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**CANADIAN MANUFACTURER**  
AND INDUSTRIAL WORLD  
DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 25.

TORONTO, OCTOBER 6, 1893.

No. 7.

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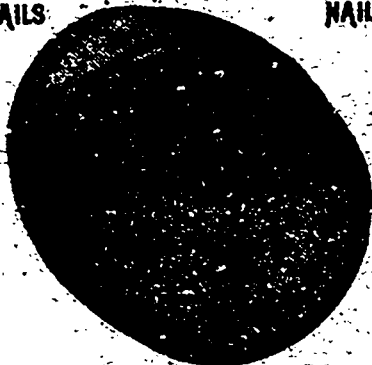
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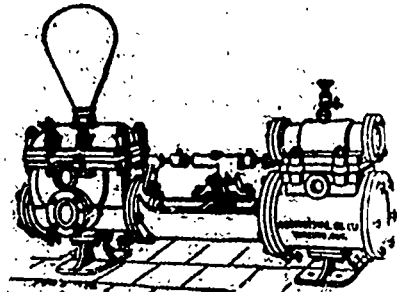
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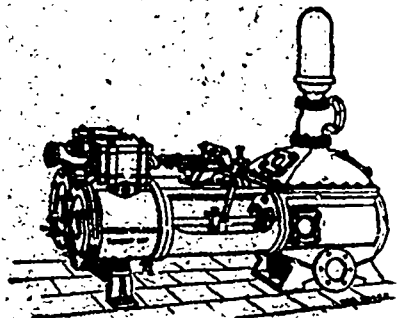
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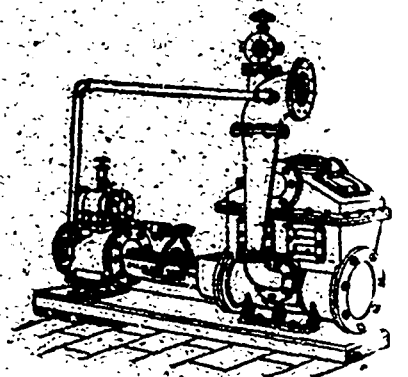


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**THE MANUFACTURERS AND THE NEWSPAPERS AT THE FAIR.**

In our last issue was discussed a matter of much interest to the manufacturers who make displays of their products at the Toronto Fair, and of no less interest to the Fair itself. The question turned upon the methods practised by the advertising drummers of the Toronto daily newspapers in soliciting manufacturers for write-up notices of their exhibits in the newspapers at so much per line, under no less a penalty than that of there being no mention whatever made of the presence of such exhibits at the Fair. The ground was taken that such methods were not fair as regards manufacturers, inasmuch as when any exhibitor consented to have such write up notice made, he was at liberty to write the notice himself, or cause it to be written, in which the most extravagant assertions might be made, perhaps entirely regardless of facts; while the manufacturer who declined to pay for such notice, although his exhibit might be of the most meritorious character, would discover that the presence of his display was entirely ignored

in any mention of the Fair that might be made in the papers. It was also argued that this newspaper method was prejudicial to the best interests of the Fair in that the manufacturers were there at the request of the Toronto Industrial Exhibition Association; that they received no fee or reward from the Association for being there; that they were at heavy expense in making their displays, and that if the manufacturers should decline to exhibit at the Fair, it would be like the character of Hamlet left out of the play. It was further argued that one of the prime objects of the Fair was to show the capabilities of Canadian manufacturers to supply the wants of the country in the lines of industry in which they were engaged; that the city of Toronto was largely benefited by the Fair, which brought so many visitors to it; that it was the duty of the Fair Association and of the citizens generally to encourage the presence of both exhibitors and visitors at the Fair; that paid for notices of exhibits, under the circumstances here alluded to could not be and were not considered accurate or reliable reports of the attractions shown at the Fair, and that if the newspapers made reports of the fire-works, the aerobal and side show attractions, of the horse racing and the fat cattle, against which no objections whatever are advanced, it was not the correct thing to refrain from making some equally voluntary and fair mention of what might be seen in Machinery Hall, in the Agricultural Implement Building, in the Carriage and Wagon Buildings and elsewhere about the grounds.

To show that a sympathetic chord was touched in what was said in these pages regarding the matter it may be stated that quite a large number of manufacturers who exhibited at the Fair have written letters to this journal expressing their views thereon. The gist of some of these letters are here reproduced; and it is submitted to the serious consideration of the proprietors and managers of the Toronto daily newspapers, and to the Toronto Industrial Exhibition Association if the views of the manufacturers here given should not have weight enough to cause a halt to be called in the matter and the nuisance abated. We quote as follows:

H. A. Massey, president of Massey-Harris Co.: "We are pleased to read your editorials referring to the manner in which the manufacturers exhibiting at the Toronto Industrial Exhibition are treated by the press. Your criticism is timely and well founded, and we feel sure it will meet with the approval of all manufacturers. It would seem that the press regard the noticing of the exhibits of manufacturers as purely an advertising matter which they must be well paid for if they are noticed at all, while on the other hand stock of all descriptions receives considerable attention; and the press is always ready to make a full report of everything of a sporting character carried on in connection with the Exhibition. We quite agree with you that an effort should be made on the part of the management of the Exhibition to remedy this evil if possible, or soon there will be but few exhibits, in the line of agricultural machinery at any rate, at the Toronto Exhibition."

Berlin Piano and Organ Co., Berlin, Ont., John Wesley, Manager: "We entirely agree with you re the methods of the Toronto daily newspapers. We decided this year to have nothing whatever to do with them. We wish you success in your efforts."

John Taylor & Co., proprietors of the Morse Soap Works, Toronto: "We are pleased at the tone of your editorials, and quite agree with you in your exposé of the manner in which

the press endeavor to coerce exhibitors in buying favorable comments on their exhibits. As a guide to the general public of what can be seen at the Exhibition, and the varied merits of the different exhibits, the columns of the local press are no longer reliable."

Frost & Wood, agricultural implements, Smith's Falls, Ont.: "We have read with a great deal of interest your editorials entitled 'Manufacturers Who Exhibit at the Fair,' and 'Newspaper Fakirs at the Fair,' and are in entire sympathy with both articles—neither of them are over stated. We think you have fairly reflected the mind of every manufacturer attending the Toronto Industrial Exhibition. You have hit the nail on the head."

The Metallic Roofing Co., Toronto, J. O. Thorn, Manager: "We beg to say that we have read your two editorials in the Canadian Manufacturer of Sept. 15, and quite agree with you regarding the nuisance referred to."

John H. Grout & Co., proprietors of Grimsby Agricultural Works, Grimsby, Ont.: "The way the Toronto newspapers work the manufacturers at the Toronto Exhibition is something we certainly think unparalleled in journalism. It being found that a manufacturer seeing the name of his competitor in the daily papers, and an account of his exhibit virtually forced him to adopt the same method or else appear to be "not in it," the idea was at once taken hold of, and almost every exhibitor finds himself taxed from \$10 to \$100—some probably more—for the noticing of his exhibit; and if he does not accept the terms of twenty-five cents per line he is left out in the cold. This newspaper method is no doubt enterprising; and if the notices were bona fide it would be satisfactory to the public if not to the exhibitor; but as most of the notices are written by the exhibitors themselves, often without strict regard to facts, unreliable information is given to the public. The manufacturers are to be blamed for the prevailing condition as well as the newspapers, and if they would unite in saying that they would be blackmailed no more, the evil would be done away with at once."

James P. Murray, president Toronto Carpet Manufacturing Company: "It gave me pleasure to read your editorials re the practice of the daily newspapers in demanding pay from manufacturers for notices of their exhibits at the Toronto Fair, with the alternative of there being no such notices. I look upon the practice as being not only objectionable, but also as seriously detrimental to the harmony and success of the Fair, the general sense of both exhibitors and visitors being against this sort of coercion. The manufacturers certainly resent it as is evident from the falling off of certain lines of exhibits."

J. S. Corbin, agricultural implements, Prescott, Ont.: "I cordially endorse your editorials. I have paid many dollars for write-up notices in the Toronto daily papers, and I have never had the slightest evidence, nor even indication, that they were of any value to me. Life becomes a burden to the exhibitor when, just as he has a prospective customer in hand, some newspaper man persists in a demand for a notice. It is a nuisance that ought to be abated."

Toronto Silver Plate Co., John C. Copp, Secretary-Treasurer: "We fully concur with the remarks made in your editorials re manufacturers who exhibit at the Toronto Industrial Fair. The boycotting of every manufacturer who will not handsomely pay for notices of his exhibit has determined us to let our

exhibit speak for itself to the public, whose patronage we cater for, and not for that of the newspapers."

Robb Engineering Co., Amherst, N. S., F. B. Robb, manager: "Your paper exposes a practice which we can hardly think possible, especially among Canadians. We can understand the newspapers giving but brief notices, and suggesting exhibitors to increase the length of them for a reasonable consideration, but that the daily papers of Toronto should ignore exhibitors who visit your Fair at such heavy expense, seems to us to be not only a lack of the courtesy due them, but also a very short sighted policy on the part of the papers. Surely you must be wrongly informed."

American Rattan Co., Toronto, C. G. Pease, manager: "We coincide with your views expressed in your editorials. We have refused to do any advertising with the Toronto daily papers as we maintain that it is not the proper thing to do. It does not seem right to have the daily papers insist on payment for mention of exhibits at the Fair that are certainly of interest to the public."

The Peterborough Carbon and Porcelain Co., Peterborough, Ont., J. W. Taylor, Managing Director: "We are glad to know that the Canadian Manufacturer takes the stand it does against the evil of forcing paid notices of exhibits at the Toronto Fair."

The atmosphere at Amherst, N. S., is different, perhaps, from that pervading the daily newspaper offices at Toronto, else Mr. Robb would not imagine the possibility of any error in our statements. Ontario manufacturers know but too well that we are not wrongly informed.

#### VOX POPULI, VOX DEI.

At the recent Trades and Labor Congress at Montreal, discussion was had upon the following motion, introduced by Mr. Banton, seconded by Mr. Glockling: "That, owing to the great conflict of opinion as to the political future of this country, this congress petition the Dominion Government to submit to a popular vote the following question: The maintenance of our present colonial status, Imperial federation, Canadian independence, political union with the United States." The resolution was carried, whereupon the Empire expressed its editorial opinion as follows: "Let the labor delegates attend to their own future and not worry about the country's. The country can take care of itself." This advice is not only gratuitous, but insulting. The "labor delegates" and laboring men generally are quite as much interested in the welfare of the country as the Empire can possibly be. We observe that the Empire worries considerably and all the time about the country, although it kindly concedes its ability to "take care of itself," and we fail to see why labor should not feel equally interested. The labor element of Canada has always shown a most intelligent interest in the welfare of the country, and we know that if it had not been for the votes of laboring men, the National Policy, for which the Empire professes so much devotion, could never have materialized. Suppose that Sir John Macdonald had, pending the elections that gave us the N.P., when laboring men were active in their advocacy of that measure, so vital not only to them but to him also, told them, as the Empire now does, to "attend to their own future

and not worry about the country's," what hope could he have possibly entertained that his party would accede to power? Sir John was no newspaper chump or charlatan. He never offered insults to labor. He recognized the fact that the votes of laboring men were absolutely essential to the success of his party, and instead of repelling them and alienating them by insolence, he drew them to him and made them his friends. The National Policy is all right; and laboring men know the value of it. But unfortunately it is burdened with fool friends who cling about it for party and personal motives, like the Old Man of the Sea, and who would rather drag it down to destruction with them than to observe it sailing along with favoring breezes upon the calm sea of popular approval without them. If the laboring men think that their interests require that a plebiscite should be had testing the sentiment of the country, as to the future of the country, they have an inalienable right to ask that a popular vote be taken regarding it. Vox populi, vox Dei. The Empire is frequently vociferous in asserting that the voice of the people of Canada is for Imperial Federation. Some contend that we should maintain our present colonial status. It is our opinion that but few are in favor of Canadian independence; and that it is only a handful of soreheads who desire political union with the United States. The Empire would be inconsistent in asserting that Canada is in favor of Imperial Federation—that the people want it—and then in denying the plebiscite to test the question; and when a large and influential element ask that the plebiscite may be had, the labor delegates are politely told to attend to their own business and not worry about a matter that the Empire thinks it is able and quite willing to attend to. Why does the Empire desire to insult the labor element? Why don't the true friends of the National Policy chain it up where it can do no harm?

#### PRACTICAL vs. IMPRACTICAL POLITICS.

JUDGING from the spirit of the resolution of the recent Trades and Labor Congress at Montreal desiring the Dominion Government to submit to a popular vote the question of whether Canada most desires the maintenance of our present colonial status, Imperial federation, Canadian independence or annexation to the United States, there is a feeling of unrest among laboring men which deserves attention, and the causes of which should be calmly and intelligently discussed. The labor element of Canada was largely instrumental in the adoption of the principle of protection as our National Policy; and we are safe in saying that if it had not been that the workmen and artisans of Canada had sustained Sir John Macdonald in his endeavors to introduce that policy, it would not have been adopted. The labor element was not at that time as well organized as it now is; and if it was an important element in the success of the Conservative party then, the leaders of that party would be strangely blind if they now ignore the political questions that claim so large a part of the attention of organized labor in Canada. It is said that the ostrich will hide its head in the presence of danger; but whether this is so or not, there are what is claimed to be Conservative papers which hide their heads, ostrich like, and ignore an element the friendship of which is absolutely essential at election times to the success of their party. These journals desire very much

that they be allowed to do all the thinking (!) and teaching, the rank and file of the people, including the labor element, to do the voting. The Empire, which is claimed to be an organ of the party, very plainly tells the Trades and Labor Council that they should attend to their own business, and not to worry about the country; but if those who earn their bread by the sweat of their brows are not to interest themselves with the affairs which affect them so vitally, who, pray, are the ones who are to be thus interested? The working man is not an ostrich, for which we are thankful, but a man whose welfare and happiness is most seriously affected by the policy of the Government. The workmen of Canada have opinions—and votes. They desire enlightenment upon certain questions in which they believe Canada is vitally interested. With the exception of that of Imperial Federation some of these so-called Conservative journals affect to ignore the others with a toploftiness possessing a sublimity approaching the ridiculous. But why not consider in a judicial spirit and dispassionate manner the questions upon which the laboring man desires enlightenment? If the existing status is most to be desired, show such to be the fact, and that such is the general sentiment of all the people. If Imperial federation would be more to our advantage than anything else, show it. If it is questionable as to the welfare of Canada under national independence, or political union with the United States, show where and how such changes would be unfavorable. Our opinion is that at this time it would not be wise for Canada to make any radical change, and that we had better remain just as we are, not only as regards our external connections, but also as regards the fiscal policy of the Government. If the delegates to the Trades and Labor Congress believed that any considerable portion of the people of Canada desire a political change, their opinions are entitled to consideration and discussion. We do not observe that there is any crying demand for a plebiscite at this time; and the questions involved may very well be allowed considerable time to ripen and develop under the warmth of close examination and discussion.

One feature of the Trades and Labor Congress worthy of notice is that although attempts were made to force the consideration of the questions of protection and free trade, they were unsuccessful, the Congress very wisely, in our opinion, refraining from any action in that direction. Perhaps a large majority of the delegates are pronounced in their attachment to the National Policy, and we know that some of them favor free trade; and it was wise not to force a division on this question which could not but have proved disastrous in its results to the best interests of organized labor.

