped.

For further information enquire of the E. Howard Clock Co., 403 Washington Street, Boston, Mass., or 41 Maiden Lane, New York City.

**THE CANADIAN STEEL RAIL INDUSTRY.**

A few days ago when the Dominion House of Commons went into supply on railway and canal estimates, the first item was \$500,000 for "steel rails and fastenings" for the Intercolonial Railway, when Mr. Blair, Minister of Railways and Canals, in answer to Mr. Haggart, explained that the Intercolonial is being railed. During the past year seventy-five miles of the road in Cape Breton had been done. There had been some scarcity of labor, so that the whole road in the island could not be completed. Last year rails had been purchased from the Illinois Co. and the Cambria Co. at \$32.60 per ton. The arrangement for this year is that rails will be supplied by the Sault Ste. Marie Mfg. Co. We had, he explained, a proposition from them to put in a steel rail plant to manufacture these rails in Canada. They satisfied us of their ability to do this work, and that they would be capable of establishing a very efficient rail manufacturing plant. They had ores of a superior quality, and the steel made from them would contain a percentage of nickel, which would be found in the rails this company proposed to make for us. This, while it did not form an element in the price, would add materially to the durability of the rail, and we felt that was an additional inducement to us to make this arrangement with them. The establishment of this industry was contingent upon their securing from the Government a fair order, and an order for a sufficient quantity to guarantee them that they would have employment for their plant as a basis from which to

The advertisement for Marsh Steam Pumps features several illustrations of different pump models. At the top, there are 'SMALL BOILER FEEDER', 'HYDRAULIC PRESSURE PUMP', and 'LARGE BOILER FEEDER'. The central text reads 'MARSH STEAM PUMPS' and 'STANDARD FOR ALL DUTIES'. Below this, it says 'MANUFACTURED BY AMERICAN STEAM PUMP CO. BATTLE CREEK MICH.'. There are also illustrations of an 'AIR COMPRESSOR' and a 'COMPOUND' pump. A large number '35000' is prominently displayed, along with the text 'SOLD IN ELEVEN YEARS'. Other text includes 'FOR DEEP WELLS', 'MAXIMUM STRENGTH AND SERVICE', and 'LARGE TANK'. At the bottom, it says 'WRITE FOR NO 10 CATALOGUE'.

Canadian Agents **The A. R. WILLIAMS MACHINERY CO. LIMITED**  
 Head Office, - - - - - TORONTO  
 Branch Office - MONTREAL

**THE  
CUMMER  
DRYERS.**

FOR  
**Mechanically Drying Everything**

**THE F. D. CUMMER & SON CO.,**

**HUNDREDS IN OPERATION.**

**CLEVELAND, OHIO.**

invite and encourage the introduction of capital for that purpose, and, as the Government viewed the matter, it was one which would appeal to the sympathetic consideration of the Canadian people, would result in the establishment of a permanent industry, and would secure to the railway companies and others who would require rails that such rails would be obtained in Canada, and give employment to a large number of people directly and indirectly. We made an arrangement with them similar to that existing before they prepared to undertake to deliver these rails at such price as similar rails of equal standard could be obtained in the open market. We made enquiry as to the current price of rails, and found it would be impossible for us to place orders for delivery earlier than the fall of the present year, and that the price at which they were obtainable would be at all events equal to the price we were paying last year, contracted for the year before, so we made a contract with this company to deliver to us 25,000 tons of the quality and standard adopted, eighty pounds in weight, and we were to pay them \$32.60 per ton for a delivery which would commence in the first week in August and continue so that we would be able to lay them before the snow fell. The rails were to be delivered to us in Montreal. We have made no explicit contract with them in the future, although in their proposition they asked us to give them a contract for a term of five years, and they wanted 50,000 tons with which to commence the establishing of their industry. We finally concluded upon 25,000 tons. While we have made no contract with them for any term beyond the year we are now entering, we have an understanding with them under which,

if they are prepared, as they engaged to do, to furnish us with rails of the quality and standard we asked for at the current price in the English market, which is the ruling price, we are prepared to consider buying our rails from them. Their machinery is now all constructed, their buildings are being rapidly put into shape, and I have had very late word from them to the effect that we will receive, commencing the first week in August, a delivery of 500 tons a day. As to the amount, we have inserted in this estimate \$500,000. After making deductions for the value of the old rails which we are taking up, we will have to ask Parliament in the supplementary estimates for an increased sum above this amount sufficient to cover the cost of the 25,000 tons.

The item of \$75,000 was for enlarging old engine houses and building new ones. This becomes necessary owing to the introduction of the eighty-two-ton instead of the old forty-ton locomotives.

**THE MANITOULIN AND NORTH  
SHORE RAILWAY.**

In return for a grant by the Province of Ontario of 2,542,000 acres of land, and no cash, the Manitoulin & North Shore Railway Co., one of the enterprises of the Clergue syndicate, undertakes to build a railway commencing at Meaford, running through Owen Sound, Wiarton and the Bruce Peninsula, thence by car ferry to Manitoulin Island. Crossing the island the railway will run northerly for some distance, sending a spur to Sudbury and then head west for 105 miles.

The company will grant running privileges to any other railway and the

Government retains control of the right of way and of rates. The company will erect a 300-ton public smelter in the Sudbury mining region, and will locate 1,000 settlers per year for ten years on its lands. The timber and minerals are to be manufactured in Canada.

Another important step in development is the announcement of a grant for the building of the "St. Joe" line, running from Port Arthur toward Lake Nepigon.

The foregoing are the main features of the bill introduced in the Ontario Legislature a few days ago, by Premier Ross, and subsequently passed, for the subsidizing of the Manitoulin & North Shore Railway. As will be seen, it is one of the most important projects for the development of the Province yet brought forward. The rights reserved by the Province, as well as the undertakings of the company, show that a careful bargain was made, promising a wide development in eastern Algoma. The Premier explained the bill at considerable length, and also the proposition to aid other railways. One of these is the Port Arthur & St. Joe Railway, for which a vote of \$2,000 and 5,000 acres a mile for thirty miles is included.

The Premier, in introducing the Manitoulin & North Shore Railway Co's bill, explained the measure at some length. The company, he said, was empowered by the Dominion Act to construct a line of railway from Little Current northward 100 miles, and a branch line from a point on the said line to Sudbury, also from Little Current south-easterly to a point on the south shore of Fitzwilliam Island, and from a point near Tobermory south-easterly to Meaford, passing through or near Wiarton.

**THE BEST IS NONE TOO GOOD.**

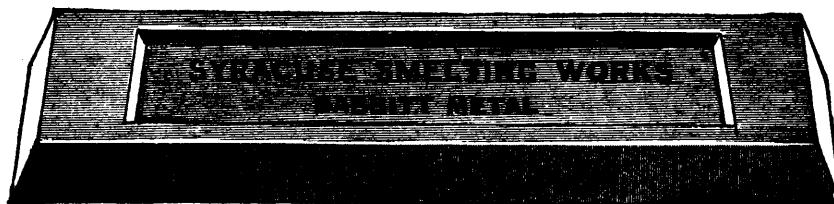
The largest machinery builders in Canada and United States use our Babbitt Metal. Is this not sufficient proof of its superiority over other anti-friction metals? If the largest users are satisfied with our Babbitt Metals, why should it not suit you? We can furnish you with numbers of testimonials.

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IRON AND STEEL  
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Manufacturers of

**BABBITT METALS, SOLDER  
TYPE METALS  
COLUMBIA PHOSPHOR TIN  
AND  
ALL OTHER WHITE METAL MIXTURES**



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**BEATS  
THEM ALL**

**SYRACUSE SMELTING WORKS**

**WILLIAM AND ST. THOMAS STREETS, - - MONTREAL**

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ton and Owen Sound. The whole length of the line to be subsidized, Mr. Ross said, is not to exceed 300 miles. At the other end the line would run westerly or north-westerly from a point in the Township of Trill, toward Michipicoten, a distance of 105 miles. The line would serve various purposes, the first and most important of which was to make transportation easy. By connecting with the C.P.R. at Owen Sound it would place the whole of the northern country, Manitoulin Island, the north shore and the Sudbury District, in daily communication with the C.P.R. By connecting with the G. T. R. at Meaford it placed the G.T.R. by way of Barrie, Collingwood and Midland in connection with the G.T.R. system at Wiarton.

By the proposed line the distance from Toronto to Sault Ste. Marie would be shortened by 81 miles; from London to the Soo 200 miles, and all over Western Ontario the distance would be shortened on the average by 200 miles. Thus the whole of Western and Eastern Ontario would be put in more direct communication, and by a shorter route, with that new part of Ontario in which are the nickel and iron mines of the Province. It would give also to all manufacturers and producers of older Ontario a cheap route to the large market growing up in the new districts of the Province. The question of transportation, Mr. Ross said, had forced itself on the country. A railway commission had been promised by the Dominion House, but in the meantime anything that the Local Legislature

could do to cheapen transportation should be done. Rates depended upon competition, and the line proposed would give competition. It was proposed that the route should be open to all railways, the Lieutenant-Governor in Council having power to regulate the rates. The Province of Ontario had suffered considerably in building parallel lines. If they had had power to give to one road running rights over another, a large amount of money might have been saved. But what had not been done before was proposed to be put in force now. Under the Dominion Act that right existed, but had not been enforced. It was part of the provision of the present plan that the Dominion resign to the Province that control. Not only was a shorter route guaranteed, therefore, but it would be guaranteed to all systems.

It was proposed, so far as the Province was concerned, that the line should be subsidized with land. There was no money consideration whatever, because the company dealt with would sooner have lands than money. North of a line a little south of Sudbury and extending east to the Ottawa River there were 113,000,000 acres of land, only 2,000,000 or 3,000,000—less than the latter amount, he thought—in occupation, so that they had 110,000,000 to draw upon. This had been unproductive since the beginning of time. The Government reserved the pine on these lands, except the usual quantity allowed to settlers. The lands to be granted would be 10,000 acres a mile from Meaford to White Fish River,

a distance of 105 miles; the same proportion from Tobermory to Fitzwilliam Island, 15 miles; 7,400 acres from White Fish River to Onaping, 45 miles; from Trill Township to Sudbury, 30 miles, and from Trill to a point 105 miles westerly or north-westerly. The whole amount would be about 2,500,000 acres. The lands were to be set apart in alternate blocks six miles square, and would extend only five miles on each side of the railway. No lands lying between Trill Township or Sudbury, or within twelve miles north or south of the intervening townships, were to be set apart. That district contained the most valuable nickel deposits, and these were to remain under the control of the Government.

North of Onaping there were valuable nickel deposits. From here it was intended that the road would strike out westerly towards Lake Superior. It was possible by following this road we might lay the foundation for another transcontinental railway. He had had submitted to him a project for a car ferry from Port Arthur to Batchewana Bay, on Lake Superior, connecting with the Rainy River Railway at the former, and with the present proposed line at the latter point. This would give a through line from Toronto, the centre of Ontario, to Winnipeg, a scheme which was not a mythical one. If this road were built we would be subsidizing a direct route from Toronto by way of the Rainy River Railway to Winnipeg. There were also the advantages to Eastern Ontario. All Eastern Ontario will by this means gain

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**STEAM AND WATER GOODS**



Headquarters for the Celebrated.... **J. M. C. Valves**

—AND—

**Heintz Steam Saver**

INTERESTING BOOKLET MAILED TO ALL STEAM USERS UPON REQUEST.

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The fact that such concerns as the American Steel Hoop Co., the Pittsburgh Plate Glass Co., the National Tube Works Co., the American Steel and Wire Co., and many others have sent us from 4 to 17 orders for

**CROSS OIL FILTERS**



Is an argument in their favor that can't be overlooked.

Let us send you one on 30 days' trial, to be returned at our expense if not satisfactory.

**THE BURT MFG. CO.**

**AKRON, OHIO, U.S.A.**

Largest Mfrs. of Oil Filters in the World.  
We also make the Burt Exhaust Head.

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In the expansion of business now bringing profit to so many manufacturers, advertisers who have made themselves regularly prominent in past years have been notable in reaping the rewards of persistent publicity by advertising in **The Canadian Manufacturer.**

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admittance to the prairies of the west. The scheme had been laid out not simply with a view to the present, but with a view to securing for Ontario what may be a great transcontinental road as well as a local road. The terminal points were to be located subject to the approval of the Commissioner of Crown Lands. The land was to be granted on the completion of the road in ten-mile sections. Provision was made that when, in the opinion of the Commissioner of Crown Lands, lands which were allotted to the company were absolutely unfit for settlement, other lands might be granted in lieu thereof.