But while it was wise that the Congress should not become pledged in this direction, there is every evidence that most intelligent interest is taken by laboring men generally in this very question. They observe that a majority of the voters of the United States recently declared against tariff protections and in favor of free trade, or a tariff for revenue only; that this was accomplished largely by the votes of laboring men, and that since then hundreds of industrial establishments have been closed, thousands of workmen thrown into enforced idleness, and that the shadow of financial calamity clouds the land. As intelligent men they can but enquire to what extent protection is chargeable with the disaster, and if it can be mitigated by anticipated free trade. When this question

is solved they will be in condition to estimate what a similar change would effect in Canada. Of course the whole question is narrowed down to what effect the change would have upon the wages of labor. As applied to Canada they know that our imports from the United States consist to a large extent of raw materials, brought into the country to be manufactured here, giving employment to thousands of workmen; while our imports from Europe consist almost exclusively of manufactured goods made by cheaper labor there, which require no further labor from Canadian workmen. They also know that the wages of labor in Canada and the United States are much higher than in Europe. These facts are very important in the consideration of the question. Under a change of our fiscal policy how would the wages of workmen be affected? There are some lines of manufactures which a change of policy would not affect, but these are the exception. Under the change, with our ports thrown open to the free introduction of foreign goods, it is evident that such goods could be laid down in Canada at the cost of production abroad plus the charges for transportation. This means that if Canadian labor were not ready to accept foreign wages for its service it would be minus work. With nearly all raw materials already on the free list, the only way manufacturers would be able to continue operating their factories would be by reducing expenses, and this reduction would inevitably begin and end with the wages of employees. We already observe that wages in the United States are being reduced; and that would be the case in this country. How would Canadian workmen view such an event? If the reduction were but a temporary arrangement, intended to tide over a condition that would soon disappear, it might be borne; but the change would come under an adjustment of operations which would continue as long as the policy which might be precipitated upon the country. Resistance to a reduction of wages might be long and bitter, but the result would be inevitable. In a recent interview with some of the iron workers at Pittsburg, Mr. John Jarrett, who of all men is one of the most familiar with the whole subject, from both sides of it, as a working man and as an employer, said to them: "You men ought not to complain because the mills are idle; you all voted for the very condition of things we are now suffering from." Doubtless Mr. Jarrett knew what he was saying, and did not make his statement rashly. It is very well known, of course, that great numbers of working people, in spite of all that could be said to them, voted last November to "down" the Tariff, and therefore to stop manufacturing until their own wages should be reduced.

Canadian workmen are more interested in maintaining the National Policy than they are in sounding the sentiments of the country on the improbable questions they propose.

#### ST. JOHN, N.B.

THE Board of Trade of St. John, N.B., have issued a circular regarding their city and its trade facilities which is being scattered broadcast in many places and which ought to attract much attention. The circular is accompanied with a copy of the tariff of charges of the grain elevator recently erected in that city; and the circular informs us that the citizens of St. John have at their own expense afforded the best facilities for handling grain and all other freight at that place, the city

authorities having purchased from the Dominion Government the line of railway connecting the Canadian Pacific track with their harbor, and which they have placed at the disposal of the Canadian Pacific free of charge. Besides this they have granted \$40,000 towards equipping the elevator alluded to, which is now under the control of the Canadian Pacific, in addition to which they have expended a large amount of money in providing additional wharf and warehouse accommodation for the business of that railway.

These works afford unexcelled facilities at St. John for handling all classes of freight, and will enable the Canadian Pacific Railway to convey freight from the Pacific to the Atlantic, and from all leading Canadian points over its own rails, placing that line in a better position than ever to handle their freight through a Canadian port, open all the year round, at moderate rates.

It is important in the interest of Canadian trade that this information should be made as widely known as possible.

The citizens of St. John have incurred all these expenses without calling upon the Canadian tax payers to assist them, and it is hoped that it may be the means of drawing a large amount of the intransit traffic which is now going to United States ports.

In addition to these facilities, the Intercolonial railway connecting with the Grand Trunk system, are now extending their rails round the harbor front on the east side, thus offering extensive facilities, at the only Canadian port open all the year round, which is the terminus of two competing trunk lines.

As to the safety of the harbor of St. John and its capacity to accommodate large ships. A few days ago the British war ship Blake, the flag ship of the North Atlantic squadron, returned to Halifax from a visit to St. John, and in an interview by a newspaper man, the Admiral, Sir John Hopkins, upon being asked his opinion regarding the harbor of St. John as a port to enter and in which to remain said: "It is an excellent harbor—perfectly, I may say absolutely, safe. Any harbor with an entrance of twenty-six feet at low water is good, and St. John has more than that. The harbor is easy of access, especially when taken at the right time of tide. St. John harbor is very safe inside, as well as easy of access. It has plenty of water for the largest ships of the British fleet at any time of tide."

It is to be hoped that the efforts the people of St. John are making to attract trade to their city will meet with the success it most certainly deserves.

#### THE LARGEST SEARCH LIGHT.

WHAT is claimed to be the largest and most powerful electric search light in the world is now being set up at the World's Columbian Exposition at Chicago. It stands about 10 feet 6 inches high to the upper side of the ventilator on the top of the drum, and the total weight is about 6,000 pounds, but so perfectly is it mounted and balanced that a child can move it in any direction. It was built by the General Electric Company. The reflecting lens mirror used in this projector is 60 inches in diameter. It is a concave spherical mirror of the Mangin type, free from spherical aberration, reflecting a sensibly parallel beam of light. It was manufac-

tured especially for this projector in Paris, France, and is a most perfect specimen of optical work,  $3\frac{1}{4}$  inches thick at the edges and one-sixteenth of an inch thick at the centre, and weighs about 800 pounds. The metal ring in which it is mounted weighs about 750 pounds, and the total lens, ring and cover weigh about 1,600 pounds. This great mirror is mounted at one end of the big drum, the outer end of which is furnished with a door consisting of a metal rim in which are fixed a number of plate glass strips five-sixteenths of an inch thick by 6 inches wide. Inside this drum and sliding upon ways arranged on the bottom, is placed the electric lamp the source of the light which is reflected by the mirror. It is entirely automatic in its action, is six feet high and weighs about 400 pounds. The carbons used are also made especially for it. The upper or positive carbon is  $1\frac{1}{2}$  inches in diameter and  $22\frac{1}{2}$  inches long, with a five-sixteenths of an inch core of soft carbon running from end to end through its centre. The lower or negative carbon is  $1\frac{1}{4}$  inches in diameter, is 15 inches long, and also has a core of soft carbon running through its centre. In addition its outer surface is heavily coated with copper. The positive carbon is set a little in front of the negative, and thus almost all the intense light of the incandescent crater is cast upon the reflector. The maximum current at which this lamp operates is 200 amperes, and at this current the lamp has a luminous intensity of about 90,000 to 100,000 candles, the reflected beam a total luminous intensity of about 375,000,000 candles, an intensity which the eye cannot appreciate. In looking at the side of the beam the spectator only distinguishes a stream of light of comparatively low intensity, but in looking at the beam directly its brilliancy is fully seen and the effect is absolutely blinding. Ventilators at the top and sides allow a constant current of air to pass through the drum and dissipate the heat generated by the arc lamp; and they are so arranged that no light can escape through them. All the connections for adjusting the positions of the carbons and the lamp are brought through the drum to the outside and are arranged in close proximity to one another at one side so that all may be manipulated by the operator without moving from his position. Through openings in the drum covered by densely colored glass the operation of the lamp may be watched, and its adjustments verified. The drum is supported by trunnions in bearings at the top of a Y-shaped fork, set in a base plate, and the whole is supported on a system of friction wheels, forming a turntable resting on the top of a massive pedestal supporting the whole structure. The drum, fork and base plate may be rotated horizontally on the turntable either by hand or by gearing provided for this purpose. The drum may also be elevated or depressed vertically by similar gearing.

Before the projector was sent to the World's Fair, a public test was made at Middletown, Conn. From the roof of the works the great white beam of light shot forth into the obscurity of the night, and slowly swept the country side for miles around, bringing every object upon which it was directed into brilliant and distinct relief. It illuminated the roofs of distant villages and scared their inhabitants, and lighted up the signboards miles away, so that they could easily be read by means of a glass. The projector was turned upward toward the sky and the beam, like a supernatural divine finger, wrote words upon the clouds—messages of light to the starry populations.

It was observed that the space within the beam was violently agitated, and closer observation revealed the fact that millions of moths and minute insects were hovering in it, attracted by the brilliancy of the light. Next morning bushels of dead moths, beetles, other insects and some small birds were swept up from the roof on which the projector stood. They had been killed by the intensity of the light.

How far the powerful beam of light from this instrument can be seen is difficult to state. The search light set up on Mount Washington in the White Mountains has a diameter of only 30 inches, and a reflected light from the mirror of about 100,000 c. p., yet a newspaper can be read in its beam 10 miles away, and the light can be seen from points 100 miles away. How much farther, then, could this 375,000,000-c. p. light be seen in a clear atmosphere if the projector could be mounted upon an eminence sufficiently high to clear all surrounding obstacles?

### THE BALANCE OF TRADE.

In a previous issue, in discussing the question of reciprocity between Canada and the United States, in showing the conditions that prevailed before the existence of the Elgin reciprocity treaty, during the continuance of that treaty, and since the abrogation of it, we quoted from a paper on that subject recently prepared by Mr. R. H. Lauder, of Toronto. Answering the argument that under a reciprocity treaty, or free trade between the two countries, the exports from Canada to the United States would increase in a much larger ratio than those from the United States to Canada, Mr. Lauder analyzes some of the important features of the commerce between the two countries, and notes the fact that nearly the whole of the reductions in the exports from Canada during the year following the termination of the old treaty, as compared with the exports during the last year of the treaty, was in animals and their products, a result which was clearly attributable to the rapid recuperation of these resources of the United States after the termination of the war of the rebellion.

In order to examine this matter of probable effect of the abrogation of the old treaty, and the probable results of a new treaty of similar character, an examination is made of the different classes of merchandise exchanged. With reference to the produce of the mines, Mr. Lauder tells us that the exports from Canada to the United States in 1866-67 did not vary much in value from those of the preceding year, although there was no reciprocity in the former year. These exports consisted mainly of pig and scrap iron, gold-bearing quartz and stone. No coal in either year. In 1891-92, these exports had increased to \$4,806,483; the leading articles being: coal, \$2,790,693; nickel, \$466,517; gold-bearing quartz, \$316,152; asbestos, \$375,956; gypsum, \$193,170; silver ore, \$193,441; mica, \$63,708; building stone, \$49,372; and small amounts in iron, sand, gravel, etc. Asbestos, nickel ore, gold and silver ore and crude gypsum are now admitted into the United States free of duty, so that reciprocity would not affect them. The only articles likely to be materially affected are coal and iron and copper ore. If the duty on bituminous coal, which is 75 cents per ton in the United States, and 60 cents in Canada, were removed in both cases, it is quite likely that Canada's exports would be largely increased; but it is equally



likely that the consumption of American coal in Canada would be increased to a like extent, so that Canada's output of coal would not be increased. In 1891-92, Canada imported from the United States of this kind of coal \$1,342,271 more than it exported to that country. The exports of iron and copper ore might be increased under reciprocity, but as the natural resources of ore are so abundant and distributed over so many sections in the United States, the supply for the present has far outstripped the demand there, and it is very questionable whether the competition of Canadian ore would not reduce prices to figures which would be unremunerative. Surely it would be more business-like to adopt a policy under which the ore would be manufactured in Canada, than to export the ore and import the manufactured product. Canada admitted from the United States, during 1891-92, free of duty, products of the mine to the value of \$5,737,000, and, subject to duty, \$4,218,251; together more than double the value of its exports to that country. Is it not clear, that so far as these products are concerned, the United States would be a larger gainer from an increase in this trade than Canada would be?

Nearly the whole of Canada's exports of the produce of the fisheries are from the Maritime Provinces, which were not part of the Dominion in the two former years, but were in the latter year. As the United States duty on fresh herring is  $\frac{1}{2}$  cent per lb., and on all other fresh fish  $\frac{3}{4}$  cent per lb., the result of the duties appears to have been that a considerable proportion of the fresh fish which three years ago was admitted there free of duty, to be cured or pickled for export, is now being cured and pickled in the Maritime Provinces. The Canadian Trade and Navigation Returns show that the value of fish of all kinds exported to the United States during 1891-92 was \$3,452,036; but the United States returns show that the value entered for consumption there was only \$1,694,730. This is but a very small proportion of the value of the fish exported from Canada, and it is absurd to speak of the United States as being the best and natural market for Canadian fish. During 1891-92, the United States exported of fish, to foreign countries, value \$4,866,074, or about three times the value of its imports from Canada. The best and natural market for Canadian fish is to be found in those countries to which the United States exports so largely, and in which trade that country acts as the middleman between Canada and the consumer. It seems strange that an exporting country like the United States should impose any duty upon fish, the principal effect of the duty being to cripple and curtail its own curing and export trade; and all the more strange in that Canada offers in exchange for free fish, the free use of its own valuable in-shore fishing grounds.

For the same reasons as given with respect to the produce of the fisheries, a comparison of the exports of the products of the forest in 1865-66 and 1866-67, with those in 1891-92, affords very little assistance in estimating the results of the repeal of the old treaty. The value of the boards, planks and deals exported from Canada to the United States was, in 1865-66, \$4,608,551; 1866-67, \$5,043,367; 1891-92, \$7,359,358. The declared value of the imports into the United States was, in 1865-66, \$9.84 per M feet; in 1866-67, \$9.88; in 1891-92, \$11.50. From this it appears that the abrogation of the treaty and the imposition of a duty in 1866-67 did not curtail the demand or reduce the prices paid to Canadian lumbermen.

The United States returns show that the quantities and values of sawed lumber imported from Canada, were:

	1889-90	1890-91	1891-92
M. feet.....	650,703	757,140	643,134
Value.....	\$7,74,954	\$6,408,046	\$7,530,766

In addition to the above dutiable lumber, there was a large quantity of logs, round timber, fence poles, firewood, railway ties, shingle and stave bolts, ship planking and timber, admitted free of duty,

	1889-90	1890-91	1891-92
Value.....	\$1,948,334	\$2,347,650	\$2,050,043

The effect of the reduction in duty has been to reduce the cost to the American consumers. Assuming the average quality of the lumber imported in 1889-90 to have been the same as in 1891-92, the cost to the consumer, including duty, was \$13.76 per M. feet in the former year, and \$12.69 in the latter, the reduction in price having been almost exactly equal to the reduction in duty. From this, it may be inferred that any future reduction or increase in the rate of duty would lessen or increase the cost to the American consumer. The United States returns show that that country is a large exporter of sawed lumber, in fact, it exports a much greater value than it imports. Its exports were:

	1889-90	1890-91	1891-92
Domestic boards and planks, value....	\$9,703,219	\$9,916,945	\$9,672,493
Foreign "....	1,071,004	502,683	538,622

In addition to the value of the sawed lumber imported from Canada, the United States obtains a large supply from the lumber sawed from logs imported from Canada. The quantity so obtained, is variously estimated at from 300 to 400 million feet. If, in order to meet the requirements of the home trade and also the demand for export, the United States requires to import such quantities of Canadian lumber and logs, it seems clear that this supply is an absolute necessity to the American trade; and equally clear, that if the United States exports a greater value of sawed lumber than it imports, the imports must be on a par value with that of the exports, and that the consumers must pay the duty. Of what use, then, is the duty except for the sake of the small revenue derived from it? With the prevalent and growing feeling in Canada, in favor of imposing an export duty on logs equivalent to the United States duty on lumber, it would appear to be alike in the interest of American saw mill owners and consumers in the United States, that the duty on sawed lumber should be abandoned.