Another clause read:—"None of the spruce timber on the lands so granted to the company shall be exported in an unmanufactured condition from Canada, but the same shall be made into pulp, paper, or other finished or partially finished articles of commerce within Canada, and all patents of the land granted to the company shall contain a condition that all ore, mineral and timber found in or on the said lands shall be subject to such regulations as to treating or refining the ore and manufacturing the timber within Canada as may for the time being be applied to other lands of the Province under any general law."

The company covenanted to build a line from Meaford in the direction indicated, also to build a public smelter on the line of the railway, and to have it finished in two years. The smelter was to have a capacity of 300 tons of ore per day. There were some small miners in

that district who had difficulty in turning their ore into a commodity. The Government had been asked to erect a public smelter in that locality, and at one time seriously considered doing so. This arrangement they considered would give a very great stimulus to the mining industries of that country. Large companies like that in charge of Dr. Mond and the Canadian Copper Co. had no difficulty in smelting their own ores, but the prospector was practically at the mercy of the larger corporations. This would liberate him, so that he might be able to profit by his industry and enterprise.

Provision was made in the bill for communication along the western side of the lake shore by means of a steamer between Windsor, via Sarnia, Goderich, Kincardine and Little Current, during the navigable season. This would mean that as soon as connection of the route between Little Current and Trill was completed there would be during the season direct communication between Sudbury and the water. As Little Current was only sixty-six miles from Sudbury, the advantages of this connection would be great. This steamship system would not be necessary as a matter of business when the route was complete, but, of course, might be continued to advantage.

In order to bridge the fifteen mile gap between the County of Bruce and the island the company would have to establish suitable terminals, and a steel car ferry capable of maintaining regular daily communication between the terminals the year round. This would cost \$300,000,

and grants of land would be given as though the gap were land. The terminals, Mr. Ross thought, would cost about \$50,000 and the car service \$250,000, and the company was confident of being able to keep this service in operation. As to settlers, the company must in every one of the ten years after the passing of the act place on the lands 1,000 settlers. The word "settler" would mean only males over sixteen years of age, and would include artisans, operatives and regular employees of the company, or of the mining, industrial or manufacturing establishments in the townships through which the line will pass. Settlement was one of the most important features. The control of rates for passengers and freights, and control of running powers over the line were also most important provisions, but there was still another, which provided that the Government reserved to itself the option or right to purchase the line at the end of fifteen years, at a price to be based on the actual cost and outlays, and a cumulative interest on such investment at not less than six per cent. per annum. The company bound itself to sell the land back to the Government, in case of purchase, at fifty cents an acre, and to deduct one-half of the money received from the Dominion Government by way of subsidy from the purchase price paid.

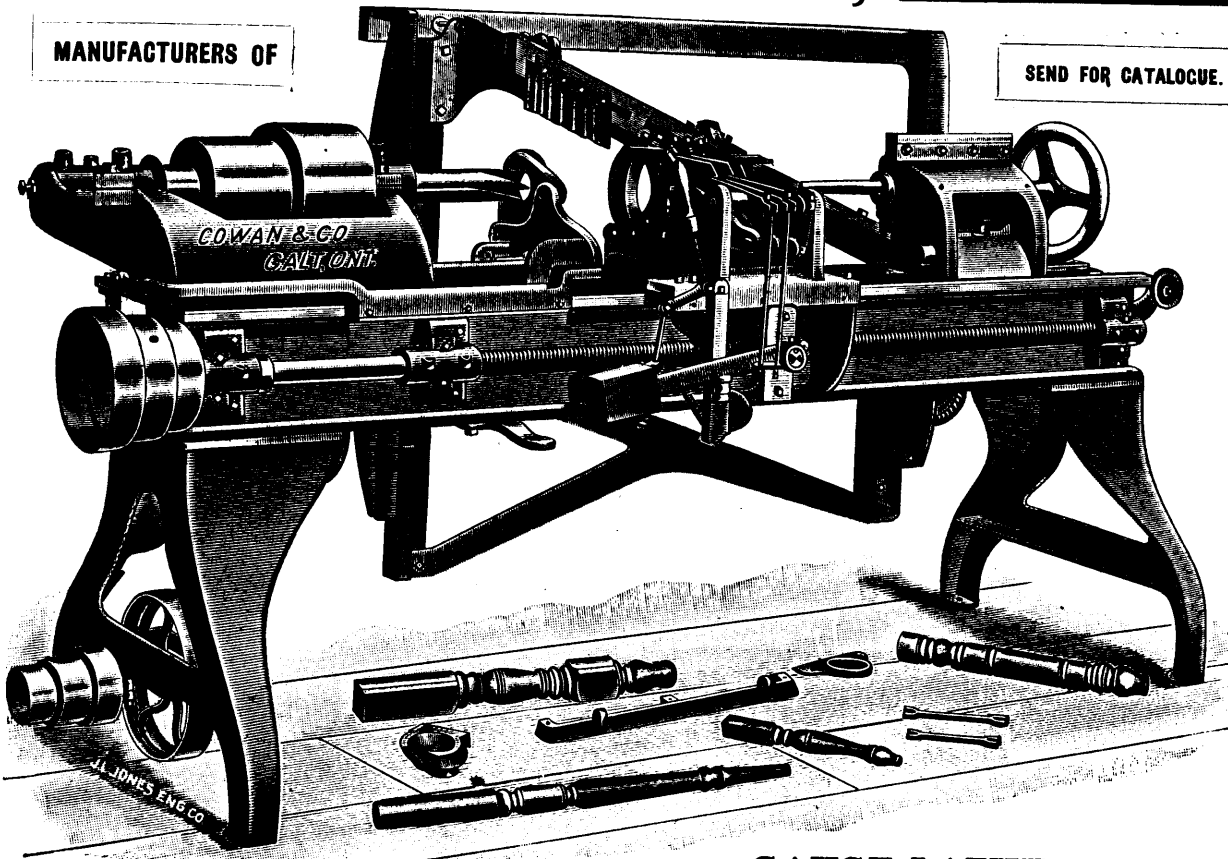
Mr. Ross then briefly sketched the railways now being constructed and to be constructed in new Ontario, referring to the Temiscaming line as one which the Government proposed to build and would

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GAUGE LATHE

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build. 'Altogether there were seven such lines. The proposed Manitoulin line would involve about 2,500,000 acres, which at \$2 an acre were worth \$5,000,000, while the line would cost \$6,000,000 to build. The railway would bring the immense resources of the northern country into immediate communication with the older parts of the Province and would settle lands now laying waste and unproductive. They would be lacking in their duty if they did not for the sake of the present generation and those who would follow take advantage of this opportunity which might not occur again in ten, twenty or fifty years. He referred to the immense railway projects of Russia, to the C. P. R. and the great railways of the United States, which had been built largely by public moneys and in some cases purchased at immense cost after being constructed by private parties. In none of these cases were such conditions or advantages offered as in the present instance. He concluded by again referring to the fact that it was proposed to build the present line, 300 miles in extent, without the expenditure by the Province of a single dollar, while in return there would accrue immense benefits in the settlement and opening up of a wealthy country.

The Livingston Linseed Oil Co., Baden, Ont., are installing a twelve inch Little Giant water wheel, and E. Hemacher, of Baden, a fourteen inch, both supplied by J. C. Wilson & Co., Glenora, Ont.

CANADIAN GOODS IN GREAT BRITAIN.

A few days ago Mr. J. H. Moore, a merchant of London, England was in Toronto, and while here was interviewed with reference to openings for Canadian trade with the Mother Country. Mr. Moore is a Canadian by birth, and has resided in London for a number of years. He says that if Canadians expect to get trade because of the warm feeling toward Canada in Britain they will be entirely disappointed, and will see a magnificent trade developed by more progressive people, particularly by citizens of the United States, who are now making strenuous efforts to secure this trade.

Several things must be done by the Canadian who would secure British trade. He must study the needs of the market, and put up his goods in the shape and packages demanded by the trade; and then those goods must be kept in a central depot from which they can be sent to the merchant at a few hours' notice. There is little use in endeavoring to get an English merchant to order a supply of Canadian goods direct when he can telephone in his orders once or twice a week to the American agent in London or Liverpool, or Bristol for the same class of goods. It is equally useless to consign goods to commission houses, unless it is known that they have some direct and definite object in pushing Canadian goods. Goods so consigned to the ordinary commission dealer are almost invariably given a back shelf in comparison with Ameri-

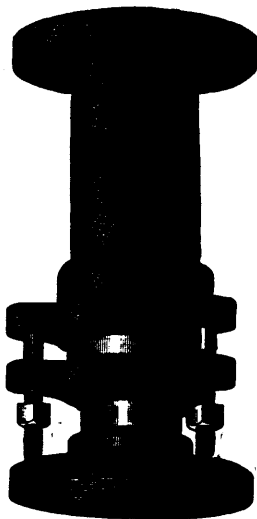
an goods, handled under the eye of the American agent. Besides, such very hazy ideas prevail as to Canadian geography that even when Canadian goods are sold they are confused with United States products, and vice-versa. Every package, and, if possible every article, should be marked with the word "Canada" in plain letters. The name of the province conveys no adequate idea to the average householder.

Reverting to the question of canned goods, Mr. Moore says that he repeatedly tried in London to purchase Canadian canned corn, and was invariably offered the American article, with the remark that it was "just as good." A test proved it was not by any means as good. The Londoners are learning to eat corn and tomatoes, and if a supply of Canadian goods were kept in London in charge of a man who would handle Canadian lines alone, a big trade could be worked up. The big London retail stores get a supply for a week, or half a week at a time, and want to order that supply on the spot, as the demand varies and seasons change. They will not order a long time ahead or import direct, and the Canadian who expects to get orders in this way will get left.

In this connection Canadian visitors and residents in England are not half patriotic enough. They eat the staple foods of the country, or the American products as a matter of course, while the Americans at the hotel tables demand American corn, Baltimore tomatoes, Delaware or California peaches, and so

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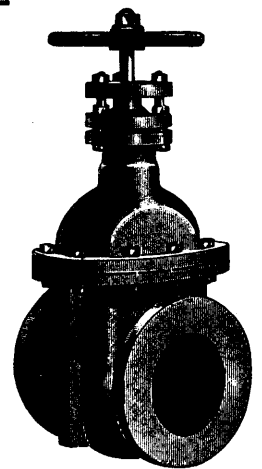
Safford's Steam and Hot Water } RADIATORS.

Steam Traps. Wrought Iron Pipe.

Cast and Malleable Fittings, ALSO

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on. Failing to get these in the hotel they go to the shops and by persistent asking create a demand for the goods, and the goods once introduced make a way for themselves.

As to the particular lines for which there is an opening, the following are specified: Canned vegetables, fruits, and meats. An immense field can be developed in this line alone. Then there is the whole fresh fruit field. Australian peaches sell for a shilling apiece, and hot-house grapes bring four shillings a pound. The Canadian grapes sent over last fall in cold storage found a ready sale at a shilling per pound, but, of course, not enough were sent over to give London agents even a taste. All fruits for England should be shipped in boxes, instead of barrels, and the fruit, if possible, should be wrapped. Americans are now sending potatoes to London, each one wrapped in paper, and Canadians could surely take this trouble with apples. A plan that would result in immense sales would be to send over basket material in the flat and a couple of basket-makers, and then repack the fruit in London in baskets. The present sales by the barrel would not compare with the trade that could be worked up this way. Butter, eggs, and poultry, in the right form, and in the right packages, have a great future; hog products, chilled meats, furniture, wagons, canoes, and woodenware of all kinds, but particularly handles, are in demand. Furniture has been neglected in the past, but will doubtless be looked

after by the new Canadian Association. Hardware specialities, such as meat-choppers, lawn mowers, and heating appliances, are being pushed with success, and the Americans are selling vast quantities of fine confectionery, chiefly candies, and the better class of boots.

American firms have opened whole series of retail shoeshops all through London, whereas you cannot buy a Canadian boot in the metropolis. Canadian flour is pretty well looked after, and two Canadian firms in other lines have studied the market, catered to it, and worked up a big trade, and the same thing can be done in a score of different lines.

Canada can ship at a profit anything for which she produces the raw material, and the field is so vast, and the people of Britain so ready, that patriotic Canadians who know the situation are exasperated as they see the trade slipping away to other, and often hostile, countries.

The Canadian High Commissioner's office, said Mr. Moore, has practically done nothing directly for Canadian manufacturers in this way. There is not a single Canadian in the High Commissioner's office, and when questions are asked concerning lines of goods, the names of manufacturers and exporters, the office has to apply to Canada by letter or to Canadians in London for the information. If the office had employed half a dozen men to go about London asking in the shops for Canadian goods it would have accomplished more direct good than all the machinery now at work there.

Note.—It may be as Mr. Moore says, that when enquiries are made at the office of the High Commissioner for names of Canadian manufacturers who make goods for export that the information cannot be given, but to our certain knowledge copies of the Buyer's Guide of Canada are on file in that office, and that the book contains a complete list of names of every manufacturer in Canada and the lines of goods they produce are therein enumerated.