During the last year of the former treaty, 1865-66, the value of farm produce, exclusive of animals and their products, exported from Canada to the United States was \$13,298,008; consisting of wheat and flour, barley and rye, oats, peas, and other lesser articles. During the year 1866-67, although the treaty had expired, and customs duties had been imposed by the United States on almost all kinds of farm products, the exports of these commodities amounted to \$11,185,227, or nearly as much as during last year of the treaty.

The large exports during these two years of wheat and flour were attributable partly to effects of the war, and partly to deficient wheat crops in the United States, owing to which that country imported from Canada more wheat and flour than it exported to Europe. Conditions have completely changed, the productions of wheat in the United States having increased so enormously that, during the years 1891-92 and 1892-3,

it has exported in wheat and flour equal to about 400 million bushels, and is carrying over into next season an unprecedentedly large surplus of old wheat. The quantity of Canadian wheat taken for consumption in the United States in 1890-91 was only 5,404 bushels, and in 1891-92, 9,308 bushels; of flour in 1890-91, 623 barrels: in 1891-92, 527 barrels. During the six years, 1886-87 to 1891-92, Canada imported from the United States for home consumption, 452,231 bushels wheat, and collected duties thereon, \$67,837; flour, 742,341 barrels, collecting duty thereon \$398,220. Reciprocity or free trade in wheat and flour could not possibly now produce such sales by either country to the other, as would affect prices in either market. It might possibly create a larger interchange, especially of wheat, as millers in either country might find it advantageous to import special qualities for the purpose of blending with their own wheats. In this respect free trade would be advantageous to both countries. At present the millers of Ontario and Upper Provinces have almost the exclusive supply of flour for Quebec and Maritime Provinces. Under free trade they would be exposed to keen competition from Western States millers and from the flour dealers in United States seaboard cities. It is very doubtful whether they would obtain from free access to American markets for their flour an equivalent compensation for the competition in trade with the Lower Provinces. A decided advantage resulting in free trade in grain and flour, would be in the release of exporters and millers from the vexatious delays and petty expenses now incurred in their shipments in bond to Europe.

During the years of reciprocity, and even for some time afterwards, the trade in barley in Canada was not considered of sufficient importance to require special entry in the customs returns, and it was combined with rye. There is a great deal of erroneous impression among the farmers of Canada with respect to the barley trade. The large crops and high prices are generally supposed to belong to the reciprocity years. On the contrary, the first barley crop of much importance, as to extent and value, was that of 1865, when both as to yield and quality it far surpassed that of any previous year, and owing to partial failure in crop of United States, it brought good prices. Even then, the total quantity of barley and rye exported during 1865-66 was only 7,355,191 bushels, average value, per Trade and Navigation returns, 73 cents per bushel. In the following year, 1866-67, the crop in Canada was again large as to yield, but of poor quality. The exports of barley and rye were 6,882,776 bushels; value, 59 cents. The exports to United States were not all saleable there, and from one fourth to one-third of this quantity was exported to England for feed. The seasons for the highest prices for barley in Canada were 1868-69, 1873-74, 1874-75 and 1878-79, during all of which the United States duty was 15 cents per bushel. Owing to the generally favorable returns for the barley crop, its production in Canada rapidly increased until, in 1889-90, the United States imports from Canada had risen to 11,327,052 bushels barley, and 213,135 bushels malt. Simultaneously with the increase in production in Canada there had also been a large increase in acreage in the United States. The production had begun to exceed consumption; prices declined; and the exports in 1889-90 only averaged 50 cents per bushel. In the spring of 1890, Canadian farmers very generally reduced the barley

acreage, so that the imports into the United States during 1890-91 only reached 5,076,471 bushels. The McKinley Bill went into operation in October, 1890, and caused another reduction in Canada's barley acreage, so that the imports into the United States again fell off, being for the year 1891-92, 3,144,918 bushels, price averaging about 48 cents per bushel, of which only 2,334,106 bushels were taken for consumption, the balance being exported to Europe. In the spring of 1892 another reduction in Canadian acreage took place. The returns of imports into the United States for 1892-93 are not yet complete; but from 1st July, 1892, to 31st May, 1893, they only amounted to 1,954,617 bushels, while during same period the exports of barley from the United States amounted to 2,555,109 bushels. Three years have effected a wonderful alteration in the barley trade of that country. In 1889-90, it imported from Canada, in barley and malt, 11,540,187 bushels; in 1892-93, it has exported to foreign countries 600,492 bushels barley more than it imported from Canada. Its barley crop in 1892 was hardly an average one either as to yield or quality. The deliveries at the western lake and river ports from 1st August, 1892, to 1st July, 1893, were 29,308,528 bushels, as compared with 31,301,662 bushels in same period in 1891-92. Although the out-turn of beer has kept up its usual annual increase, the use of substitutes for barley malt has increased so greatly that even a deficient crop has proved more than sufficient for brewers' requirements, without any supply from Canada. The barley market has been very dull all season, and the average price in Chicago for all grades, since 1st January has hardly reached 45 cents per bushel. There is said to be considerable old barley still held in farmers' hands in North-west States, but there is no demand for any except for feeding purposes at 30 to 35 cents. It has proved fortunate for Canadian farmers that they anticipated the condition of the American market, and reduced the production as much as they have done. It is very clear that if Canada had continued to export to the United States from 10 to 11 million bushels per annum, as they were doing three and four years ago, such exports would have completely broken the market there to prices equal to export value for European markets. Owing to special adaptation of Canadian soil and climate to the production of barley, superior to the general run of United States barley for malting purposes, Canadian barley would command a premium of 5 to 10 cents per bushel for a limited quantity. That free trade in barley or even a moderate rate of duty would increase the sale and value of Canadian barley is unquestionable; but, on the other hand, it is folly to expect that the demand would be as extensive, or the prices as high as they were some years ago.

It has been shown that in 1865-66 and 1866-67, shortly after the war, there was considerable demand in the United States for Canadian oats. Conditions have since changed. During the last six years, Canada has purchased more oats from the United States than it has sold to that country. In 1889-90 these purchases amounted to 351,965 bushels, although subject to a customs duty of 10 cents per bushel. Owing to the uncertain yield of spring wheat and the rapidly declining tendency of prices, there has been a general disposition on the part of both American and Canadian farmers to reduce wheat acreage and increase that of oats; so that both countries have had during the last two years a considerable sur

plus for export to Europe. During 1891-93 the United States exported to foreign countries 9,425,078 bushels American oats; and the Dominion exported 6,414,329 bushels Canadian oats. It is not all likely that reciprocity or free trade in oats would affect prices in either country.

The exchanges of rye between the two countries for some years back have been about equal. The value is almost invariably regulated by prices in Europe, and the exceptions to this rule are so rare that reciprocity would hardly ever affect the trade.

With respect to beans there is no doubt that reciprocity or free trade would largely improve their value in Canada. The quantity exported to the United States in 1891-92 was 313,643 bushels. The section of Canada in which beans are profitably raised is of very limited extent. It is difficult to form any opinion as to the increase of quantity which would be produced, if prices were advanced. This season there has been an unusually large quantity of beans imported into the United States from Europe, and it may be that high prices will create such an increase in supplies from that quarter as would lead to a sudden decline in values. The exports of peas to the United States in 1891-92 were 527,932 bushels, part of which were not taken for consumption there, but were exported to Europe. Most of the peas shipped for use in United States are for seed, a large proportion of them being grown by Canadian farmers from seed furnished by United States seedsmen. As American dealers must pay for their peas, whether for seed or other purposes, prices equivalent to those paid for export to Great Britain, it seems absurd that they should impose customs duties on such an article, especially where most of the imports are required for seed. The export of peas to the United States forms a small proportion of Canada's pea export trade; the total quantity exported to all countries in 1891-92 being 4,432,291 bushels.

Canada purchases largely from the United States in corn and corn meal. During the six years 1886-87 to 1891-92, Canada imported for home consumption, 14,952,196 bushels corn, from which it derived a customs revenue, \$1,121,460; and corn meal, 810,716 barrels, customs revenue, \$324,696. In considering the question of free trade in corn there are two considerations, (1) loss in revenue; (2) whether the low price of this article would result in a general advantage, equivalent to the depreciation in the value of Canadian corn and other feeding stuffs.

The imports of Canadian hay into the United States for consumption there, were: in 1889-90, 105,372 tons, subject to a duty of \$2 per ton; in 1890-91, 28,989 tons, and in 1891-92, 79,772 tons, the duty in these two years being \$4 per ton. Doubtless, under free trade, the sales could be largely increased, and at better prices. It is very doubtful whether large exports of hay are advisable or judicious. Under the vigorous and wise efforts of the Dominion and Provincial Governments towards the extension and improvement of cattle and dairy products, it is to be hoped that very soon all the hay produced in Canada will be fed at home, to the great advantage of the soil.

The quantity of potatoes imported into the United States from all countries in 1891-92, was 197,709 bushels; in 1890-91, 5,363,707 bushels; duty in these two years, 25 cents per bushel; in 1888-89, 883,385 bushels; in 1889-90, 3,415,920 bushels; duty in these two years, 15 cents per bushel. The

quantity imported from Canada was in 1889-90, 1,326,457 bushels; in 1890-91, 3,948,087 bushels; in 1891-92, only 68,976 bushels. In 1892-93, the quantity imported from Canada was small, owing to deficient crop in the Dominion in 1892, and high general range of prices. The imports this season have been large from other countries, nearly all from Europe. From 1st June, 1892, to 31st May, 1893, they amounted to 4,138,272 bushels, as compared with less than 200,000 bushels in the same time 1891-92. The production and value of the potato crop in the United States vary so much as to afford a very unsafe reliance for Canadian or other producers.

In other vegetables, fruits, garden and field seeds, trees, plants and shrubs, Canada purchases much more largely from the United States than it sells to that country.

During 1865-66, the last year of the old reciprocity treaty, the value of live animals and animal products exported from Canada to the United States was \$11,184,741; consisting of horses, \$2,590,505; horned cattle, \$4,312,142; swine, \$319,774; sheep, \$570,194; butter, \$1,254,436; pork, \$534,041; wool, \$753,113; eggs, \$240,907, etc. During the following year, 1866-67, the exports of these commodities declined to \$3,686,191; the value of horses being \$599,951; horned cattle, \$1,190,798; swine, \$41,350; sheep, \$149,976; butter, \$601,509; pork, \$34,450; wool, \$495,368; eggs, \$310,847, etc. This rapid decline in one year could not result from the moderate rates of duty, but was rather owing to the rapid recovery of the United States from the effects of the war.

The number of horses in the United States is rapidly increasing. In 1860, the number was 6,429,174; in 1870, 7,145,370; in 1880, 10,357,488; in 1890, 14,213,837; in 1883, 16,206,802; the average value in 1893 being \$61 each. The small increase in numbers from 1860 to 1870, as compared with other decades, was evidently due to the losses and waste caused by the war. This naturally created a large demand for Canadian horses. Owing to the recent rapid increase in numbers, and the great falling off in employment of heavy horses, owing to extensive use of electric power, there has been a large decrease in the demand for Canadian horses, which are now only imported for special purposes.

The numbers of oxen in the United States increased from 17,034,284 in 1860, to 35,954,196 in 1893; average value in 1893, \$15.25; in milch cows, from \$8,581,735 to \$16,424,087 in 1893; average value in 1893, \$21.75. The United States exported during the year ending June 30, 1892, cattle valued at \$35,099,095, and beef products, \$34,436,169. As Canada is also an exporting country, it cannot be expected that free trade in cattle and beef would result in much larger sales by either country to the other. The exchanges would be rather a matter of local convenience than of necessary requirements. According to the statistical abstract of the United States, the quotations for oxen and cows do not afford any promising inducements, nor do its figures for fat cattle, as they show that the average price in Chicago market during the year 1892 for good to choice native steers of 1,200 to 1,500 lbs., was \$4.12½ per 100 lbs.

The number of sheep in the United States has increased from 22,471,275 in 1860, to 47,253,253 in 1893; average value in 1893, \$2.66. As Canadian lambs are in great favor in that country, it is pretty certain that a much larger trade would be done in these, and better prices obtained under

reciprocity or free trade. The imports into the United States from Canada were in value, in 1889-90, \$1,135,357; in 1890-91, \$1,082,930; in 1891-92, \$1,318,685.

That the general run of horses, cattle and sheep is not dearer in United States than in Canada, is evident from the fact that, although subject to duty, large numbers of them are annually imported from the Western States into Manitoba and North West Provinces.

In 1865-66, Canada exported about \$800,000 in value in swine and pork to the United States. During the last six years, the trade has been largely the other way: Canada's imports from the United States have amounted to \$7,120,897, from which it derived a customs revenue of \$1,709,169. With the exception of the present season, prices of all hog products have been much higher in Canada than in the United States. Under reciprocity Canada would not only lose a large amount of customs revenue now derived from these products, but the reduction in value would probably lead to a great curtailment of what is now one of the most profitable of all its farm produce. The consumption of pork and lard in the Dominion is estimated at over 40 lbs. per capita, equal to two million cwt. About one-half of the quantity is sold off the farm. One dollar reduction in price per 100 lbs means a loss to farmers of one million dollars per annum on their pork.

In reviewing the list of raw products, it is seen that on the whole the exchanges between the United States and Canada are of about equal value. Under reciprocity the commerce would undoubtedly be largely increased, but the relative position in respect of equality would, in all probability, be maintained. The general interests of both countries would be largely benefited, although in a few instances there might be loss or disturbance of minor interests, as must always happen under any extensive alterations of tariff policy.

In view of all the circumstances of the trade between the two countries, especially in view of the fact that Canada purchases annually United States manufactures to the value of from twenty-two to twenty-four million dollars, it is difficult to understand the action of Congress in passing the McKinley Bill in 1890, containing so many clauses destructive to the Canadian trade. Some of the arguments urged in favor of these clauses were disingenuous in the extreme. One or two objectionable items of the Canadian tariff were selected and referred to in justification of the proposed action. This was very unfair. Congress had in its possession a special report of its own chief of the Bureau of Statistics, prepared in 1888, apparently for the very purpose of showing the probable effect of reciprocity with Canada, Mexico and South American countries. That report showed that during the year ending June 30, 1887, Canada imported from the United States merchandise valued at \$44,802,732; of which \$30,578,332 was dutiable, and \$14,224,000 free of duty; that the amount of duty levied under the Canadian tariff was \$7,265,136, averaging 16.22 per cent. ad valorem; that the amount of duty which would have been levied upon the same merchandise if imported into the United States from Canada under the then United States tariff would have been \$9,025,598, averaging 19.79 per cent. ad valorem.

It might have been expected that the report would have induced Congress to adopt a liberal policy toward Canada.

On the contrary, Canada was specially exempted from the operation of the general reciprocity measure then adopted; not only this, but the rates of duty upon the principal articles imported from Canada were increased to prohibitory figures.

It is not to be expected that Canada will continue a liberal trade policy towards any country which refuses to reciprocate in a like liberal spirit. Canada always has been, and is now, willing and anxious to promote its commerce with the United States by any reasonable and equitable measure which can be mutually agreed upon, either by treaty or legislation.

#### EDITORIAL NOTES.

PROTECTIONISM is no longer aggressive. Its firing is the firing of a force in retreat. The pendulum swings away from the theories and practices of high taxationists, and will not swing back again for many a year, if ever. No one now talks of scaling tariffs up. All the talk is of scaling tariffs down. It is no longer a sin to "blaspheme the holy tariff."—London Advertiser.

No, it is no sin to denounce the tariff, but it is a sin, and a grievous one, to lie. It is a sin to lie by saying that protectionism is no longer aggressive, when the Advertiser knows that the National Policy is as dear and valuable to a large majority of the people of Canada as ever it was. It is a sin to lie by saying that the advocacy of protection is the firing of force in retreat, when it knows that there is no wavering of the line of advocates and defenders of protection. With protectionists the motto is "Canada first," which means that the interests of those engaged in Canadian manufacturing industries are held paramount to those engaged in similar industries in any other country. There is much talk, which will no doubt result in intelligent action by the Government, of equalizing the tariff, remedying its incongruities and making it to conform to the changing order of things and the present requirements of the country; but there is no talk except among the enemies of protection of scaling tariffs up or down.

In a recent issue of this journal we quoted from a letter written by Mr. George G. Lobdell, a manufacturer of car wheels at Wilmington, Del., to Senator Higgins of that State on the business situation now existing in the United States. "What confidence," the letter says, "can manufacturers and men who employ labor have in a party controlled by men whose aim has been to create dissension between the laborer and his employer; telling the former that he was being robbed by his employer whose hands have been in his pockets up to the elbow! I doubt there being any permanent improvement in business as long as the uncertainty about the tariff exists, it being the primary cause of the trouble." The trouble alluded to was the detachment of a large part of the vote of workmen in the United States from protection to free trade, and the incident should receive the serious and careful attention of Canadian workmen. The change was wrought by the false statements made by the enemies of protection, to which Mr. Lobdell alludes. In the language of Mr. Cleveland, it is a situation, not a theory that now confronts the American workmen; and the same situation would confront the Canadian workman should he abandon the substantial benefits he receives through the National Policy for the chimera promised by free trade.

AN ingenious Yankee has recently invented paper hosiery yarns which, although made entirely of paper, shear socks, and loose fibres, so closely do they resemble good woolen yarns, that at first sight one is easily deceived. By the introduction of these yarns one of the greatest of frauds is likely to be perpetrated. The yarns fall to pieces as soon as they become damp. They have no elasticity, durability, or, in fact, any of the qualities of good yarn, except appearance. The inventor has the audacity of devising a means by which he can form a strand of paper, polish it, cover it with cheap shear socks, give it a coating of fibre, knit it into goods, and then palm it off on the hosiery trade. The yarns are made of paper pulp just as twine is made. This is wound upon beams, about 1,000 threads side by side, and run through a tank containing a glutinous compound. Next to the tank is a case of shear socks. The yarns run through this and a coating of the socks sticks on. Next a case of wool fibre is passed through and a coating of fibre received. Then rubbers rub the yarns, making the surface structure look just like all woolen yarns.

RECENTLY a correspondent in a Pittsburgh, Penn., contemporary said: "The suggestion of a silver advocate that a Pan-American Congress be called to arrange for uniform action regarding silver as a medium of exchange, seems a good one. Such a Congress might not be able to settle the vexing problem as to what should be done or how to do it, but uniform action by all the American Republics would certainly cause the European nations to change their attitude regarding silver to approximate harmony." This was called to the attention of our esteemed contemporary *The Manufacturer*, of Philadelphia, by a correspondent who enquired why the advocates in Congress of the continued use of silver as money do not urge the holding of an international conference of the natives of North and South America regarding the matter; and the opinion of that journal was that "an agreement of all the nations of the American continent might be effective if Japan and China would also join." Perhaps such an agreement might be effective if the influences were as strong in that direction, growing out of the commercial transactions of the United States with the nations involved, as they are with Great Britain and other European nations, and with Canada, all of whose interests run the other way, and whose aggregate commercial transactions are quite a hundredfold greater than with the first named nations. The American republics, together with Japan and China, could never hope to be able to force Europe to accept sixty cents in coined silver as the full equivalent of one hundred cents in gold.

A GERMAN has taken out a patent for producing varnish from linseed oil by means of an electric current. The oil after being purified in a proper manner, is thoroughly mixed and agitated with sulphuric acid and water, and subjected to the action of an electric current for two or three hours, so that the oxygen produced in the nascent state by the passage of the current converts the oil into varnish. The varnish so produced is said to be almost colorless and perfectly free from all mineral or metallic admixtures or impurities.

ACROSS the face of a circular recently issued by Messrs. Fetherstonhaugh & Co., patent barristers, of Toronto, is the following legend printed in red: "Please preserve, and write

for plain practical pointers on procuring patents." This is what might be denominated calling in apt alliteration's artful aid.

A RECENT telegram from Denver, Colorado, announces that *it is the sentiment of leading Republicans in that State that Western Republicans should advocate entire separation from the Republican party and form a new organization, distinct from all others, which should have for its motto the free and unlimited coinage of silver, and to advocate free trade as a measure of retaliation for the neglect of Western interests shown by Eastern Republicans in their vote on the silver question. In other words the minority—being the silverites—must rule the majority—being those in favor of a gold standard of value. Rule or ruin. The Republican party are advocates of tariff protection to American manufacturing enterprises, but because it does not espouse the cause of the silverites these so-called Republicans desire to oppress the country and destroy their party and the manufacturing industries of the country by aiding their enemies to bring about free trade.*

MR. HERBERT MYRICK, treasurer of the Metallic Drawing Roll Company, Indian Orchard, Mass., who is also treasurer and manager of the new Cheney Flexible Loom Reed Company, of Springfield, Mass., has lately returned from a trip abroad, during which he found great interest manifested in both the metallic roll and the flexible adjustable loom reed. Mr. Myrick regards the present dullness in American cotton manufacturing as only temporary. He writes the following editorial in his weekly, the *New England Homestead*: "The shut-down of the cotton mills is ascribed by free traders to over-production, due to the tariff. But the imports of cotton goods have been one-fourth more in quantity and five millions more in value than during the preceding fiscal year, while exports have been two millions less. Therefore the higher duty on manufactured cottons (averaging 48 per cent. ad valorem, compared to 37 in the Mills bill, and 39 in the tariff of 1883) has not restricted imports nor hampered exports, so that the tariff has mighty little, if anything, to do with it. Exports have not increased because the production was not sufficient for the domestic market. The number of spindles has been added to of late years, and it may be that production has caught up with consumption, but statistics do not show it. We believe the trouble is mainly, if not wholly, due to the uncertainty regarding financial matters, which causes merchants to buy sparingly and to delay their orders for the winter and spring trade. Aside from this condition in the United States, cotton manufacturing throughout the world is in a better state than for two years or more. The great strike of operatives in England enabled the mills to clean up their surplus, and with comparatively cheap cotton and an active market at home and abroad for goods, many English cotton mills have made more money during the past quarter than in any previous period. With the world's surplus of manufactured cottons well cleaned up, and millions of unclothed in Africa adding to the usual demand for this staple, no business has its future better assured than cotton manufacturing. The importance of this fact may be realized from the fact that the growth and manufacture of cotton gives employment to more labor, brains, and capital than any other branch of human industry."

THERE is a resolution now pending in the United States Senate, which, if it should be passed by both Houses, would do more to restore public confidence and to start the wheels of industry than any other measure that could be adopted. It was introduced by Senator Mitchell, of Oregon, and it simply declares it to be the sense of Congress that no change shall be made in the tariff-law during the Fifty-Third Congress. In the body of the resolution Mr. Mitchell expresses the opinion that the mere probability of a change of customs revenue laws has resulted in closing factories, stopping the wheels of industrial enterprise, ruining credit, creating financial distrust and panic, and throwing hundreds of thousands of laborers out of employment. The passage of the resolution would at once remove from the minds of every manufacturer, now filled with apprehension of hostile legislation, all doubt respecting the safety of beginning operations which would extend into the future. The want of confidence that has caused the existing troubles is want of confidence in the ability of manufacturers to conduct their business successfully after so-called tariff reform has done its work. Should Congress approve the proposed resolution, not one manufacturer in forty would care what action Congress would take with respect to the silver question. The blight that has befallen industry is believed by them to have come from the declarations of the Chicago platform for free trade. Senator Mitchell's resolution offers an antidote to the poison, and there are good reasons for believing that it would be a complete one.

MESSRS. FETHERSTONHAUGH & Co., patent barristers, solicitors and experts, Toronto, have issued a circular in which they call attention to the advisability and importance of inventors having their specifications, claims and drawings carefully prepared by experienced practitioners when applying for patents. Since the death of Mr. D. C. Ridout, Mr. F. B. Fetherstonhaugh informs us that he is in the position of having a longer experience and practice before the Patent Office than any solicitor in Ontario, having been engaged in the business for nearly fifteen years. His firm are entirely devoted to preparing and prosecuting applications for patents and acting for patentees in cases of infringement; and clients in employing them have the advantage both of their legal and mechanical experience in preparing applications, and in prosecuting infringements or defending patents should such come before the courts. The success of this firm in the past is a good guarantee of the attention they will always pay to their business.

THE advantages of the electric current for use in small motors are beginning to be appreciated in the St. Pancras district, London, where it is supplied during the daytime at a cheap rate. Power is useful to even small manufacturers, and many of them rent shops in which steam power is supplied at so much per week or month; but many do not want the power all the time the shafting is running, and those who could find the capital put in small gas engines, which they are loth to discard, even though they can get the electric current for three-pence a unit. New shops will, however, use it, as it is switched off and on with the least amount of trouble, and the payment is only for the current used. Brass-workers, makers of "small goods" for the organ and piano trades and other manufacturers who cannot put down expensive plant are beginning to find the electro-motors very handy and useful devices.

THE Empire, giving an Around the Grounds view of what was transpiring on the Fair grounds, speaking of the effort of the Toronto daily newspapers to evict the Canadian Manufacturer's Association from their office in the Press Bureau building, which the Association have occupied every year since the building was erected, declares that "The Globe and the Mail have got their knives into the Association." This is cowardly. Admitting that the papers mentioned have gone into the knifing business, it does not appear that they are any less inclined to butcher the Association than any other of the daily newspapers connected with the eviction business. The evictors concerned in the disgraceful and disreputable transaction were the general committee chosen by the representatives of the seven Toronto daily newspapers, the committee consisting of one member from each daily paper, including the Empire. It is said that the most active participant in the transaction was the representative of the Mail, and that other members of the committee were not inclined to back up and sustain the silly fellow in his actions; but it does not appear that the representatives of the Empire or the World, both of which papers profess much friendship for the manufacturers, or of any others of the committee, denounced the outrage and insult to the Manufacturer's Association or even raised their voice advising that the Association be not molested. They all knew that an unlawful act was to be performed, but they made no effort to prevent it. But it is noticeable that when the Association were reinstated in their office by the authority of President Withrow and Secretary Hill, of the Exhibition Association, not one of the noble gentlemen but was willing that the Mail delinquent should shoulder the onus of the transaction. The Manufacturer's Association now know quite well the extent and sincerity of the love professed for them by the Toronto daily newspapers.

THE Empire tells how The Globe and The Mail attempted to knife the Canadian Manufacturers' Association in a recent transaction at the Fair grounds. It professes much love for the manufacturers on all occasions, and supposedly for the Association also: but for some unexplained reason it more studiously avoids acknowledging the existence of the Association, or of making any mention of it than either of its political opponents mentioned. But a few days ago the secretary of the Association received a letter from Hon. Mackenzie Bowell, Minister of Trade and Commerce, in which he alluded to his unavoidably sudden departure for Australia for the purpose of conferring upon trade matters with those colonies, and requesting the secretary of the Association to make it known to the manufacturers who might desire to extend their trade in that direction that they should send to him their catalogues, price lists, etc., without delay, to Victoria, B.C., before his sailing from there on September 16. Mr. Bowell in having a care for the interests of the manufacturers, and knowing that they could best be communicated with through their Association, wrote to the secretary as above; and that there might be all expedition used in imparting this intelligence, the secretary sent a uniform notice to all the Toronto morning papers asking publication; and the same information was also sent out as a press dispatch so that papers in other cities might publish the notice. All the Toronto morning papers except the Empire published the matter substantially as sent to them, but The Empire butchered and garbled the item out

of recognition, entirely ignoring the Association and changing the matter in an important particular. And this is the paper that talks about the desire of other papers to knife the Association. The Association now know quite well the extent and sincerity of the love professed for them by The Empire.

MR. JOHN G. RIDOUT, barrister, solicitor, etc., who has for the last eight years paid special attention to patent law, the preparation of specifications relating to inventions and the conduct of patent suits, both as counsel and solicitor, has entered into partnership with Mr. J. E. Maybee under the name of Ridout & Maybee, as solicitors of patents. The office of the new firm is in the London & Canadian Loan Company's building, Bay street, Toronto.

SCRIBNER'S MAGAZINE for October has a notable list of contributors, including W. D. Howells, Robert Louis Stevenson, Joel Chandler Harris, H. C. Bunner, Harold Frederic, and Will H. Low. The contribution of Mr. Howells, "The Man of Letters as a Man of Business," is a remarkable one. Under this title he discusses the whole relation of literature to business, especially the relations of the writer with the editor and publisher. It is a striking presentation of those things. Another article of unusual interest is Robert Louis Stevenson's journal of the voyage made by Sir Walter Scott in 1814 around Scotland in the lighthouse yacht. There is an introductory note by Robert Louis Stevenson, the grandson of the author of the diary, which links a third interesting personality to the narrative. The illustrated articles represent an unusual number of the best known American and foreign artists, including Remington, Frost, Will H. Low, Francis C. Jones, and a group of famous Frenchmen, Monvel, Delort, Lynch, Marietti, Jeannot, and Courloin. The last named group forms the subject of an interesting article by F. N. Doubleday. The striking history of a body of remarkably brave men, who for twenty years have practically kept the peace in a wild territory equal to the area of France and Germany, is told by J. G. A. Creighton (an officer of the Canadian Senate) in a paper entitled "The Northwest Mounted Police of Canada," for which Frederic Remington furnishes many illustrations. Published by Charles Scribner's Sons, New York.

OUTING for October is full of seasonable, healthful, outdoor sport and pastime. The illustrations are numerous and beautiful. The contents are as follows: "Sketching Among the Sioux"; "Miss Gwynne's Burglar," by Violet E. Mitchell; "An Adirondack Idyl," by Charles Nott, Jr.; "Bears and Bear Hunting," by Dr. G. A. Stockwell; "Antaens," by Frank M. Bicknell; "A Mixed Bag," by Ed. W. Sandys; "Omananche Fishing," by Eugene McCarthy; "A Week in the Wildcat," by E. Pauline Johnson; "A Chass-Day Madonna," by Jno. Corbin; "Lenz's World Tour Awheel"; "A Century Ride," by Grace E. Denison, etc.