NEW HOTELS FOR MUSKOKA.

1. Two new \$60,000 hotels for Muskoka.
2. An improved Grand Trunk Railway train service to Muskoka Wharf.
3. A more frequent and up-to-date steamboat service between Muskoka Wharf and the various resorts on the lakes.

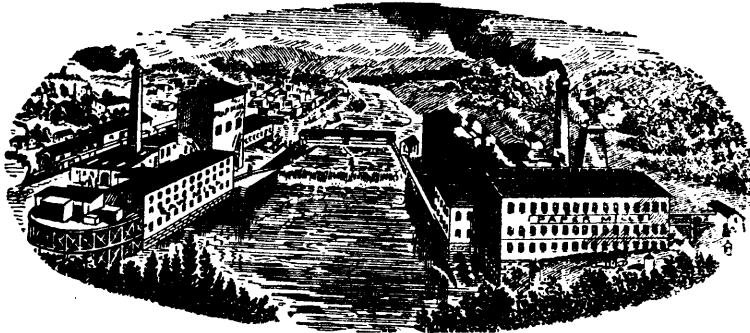
The above are the chief items in the plans of a company which a few days ago obtained a charter from the Ontario Government. The style of the new corporation is the Muskoka Navigation Co. The capital is \$500,000; the head office, Toronto, and the provisional directors are A. P. Cockburn, J. S. Playfair, E. L. Sawyer, J. S. Lovell, E. W. McNeill, R. Gowans and W. Bain.

The new company has obtained control of the old Muskoka Lakes Line of boats, and with the assistance of the Grand Trunk proposes to make the lake-dotted highlands of Ontario easy of access and comfortable for habitation. All this

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TORONTO.

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will be good news to the thousands who annually leave the heated Canadian and American cities for this recreation ground of America. Of late years the popularity of Muskoka has led to its overcrowding, and well-to-do people, accustomed to comforts at home, have complained of the lack of proper steamboat and hotel facilities to be found in the district.

The occurrence of the Pan-American Exhibition at Buffalo this season bids fair to greatly add to the overcrowding, and the formation of a new company at this time is therefore opportune. If the new concern can get its steamboats and hotels into good shape early this summer, the district will obtain an almost worldwide advertisement, through the visits of Pan-American sightseers, who will take advantage of the opportunity to make a run north into the cool regions of mid-northern Ontario.

The first of the company's hotels is to be erected in Lake Rousseau. The plans have been drawn by Mr. Beaumont Jarvis, and the contract for its construction is to be let in a day or two. The structure, which is to cost from \$60,000 to \$70,000, will be a three-story building of Venetian design. It will contain 225 rooms, 64 bathrooms, and will be encircled by spacious verandas and cool promenades. The sleeping apartments of the hotel will many of them have bay-windows, overlooking the waters of Lake Rousseau, and the public apartments, such as the rotunda, dining-room, billiard hall and cafe, will be spacious, highceilinged

rooms, and will be equipped with large fireplaces capable of burning six-foot logs. These big, open grates will form a pleasant feature of the hotel on chilly Muskoka evenings. The hotel will likely be lighted by electricity, and it will be steam-heated, so that people desiring to remain late in the fall may comfortably do so. This hotel is to be finished and open for the reception of guests by July 1, of this year, and the company will erect a second hotel of similar design on one of the other lakes.

### AS TO ONTARIO PINE LOGS.

It will be remembered that in 1899 the Ontario Legislature passed a law forbidding the exportation of pine logs cut in Crown lands, and required that all such logs should be manufactured in the Province. A number of American lumbermen who held licenses to cut such logs, and who had been taking them to Michigan mills to be sawn, objected to the restriction, contending that their limits did not come under the statute, for the reason that that could not be retro-active. They maintained, further, that the Act was beyond the competence of the Province as it exercised a power that belonged to the jurisdiction of the Dominion Parliament alone. In the third place, they claimed that compensation was due them in any case.

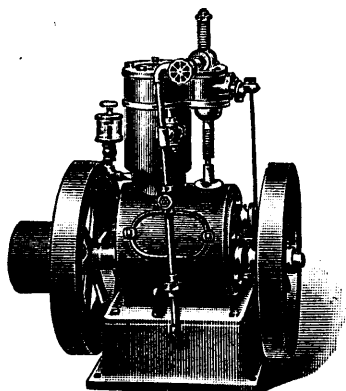
After a long and determined agitation

to have the law repealed by the Ontario Legislature, disallowed by the Dominion Government, or negotiated out of the way by the joint High Commission, recourse was had to the courts by one of the Michigan license holders, who was understood to be sustained by all the others. Consent was given by the Ontario Government for action to be taken against it. The case up before one of the justices of the High Court, Judge Street. He decided against the petitioners. They carried the case to the Ontario Court of Appeal. There the decision was again adverse to them, the judges being unanimous in finding that the Province had the power to pass such legislation.

It was expected that the Michigan interests would again appeal and have the matter tried before the Supreme Court of Canada, and that, if beaten there, it would appear before the Judicial Committee of the Imperial Privy Council, the court of last resort in the British Empire. But the appellants have decided to go no farther. They have abandoned the case. It is said that the advance in the price of lop is one of the reasons for abandoning the appeal.

Had the Michigan men been successful, not only would the Act requiring Crown land pine to be manufactured here be upset, but also the Act requiring Crown land pulp wood to be manufactured here. Both laws are now undisputed in the courts and the result of the litigation, so far as it went, goes far to establish these laws.

**McLachlan Electric & Gasoline Motor Co., LIMITED.**  
 94 ADELAIDE ST. WEST. TORONTO  
**MAKE** Gas or Gasoline Engines from 1 h.p. to 6 h.p.  
 Stationary or Marine and Electric Motors from ½ h.p. up.  
 Motor Carriages for Pleasure or Business. One cent spent for a postal will bring you any information you wish.



## THE SYLVESTER GAS and GASOLINE ENGINES

Are beyond doubt the most complete and economical engine in the market. They are compact and perfectly under control, easily managed, get up speed immediately, thoroughly reliable, and where intermittent power is required they are just the thing.

They are built in sizes from 1 to 20 h.p., upright and horizontal, for pleasure yachts, boats, shops, farm work and any purpose where light power is required. Tell us to what use you want to put the engine, and what power you require, and we will name you prices.

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**SYLVESTER BROS. MFG. CO., Lindsay, Ont.**

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**Brass, Copper, Phosphor-Bronze, or Composition Castings**

Send us a Trial Order. We can please you.

**J.N. Callman & Sons**  
**Brass Founders,**

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*Machine Screws and Special Milled Work.*

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**JOHN H. GROUT & CO., Grimsby, Ont.**

TOGETHER WITH THE

**LANDS, BUILDINGS, MACHINERY and PLANT of both Implement and Basket Works.**

The death of Mr. Grout, and the advanced years of his late partner, are the reasons for selling. Further particulars on application to

*Messrs. LEES, HOBSON & STEPHENS,*

*Vendor's Solicitors, HAMILTON, Ont.*

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For **ROOFS OF ALL KINDS  
STRUCTURAL IRON WORK  
BRIDGES, ELEVATORS, Etc.**

**A Paint** that will not Blister, Crack, or Peel off

**A Paint** that is Rust, Water, and Spark Proof.

**A Paint** that is GUARANTEED.

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GENERAL OFFICES:

**CLEVELAND, O., U.S.A.**

## THE SMART-EBY MACHINE CO.

191 Barton Street East, Hamilton, Ont.

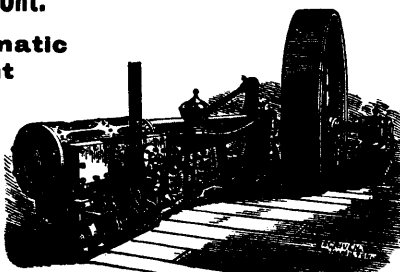
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## NIAGARA FALLS HYDRAULIC POWER.

The earliest power development known to have been made at Niagara Falls was in 1750, when a small sawmill was built on the mainland opposite Goat Island by a party of French settlers. They were the pioneers in an industry which has grown to proportions unequalled at any other spot in the world. While it is highly probable that small amounts of power were utilized from that time on during succeeding years, there is no record of a substantial plan for the development of the river's force being made public until about the year 1840, when General Peter B. Porter and Augustus Porter devised a practical plan whereby man might avail himself of a portion of the river's energy. In 1847 this plan was made public through a circular, and in general the plan outlined was very similar to that now used by the Niagara Falls Hydraulic Power & Mfg. Co.

This company's central station is located at the water's edge down in the gorge, and will be one of the interesting places for visitors to the Pan-American Exposition to inspect the marvellous development of power at Niagara Falls. The water for the development of power is taken from the upper Niagara River nearly a mile above the Falls, and is conducted through an open canal through the heart of the city to the edge of the high bank of the lower river. This canal has a width of from 70 to 100 feet, while its depth is from 10 to 14 feet. The water that flows through the canal passes to a basin 300 feet back from the edge of the high bank. From this point it flows through two connecting canals to a forebay at the edge of the bank. It then enters penstocks, three in number, and plunges down to the turbines in the power house 200 feet below. One of the penstocks of this plant has a diameter of eight feet, while the other two are eleven feet in diameter, made of flange steel. One of these penstocks hugs the cliff in its descent to the power station, while the other two stand out in column form.

The power house at the water's edge is a stone building 60 x 180 feet in dimensions. It is built of stone excavated on the site, and in it is one of the cleverest installations to be seen at the Falls. When Pan-American visitors inspect it, it will contain 14 turbines of from 2,000 to 3,000 horse power each. They are mounted on horizontal axes with electric generators coupled to each end. Visitors to this power house are much impressed by the fact that all parts of the wonderful installation are in plain view. They can see the canal that conducts the water from the river, and they look upon the great penstocks that carry it from the forebay to the turbines. Down in the power house all of the turbines and generators are on one floor in full view, and there is nothing left for the visitor to imagine. The head under which the wheels are operated is 210 feet, which is exceedingly high.

The Niagara Falls Hydraulic Power & Mfg. Co. acquiring possession of the property in 1877, but at that time it was not con-

sidered that a head of water such as that in use in the station to-day could be utilized. However, in the '80's hydraulic engineering made great strides, and makers of water wheels began to understand that there was a growing demand for more efficient apparatus. Water wheel to withstand the awful pressure of Niagara's waters were needed. In 1892 a head of 120 feet was utilized on the company's property, and in 1895 the present generating station was begun. The first section was completed with rapidity, and the second section was built. Now the third section, completing the plans for the station, has been finished. That this should have occurred in time for the inspection of visitors to the Pan-American Exposition is a piece of rare good luck, especially so when it is considered that the first great power house of the Niagara Falls Power Co. has also had its installation completed.

On the lands of the Niagara Falls Hydraulic Power & Mfg. Co. there are numerous industries utilizing the electrical, mechanical and hydraulic power, and the majority of them receive visitors. The mechanical power developed by this company is 360 horse power, the hydraulic power is 7,000 horse power, while the electric power is 19,037 horse power. Much of this electric force is transmitted to the top of the high bank and applied to the manufacture of aluminum, chlorate of potash, bleaching powder and caustic soda in various factories there located.

Of the industrial features of Niagara Falls, the power house of the Niagara Falls Hydraulic Power & Mfg. Co. is one of the most important.

**COAL MINING AND TRADE.**

Undoubtedly the feature of the moment in the coal trade is the unprecedented activity in the Maritime Provinces, and the consequent stimulus to development work both in Nova Scotia and New Brunswick. The most sanguine person could never have anticipated such a rush for coal areas as is to be seen in Cape Breton, where every available section has been taken up, and holders, who a few years ago were hawking their areas at \$12,000 a square mile, are now sitting tight at \$20,000 to \$25,000. This may not be an unmixed evil, as it will have a tendency to check development and keep production within reasonable limits. It is a great mistake to assume that there is a market for all the coal that can be produced in Eastern Canada. The abnormal demand of last year is no criterion by which to judge of an average demand. Coal was scarce and dear all the world over, but that condition is already passing, and in England and the States prices are rapidly finding their normal level. In Canada, owing to the small margin hitherto existing between supply and consumption, and to the starting of the Dominion Iron & Steel Co., prices are being still maintained, and mines are being double-shifted to meet the requirements of the trade, but this will not last longer than it takes the new enterprises to get their coal on the market. If, as is

predicted, the Port Hood Coal Co., the Inverness & Richmond Coal Co., and the Gowrie & Blockhouse Co., ship between them 250,000 tons during the present year, and the new mines of the Dominion Coal Co. produce 400,000, it is certain that an equilibrium will be established between supply and demand, with the inevitable result that prices will fall to about \$2.00 f.o.b., which is the average for many years past. These remarks are not intended to discourage legitimate enterprise, but to suggest considerations which should weigh with every intending investor in coal mining, and so prevent, in Canada, what has been the curse of other countries—over-production, with the consequence of unreasoning competition and loss of capital.