"ELECTRICITY AT THE WORLD'S FAIR" opens the October number of The Popular Science Monthly. The subject is a fascinating one, and Mr. Charles M. Lungren, who writes the article has given faithful descriptions of the enormous generators, the marvelous electric fountains, the electric railway and launches in operation, and other wonders of the electrical exhibit. Objects of special interest are shown in pictures. A less picturesque subject though of more general concern has been chosen by Frederick A. Fernald, who describes the exhibits relating to the daily life and labors of the home, under the title "Household Arts at the World's Fair." Another fully illustrated article, by Henry L. Clark, describes "A Characteristic Southwestern Plant Group," embracing those monarchs of the American desert, the agaves (century plants), cacti and yuccas. Prof. James McK. Cattell writes on "The Progress of Psychology," and foretells some of the practical application of this science. "The Problems of Colored Audition" is treated by M. Alfred Binet. "Some Characteristics of North-western Indians" and a "Sketch of Werner von Siemens" complete the body of the magazine. In the Editor's Table the subjects considered are pernicious charities, the American Association meeting, and the new index to the first forty volumes of the Monthly. New York: D. Appleton & Company. Fifty cents a number, \$5 a year.

GODEY'S MAGAZINE for October is better than ever. The contents is varied and the illustrations are up to this Magazine's high standard. The complete novel this month—the feature of this publication—is by Sophie Frances Baker, and is called "The Red Tom Brownson." It is strong in coloring, treatment and plot, and is brightly and interestingly told. The illustrations are by Charles T. Budd. This number also contains "The Clocks of Paris," written and illustrated by Eleanor E. G. Storex; "A Princess in Bohemia," a charming short story by Sewall Read; "Old Prints," a sketch by John Sheridan Zelic, and "A Plea for the Play Writer," by Fanny Aymar Mathews. All the departments are universally interesting and carefully edited, and the exquisite water color portraits are those of Mrs. Robert L. Henry and Mrs. A. Shreve Badger, of Chicago. The poems are by Frederic F. Sherman, Milton Goldsmith, Harry Romaine and W. J. Lampton.

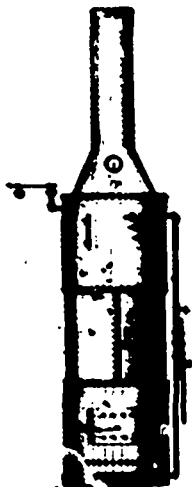
THE appearance of the full piano score of a set of original waltzes, by Edward Strauss, the famous waltz composer and conductor of the court balls of Vienna, is one of the many striking features of the October Ladies' Home Journal. This set of waltzes is called "The Dancing Waves Waltzes," and will be found quite as melodious as any of its predecessors. "Josiah Allan's Wife" is at her best in a delightful little story. "Trying the Rose Act." The happy conclusion of Mr. Howells' "Coast of Bohemia" is more than indicated by Frank O. Small's clever illustration. Altogether this number of the magazine, with its exquisitely illustrated cover, will be found particularly attractive. Published by The Curtis Publishing Company of Philadelphia for ten cents per number and one dollar per year.

### THE KELLY SECTIONAL BOILER.

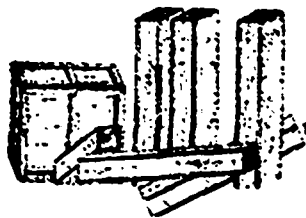
THE Kelly sectional boiler, illustrated herewith, which was patented June 5th, 1883, is the invention of James Kelly, a machinist of Ottawa, who has been for some time in the employ of the Kootenay & Columbia Prospecting and Mining Company. While in British

Columbia a year ago he noted the difficulties encountered in the transportation of machinery over mountain trails, and conceived the plan of building a boiler which would be easy to transport through rough districts. No. 1 represents the boiler set up; No. 2 knocked down, and No. 3 packed in cases ready for shipment. The plates of the boiler are separable, and held together by bolts and nuts; the tubes are flanged at the fire end, and at the tube end are threaded and held in place with buckles. The boiler can be taken to pieces and reconstructed without injury to any of the parts, and put together without skilled labor or special tools, which allows of transportation in mining districts and places difficult of access where light loads can only be carried. The interior tube surrounds the central flue, which prevents the crown and flue plates collapsing when the nuts on the flue are tightened. The heaviest section of the 12 h.p. boiler weighs only a 20 h.p. boiler 175 pounds, including cases, being 2,300 pounds. The boiler was shipped in December to the Wellington and has been working since then, and is giving the boiler was packed on mountain trail on ordinary freight. Two about a day and a half, apart in about half that time.

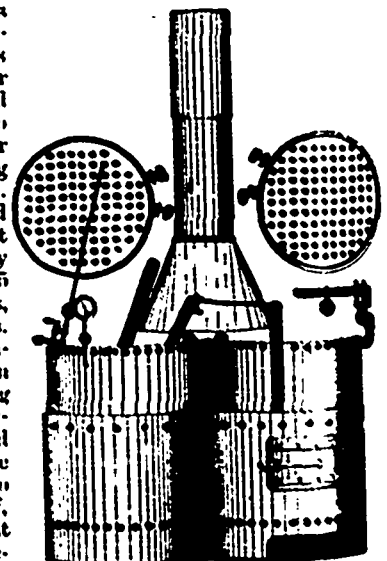
Where wood is used, and where transportation charges are high, a special fire box is prepared with round iron instead of ordinary grate bars. The cost of the boiler is about 50 per cent. more than that of the ordinary riveted, but a great saving is effected in transportation charges. Two of these boilers have been shipped to the Kootenay district this season; and the Kootenay & Columbia Prospecting and Mining Company, who have purchased the patent rights in Canada and the United States intend exploiting as soon as revival in mining takes place.



No. 1. Set up.



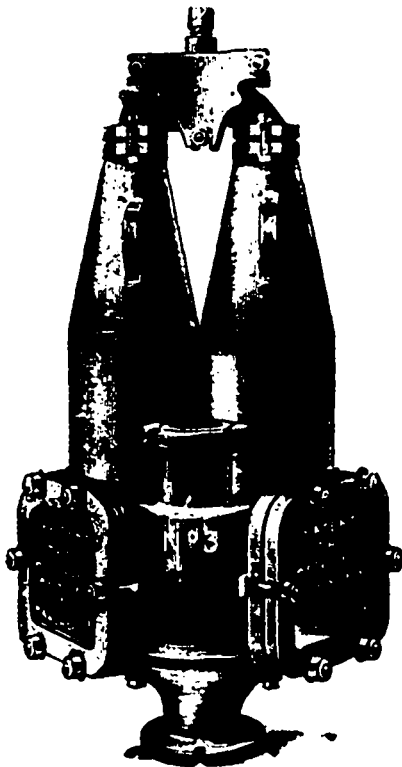
No. 2. Packed in cases ready for shipment.



No. 3. Knocked down.

THE WATERSPOUT PULSATING STEAM PUMP.

It is a fact now generally understood and appreciated that pulsating steam pumps possess advantages which, in cases of emergencies, some times surpass other classes of pumps owing to the ease with which they can be got into position and the large quantities of water they will lift when at work. Their special qualities are recognized in engineering, mining, and manufacturing industries, and any improvements in this class of pumping engine tending to increase its usefulness will be duly appreciated.



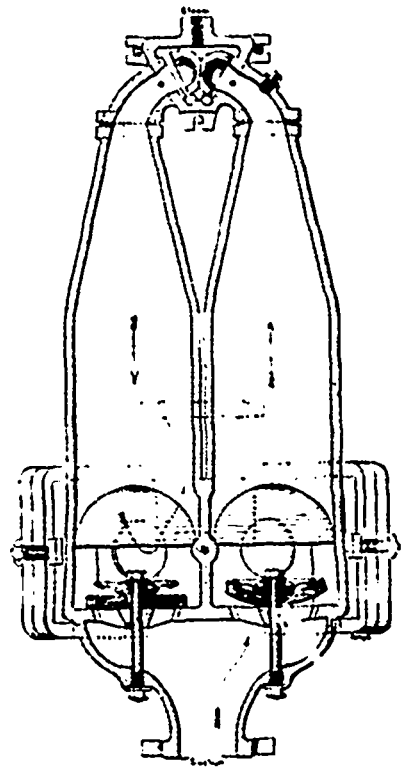
THE "WATERSPOUT" PULSATING STEAM PUMP. (Front View.)

The "Waterspout" consists of several castings; the main one, called the body, being provided with two working chambers, below which is the suction chamber, and in front the delivery chamber. There are openings between the suction chamber and the two working chambers, which are provided with suction valves, constructed so as to allow liquid to enter into each working chamber, but which close against its egress. In the walls separating the delivery chamber from each working chamber there are openings provided with delivery valves which allow the liquid to pass from the working chamber into the delivery chamber, and thence by means of the rising main to where desired. On each side of the body casting there are openings for which are provided suitable covers, which on removal admit of free and easy access for examination or renewal of the suction and delivery valves.

The head casting is bolted to the top of the working chambers (which taper upwards), thus forming a continuation of the same, terminating in a triangular shaped steam chest, on each side of which are found the steam valve seatings.

The steam valve is formed of two hollow semi-spheres joined together at their convex surfaces, in conjunction with a bearing or rocking bar. The flat faces of the semi-spheres form an angle to each other, approximating that formed by the seatings in the steam chest, but allowing the requisite amount of play between the valve face and seating on either side of the steam chest, so that as it oscillates from side to side, steam will be admitted alternately, first to one chamber, then to the other.

The bearing bar rocks on a flat surface the full width of the steam chest; and in consequence of this large bearing surface the durability of the valve is very greatly increased. This is claimed to be superior to the knife edges, over which other



THE "WATERSPOUT" PULSATING STEAM PUMP. (Sectional View.)

valves oscillate. To start and work the pump it requires charging with water. This may be done by filling it through the plug hole provided for that purpose, or by "drawing the charge," which can be easily accomplished if ordinary care is exercised to follow the printed instructions sent with each pump. Steam is permitted to enter the steam chest by a pipe connected to the head, and passes through the port opening into the working chamber, and by its pressure forces the water out through the delivery valve to the discharge pipe. As soon as the level of the water is as low as the bottom of the inclined partition (below which the water passes to the delivery chamber) the steam rushes through with a certain amount of agitation, producing instantaneous condensation, through being brought into violent contact with the water. The vacuum thus rapidly formed pulls the steam valve over to the opposite seating, closing the steam port of the chamber just emptied, and preventing the further admission of steam, ensuring the completion of the vacuum. More water is then forced by atmospheric pressure up the suction pipe through the suction valve, and immediately refills the just emptied chamber. While one chamber is filling the other is emptying, so that an almost continuous stream of water is discharged from the delivery pipe, and thus they continue so long as there is steam to work with and water to pump.

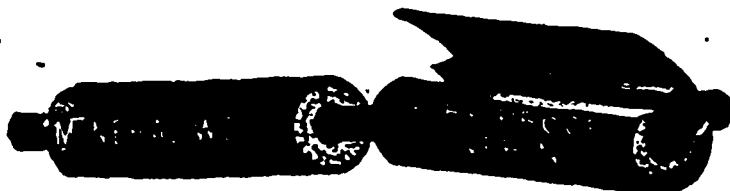
The Waterspout pumps are fitted with the ordinary disc rubber valves with grids. These are extremely simple, and the whole or any portion can be taken out and replaced with new in a few minutes. The grids, guards, spindles and nuts are made of the material best adapted to resist any detrimental action of the liquid to be pumped.

To approximately estimate the steam pressure required for operating this pump, the steam pressure at the pump for lifts not exceeding 40 feet should not be less than 30lb. per square inch, and from 40 feet to 80 feet it will vary proportionately from 30lb. to 50lb., and the height of suction will vary with circumstances, but generally should not exceed 6 to 15 feet to obtain the best results. For higher lifts it will be necessary to have greater steam pressure. This pump is entirely automatic in its operation, and contains no mechanical elements to absorb power. Its compact and small size render it especially suitable for use in mines, well sinking, or working in confined situations where it would be impossible to employ other kinds of pumps, in addition to which it condenses its exhaust steam within itself, doing away with the annoyance of the increase in the temperature, which other pumps speedily cause.

It will work as well suspended by a rope or chain as if permanently fixed. If fitted with flexible steam pipe and hose delivery pipe, it can be raised or lowered while at work without stopping. It will work with any pressure of steam, even exhaust steam, in which case it costs nothing to operate. It will start at once, although it may have been left standing for months, and it makes scarcely any noise while working. It requires no skilled attention or care. It will pump any kind of liquid, even semi-liquids containing 30 to 50 per cent. of solid matter; such as sewage, sand, gravel, coal dust, wool pulp, cement slurry, etc., which are so destructive to other pumps. This pump is manufactured by the owners of the patent, The Waterspout Engineering Company, Manchester, Eng., who will be pleased to send further information concerning it. The right to manufacture the pump in Canada and the United States may be obtained from the owners as above.

LANKIN'S PATENT

A GREAT LOSS!



If you have any Pipes or Boilers uncovered you are losing on same at the rate of 50 cents every year on each square foot of surface exposed. By having them covered with our Mineral Wool Sectional Covering you will save 83 per cent. of this loss. The saving thus effected in fuel will in one year more than pay the cost of covering, which we guarantee to last as long as the pipes.

Our covering is the best fuel saver on the market.

Canadian Mineral Wool Co., Ltd., 122 Bay Street TORONTO



# Inventions.

## CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Office, from August 22 to September 27, 1893, inclusive.

Information in regard to any of these patents may be had free on application to THE CANADIAN MANUFACTURER, or copies of American patents corresponding to these, where the American patent has been previously granted, can be procured through us for the sum of twenty-five cents.

### MECHANICAL.

- 44,001 Cut off valve for hydrants and water pipes, S. C. McNeill and P. Clark August 22nd.  
 44,002 Caster, H. R. Ives, August 22nd.  
 44,003 Churn, N. Monday and J. M. O. Carr, August 22nd.  
 44,004 Weather strip, E. C. Ellis and W. S. Humphrey, August 22nd.  
 44,005 Car heater, J. H. Carson, August 22nd.  
 44,006 Temperature regulator for fruit car heating apparatus, The Consolidated Car Heating Co., August 22nd.  
 44,007 Pneumatic tyre, J. Moseley, August 22nd.  
 44,008 Suspender for wearing apparel, A. M. Ziegler, August 22nd.  
 44,011 Reproducing carvings in wood and other materials, C. Hass, August 22nd.  
 44,012 Spray producing apparatus for disinfecting, deodorizing and purifying the air in apartments and the like, J. W. Black, August 22nd.  
 44,013 Alarm or remembrancer watch bracelets, &c., C. O. Major, August 22nd.  
 44,014 Carpet stretcher, R. L. Kidd, August 22nd.  
 44,015 Stove pipe, T. S. Evans, August 22nd.  
 44,016 Stove pipe, T. S. Evans, August 22nd.  
 44,017 Automatic car coupling, A. Dean, August 22nd.  
 44,018 Cover for sap bucket, Z. Charland, August 22nd.  
 44,019 Nut lock for locking the nuts of railway trucks, W. Atkins, August 22nd.  
 44,020 Railroad switch, J. A. Duggan, August 22nd.  
 44,021 Anchor rip-rap, D. Neale, August 22nd.  
 44,025 Furniture brace tightener, B. Shemwell and J. A. Davidson, August 23rd.

## FETHERSTONHAUGH & CO.

*Patent Barristers and Solicitors,  
 Electrical and Mechanical Experts  
 and Draughtsmen*

## PATENTS

Procured in Canada and all  
 Foreign Countries

Counsel Work Undertaken in Patent Causes.  
 Patent Suits Prosecuted before the Courts.  
 Validity and Infringements of Patents Investigated.  
 Searches made. Assignments and Agreements  
 Drawn. Advice on Patent Laws, etc.

Head Office, Canadian Bank of Commerce Bldg., Toronto  
 TELEPHONE 2589  
 CABLE ADDRESS "INVENTION, TORONTO."

- 44,026 Measuring vessels, G. W. McKim and H. Floto, August 23rd.  
 44,027 Manifold Memorandum, Carter & Co., (Ltd.), August 23rd.  
 44,028 Folding book rack, J. W. Lyon, August 23rd.  
 44,029 Knife handle, The Clauss Shear Co., August 23rd.  
 44,030 Combination garment, R. Stapely et al, August 23rd.  
 44,031 Anti-cribbing device, E. B. Holmes et al, August 23rd.  
 44,032 Pea harvester, D. Tolton, August 23rd.  
 44,033 Car coupling, J. S. Derrough et al, August 23rd.  
 44,034 Unloading gravel trains, W. D. Stratton and J. H. Drake, August 28th.  
 44,035 Veneered buildings, F. Reardon, August 23rd.  
 44,036 Loading device, C. W. Huys, August 23rd.  
 44,037 Potato planter, C. Irish, August 23rd.  
 44,038 Hydraulic motor, S. S. Marsh, August 23rd.  
 44,039 Cash register and indicator, C. Raymond and J. Staape, August 24th.  
 44,040 Threshing machine, A. Filshie, August 24th.  
 44,041 Horse power, A. Filshie, August 24th.  
 44,042 Fire escape, L. Lester, August 24th.  
 44,043 Axe or tool wedge, G. P. Morrill, August 24th.  
 44,044 Books for book keeping, C. S. Hall, August 24th.  
 44,045 Water tube boiler, R. Munroe, Jr., August 24th.  
 44,046 Nut lock, W. J. Jones, August 24th.  
 44,047 Pails, pans, wash boilers, &c., T. D. Brown, August 24th.  
 44,048 Disinfecting apparatus, C. B. Hyslip, August 24th.  
 44,049 Plow colter, W. H. Perrin, August 24th.  
 44,050 Manufacturing metal tube, E. F. Hartshorn, August 24th.  
 44,051 Brush, W. Melins, August 24th.  
 44,052 Range boiler, G. Booth, August 24th.  
 44,053 Moisture pan for radiators, S. G. Curry, August 24th.  
 44,054 Wheel for bicycles and other vehicles, G. W. Smiley and F. W. Dunlap, August 24th.  
 44,055 Washing machine, G. E. Bartholomew, August 24th.  
 44,056 Direct acting steam engine, W. A. Drewett, August 24th.  
 44,057 Hand drill, A. Kerry and F. J. Best, August 24th.  
 44,058 Dress stay, G. D. Hawkins, August 25th.  
 44,059 Grade measure, J. M. Harse, August 25th.  
 44,060 Floor drainer, E. Coon, August 25th.  
 44,062 Inspirator, W. R. Park and B. T. Williston, August 25th.  
 44,063 Combined Trunk and wardrobe, Heunader, August 25th.  
 44,064 Nut lock washer, A. L. Mills, August 25th.  
 44,065 Printing press, A. M. Vaughan, August 25th.  
 44,066 Dress stay, G. S. Brown, August 25th.  
 44,067 Can opening device, H. Woodley, August 25th.  
 44,068 Filling material for making soap, J. Grunwald August 25th.

### G. de G. LANGUEDOC,

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| 44,069 Suction or intake pipe screens, headrace grating, etc., E. F. Laudis, August 25th.                | 44,115 Substance or material for facing moulds used in the casting of metals, J. S. P. Stutley, August 30th. |
| 44,072 Salt purifier, T. Carney, August 25th.  | 44,116 Sprinkler J. R. Stertz, August 30th.  |
| 44,077 Trunks, boxes, coverings and other articles, E. S. Taylor, August 25th.                           | 44,117 Can labelling machine, F. N. Gaudrie, August 30th.  |
| 44,079 Agitable sieve cut off, D. J. Davidson et al, August 25th.  | 44,118 Brake for vehicle, H. D. Woodworth, August 30.  |
| 44,080 Agitable sieve cut off, D. J. Davidson et al, August 25th.  | 44,119 Fuse igniter, W. J. C. Doyle and T. Buckley, August 30th.   |
| 44,081 Hose clamp, L. H. Redfield and J. R. Chaney, August 26th.   | 44,120 Hot water heating system, D. L. D. Winnell and the firm of Miller Bros. & Toms, August 30th.          |
| 44,085 Clothes pins, A Gregoire, August 28th.  | 44,121 Shingle marker, J. T. Rush et al, August 30th.  |
| 44,087 Paper ruling machine, J. A. Murdoch, August 28.   | 44,122 Belt holder, W. F. Cleveland and W. Cowan, August 30th.   |
| 44,088 Removable thumb piece for jars and cans, C. T. Brant, August 28th.                                | 44,123 Bolting apparatus, C. F. Hardy and L. M. Godley, Aug. 30th.   |
| 44,089 Writing pad for telephone desk, C. G. Nestler, August 28th.                                       | 44,124 Cigars and cigarettes, H. L. Manton and J. Paterson, August 30th.                                     |
| 44,090 Beefskin moccasins, J. E. Comtois, August 28th.   | 44,126 Reclining chair, W. M. Watson and F. A. Linton, August 31st.  |
| 44,091 Creamer, A. Dore, August 28th.  | 44,132 Fire proofing compositions, Frank S. Culver and Thomas J. King, September 1st.                        |
| 44,093 Driving belt, C. L. Ortuam, August 28th.  | 44,134 Portable gas generating works, Jacob Mortimer Goldsmith, September 1st.                               |
| 44,098 Supplementary seat for bicycles, J. H. Sager, August 28th.  | 44,136 Fire lighters, The Southgate Manufacturing Co., September 1st.  |
| 44,099 Cycle and other wheel tires, O. Lagurie, August 28th.   | 44,137 Horse Collars and harness, George Dietrich Ohl, September 1st.  |
| 44,101 Boot or shoe, W. P. Bradford, August 28th.  | 44,138 Devices for reproducing characters, writing, etc., Henry Cullemore Bridger, September 1st.            |
| 44,102 Strainer for mixed paints, C. J. McLennan, August 28th.   | 44,140 Time or fare indicator for public vehicles, Abram Katzky and Jacob Gitkes, September 1st.             |
| 44,103 Metallic roofing, J. T. Neel, August 29th.  | 44,141 Animal dippers, Elmer A. Firestone and Jacob H. Firestone, September 1st.                             |
| 44,104 Automatic coupling for vehicles of all kinds, H. Saankoff, August 29th.                           | 44,142 Commutator brushes, Karl Koch, September 1st.   |
| 44,106 Churn, S. J. Saxon, August 29th.  | 44,144 Fire proof safe, Telesphore Frechette, September 1st.   |
| 44,107 Making wood carvings, W. F. Deweese, August 29th.   | 44,147 Contrivance for attaching buttons to clothes, Sylvanus Richards, September 2nd.                       |
| 44,108 Toe Weight, C. M. McMillan, August 29th.  | 44,151 Furnaces, Robert H. Yeoman, September 5th.  |
| 44,109 Combined ironing table and washing machine, W. Hilton, August 29th.                               | 44,153 Method of boning and manufacturing hams, Wm. Edward Brendon, September 5th.                           |
| 44,110 Manner of renewing the wearing part of heels of boots and shoes, J. W. Rogers, August 29th.       |  |
| 44,111 Last, E. Clarkin, August 29th.  |  |
| 44,112 Safety lock, F. Schneider, August 29th.   |  |
| 44,113 Travelling baskets which can be easily transformed to a beach shelter, F. Schneider, August 29th. |  |
| 44,114 Feeding bottle, R. Turck, August 29th.  |  |

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- 44,155 Extractors for grease, grit, etc. from exhaust steam, Warren Webster, September 5th.
- 44,156 Lock Nut, George Clark Richards and Francis Marion Johnson, September 5th.
- 44,160 Leather measuring machine, Joseph Perre Roy and Edmond Pare, September 5th.
- 44,161 Ranges or stoves, Alexander Heppie and James Stephen, September 5th.
- 44,162 Electric heaters, Consolidated Car Heating Co., September 5th.
- 44,163 Car couplings, George A. Norcross and Henry E. Vernor, September 5th.
- 44,165 Dust Guards and oil savers for car axles, William A. Warman, September 5th.
- 44,166 Yard shafts and street gullies, Wm. McLea Wallbank, September 5th.
- 44,167 Machines for ornamenting wood or other materials, Charles Lewis Goehring, September 5th.
- 44,168 Ink stands, Henry Selby Hele Shaw, September 5th.
- 44,169 Washing machines, Thomas McCrossan, September 5th.
- 44,170 Meat and vegetable cutter, Wilson Ralph, September 5th.
- 44,171 Shelves for attaching to stove pipes, Ithamar Sursin Chamberlain, September 5th.
- 44,172 Valves for automatic air brakes, George Albert Boydon, September 5th.
- 44,173 Gas governors, Archibald Ford, September 5th.
- 44,175 Carriage top, G. B. St. John, September 6th.
- 44,176 Washing machine, W. Hilton, September 6th.
- 44,177 Addressing machine, J. P. O'Malley, September 6th.
- 44,178 Scavenging incinerator, F. L. Decarie, September 6th.
- 44,179 Releasing car window springs, H. M. Dimming, September 6th.
- 44,180 Needle packet holder, R. W. Kydd, September 6th.
- 44,181 Saving metallic particles driven off from high cupola blast furnaces, D. Sheedy et al, September 6th.
- 44,182 Clothes pins, J. W. Cook, September 6th.
- 44,183 Safety appliance for elevators, J. Des Georges, September 6th.
- 44,184 Boiler, C. S. Hopkins, September 6th.
- 44,185 Wooden pipe, A. McL. Hawks, September 6th.
- 44,186 Process of ornamentation, Photo. Litho Transfer Co., September 6th.
- 44,188 Churning, N. A. Hicks, September 7th.
- 44,189 Postal and similar tubes, P. Tyrer, September 7th.
- 44,190 Hinge, J. G. Smith, September 7th.
- 44,191 Vise, A. Kane, September 7th.
- 44,192 Saw clamp, M. D. and C. P. C. Miner, September 7th.
- 44,193 Safety Eucharistic water cruet, L. C. Beaudet, September 6th.
- 44,194 Woven wire spring seat cushions and upholstery, J. H. and A. R. Munro, September 7th.
- 44,195 Coupling thills or shafts to vehicles, L. de Cailly, September 7th.
- 44,196 Sleigh, R. McLaughlin, September 7th.
- 44,197 Ventilating apparatus for greenhouses and other structures, F. C. Chadboon, September 7th.
- 44,198 Cutter head, C. L. Goehring, September 7th.
- 44,199 Composition for washing linen, T. Leonard, September 7th.
- 44,200 Shoes for horses or other hoofed animals, M. E. Poupart, September 8th.
- 44,201 Funnel, E. N. Gandron, September 8th.
- 44,202 Fire escape, C. E. Harvey, September 8th.
- 44,203 Catheter holder, W. M. Lovejoy, September 8th.
- 44,204 Railroad frog, J. Wood, September 8th.
- 44,205 Car coupler, F. Peck, September 8th.
- 44,206 Whiffletree connection, A. Haggerty, September 8th.
- 44,207 Bows for stringed musical instruments, E. A. Kretschmer, September 8th.
- 44,208 Garment hook, C. J. Brosnan, September 8th.
- 44,209 Folding table, N. Schumacher, September 8th.

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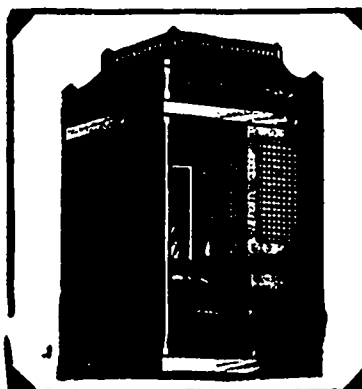
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- 44,210 Burial casket, J. P. Lakin, September 8th.
- 44,211 Heating and administering medicated air, W. S. McLean, September 8th.
- 44,212 Washing machine, G. C. Carman, September 8th.
- 44,213 Picking motions of looms for weaving, J. and A. Moss, September 8th.
- 44,214 Mast arm, A. Wright, September 8th.
- 44,215 Amalgamator, A. Kitson and A. Koith, September 9th.
- 44,216 Artificial fuel, H. S. Albrecht, September 9th.
- 44,217 Buggy whiffletree, R. J. Neilberent and A. F. Kempton, September 9th.
- 44,218 Sifting attachment for stoves, A. E. Trentoswky, September 9th.
- 44,219 Smoke-consuming furnace, J. Milton, September 9th.
- 44,220 Movable hood for stoves and ranges, Heat and Odor Extinguisher Co., September 9th.
- 44,221 Boiler tube cleaner, R. T. Brooke and R. Gillies, September 9th.
- 44,222 Car brake, W. B. Anderson et al, September 9th.
- 44,223 Car seal, J. W. Dawson and G. W. Allen, September 9th.
- 44,224 Steam engine, J. Musgrave et al, September 9th.

- 44,225 Fountain pen, J. E. Chase, September 9th.
- 44,226 Fountain pen, J. J. Dowd, September 9th.
- 44,227 Rotary cutter head, K. Nelson and O. J. Simons, September 9th.
- 44,229 Agricultural implement for pulverizing soil, C. Christie et al, September 11th.
- 44,230 Letter and bill file, The Eclipse Office Furniture Co. (Ltd.), September 11th.
- 44,231 Barbed fencing wire, E. Schonoberg, September 11th.
- 44,232 Halter, E. Shaw, September 11th.
- 44,233 Cooking apparatus, W. T. Martin, September 11th.
- 44,234 Opening and closing the slats of window blinds, L. Jobin, September 11th.
- 44,235 Setting and cooling tires, P. O'Brien, September 11th.
- 44,236 Advertising device together with a contrivance for carrying it into effect, J. L. Scott, September 11th.
- 44,237 Water gauge, F. H. Hausman, September 11th.
- 44,238 Thimble attachment, M. Fogg, September 11th.
- 44,239 Baling press, P. K. Dederick, September 11th.
- 44,240 Fabric sponging apparatus, A. Blumenthal, September 11th.
- 44,241 Store stool, G. F. Steese, September 12th.