The only outlet for an annual production of coal in Nova Scotia an excess of, say 4,000,000 tons is the export trade. This does not refer to the United States, where with the exception of the New England Gas & Coke Co., which has a long-term contract with the Dominion Coal Co., the market will be merely nominal as long as a tariff is maintained, but the possibilities of a profitable trade with the West Indies, South America and Europe. There has been no necessity for the Dominion Coal Co. to seek a foreign market yet. And with the demand from the steel works and the gas company it is not likely that they will have a surplus for exportation during the next five years. Unless, however, we are very much mistaken, some of the newer concerns will be driven to seek foreign markets, and if so we may find a solution of this question sooner than seemed likely a year ago. We have always maintained that with special facilities for transportation, Cape Breton coal can be laid down in British ports, at a net cost of \$3 a ton, which is fifty cents below the minimum price on the Thames, and \$1.50 below the average price for twenty years. This does not take into account the West Indian and South American market for briquettes, of which over 21,000 tons were shipped for those points from Cardiff, Newport, and Swansea in January. Now that coking on a large scale is being carried on at Sydney it would pay well to manufacture briquettes near the coke ovens, where tar is produced, and a percentage of coke-dust, which conduces to firmness, is at hand.

Our friends in the Maritime Provinces are "kicking" because the Government has purchased 100,000 tons of coal from the United States for the Intercolonial Railway. Surely this is a little unreasonable, in view of the fact that mines are working double shift to supply arrears of orders and coal is realizing at least \$1 a ton more than the Government would pay. The fact is that such a boom in coal as we have recently had upsets all calculations, and no one was ready for it. Judging, however, from the feverish activity which now prevails, there will be little likelihood of a repetition.

Apropos of the development in Cape Breton, it is interesting to note the resuscitation of an old friend at Caribou Cove, adjoining the once notorious Ter-

minal city. We wish the new-comers better luck, at the same time we are sceptical as to the existence of sufficient

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**NOTICE**—The following are the Factory Inspectors for the Province of Ontario:

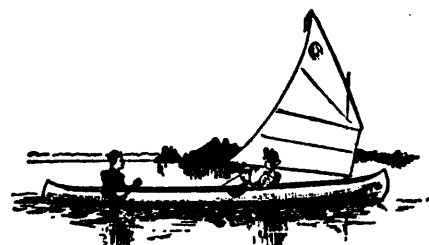
- R. BARBER, Parliament Buildings, Toronto.
- JAS. R. BROWN, Parliament Buildings, Toronto.
- MARGARET CARLYLE, Parliament Buildings, Toronto.
- O. A. ROCQUE, Orleans, Ont.

Persons having business with any of the Inspectors will find them at the above address.

JOHN DRYDEN, Minister of Agriculture.

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workable coal to warrant any large outlay.

On the opposite side of the Straits, a new combination, rejoicing in the title of the North American Coal Co., is to exploit areas in Richmond County. They have the usual nominal capital of \$1,000,000; we shall be glad to hear that it is all subscribed and that they mean business. There are some favorable outcrops near by, and as the shipping facilities are superior to those possessed by any other property on the island, there is no reason why, with competent management, they should not establish a good mine.

Evidently the Port Hood Coal Co. expect to do business this season, as they have made a contract with the I.C.R. for 20,000 tons. This is their first transaction, and a very promising one.

The coal outcrops at Chimney Corner, reported on many years ago by Mr. John Rutherford, are receiving attention, and efforts are being made to get a railway connection. Areas are held at a ridiculously high figure and it is evident that the holders think they have a bonanza. Investors would do well to wait a bit and see how the Port Hood and Inverness ventures turn out. The extent and condition of the seams at Chimney Corner are not matters of certainty.

There has been an unexpected delay in commencing to bore on the McVey areas owing to the machinery not having arrived. We are looking for interesting developments on these areas and shall be greatly surprised if even the most

sceptical do not have their eyes opened. It is not a little singular that the persons who have always been the most pessimistic in regard to the prospect of finding a good seam of coal here should be most prominently identified with the prospective purchasers. Perhaps, however, it is another case of " 'tis nought saith the buyer." Judging from the splendid Core—ten inches in diameter, which Mr. James Lewis exhibited at the recent meeting of the Canadian Mining Institute, the Calyx drill is far ahead of any instrument yet invented for boring and is not liable to break down through a similar mishap to that which put an end to boring in these areas in 1896.—Mining Review.

A HUNDRED TON MILL

The project for establishing pulp mills in British Columbia with Toronto capital is reported to be making good headway. By the most influential newspapers support is given to the undertaking, and to the petition of its promoters for Government assistance. Thus, in the course of an article the Vancouver World says:

In the case of the pulp mill industry we are told that the capitalists behind it do not desire anything very out of the way. If they can make satisfactory terms the industrial element of this province will increase by one, the importance of which must commend itself to everyone interested in British Columbia's welfare. The institution of the enterprise is conditional

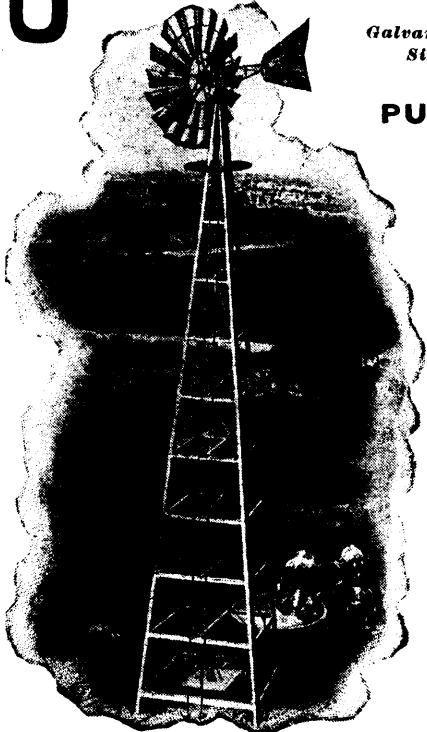
upon some adequate arrangement with the Government regarding the acquiring of the land. The prospect of leasing the land from year to year does not commend itself very favorably to the promoters, and an effort will be made, it is understood, to arrive at a more satisfactory and definite agreement.

The locality which the company has in mind is situated off Queen Charlotte Sound, on the Mainland. It is not at all remarkable that the promoters of the new enterprise should ask for something more than a lease of land. If they are to spend a large sum of money they desire more security of permanence than a lease from year to year gives. It is understandable that those who amended the land laws to make such leases necessary were guided by the interests of the province, but it is within the powers of the Legislature to make a special law for the encouragement of those who will bring new industries to British Columbia.

The reasons why the pulp-making industry is to be established so far North, comparatively speaking, are not far to seek. At the place chosen for a site there is ample water power and just the requisite kind of spruce for pulp making. Moreover, it is pointed out by those qualified to say, that owing to the precipitous and irregular character of the more interior section it is not so favorable to the establishment of a mill as the shore belt, extending several miles inland. Should arrangements prove satisfactory, the company proposes to expend \$250,000

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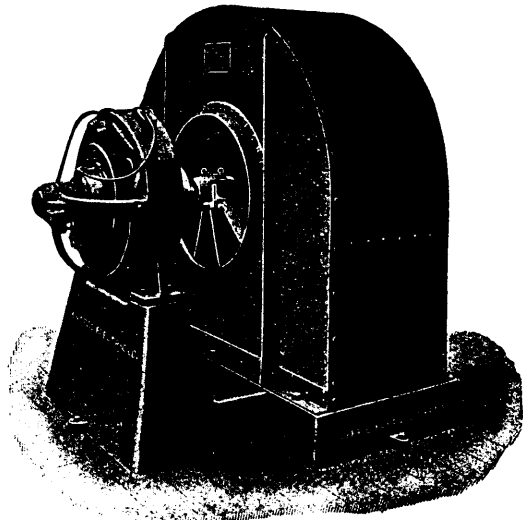
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on the enterprise, and a large number of men will be employed.

Further than this it is expected that the promoters would operate their own boats, and should these be constructed here, another beneficial result of the inauguration of the enterprise would be evident. The mill would have a capacity of 100 tons per day, but as the demand becomes greater this would necessarily be increased. We shall await with much interest the Government measure dealing with this matter. This province wants capital and the introduction of it should be encouraged with due regard to the safeguarding of public rights.

**GAS EXPORT MUST CEASE.**

The Ontario Government have given notice to the Interior Construction & Improvement Co. of the cancellation of their lease of the Detroit River bed for piping natural gas to the American side. This will dispose of the question of gas export, which the people of Essex County have complained for some time was depleting the supply very seriously on the Canadian side. It is understood that the lease has about three months yet to run.

It was in the latter months of 1900 that the question of the failing supply of natural gas came to a climax. At that time the United Gas Co. cut the gas off from manufacturers owing to the decreased pressure. Previous to that it had discontinued its service to the large public buildings in Detroit, and had

asked the Walkerville distillery and the Walkerville Malleable Iron Works to practically give up the use of the gas. At present the production of gas is about three billion feet a year, of which half has been piped across the Detroit River. The capacity of the pipes across the river is about nine billion feet a year.

Two companies exist. The Union Gas Co., an amalgamated concern, practically controls the production of gas and owns all of the lines piping gas to Windsor, some of which come by the Talbot road, and others, the first built, along the line of the Lake Erie & Detroit River Railway. The Interior Construction & Improvement Co. has acquired all of the pipe lines running under the Detroit River, but not a foot of line on the Canadian side. The United Co. delivers the gas at the river's edge to the Interior Co., but their interests are so closely identified that they may be regarded as one company.

At first the charters granted were absolute. However, after the accession of the present Dominion Government to power the Interior Improvement & Development Co., through the omission of a clerk, failed to pay the \$10 annual license fee which the former Government had imposed on the exporting franchise. On this ground the present Government cancelled their charter and refused to renew it, except under conditions that have proved of great value to the people in the gas belt. It was stipulated that the total amount of gas to be exported

should not exceed three billion feet a year, and that at the end of three years the output might be still further restricted. The Government also inserted a clause that the gas should be supplied to Canadian consumers at a rate at least ten per cent. lower than the lower price at which the gas was sold out of Canada.

Under the interpretations of the British North America Act the foreshores fell under Provincial control, and the Ontario Government has accordingly for some time exercised jurisdiction over the means of export.

**CROW'S NEST COAL DEPOSITS.**

Mr. J. McEvoy, in a preliminary report to the Dominion Geological Survey, gives the results of a close geological examination of the coal lands in the Crow's Nest Pass district. He estimates that there are 22,595,200,000 tons of coal in the Crow's Nest fields, and he makes the calculation in the following manner: Although the extent of the coal lands in the area can as yet be only somewhat roughly estimated, the estimate (230 square miles) should be near enough to the truth to be used as an argument for the calculation of the total available coal supply. The thickness used in the calculation is the minimum already given of 100 feet of workable coal. Total area of coal lands, 230 square miles, equal 147,200 acres. One acre with 100 feet of coal would yield 153,480 tons of 2,240 pounds; 50,000 acres would yield 7,674,-

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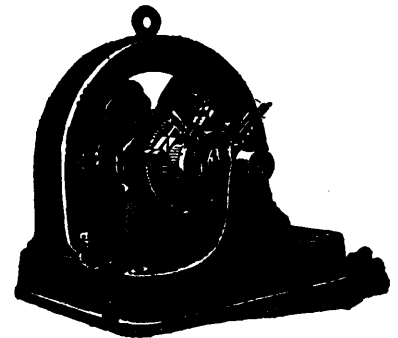
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000,000 tons of 2,240 pounds; 147,200 acres would yield 22,595,200,000 tons of 2,240 pounds. Mr. McEvoy is of opinion that the thickness of workable coal is at least 100 feet. He states that the town of Fernie is a good example of rapid western growth. The mines are reached from Fernie by a spur from the main line running four and a half miles up the creek. The good quality of the coal is now so well established that further mention in that respect is unnecessary. The output is increasing rapidly of late, and is now well over 1,000 tons a day. About one half of this is converted into coke, 360 beehive ovens being in constant operation at Fernie. The coke produced is of superior quality and preparations are being made to increase the number of ovens. In addition to mining on Coal Creek the company has recently commenced work on the seams at Michel, and is already turning out coal for shipment. Material is on the ground for the construction of coke ovens, and this point promises shortly to equal Fernie in importance.

The contract for building the new pumping house, wheel-pit and tail race, for the Cornwall, Ont., water works, has been awarded to Louis Chevalier. The Caledonia Iron Works, Montreal, will put in the hydraulic plant. The total cost will be about \$170,000.