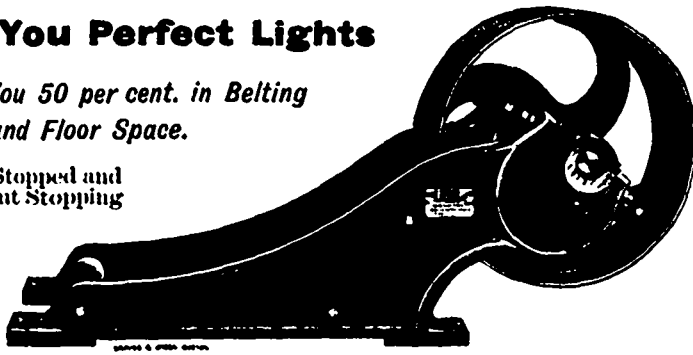
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- 44,242 Stretcher for wire fences, J. Stauffer, September 12th.
- 44,243 Skate, O. E. Wollert, September 12th.
- 44,244 Saddle for velocipedes and similar vehicles, W. G. Rich and J. H. Sager, September 12th.
- 44,245 Bicycle saddle, J. H. Sager, Sept. 12th.
- 44,247 Means for obtaining motive power, H. M. Fellows and A. R. Whitham, September 12th.
- 44,248 Compressed air motor system, J. A. Farlinger, September 12th.
- 44,249 Mashing machine, W. S. Werden, September 12th.
- 44,250 Coin controlled machine, W. Reeves and E. J. Street, September 12th.
- 44,251 Draft equalizer, H. Daly and G. McGillivray, September 13th.
- 44,252 Attachment holder for sewing machine, G. Tucker and A. Shoup, Sept. 13th.
- 44,253 Sole sewing machine, J. E. Bertraud et al, September 13th.

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- 44,255 Re-lining railway tunnels, S. J. Morris and J. W. Waite, September 13th.  
 44,257 Lathe, S. P. Graham and J. Horning, Detroit, Sept. 13th.  
 44,258 Hub for carriage wheels, M. L. Killam et al, Sept. 13th.  
 44,259 Typewriter, The Muskelyne Typewriter Co. (Ltd.), September 13th.  
 44,260 Portable safety heater, J. House and J. A. Catlin, September 13th.  
 44,261 Injector, R. Harrison, September 14th.  
 44,262 Combination lock, F. and C. Meloche, September 14th.  
 44,263 Top, J. Desormiers, September 14th.  
 44,264 Conveyor belt for harvesters or grain binders, D. M. Storms, September 14th.  
 44,265 Door weather strip, J. McMath, September 14th.  
 44,266 Cutting dadas, J. A. Stuart, September 14th.  
 44,267 Smoke consumer, J. T. Ellis, September 14th.  
 44,268 Potato digger, D. Y. Hallock, September 14th.  
 44,169 Display cabinet for photographs, T. E. Wood, Sept. 14th.  
 44,270 Protector for pneumatic tires, A. S. Davy, September 14th.  
 44,271 Adjustable bale tie, P. K. Dederick, September 14th.  
 44,272 Operating sand pumps when sinking artesian wells, W. A. Simpson, September 14th.  
 44,273 Elevator, J. R. Moss, September 14th.  
 44,274 Grate, W. P. Swerthout, September 14th.  
 44,275 Air brake, L. A. Pinkerton, September 14th.  
 44,276 Hand device for affixing postage stamps and the like, J. P. Martin and W. P. McFeat, September 14th.  
 44,277 Passenger car cooler and ventilator, A. Black, Sept. 14th.  
 44,278 Self adjusting metallic packing for steam engines, pumps, etc., J. L. Halyburton, September 14th.  
 44,279 Manufacture of rolled rails, girders, bars and other rolled objects, T. Bicheroux, September 15th.  
 44,280 Grinding and polishing apparatus for wire rods and tubes of any material and of any form and dimensions, E. Post, September 15th.  
 44,281 Dental chair, T. M. Clark, September 15th.  
 44,282 Tile construction for walls, arches, partitions and roofs, J. A. Flint, September 15th.  
 44,283 Double-harpoon clover hay fork, D. A. Shank, Sept. 15th.  
 44,284 Pilot or guard for cars, R. A. Crawford, September 15th.  
 44,285 Auger, A. L. Adams, September 15th.  
 44,286 Railway switch, September 15th.  
 44,287 Ice forming and preserving rooms, J. M. Rosse, September 15th.  
 44,288 File, A. H. Costigan, September 15th.  
 44,289 Manufacturing wire spikes, nails, &c., J. J. Gordon, September 15th.  
 44,290 Bedstead, A. H. Gale, September 15th.  
 44,291 Regulating windows for ventilating purposes, W. H. Hamilton and W. A. Matheson, September 15th.  
 44,292 Device to prevent accidents or to clean snow, A McKerlie, September 15th.  
 44,293 Money box, registering the amounts deposited, J. Z. Ratelle, September 15th.  
 44,294 Brake for sleighs, J. Naud, September 15th.  
 44,295 Injector, P. Brownley and W. Stirling, September 15th.  
 44,296 Pinch bar, J. McDonald, September 15th.  
 44,297 Burial casket, J. N. Pruser, September 16th.  
 44,298 Machine for slicing vegetables, J. G. Good, September 16th.  
 44,299 Car coupler, J. H. Scoggin, September 16th.  
 44,300 Carving machine, A. Saunders and J. Storey, Sept. 18th.  
 44,301 Embossing machine, R. Saunderson, September 18th.  
 44,302 Enamelling metal wire, H. Claus, September 18th.  
 44,303 Screw machine, E. F. Claussen, September 18th.  
 44,304 Remedy, P. Soete, September 18th.  
 44,305 Harness loop, C. W. James, September 18th.  
 44,306 Bed chair, J. C. Wood, September 18th.  
 44,307 Horse collar, W. T. Fell, September 18th.  
 44,308 Vacuum pan, W. Walter, September 18th.  
 44,309 Spittoon carrier, G. B. Nagle, September 18th.  
 44,310 Transom pivot, Howarth Reversible Sash and Sash Centre Co., September 18th.  
 44,311 Transom pivot, Howarth Reversible Sash and Sash Centre Co., September 18th.  
 44,312 Window sash centre, Howarth Reversible Sash and Sash Centre Co., September 18th.  
 44,313 Hot water generator for stoves, A. Saunders, Sept. 19th.  
 44,314 Hot water generator for stoves, A. Saunders, Sept. 19th.  
 44,315 Stove attachment for carrying off the burnt smell of cooking arising from stoves, T. Graham, September 19th.  
 44,316 Railway joint, J. S. Brown, September 20th.  
 44,317 Drier for cocoa and other grains, J. G. Elizando, September 20th.  
 44,318 Four wing miller, C. E. Parks, September 20th.  
 44,319 Roofing cement or compound, S. D. Chatterton, Sept. 20th.  
 44,320 Gas, R. M. Bidelman, September 21.  
 44,323 Weather Strip, W. H. Nixon, September 20th.  
 44,324 Floor coverings of the linoleum, oil-cloth type, J. C. Lyon, September 20th.  
 44,325 Construction of images, S. M. Schwab, Jr., September 20th.  
 44,326 Game board, G. W. Seebach, September 20th.

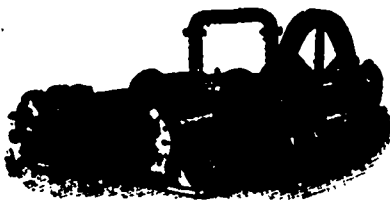
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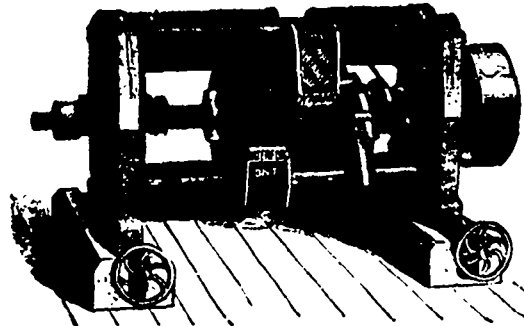
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- 44,327 Roof scaffold bracket, H. McCormick, September 20th.
- 44,328 Speed gear for velocipedes, C. Vogel, September 20th.
- 44,329 Agitator for mixed paints, C. J. McLennan, September 20th.
- 44,330 Bolster spring, A. G. North, September 20th.
- 44,332 Making strands of cords and cables, W. H. H. Sismur.
- 44,333 Harness for relieving or lessening the pressure on draught horses, M. Huth, September 21st.
- 44,334 Pump, T. Parker, September 21st.
- 44,335 Agitator for mixed paints, C. J. McLennan, September 21st.
- 44,336 Non-pressure filter, The Boston Filter Co., September 22nd.
- 44,337 Rotary engine, R. Dowling et al., September 22nd.
- 44,338 Churn, E. F. Beard, September 22nd.
- 44,339 Wire spring mattress, A. H. Gale, September 22nd.
- 44,341 Hinged joint links for jointing walls of boxes and casings, O. Heinrich et al., September 23rd.
- 44,342 Drying and disintegrating clay, etc., F. D. Cummer, September 23rd.
- 44,343 Car mover, P. H. Jacobus, September 23rd.
- 44,344 Press for embossing and printing, J. Y. Johnston, September 23rd.
- 44,345 Fuel, S. G. Wicking et al., September 23rd.
- 44,346 Manufacture of fly-paper, J. H. Smith, September 23rd.
- 44,347 Safety fender for tram, electric and cable cars, H. S. Robins, September 23rd.
- 44,348 Travelling pulley carriage for raising, lowering and traversing loads, J. Temperley, September 25th.
- 44,349 Hoof-cleaning tool, R. C. James, September 25th.
- 44,350 Obstetrical stirrup, J. M. Maurer, September 25th.
- 44,351 Gate, F. Hopkins, September 25th.
- 44,352 Ice cream freezer, J. C. Hoxie, September 25th.
- 44,353 Speed governor for clockwork and other mechanism, J. E. Greenhill, September 26th.
- 44,354 Adjustable extension holder for cigars, E. L. Gaylord, September 26th.
- 44,355 Wire tightener, A. E. Cody, September 26th.
- 44,356 Carriage wheel, J. Devine, September 26th.
- 44,357 Blocks or briquettes of fuel from small coal, etc., G. Spiecker et al, September 26th.

- 44,358 Wire tightener, W. J. Hall, September 26th.
- 44,359 Vessel or can, G. Brinton & J. B. Bailey, September 26th.
- 44,361 Dry closet system, F. G. Ward, September 27th.
- 44,362 Packing box for fruit jars, bottles, etc., S. E. Parrish et al., September 27th.
- 44,363 Edge runner or vertical mill stone, H. Muntey, September 27th.
- 44,365 Gasoline holder, A. S. Snyder, September 27th.
- 44,366 Blank book, C. Johnson, September 27th.
- 44,367 Transposing piano action and key board instruments, A. Murey, September 27th.
- 44,368 Waggon loader, J. E. Eveleth, September 27th.

**ELECTRICAL.**

- 44,000 Telephone index, J. J. Ryan, August 22nd.
- 44,009 Electric signal, F. H. Clarke, August 22nd.
- 44,010 Electrical reduction of aluminum and other metals and the productions of alloys thereof, T. L. Willson, August 22nd.



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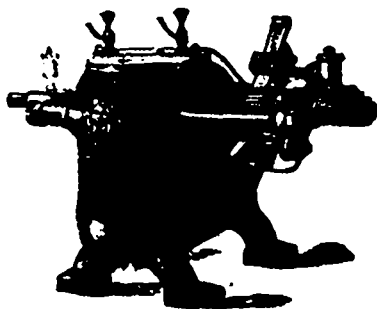
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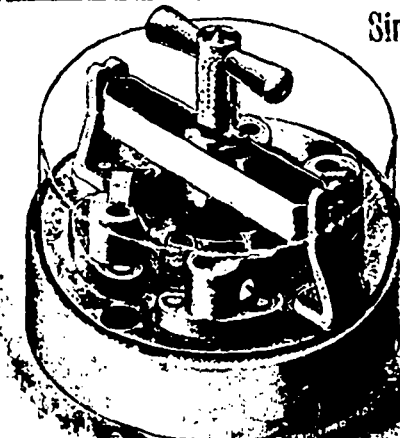
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**PERKINS' ELECTRIC SWITCH MFG CO.**

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For Sale by the Canadian General Electric Co., Toronto.

- 44,022 Electric motor and dynamo machine, H. Chitly, August 22nd.  
 44,023 Telephone switch board system, C. W. Brown, August 22nd.  
 44,024 Electrical pumping apparatus, M. W. Hall, August 22nd.  
 44,070 Electrolytic apparatus, T. Craney, August 25th.  
 44,071 Electrolytic apparatus, T. Craney, August 25th.  
 44,073 Electrolysis of salt, T. Craney, August 25th.  
 44,074 Electrical attachment for rocking chairs, C. E. Hartelius, August 25th.  
 44,078 Electric cable, T. Guillaume, August 25th.  
 44,083 Induction system of electric heating and for other uses, The American Electric Heating Co., August 26th.  
 44,084 Electrically heated radiator, The American Electric Heating Co., August 26th.  
 44,092 Electric motor, H. A. Wagner and F. Schivedtmann, August 28th.  
 44,094 Manufacturing electric insulating materials, C. W. Jefferson et al, August 28th.  
 44,096 Telephone, J. B. S. Booth and E. J. Falconer, August 28th.  
 44,105 Binding post for electrical connection, A. Kohl, August 29th.  
 44,125 Regulator for dynamo electric machine, E. Thomson, August 31st.  
 44,127 Secondary battery, S. A. Rosenthal and V. C. Doubleday, August 31st.  
 44,128 Electric machine for traction and stationary purposes, W. Lawrence, August 31st.  
 44,129 Electric distribution, C. O. Mailloux, August 31st.  
 44,131 Electric heating apparatus, M. W. Dewey, August 31st.  
 44,133 Arc lamps electrodes, Charles W. Hazeltine, September 1st.  
 44,135 Electrolytic Cell, Thomas Craney, September 1st.  
 44,139 Electric heating coils, Edward Seybold and John Elliott Brown, September 1st.  
 44,143 Conduit electric railways, Henry P. Feltrow, September 1st.  
 44,146 Electrolytic apparatus, Thomas Craney, September 2nd.  
 44,148 Electric railway trolleys, Ernest H. Jenkins, September 2nd.  
 44,149 Telephone transmitters, S. Lloyd Wiegand, September 2nd.  
 44,150 Electro Magnetic coils, Charles E. Lipe, September 2nd.  
 44,152 Telephonic news dispenser, Theodor Puskas, September 5th.

- 44,157 Electro magnetically heated receptacles and articles, American Electric Heating Co., September 5th.  
 44,158 Systems of telephoning, John W. Gibboney, September 5th.  
 44,159 New improvements for Telephones, Isidore Therien, September 5th.  
 44,164 Pyro-electric generators, The International Chemical & Gas Co., September 5th.  
 44,187 Electric heater, E. P. Wetmore et al, September 7th.  
 44,228 Electric arc lamp, H. Chapman and L. Sterne, September 11th.  
 44,246 Telephone switch operating mechanism, T. W. Ness, September 12th.  
 44,254 Current adapted for electric light, J. C. Vetter & Co., September 13th.  
 44,256 Automatic telephone system, Automatic Telephone & Electric Co., of Canada, September 13th.  
 44,321 Electrolytic apparatus, C. Hanbury, September 20th.  
 44,322 Electrolytic cell, T. Craney, September 20.

## SCIENTIFIC PROCESSES.

- 44,061 Gas manufacture, S. W. Van Syckel, August 25th.  
 44,075 Refining nickel and copper mattes, C. G. Richardson, August 25th.  
 44,076 Process of melting, J. A. Tilden, August 25th.  
 44,082 Manufacture of gas, J. Gray, August 26th.  
 44,086 Producing a gloss or finish upon articles of wood or other absorbent material, B. B. Goldsmith, August 28th.  
 44,095 Manufacture of gas, L. L. Merrifield et al, August 28th.  
 44,097 Ascertaining the quantity of moisture contained in textile stuffs, W. Saulmann, August 28th.  
 44,100 Preparing cereals, F. G. Callender, August 28th.  
 44,130 Preparing peat and turf for use as a fuel, O. G. Blunder, August 31st.  
 44,145 Airing and cooling strainers for milk, Cyrus Thibeault, September 2nd.  
 44,331 Coking process and in the manufacture of coke and the recovery of products, J. Bowling, September 21st.  
 44,340 Producing gas, etc., G. A. Watson, et al., September 23rd.  
 41,360 Sulpho acid, The Grasselli Chemical Co., September 27th.  
 44,364 Carbonating liquids, C. A. & J. Schneible, September 27th.