Winnipeg, Man., will have a new school house at a cost of about \$30,000. A by-law to raise \$100,000 worth of debentures for school purposes in view of the increasing accommodation will be submitted to the rate-payers.

The Novi Modi Costume Co., Montreal, has been incorporated with a capital stock of \$75,000, to manufacture machinery used in the manufacture of wearing apparel, etc. The applicants include Frederick Moule, Alexandre Morrison and J. W. Long, all of Montreal.

The James Cooper Mfg. Co., Montreal, are erecting a large iron foundry at Lachine, Que., to cost about \$250,000, for the manufacture of mining machinery. They will employ about 300 hands at first, but the number will be increased later on.

## THE STURTEVANT EIGHT-POLE MOTOR.

The eight-pole type of motor lends itself particularly well to adoption for fan driving. Its comparative lightness and compactness make it a comparatively simple matter to attach it to the side of the ordinary fan. The B. F. Sturtevant Co., Boston, Mass., has been developing the electric fan along various lines during the past few years, and as an outcome has produced a type of eight-pole motor, illustrated herewith, which may be either attached directly to the fan side or, as shown, supported upon feet and used as an independent machine.

The field ring, which also constitutes the frame, is of wrought iron in the small, of cast steel in the medium, and of cast iron in the large size. The field cores are of

wrought iron and the pole shoes of cast iron, of such peculiar shape and size as to render these machines capable of meeting extreme variations of load without sparking or the necessity of adjustment.

The field coils are machine wound, thoroughly insulated, and of such open construction as to secure the maximum radiation and ventilation. The armature core is built up of laminated slotted discs, which are solidly clamped between two brass rings having corresponding slots. The coils are machine wound, of uniform size and shape, and thoroughly insulated, the armature being of the drum type.

The commutator is of large diameter, the segments being of fine drop-forged copper. For high voltages or small outputs at low speeds two sets of reaction carbon brushes are usually employed, and from the character of the design require no adjustment. Tripod bearing yolks are provided as shown, except in the largest machines, which are equipped with special bases and pedestal bearings.



The shaft runs in gun-metal sleeves, and is lubricated by means of ring oilers.

In this style these motors are built in powers ranging from 3 to 37½ h.p., at normal speed. In larger sizes a pedestal base is provided, giving the motor a still more substantial character. In all sizes these machines are built both as motors and generators.

A new six-storey addition to their factory will be erected by the J. D. King Co., Toronto, at an estimated cost of \$11,000.

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## OPPORTUNITIES FOR TRADE.

The following enquiries have been received at the offices of the High Commissioner of Canada in London, and of the Canadian Section of the Imperial Institute, London, England.

NOTE.—Those who may wish to correspond with any of these enquirers can obtain the names and addresses by applying to THE CANADIAN MANUFACTURER, Toronto. No charge for giving information. When writing refer to the numeral opposite the enquiries.

448. Enquiry is made for the names of firms in Canada who can supply smoked salmon in oil, and anchovies (not spiced) in 28 lb. tins; also salted cod and ling in boxes (cut in pieces six inches by three inches).

449. A civil engineer about to leave England and take up his residence in Toronto, will be glad to hear of metal firms who may desire to be represented in Canada.

450. The names of Canadian linseed crushers who have cake for export are enquired for by a London firm.

451. A firm in Nova Scotia who are about to take up the supply of furniture wood in shoo, ask to be placed in touch with several large furniture manufacturing concerns in the United Kingdom.

452. THE CANADIAN MANUFACTURER is in receipt of an enquiry from a concern in Liverpool, Eng., with connections at Manchester and Oldham for,

Birch wood—1, 1½, 2, 2½, 3, 4, 5 inches thick.

Black walnut—1, 1½, 2, 2½, 3, 4, 5 inches thick.

Satin wood—1, 1½, 2, 2½, 3, 4, 5 inches thick.

Basswood—1, 1½, 2, 2½, 3, 4, 5 inches thick.

Prices f.o.b. Montreal or Halifax.

453. A correspondent asks for names of Canadian exporters of canned yolks of eggs.

454. Enquiry has been received from St. John, N.B., for names of reliable business houses interested in the importation of canned and bottled lobsters.

455. The Corporation of a town in the Province of Ontario, being desirous to secure the establishment of a beet-sugar factory in the neighborhood, are willing to grant exemption from taxes, free light and water to a company undertaking the business. The Corporation, will, if de-

sired, take an interest in such company, and guarantee a good supply of beet.

456. A London firm largely interested in graphite is prepared to hear from Canadian producers of same.

457. A house in Malta desires names of Canadian manufacturers of enamelled ware.

458. A Midlands manufacturer of brooms and brushes desires names of Canadian manufacturers who can supply handles.

459. The names of Canadian egg shippers are asked for by a large firm of importers in the north of England.

460. An Irish correspondent with fair capital enquires through the Dominion Government agency at Dublin, for information regarding the tanning and leather trade in Canada, both in respect to the manufacture of sole leather and dressed goods.

461. A Glasgow firm ask for particulars of ship building firms in Canada, being desirous to do business in ship's plates, etc.

462. Further enquiry is made by a continental house for exporters of seal oil from Canada, liberal advances offered on consignments.

463. A London firm are desirous of importing from Canada small wood discs, such as are used in tops of corks in mineral waters. They are usually packed up in barrels containing 500 gross each. If suitable prices quoted, quantities of 100 to 150 barrels could be taken at a time.

464. A selling agent with good connection among large wholesale and export firms desired to be placed in touch with Canadian packers of canned meats (especially pig's tongues).

465. A London agent is enquiring for exporters of good tares from Canada for feeding purposes, there being a demand both in the city and on the continent.

AUSTRALIA.—The most important question in the new Federation at the present moment, is undoubtedly the new Federal tariff. The present indications are that the result of the coming elections will leave the protectionist and free trade parties pretty evenly matched in numbers, in which event the tariff will probably be a compromise between the opposing interests. Some idea of the scale of duties desired by the high tariff men can be obtained from the following comparison of the schedule prepared by the recent Protectionist Conference at Sydney, with the duties now assessed under the Victorian tariff. Only those articles most largely exported from this country to Australia are included. On the following articles

the duties in the Conference tariff are the same as in the Victorian: Axles for drays, bags and sacks, bedsteads, boilers and furnaces, boots of all kinds, carts without springs, cordage, engines other than portable and traction, furniture, glassware, binding twine, straw hats, nails, plows, barbed wire. The following are the Conference duties on articles that were on the free list in the Victorian tariff: Cotton blankets, 25 per cent.; traction engines, 20 per cent.; hosiery, 30 per cent.; pig and scrap iron, 20 per cent.; black iron wire netting, 40s. per ton; galvanized, 60s.; kerosene, 6d. per gal.; lamps 25 to 30 per cent.; linen piece goods, 10 per cent.; linen handkerchiefs, 10 per cent.; muslins, 10 per cent.;

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TORONTO.



lubricating mineral oils, 6d. per gal. On other articles increases are proposed as follows: Agricultural implements, from 15 to 20 per cent.; candles, from 1d. per pound to 2d.; portable engines, from 15 per cent. to 20; harness from 30 per cent. to 45; paints ground in oil, from £2 per ton to £5; mixed paints, from £4 per ton to £6; saddles from 30 per cent. to 45; shirts, from 35 per cent. to 45; and stationary, from per cent. to 35.—Dun's Review.

Owing to especial causes, it is probable that Australia will have an unfavorable trade balance for 1900, says the London Financial News. The figures for Victoria, Queensland and South Australia are complete, while those for Sydney and Newcastle very nearly comprehend the total for New South Wales. On this basis total imports into the four states last year

were valued at £56,628,537, an increase of £3,395,028 on 1899. Exports were £55,571,121, or £4,428,940 smaller. Queensland was the only state where exports exceeded imports, the excess being £2,020,463. In 1899 imports into the four states mentioned were smaller than shipments by £10,148,837; but last year the opposite was the case to the extent of £1,057,416. Exports from all Australasia in 1899 were larger than imports by £16,667,800, from which it will be seen that the returns for 1900 still to come in from the remaining states cannot produce such a favorable result as in the preceding year even if the unfavorable trade balance be converted into a favorable one.

AUSTRIA.—United States Consul Mahin, at Reichenburg, writes: Austria-Hungary shows considerable and growing

interest in an American loom—the Northrop—which, with less manual aid, produces greater results in weaving than any previous device. So far as I am aware, the Northrop loom is not yet in operation anywhere in this country, but a start in that direction has been made. A joint stock company has been organized in Hungary for manufacturing the loom at Rosenberg, with arrangements for also furnishing the machine to Austria. A recent session of an industrial organization in southern Austria listened to an address by a Government official, which has greatly stimulated and extended the interest felt in the Northrop invention, the address being widely published. The speaker emphasized the statement that while, under present methods, one weaver can attend to only two to four looms, the American invention enables one weaver to serve at the same time from ten to sixteen—even from twenty-four to thirty-two, and possibly still more—of the swiftest cotton looms. A weaving factory equipped with these machines, said the speaker, can double and triple its rate of wages and sell better goods at the same price as that asked by factories using the old methods, and yet continue to do a profitable business. The speaker then gave a detailed description of the Northrop loom, explaining its remarkable superiority over the old weaving machines.

BOSNIA.—Consul-General Freeman's report tells us that trade did not maintain the improvement noticeable in 1898. The export of oak staves, indeed, was far in excess of 1898 and of several previous years, amounting to £300,000 in value, but he tells us the production of oak staves in Bosnia and the Herzegovina is nearly at an end for many years to come. The oak forests, which did not contain so many suitable trees as was anticipated, have been quite exhausted, and the increased production of staves in 1899 was only the result of a last effort to obtain all that remained in the forests where, cuttings had already been made many times over.

CALCUTTA, INDIA.—United States Consul-General, Patterson, at Calcutta, writes:

The congested condition of the European quarter of Calcutta is such that rents are extravagantly high, and various propositions are being discussed for its relief, among others the buildings of suburban residences, several miles out, to be reached by electric tramways; but this would not prove satisfactory, as the people here prefer to live in the city.

If a building company with sufficient capital would come here and erect first-class apartment houses, such as we have in New York and other large cities, of six or eight storeys (not more, as the ceilings must be high on account of the hot climate), with elevators and all modern improvements, they would be taken by government officials and merchants at a large rental.

The people here are too conservative to start such an enterprise, but those requiring apartments would soon see the

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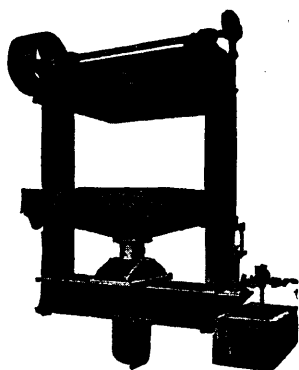
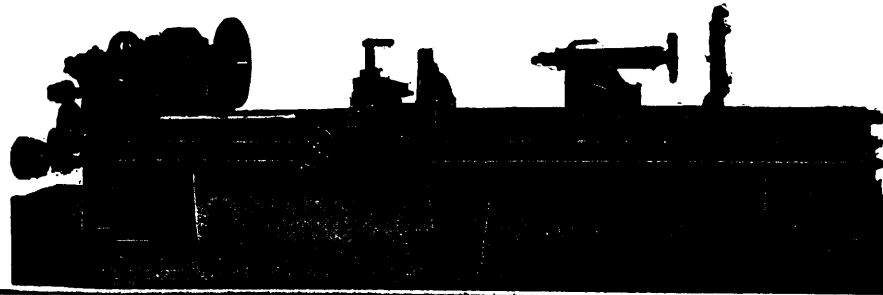
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advantages over ordinary dwellings in cheaper rates, and in requiring fewer servants; besides, as many residents go to the hills during the hot months, the rooms could be left in charge of janitors more easily than houses.

Where ground is as costly as it is in the European quarter of Calcutta, on account of its limited area, apartment houses properly constructed would bring the desired relief and be paying investments.

A dwelling house, such as is regarded first-class, of two or three storeys, with a good-sized compound (ground), rents for from \$2,000 to \$3,500 per annum.

This consulate-general, that occupies a flat on the second floor 90x70 feet, with eighty steps to reach it and no elevators or other modern improvements, rents for \$1,350 per annum. I mention these instances to show what rents are here, and they will be higher unless some way is provided to relieve the situation, as the city is growing rapidly.

Calcutta is a city of about 800,000 population, the capital of British India, the residence of the viceroy, as well as of the officers of the secretariat and the officials connected with the government, with their thousands of employees, but without one first-class hotel. During the cold season, the native princes and other wealthy citizens of India visit Calcutta, besides tourists from every part of the world; hotels are so crowded that it is almost impossible to secure rooms at any price, and tents are put on the roofs for the accommodation of guests. I know of no place where first-class hotels are more needed or would bring better returns on the investments than in Calcutta.

CANARY ISLANDS.—Consul Berliner, of Teneriffe, reports that he has a request for plans for frame or wooden houses, ready to be put up without delay. The party making the enquiry is anxious to have circulars or any matter appertaining to this subject, as he is contemplating the building of this class of structures.

GUADELOUPE, W. I.—The Moniteur Officiel du Commerce reports that there is a considerable demand in Guadeloupe for the following descriptions of machinery: Machinery, boilers, evaporation apparatus, etc., for the complete installation of a cane sugar factory turning out about 1,000,000 pounds of sugar every season; small cane crushers (horse power); machinery and apparatus for smaller sugar factories; machinery and apparatus for a sole-leather tannery (capable of dealing annually with 5,000 hides); machinery and apparatus for the installation of two distilleries, producing respectively from 250 to 500 liters, and from 2,500 to 5,000 liters daily. Particulars may be obtained of M. T. Papin Beaufond, Bateaux a Vapeur, Pointe-a-Pitre, Guadeloupe.

GERMANY.—During the first three quarters of 1900 typewriters and adding machines valued at \$562,870 were imported into Germany. The greater part of these machines, 75.9 per cent., came from the United States; 10.5 per cent. from England, and 10 per cent.

from Belgium. Typewriters have become so indispensable to business concerns in Germany within the last few years that they are now to be found in every large bureau or office.

GREECE.—H.M. Consul at Volo, in a recent report to the Foreign Office, states that the native agriculturists are gradually accustoming themselves to the use of modern agricultural implements. At present the number of European ploughs in use is 8,482 as against 14,175 of the old native pattern. Ploughs of the latter class are still manufactured at Volo, and some are even exported to Salonica for use in Macedonia.

JAMAICA.—During the past year Jamaica imported bees to the value of over \$13,000, the purpose being to establish a new industry. The Jamaica Agricultural Society is doing its utmost to foster the industry, which it is expected will ultimately prove to be a very profitable one. As Canada has several large works devoted to bee-keeping supplies, it seems not unlikely that much of the requirements for the Jamaican industry may be purchased here.

NEW ZEALAND.—New Zealand is a land rich in the great variety of its forest trees. Most of these trees are beautiful, but the handsomest of all is the stately kauri pine. It is from this tree that the crystals of kauri gum used in the manufacture of linoleum are obtained.

These noble monarchs of the forest attain a height of nearly two hundred feet and a diameter which frequently exceeds fifteen feet. The trunk rises from thirty to seventy feet without a semblance of knot or limb, and then branches into a head of dark-green foliage.

At the fork the stem is almost the same in circumference as at the base. The bark is colored in various shades of red or brown, and the impression when entering one of these forests is like passing between a maze of beautiful pillars of various hues.

At the foot of every tree there is a mound of fibrous soil, consisting of decayed leaves and bark, which is the accumulation of centuries, for the growth of the kauri is extremely slow. These mounds vary from two to six feet in height, according to the age of the tree.

The most remarkable thing about the kauri is the quantity of resinous gum, which is shed from every part of it. This substance hardens very rapidly upon exposure to the air, finally becoming clear and almost transparent. In the course of time this exuding gum falls to the ground and is covered by the debris at the foot of the tree.

Most of the gum now used is dug from the mounds where all remains of the parent tree that lived ages ago have disappeared. Long before the white man or Pakeha, as the natives call him, set foot in New Zealand, the northern part of Auckland was covered with vast forests of kauri pine, which extended in a broad belt from the North Cape to the Bay of Plenty along the sea coast. South of the

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Messrs. Kelly's Directories Limited, (London, Eng.), beg to announce that a new edition of the **General Directory of South Africa** is now in course of preparation, and desire to draw the attention of Canadian Manufacturers to the importance of the work as an advertising medium for making their goods known to buyers in South Africa. Being the Standard Work it reaches the very people whom manufacturers, desirous of opening up or extending their export trade with South Africa, would desire to get in touch with—**THE ACTUAL BUYERS THEMSELVES.**

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Bay of Plenty there are no traces of the kauri, and it is probable that it never grew beyond this point.

To-day there remain but a few comparatively small patches of all the mighty forests of long ago. It is generally supposed that the rest were swept away by

some great fire or succession of fires many years past. However, there is enough kauri gum to supply the demand for a long time, and then, no doubt, some inventive mind will discover a substitute that will serve the purpose quite as well. In the course of a most instructive

article upon the commercial opportunities at present existing in New Zealand, Commercial Intelligence, of London, says: New Zealand cannot, at present, be considered as a manufacturing colony, although she has some local industries, and her tariff is framed on a protectionist basis with a view to their encouragement. With regard to the countries from which she obtains her imports, Great Britain holds the first place, sending no less than 62.6 per cent. of the total, Australia the second with 14 per cent., and the United States the third with 9.7 per cent. The Pacific Islands and India each sent about 4 per cent., and the rest of the world combined only five per cent., or a little more than half as much as this country. The United States and Great Britain are the only nations that enjoy direct steamship communication with New Zealand aside from Australia and the islands of the Pacific. Being a sparsely populated and wholly industrial country, there is naturally always a good market for labor-saving appliances, and useful inventions and improved methods of production find a hearty welcome. Among other imports which figure largely in the returns may be mentioned:—Boots and shoes, clothing, cotton piece goods, drapery, drugs and chemicals, fancy goods, hardware, iron and steel, machinery, paper, spirits, sugar, tea and tobacco. American and German competition is keenest in agricultural machinery, tools, woodenware, clocks, musical instruments, barbed iron wire, lampware, sewing machines, and surgical instruments.

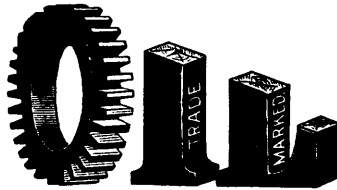
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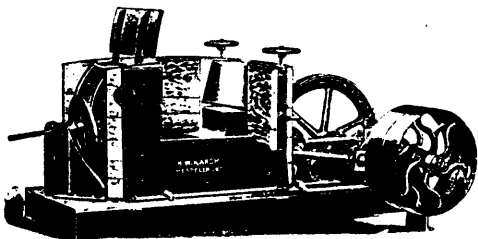
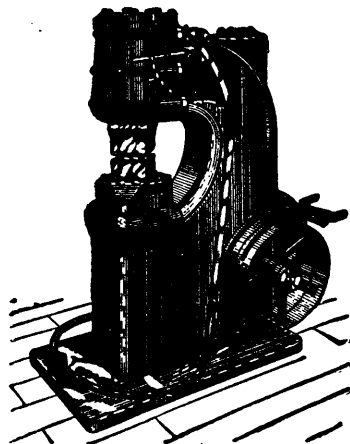
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Dead Spindle Spooler for Warp or Dresser Spools,  
Patent Double-Acting Gig Dyeing Machines.

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RUSSIA.—The recent law limiting the coasting trade to Russian vessels is likely to lead to a greatly increased demand both for foreign built steamers for river and coast service, and also for machinery and appliances for the local shipyards which will undoubtedly be crowded with orders. The ukase covers the trade between European Russia and Asiatic Russia, but, owing to the heavy war demand in Asiatic Russia, that part of the territory is temporarily exempt from this decree. However, as soon as this demand ceases, it is certain that the exemption will be withdrawn and the coast trade law strictly enforced. The Russian merchant marine has developed rapidly of late. A few years ago, the merchant fleet consisted of a very few steamers and about 200 Finnish sailing ships, employed almost exclusively in the Baltic wood trade, to-day more than 3,050 steamships (including river steamers) are flying the Russian flag.

United States Consul-General Hollaway, at St. Petersburg, writes:—

Several American exporters, desiring to reach the trade in their respective lines in Russia, ordered catalogues and other advertising matter printed in New York in the Russian language and shipped them to Russia, to be addressed and mailed by agents in Russia; but they were refused admission because they had not complied with the Russian laws governing the censorship of the press, which requires that everything printed in the Russian language must receive the

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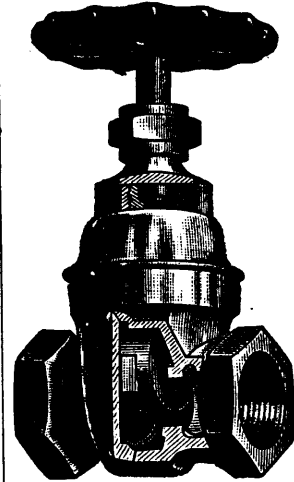
approval of the chief of the central committee of foreign censorship, before it can be admitted or circulated in Russia.

American exporters who desire to circulate advertising matter printed in the Russian language in Russia must address a petition to His Excellency Count Alexander Mouravieff, chief of the central committee of foreign censorship, describing the character of the publication and its purpose, to which must be attached two copies of the publication for which admission is desired, praying for permission to admit and circulate the same in Russia. To this petition must be attached two Russian revenue stamps of the value of 1.60 rubles (84 cents), preferably two of 80 kopecks (42 cents) each. This petition will be more likely to receive immediate attention if written in the Russian or French language, though the same would be translated and forwarded if sent direct to the United States ambassador or consul-general at St. Petersburg, if accompanied by the amount necessary to purchase the revenue stamps. Incendiary matter has been circulated in every form in Russia; hence the authorities censor everything that is printed as rigidly as they did a century ago.

**SOUTH AMERICA.**—American and Chilean capitalists have lately been in consultation over plans for the completion of the line from Calera to Pisagua, in northern Chile, 800 miles remaining to be built. As a financial proposition, the road will not be of great importance, although it will give access by rail to the saltpetre deposits of the northern provinces, now reached only by water, but the project has great strategic value, and the Belgian consul at Santiago says in an official report that "the Chilean government, having a direct interest in its completion, will undoubtedly be disposed to lend its financial aid to any serious proposition within the financial means of the country." According to the same authority, the enterprise will cost not less than \$30,000,000, or an amount equal to about one-third of the public debt. The Belgian adds: "The mining resources of the country and its satisfactory financial situation, thanks to its heavy receipts from saltpetre, make the realization of this project possible, and it should attract the attention of foreign capitalists." The present government of Chile, it may be added, appears to be especially anxious to provide a complete system of internal communication, in the shape of a trunk line of railway traversing the country from north to south, with branches where necessary to the coast and to the valleys of the Andes. The Chilean newspapers tell of various concessions for short lines in different parts.

In Brazil the Commission of Public Works of the State of Sao Paulo has matured plans for a Concession for the construction of a narrow-gauge road to connect Sao Paulo, the capital, with Iguape, about 125 miles. The government proposes a guaranty of 6 per cent. interest on the cost for twenty years, with exemption from taxes for the same

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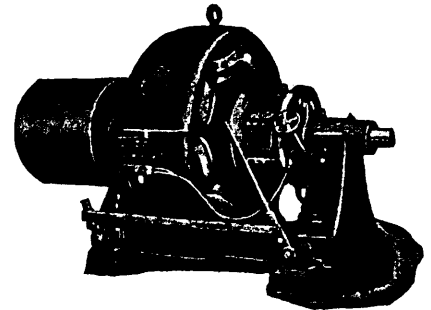
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**THOMAS C. IRVING,** Gen'l Manager Western Canada,  
TORONTO.

**JOHN A. FULTON,** Gen'l Manager Eastern Canada,  
MONTREAL.

period. If the net income of the road shall exceed eight per cent. per annum half of the excess will have to go into the treasury.

Various extensions of the existing lines in the Argentine Republic are reported in the Buenos Ayres newspapers. The Western Railway will build thirty-five miles in the direction of Sar Rafael, and by another year it is presumed will have reached Mendoza, the capital of the province of that name, at the base of the Andes. That part of the country needs a rail connection badly, and will furnish heavy traffic. The Southern Railway is

pushing construction of a line to Bahia Blanca, and the Italo branch of the Pacific is to be carried to Esperanza. Projects for the connection of Buenos Ayres with Rosario are likewise well advanced.

In Central America the government of Nicaragua has given a concession for about thirty-eight miles of road to connect the capital, Managua, with Leon and Corinto, through a junction at La Paz with the division now in operation. The road is to be finished within two years at an estimated cost of \$8,000 per mile, United States currency.

SPAIN.—A report on the industrial conditions in Spain has been published by the United States Government, portions of which show that in losing her colonies, Spain lost considerable trade. The two industries which have suffered the most through the loss of the colonies are those connected with cotton and flour, nearly the whole of their large production having been sent to that market. The cotton trade had its most profitable year in 1897, which immediately preceded the loss of the colonies. The report states:

After having been unable to export any flour to Cuba during the time that the commercial agreement with the United States was in force, when it lapsed in 1894, this branch of industry resumed its exports, which reached the largest figure in 1897, falling to one-third in the following year, and disappearing altogether after the treaty of Paris. Today, the flour mills, with their excellent machinery, which furnish these exports, are no longer necessary, their output causing over-production, from which the trade suffered severely last year.

Rope and twine show diminishing export from 1893, due partly to the commercial arrangement with the United States and partly to the war, which broke out in 1895.

The war was also responsible for the decline in the export of woolen goods, linens and silks, which have fallen steadily and brought about a general crisis in these branches of trade, more especially in woolen, hemp and linen manufactures. Silks were never exported in great quantities to the colonies, and during recent years new markets have been opened.

Linen textiles having accredited marks and specialties are able to hold their own in the Cuban market.

Since 1895, owing to the destruction of the sugar crops in the island, the exports of empty jute sacks to Cuba have suffered heavily; it is to be noted, however, that manufacturers have endeavored with some success to secure a share of the trade in other markets.

Spain, according to the report, exported to Cuba, boots and shoes, but since 1893 America has interfered greatly, and during the last two years Spain's exports have declined considerably. In 1898 the exports fell to nearly a third. What is said of the boot and shoe trade is applicable also to the manufacture of barrels.

The following is culled from the report:

The exports of common soap, which reached their highest figures in 1894, have been maintained, though to a slightly reduced extent. Although the exports of canned foodstuffs to the colonies have diminished, the total exports have not suffered, as they have found other outlets. Common wines show diminishing export since 1893, having fallen to one half, with every indication of a further decline. The trade in sausages, having been restricted to the colonies, is unable to compete with United States products and is dying out. The exports of stearin candles have steadily lessened since 1894, until they are now less than half of what they were, and will probably still further

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**ST. CATHARINES, - CANADA**

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decrease, owing to the American competition.

Cigarette paper has been exported in diminishing quantities since 1896, its present best market being Mexico, as it was formerly. Our general exports keep up to the average for five years prior to the war. In 1898, Mexico took twice the quantity we shipped to the colonies. Playing cards attained their maximum exports in 1897, in spite of the war, but have since then steadily declined, not only with regard to the colonies, but also to other markets, which is due to the fact that playing cards are now manufactured in many parts of America.

We do not mention several other products, the exports of which were unimportant, but, generally speaking, we may say that all have suffered by the loss of the colonies, as is proved by the fact that the exports to Cuba, which amounted to \$136,000,000, were in the year 1898 reduced to \$66,000,000, those to Porto Rico fell from \$44,000,000 to \$13,000,000, and those to the Philippines from \$49,000,000 to only \$27,000,000 in 1898.

**THE AMERICAN BOOT AND SHOE INDUSTRY.**

A despatch has been received at the British Foreign Office, from H.M. Embassy at Washington, transmitting copy of a report, drawn up by the British Commercial Agent in the United States, on the boot and shoe industry of that country.

The report calls the very particular attention of British manufacturers to the fact, as evidenced by the statistics, that the exportation of boots and shoes from the United States is increasing at a rapid rate. The value of the exports of boots and shoes from that country last year amounted to £963,803, against £764,257 in the preceding year and £405,088 in 1898.

A glance at the following figures will show how American-made boots and shoes are being pushed with success in places where British-made goods ought to have practically the monopoly.

Table showing the value of boots and shoes exported from the United States during the twelve months ended December 31 :

To	1898.	1899.	1900.
United Kingdom .....	£72,714	£147,944	£228,057
West Indies and Bermuda	58,033	135,106	119,355
British Australasia .....	67,652	157,058	278,587
Africa .....	16,643	31,144	28,182
Total .....	£142,328	323,308	426,124

Table showing the exports from the United Kingdom during the twelve months ended December 31 :

To	1898.	1899.	1900.
British West Indies ....	£95,387	£91,210	£79,339
" Australasia .....	359,955	329,076	381,241
" South Africa ...	636,752	581,641	614,898
Total .....	£1,092,094	1,001,927	1,075,478

Why this state of affairs should be possible is not, at first sight, quite clear. It means, either the American made article is cheaper than the British made one, or, that it is of better quality. Taking it for granted that the British boots and shoes are not inferior to those of America, there must be some important reason why the latter should cost less



**Tenders for the Construction of a Twin Screw Steel Steamer.**

**SEALED TENDERS**

addressed to the undersigned and endorsed "Tender for Steel Steamer," will be received by the Department of Marine and Fisheries until 4 p.m. of

**Saturday, 1st June, 1901,**

for the construction of a

**Twin Screw Steel Steamer**

of the following dimensions :

LENGTH .....	160 feet.
BREADTH, Moulded.....	30 "
DEPTH, Moulded.....	13 "

The contract to include hull, masts, rigging, engines, boilers and all other machinery and equipments complete and ready for sea.

Plans and specifications can be seen in this Department at Ottawa, at the Halifax, St. John and Quebec Agencies of this Department, and at the Custom Houses at Montreal, Toronto, Hamilton and Kingston.

Each tender must be accompanied by at least the names of two good and sufficient sureties and an accepted cheque for ten per cent. of the amount of the tender, which sum will be forfeited should the tender be accepted and the tenderer refuse to enter into a contract and bond.

The cheque must be certified good until the contract and bond are duly executed.

The Department does not bind itself to accept the lowest or any tender.

F. GOURDEAU,

Deputy Minister of Marine and Fisheries,  
Department of Marine and Fisheries,  
Ottawa, 12th April, 1901.

**Toronto Woolen Machinery Co.**

We now offer as a going concern the property known as

**The Vienna Woolen Mills**

Consisting of the following machinery :-

- One set 48 in. Platt Cards, all cloathed.
- One 24 Spindle Bancroft Mule.
- One 24 in. G. & Mc. Picker. One Cone Duster.
- One Fraser's Card Grinder. One Yarn Spooler.
- One 60 Spindle Fly Twister.
- One 108 in. Crompton Cone Loom, 4x4 box, 4 harness.
- Two 92 in. Faisey " " 4x4 " 24 "
- One 48 in. Gilbert " " 3x1 " 4 "
- One 48 in. " " 1x1 " 4 "
- One Broad Warper and Beamer.
- One Bobbin Winder.
- Two Broad Up and Down Gigs.
- One Rotary Fulling Mill. One Cloth Washer.
- One Yarn Washer.

With Spools, Bobbins, Tools, etc., etc.

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Two and a-half Storey Frame, with stone foundation, 30x60 feet.

**BUILDING No. 2.**

Boiler and Picker House—One Storey Brick, 25x64.

A never-failing Water Power, all heat by steam and in first-class order. Good local trade has always been done.

The above can be bought cheap and on easy terms. Apply

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CUTS ANY ROCK. NO DIAMONDS.

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**Canadian Rand Drill Co.**

Agents.

18 VICTORIA SQ.

**MONTREAL.**

**BOOK, MATTRESS and BROOM**

**WIRE**



High Grade, Double Turned—Size and Temper Guaranteed—Fine Charcoal Annealed Brush Wire—Tinned Wire of all kinds. Samples and quotations on application.

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Hamilton, Ont.



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This is an **METAL** entirely new Composition. Intended for all classes of bearings.

It is the invention of one of the most noted metallurgists in the world; is made from the very best materials, and guaranteed to be always the same.

It will give better service for the price than any metal yet put on the market.

A trial order is solicited.

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SOLE AGENTS FOR CANADA,

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Awnings, Shirtings,  
Flannelettes, Gingham,  
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Dress Goods, Lawns,  
Cotton Blankets,  
Angolas, Yarns, etc.**

Only Wholesale Trade Supplied.

## D. MORRICE, SONS & CO.

AGENTS

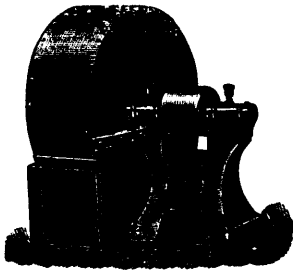
MONTREAL and TORONTO.

than the former. That America is a large exporter of leather to the United Kingdom shows that they can manufacture it cheaper. Considering that so much of the raw material has to be imported into the United States by the tanners, there seems no reason why leather should not be manufactured as cheap or cheaper in the United Kingdom. This applies especially to the finer qualities, such as patent leather, glazed kid, and others.

There is no doubt that as far as certain class leather is concerned, America possesses considerable natural advantages. There are plentiful supplies of suitable bark growing in the different parts of the country, and the tanneries have been placed at no great distance from it. The hemlock bark, which is that most used for tanning sole leather, is obtained from the forests situated in the States of Wisconsin and Michigan. It is also found in New York State and Pennsylvania, but not in such large quantities, and the supply is rapidly diminishing. The larger tanning companies in the west own large tracts of forest lands from which they draw their supply of bark. Oak bark, which makes the best leather, is not used in any large quantity in the eastern and central northern States. Oaks grow in the north-western and southern States, but only sparsely in the others. It is consequently too costly to use in comparison with the hemlock. For tanning the finer qualities of leather, chemicals and extracts are used, a large quantity of which is imported.

The United States is a large importer of hides. There were imported during the twelve months ended December 31, last, 307,257,924 hides, valued at £10,748,007, of which 152,792,232, valued at £3,815,987, were hides of cattle which pay import duty of fifteen per cent ad valorem, and 69,121,666, valued at £3,960,320 were goat skins, which are admitted free of duty. Of the total imports, 124,255,264, valued £4,288,707, came from Europe, and 66,212,792, valued at £2,191,451, came from the East Indies.

Those in the trade will doubtless be able to say whether the disadvantages of having to import this quantity of hides, bringing them from such great distances and paying fifteen per cent. duty, paying higher wages than are customary in Europe, and heavy railway and steamer freights, are compensated for by getting cheaper bark; if not, then there must be something in the process of tanning that



## PLANING MILL STEEL PLATE EXHAUST FANS

For removal of refuse from Wood-Working Machinery.

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Made of Galvanized Steel. All Sizes for Fans from 30 inches and up.

Estimates cheerfully given for Complete Installations of Fans, Piping, Gates, Hoods and Separators, with or without Shavings Feed Attachment to Boiler Fires.

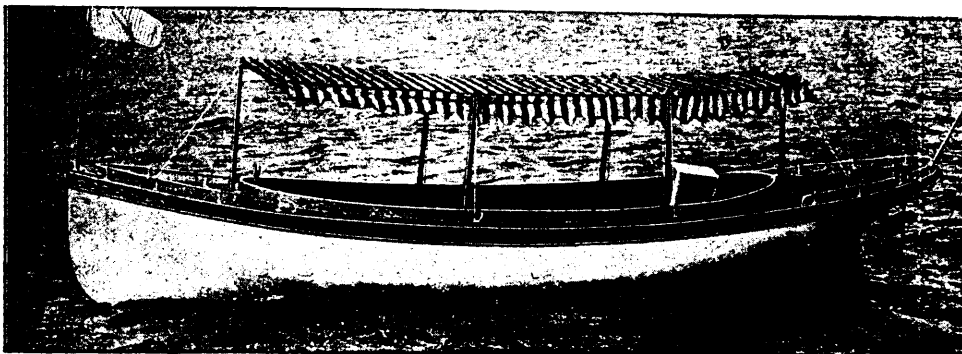
## McEACHREN HEATING AND VENTILATING CO., GALT, - ONT.

WE MAKE

Forge, Cupola and Disc Fans, Electric Fans, Heaters and Fans for Lumber and Wool Drying, etc., and for Heating of Factories.

STEAM TRAPS, OIL SEPARATORS, ETC.

Advertise in the Canadian Manufacturer.



**GASOLINE  
and STEAM**

## Launches

THE LATEST STYLE  
ASK FOR PRICES

**Dean's Canoes** ARE KNOWN  
THE WORLD OVER.

Send for Catalogue

**WALTER DEAN, - Toronto**

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enables the American tanners to compete with other countries in their own markets. This is surely a question that tanners in the United Kingdom would do well to study. Needless to say, only the latest improvements in the general process of tanning are employed in the United States. Though there is necessarily a large amount of manual labor in the process, the latest thing in machinery is used wherever possible to save labor and time. Each tannery, as a rule, keeps to its particular speciality. One makes nothing but sole leather, another certain qualities of fine leather, and so on. In one they treat about 900 horse hides and 700 calf hides a day, and employ about 550 hands. They make nothing but the finer qualities of leather, and import most of their hides and material.

A visit to some of the boot and shoe factories in the United States will at once convince one that American manufacturers mean business, and are doing their best to overcome the difficulties of transport, etc., under which they labor, by producing an article cheaply and, at the same time, of a sufficiently good quality to please their customers.

All the latest designs of machinery are found in the workshops. With the exception of cutting out the materials used in making the upper part of the boots, practically none of the work is done by hand. Large and small sewing machines are, of course, largely used and

are driven by power. Scalloping, skiving, folding, button sewing and self-feeding eyeletting machines are in universal use, also the usual sole-cutting and rounding machines, wire tackers, pegging and heel attaching, trimming and burnishing machines. It is impossible to give a list of all the machinery in use. The mere fact that from 300 to 500 hands are able to turn out from 1,500 to 3,000 pairs of boots and shoes per day is sufficient to show that practically all the work is done by machinery.

It is the use of so much of this improved machinery that enables the American manufacturer to turn out such large quantities, and to do it so cheaply.

Hand-made boots are almost unknown, as so many of the difficulties to be contended with formerly have been overcome. In consequence of this the public get a cheaper article in comparison with the quality than formerly, and the manufacturer obtains a correspondingly higher profit.

The machines are run at a rapid rate and the work is divided up in such a way that the workpeople are kept doing the same work continually. Payment by the piece is generally adopted, and the hours from 10 a.m. to 5.30 p.m., with half-an-hour interval in the middle of the day for dinner.

The organization as a rule leaves nothing to be desired. The factories in Chicago are generally in buildings of five or six storeys, fitted with electric light

and elevators throughout. The leather is cut at the top of the building and passes down from floor to floor as the work progresses until it reaches the ground floor as a finished article. It is here packed and sent away. So systematically is the work done in many of the factories that a boot will pass down from the top to the bottom of the house without once crossing from one side of a floor to another until it goes to be packed.

**FREE.** In the Town of Simeoe.

Five Acres along Railroad.  
Free Taxes and other inducements for manufacturers.

**C. R. MABEE,**  
EMPRESS HOTEL, TORONTO.

The F. M. Sibley Lumber Co., Detroit, Mich., in a postscript to a recent letter to B. F. Sturtevant Co., Boston, say: The Sturtevant Exhaust Head we bought of you, last winter, is perfection itself. We are very much pleased with same. It keeps our mill roof as dry as if there were no exhaust at all."

# Northrop Iron Works

**IRON and BRASS  
FOUNDERS**

**Heating and Ventilating Engineers,**

OFFICE and SHOWROOMS :

296

ST. JAMES STREET,  
MONTREAL

'Phone Main 4180



WORKS and HEAD OFFICE :

Valleyfield, P.Q.

Canada

'Phone No. 2

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"HANDY" ELEVATORS  
STEAM, HOT WATER  
and GAS RADIATORS

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DUMB WAITERS

SECTIONAL HEATING  
BOILERS . . . . .

PLAIN AND  
AUTOMATIC LOOMS  
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SANITARY OUTF  
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MODEL AND PATENT  
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MUST  
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MECHANICAL  
DRAFT

SAVES COST OF CHIMNEY  
BURNS CHEAPER FUEL  
INCREASES BOILER CAPACITY

One Specialty Mechanical Draft

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**CONSULTING CHEMIST,**

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Gives expert technical advice in all matters relating to chemical arts and manufactures. Thirty years practical experience in Great Britain, Europe and the United States.

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 RAILWAY, TRAMWAY, and  
**Contractors' Supplies**  
 METALS and SCRAP IRON  
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 TRADE MARKS, Etc.  
**HANBURY A. BUDDEN**  
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 PRESTON ONT.  
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 OFFICE, SCHOOL, CHURCH & LARGE FURNITURE.  
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**MACHINERY**  
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**WOOD ENGRAVING**  
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**HALF TONES**  
 OR ANY CLASS OF ENGRAVING FOR ADVERTISING PURPOSES. CATALOGUES, MAGAZINES, &c.  
**J. L. JONES ENG. CO.**  
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 Adelaide St. W. **TORONTO.**

**THE WORLD'S COMMERCE.**

Some interesting facts may be deduced from the tables of the world's trade, which the German statistician, Spallart, began to compile in 1867, which have been brought down to the present time by Prof. Dr. von Juraschek and others. These tables relate, not to the internal trade of countries, but to the commerce between one land and another. There are many reasons why such tables can be only approximately accurate, but they come near enough to the truth to warrant important generalizations.

The most obvious fact is that the world's commerce has vastly increased in the latter part of the nineteenth century. In the thirty years from 1867 to 1897 this increase was more than seventy-three per cent. The increase has not been constant, for in some years there has been a decline in trade, as is natural in times of widespread crop failure or financial distress. But, on the whole, the tendency is steadily upward, as might be expected from the combined influence of many causes, such as the extraordinary development of transportation and the consequent cheapening of freight rates, the constant growth of the world's population, the increase in wealth and the consequent enlargement of the demand for commodities, the improvement and cheapening of manufacturing processes and the comparatively long periods of peace the world has had since the Napoleonic era.

In some countries, like the United States, the exports are worth a great deal more than the imports, but this is never true of the world's commerce as a whole. The figures showing the value of the total export and import trade between all countries must, of course, approximately balance, for a dollar of exports from one place figures as a dollar of imports at another place. The statistics, hereinafter given, relate only to the special and not to the general trade of the world. The special trade is the export of home produce and manufactures, and the import of articles for home consumption. The general trade is the gross exports and imports; that is, it includes the special trade and also all commodities received by the various countries and re-exported for consumption in other countries. Commodities, however, that are merely trans-shipped in bond or otherwise, and are not entered at the custom houses of the forwarding country, appear in the special trade. All countries of commercial importance distinguish, as nearly as possible, their special from the general trade, and the compilers of the table from which the following statistics are taken, used only the statistics of the special trade of the various countries as giving the best idea of the value of the world's commerce, for in the gross exports and imports the

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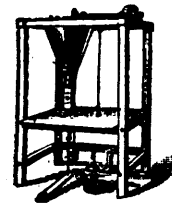
**ONTARIO WIND ENGINE and PUMP CO.**  
 LIMITED,  
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**SILICIA BRICKS**  
 Highest Grade for all Purposes  
**MAGNESIA BRICKS**  
 FOR LINING  
 Smelting, Refining and Matte Furnaces, also Converters  
 Rotary Cement Kilns.

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**SPECIAL MACHINE**

For Packing Soda, Baking Powder, Coffee, Chicory and all Powdered or Granulated Materials,



In Packages of from half ounce to six lbs.

For Flour and Other Cereals,

Six to fourteen lbs.

Ask us about this Machine.

**T. H. & A. H. DRYDEN**  
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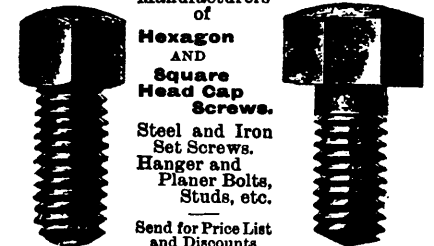
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 Manufacturers of

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 Fine Grey Iron Castings a Specialty.  
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 Manufacturers of



Hexagon AND Square Head Cap Screws.

Steel and Iron Set Screws, Hanger and Planer Bolts, Studs, etc.

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**MANUFACTURERS' AGENTS AND COMMISSION MERCHANTS.**

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 and at FREMANTLE, ADELAIDE,  
 BRISBANE and N.Z.

Will be pleased to correspond with Canadian Manufacturers and Exporters desirous of opening up direct relations with Australasia.

same commodities may figure under each heading two or more times.

According to these tables the value of the world's imports in 1880 was \$8,565,000,000, and of the exports, \$7,390,000,000; in 1890 the value of the imports was \$9,500,000,000, and of the exports, \$8,156,000,000; and in 1897 the imports were \$10,284,000,000 and exports, \$8,900,000,000.

Europe, which commands from two-thirds to three-fourths of the entire foreign trade, has long bought more than it has sold. It is compelled to import so much food for its dense population and so much raw material for its factories, and so large a part of all it produces and imports is consumed at home. that its imports invariably are largely in excess of its exports. Thus, in 1882, the value of its imports was \$6,426,000,000, and of its exports \$5,067,000,000; and in 1897 its imports amounted to \$7,169,000,000, and its exports to \$5,415,000,000. America, on the other hand, has long sold to the other continents more than it has bought from them. This superiority of exports over imports has been much enhanced by the recent vast development of the export trade of the United States. In 1882 the American imports were worth \$1,400,000,000, and of the exports, \$1,529,000,000; in 1897 the imports were worth \$1,500,000,000 and the exports \$1,894,000,000. Asia and Australia are now selling more than they are buying abroad, but Africa still imports a good deal more than it exports.

It is interesting to observe that the proportionate increase of exports from Europe is far less than from any of the other continents; and this fact, of course, applies with great force to the United Kingdom, the chief commercial factor of Europe. The capacity of America, Asia, and Australia to sell abroad commodities that are desired is increasing with giant strides, and the exports of Africa have steadily increased from \$167,000,000 in 1882 to \$339,000,000 in 1897. The time is probably coming when Europe will lose the commercial supremacy of the world and North America will be the centre of the greatest volume of transactions in finance and commerce.—Bradstreets'.

The Cronmiller & White Brewing & Malting Co., Port Colborne, Ont., has been incorporated with a capital stock of \$30,000. The provisional directors include T. F. White and J. H. Cronmiller, both of Port Colborne, and G. N. Cronmiller, Buffalo, N.Y.

The London Brass Works Co., London, Ont., manufacturers of brass valves, brass castings, compression work, water works supplies, etc., have sent us a circular having reference to Walter's renewable seat valve, of which they are the sole manufacturers in Canada. The valve is constructed on a new and improved principle, the bonnet being threaded on inside face. The valve has been subjected to high-pressure test, and, the firm say, is pronounced by engineers to be among the best, most economical and useful valves on the market.

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Many practical tests have proved it's efficiency.

Used in conjunction with our hollow sheet-metal frames and other fire-proof fittings, it gives the most perfect protection available.

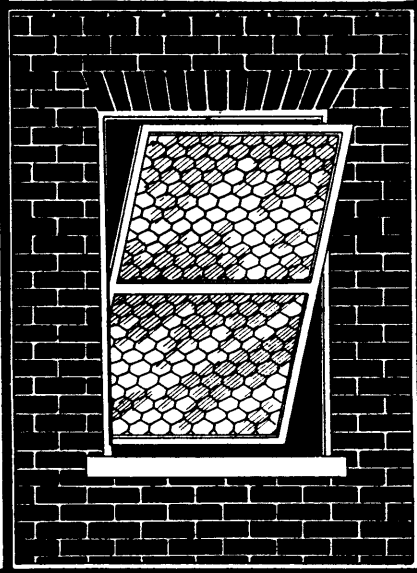
It's adoption lessens insurance rates.

If you want to know more about "fire-proof windows," write us, it's an interesting subject.

... THE ...  
**Metallic Roofing Co.,**  
TORONTO, Canada. LIMITED.

These windows in a fire-proof building, complete the security, and in any building will thoroughly prevent the spread and advancement of the fiercest flames.

Better than iron shutters (even if they happened to be closed at the needed time); fire-proof glass remains intact, resisting both the intense heat of the fire and the action of water.



## DON'T BURN YOUR BOILER

Save it by removing the incrustation. Give a long life to your steam boiler, valves, engine, steam pipes, etc., which is sure to be done by the use of

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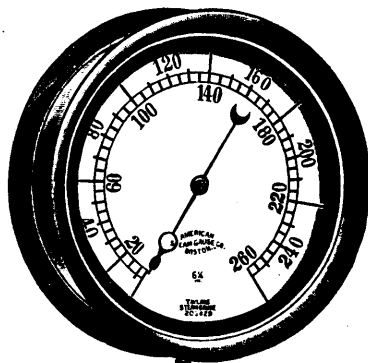
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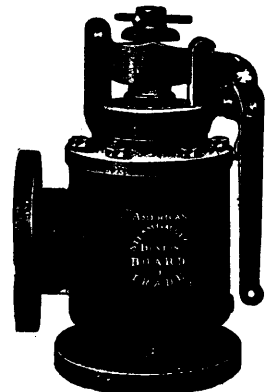
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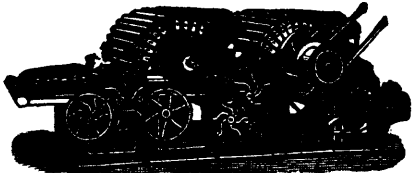
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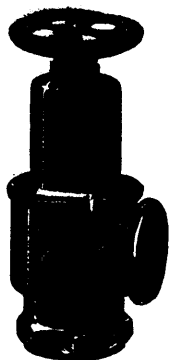
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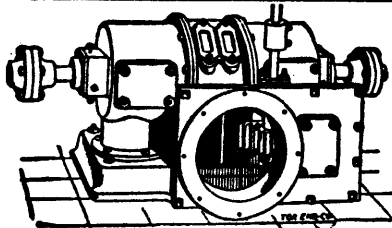
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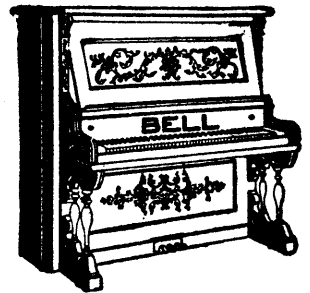
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