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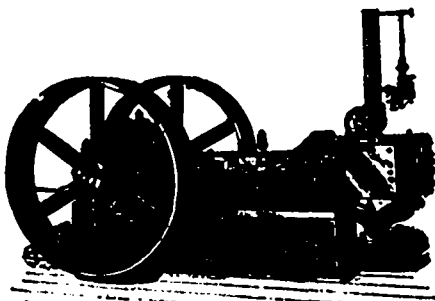
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Perfect Regulation and  
 Highest Economy.

**STEAM PUMPS  
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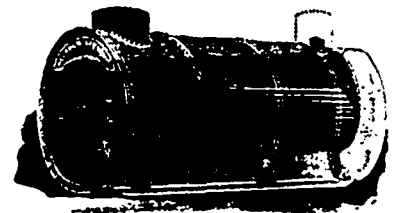
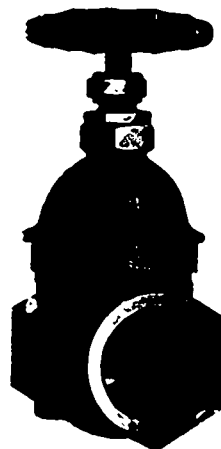
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Sole Manufacturers for Canada.

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## Captains of Industry.

This department of the "Canadian Manufacturer" is considered of special value to our readers because of the information contained therein. With a view to sustaining its interesting features, friends are invited to contribute any items of information coming to their knowledge regarding any Canadian manufacturing enterprises. Be concise and explicit. State facts clearly, giving correct name and address of person or firm alluded to, and nature of business.

The farmers' elevator at Griswold, Man., was destroyed by fire Sept. 10th.

Fire in Eker's brewery in Montreal, on Sept. 19th, did damage to the extent of about \$15,000.

The planing mill of W. B. Derbyshire, at West Port, Ont., was destroyed by fire Sept. 10th; loss about \$2,500.

The large flour mill of David Clemens, at Winterbourne, Ont., near Berlin, was destroyed by fire Aug. 30th; loss about \$15,000.

GERHARD & Co.'s cigar box factory and the factory of the Montreal Beer Pump Company, at Montreal, were partly destroyed by fire Sept. 11th; loss about \$5,000.

The William Hamilton Mfg. Company, Peterborough, Ont., are building two 68-inch turbine water wheels for the Peterborough Water Co.'s new pump house.

W. G. ROCHESTER, an engraver of Ottawa, has invented and patented a printing and lithographing machine with which he says he can produce as many as thirty printings of different colors at one operation; and he has sold his German patent for \$60,000.

The Hamilton, Ont., Spectator says: Though the Edison electric lamp works is to be removed to Peterboro', the industry will not be lost so far as Hamilton is concerned. C. F. Stilwell, the former manager of the lamp works here, is organizing a new com-

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| Drain Pipes,                   | Calced Plaster,  |
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pany, and will continue the factory here on the same lines as at present, but probably on a larger scale. He expects to start with 40 or 50 hands, and increase the staff as the business warrants it.

APPLICATION has been filed for the incorporation of the Hamilton Iron and Steel Company, with a capital stock of \$1,000,000, head office to be at Hamilton, Ont. This is the materializing of the concern having for its object the erection of blast furnaces at Hamilton. The first directors of the company will be Joseph J. Morehouse, James Morehouse, William Foster, Jr., and Herbert N. Curtis, of the city of New York; William V. Reynolds, of Reynoldsville, N.Y.; Edward H. Thompson, of Millerton, N.Y.; John N. Tilden and John Milne, of Hamilton, Ont., and Robert Jaffray, of Toronto. It is understood that Mr. J. J. Morehouse, who is at the head of the concern, has already contracted for most if not all of the machinery for the new plant.

## SAMUEL FUGE

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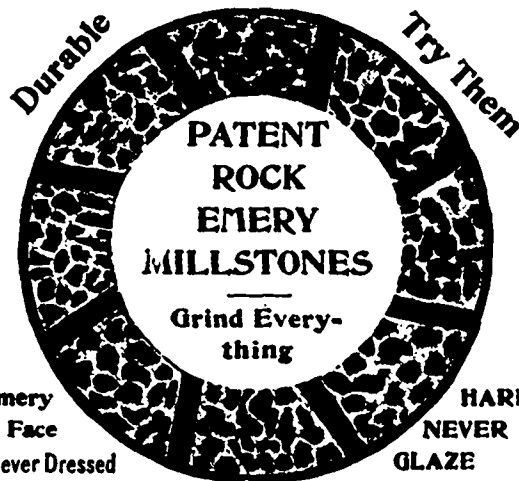
(Black Lines on a White Ground), just as simple as the Blue Print Process. We prepare our own Blue Print Paper, supplying a very Superior Article at a low figure. We keep a very large variety of

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FASTEST GRINDER KNOWN



Emery Face Never Dressed

HARD NEVER GLAZE

Sturtevant Mill Co., Boston, Mass.



THE St. Johns Stone Chinaware Company have applied to the corporation of St. Johns, Que., for a bonus of \$25,000, payable in five yearly instalments, to assist them in rebuilding their large pottery in that town. They will agree to give employment to at least 150 hands.

THE Toronto Glass Company have been incorporated with a capital stock of \$50,000 to manufacture glass in Toronto. The buildings of the new works are about completed, and operations will be commenced at an early day. John C. Malcolmson is superintendent.

THE Portage la Prairie, Man., Review give the following description of the new Farmers' flour mill at that place which will be run in connection with the Farmers' Elevator Co. The mill was built by Gray & Stable and the machinery supplied by the North American Mill Building Co., the total cost of the building being \$20,000. The dimensions are 50x30 ft., and its height 60 feet, it contains 4 storeys and it has a running capacity of 175 barrels a day. The engine is a Brown of 100 horse power. The basement contains 20 elevator boot legs, on the second storey six double sets of rolls of various surfaces are in operation. There are also seven packers on this floor each capable of packing one sack per minute. On the third storey are to be found the bins, a George Smith purifier and the bran dusters. There are six bins capable of holding 95 tons of flour, shorts and bran. The Smith purifier receives the wheat on a fine silk netting, underneath which a current of air is turned on which blows every impurity away, leaving the wheat in its pure state. The top storey contains six inter elevator reels and two Eureka wheat cleaners, with cyclone dust collectors attached. On every part of machinery which has a fanning attachment is to be found the Reliance dust catcher, which is of great service, leaving the mill entirely free from dust. It is, we believe, the first one of the kind to be used in the country. It will take 10 men to run the mill when in full blast, and the

mill is so constructed as to have all the machinery on one side and bins on the other, so that in the event of an increase in trade the bins may be removed to a warehouse outside, machinery put in their places, and the mill will then be capable of turning out 350 barrels a day.

THE Penberthy Injector Company, Detroit, Mich., who have heretofore confined their efforts principally to the manufacture of injectors, are as fast as possible getting out patterns for several new specialties to combine with their present business. They inform us that unless some unlooked for complication occurs, they will put on the market this coming spring a sight feed lubricator, an automatic starter for pumps or injectors, a low water alarm and a lawn sprinkler. As this concern are noted for handling the best of everything of its kind, their friends may expect something good, new and novel.

MR. BENJAMIN F. NICHOLS, of Springfield, Mass., recently returned from England, reports a very active demand abroad for the patent metallic drawing rolls manufactured by the Metallic Drawing Roll Co., of Indian Orchard, Mass., to supply which the Hetherington works are obliged to run nights. The Messrs. John Hetherington & Sons, Ltd., of Manchester, Eng., who have been sole licensees for the manufacture of metallic rolls under the foreign patents, will continue to make them pending the organization of the independent company which is to acquire the entire foreign rights for the metallic roll patents, take over the roller-making plant now in operation, and construct new works equipped with the latest improved special machinery for manufacturing the patent metallic rolls on a large scale. The operation of these metallic rolls gives equally as great satisfaction abroad as in the United States, and the American company reports that its works at Indian Orchard are still crowded to fill orders in spite of the recent dull times among the cotton mills. An illustrated description of these rolls was published in this journal on May 19th last.

## Machinists' Fine Tools

Drills, Chucks, Reamers, Etc.

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# TOOLS

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Wire Drawers, Galvanizers

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MANUFACTURERS OF

IRON WIRE BRASS  
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FOR ALL PURPOSES

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Steel and Brass Wood Screws, and  
Wire Nails.

Crescent Coat and Hat Hooks, Steel and  
Brass Jack Chain.

2 and 4 POINT BARB and PLAIN TWIST FENCING.

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Good Drinks, Good Profits**

IF YOU ARE A LIVE MAN You need a copy of

**"DUBETTE'S NEW BOOK OF FORMULAS"**

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New Malt Phosphates.	Delicious Fruit Meads	Soluble Wine Bitters
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Wine Phosphates	Champagnes	New Italian Lemonades
Cream Fruit Lactarts	New Fancy Egg Phos-	Exquisite Ice Cream
Soluble Flavoring Ex-	phates	Sodas
tracts	Exquisite Fruit Juice	Non-Poisonous Colors
New Modern Punches	Shakes	Etc., Etc.
"Par Excellence" Milk	Favorite Wine Bitters	
Punches	Shakes	

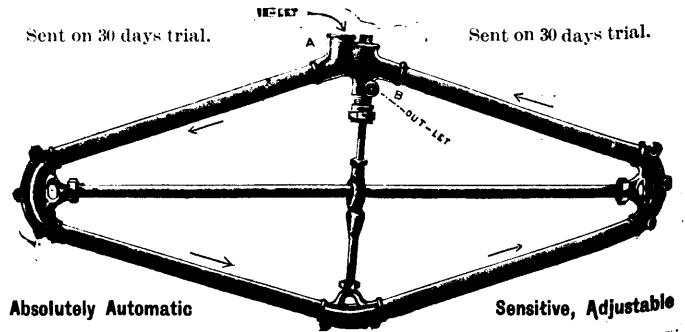
**490 FORMULAS, CLOTH.** The most complete book of its kind. Sent post-paid to any part of the world on receipt of published price, \$2.50. Send for full descriptive circular.

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28 AND 30 DALHOUSIE ST., TORONTO, ONT.

FINE BRASS CASTINGS.

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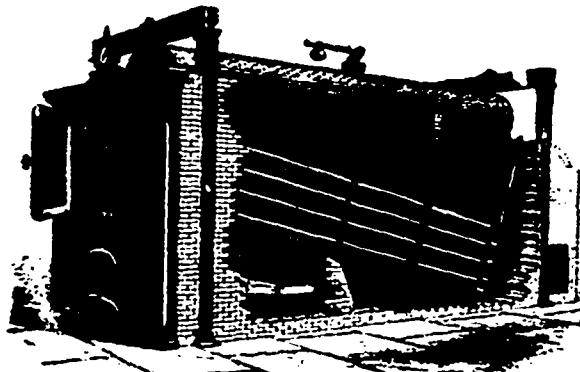
The Barney Ventilating Fan Company, Boston, Mass., have sent us a circular, addressed to engineers who desire information regarding the ventilation of factories and other buildings, in which they say: To obtain expert advice without expense, send us a rough pencil sketch showing floor plan of the room in which you wish to use a fan; shape and dimensions, including height; doors and windows, with size; shafting from which you could drive fan, how it turns and speed; heating apparatus, if steam coils, describe construction and location; roof, shape and openings in it, with size. General information: Tell us just what it is you wish to do with a fan, location of trouble to be removed, how caused, where most annoying, and particularly designate where you could conveniently let in a supply of warm air in winter to replace that removed by fan. With this information we can intelligently consider your matter, and will advise you by return mail what we can guarantee to do for you, with the cost of apparatus.

Among recent shipments from the works of the Robb Engineering Company, Amherst, N.S., are the following Robb-Armstrong engines and Monarch economic boilers: Three boilers, 150 h.p. each, for electric light station at London, Ont.; a 125 h.p. engine to Lethbridge, N.W.T.; a 150 h.p. boiler for the Intercolonial Railway shops at Moncton, N.B.; a 100 h.p. boiler for the electric light station of the Canada Electric Company at Amherst, N.B.; a 150 h.p. boiler for Messrs. Ferguson & Pattinson, Preston, Ont.; a 60 h.p. engine and boiler for T. C. Burns, Kingston, N.B.; a 60 h.p. boiler for electric light station at Montreal Junction; a 40 h.p. engine for the Board of Trade Building, Montreal (two larger ones to follow); a 30 h.p. engine for running an electric plant at city of Quebec; a 40 h.p. engine and boiler for Lockhart & Lowther, Leicester, N.S., and a 30 h.p. engine to W. H. Langille, River John, N.S.

The following from Forest and Stream is of interest in Peterborough, Ont.: Pleasure canoeing in Canada dates back many years, to the time when the dug out and birch bark were used for hunting and fishing—the present boats being then unknown. The dugouts were too heavy for portaging, and the birch too frail for most purposes, and about 1856 Stephenson, of Peterborough, built the first basswood canoes, making them as strong as the dugouts, and but little heavier than the birch bark. The first paddling race

was held about 1854, at Lakeland, and the first regatta was held in 1856 on Lake Katchewanooka, at Lakeland, and a second at the same place in 1857, and one in the same year at Peterborough and another at Rice Lake. Other races, chiefly paddling, followed in subsequent years at Peterborough, Lakeland and Rice Lake. The basswood canoes were first seen at the regatta about 1858, since which they have come into general use for hunting, fishing and camping. Stephenson, English, Gordon, Harold and other builders have introduced many improvements in the boats and the methods of manufacture. The Peterborough Boating Club, at its formation, was composed almost entirely of canoeists, and both sailing and paddling races for canoes have figured prominently in their races.

PETERBOROUGH, Ont., Review: The Central Bridge and Engineering Works are building up a wide reputation for work in special lines. They are now working on an order from Rochester, N.Y., for fifteen large flexible joints for water pipes. That city is taking water for general purposes from the lake and the pipes run a long distance out into the water and these joints are found invaluable for that purpose. The joints will be about five and a half feet inside diameter. They are the largest joints of the kind used in America except two which were made a couple of months ago in these works for Toronto, which are the largest in the world. They



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WATER TUBE STEAM BOILERS

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Agents for the Dominion

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Ginghams, Zephyrs, Cheviot Suitings, Flannel-  
ettes, Dress Goods, Skirtings, Oxfords,  
Skirtings, Cottonades, Awnings,  
Tickings, Etc.

NOW READY: See samples in  
Wholesale Houses

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MONTREAL AND TORONTO

“STARR”  
Incandescent  
Lamps

HAVE NO SUPERIOR  
UNRIVALLED QUALITY  
HIGH EFFICIENCY MOST ECONOMICAL  
FULL CANDLE POWER LONG LIFE CHEAP

The “Starr” Lamps are Made of any Candle-power and Voltage, and with bases to suit the different sockets in use. The quality of these lamps is unsurpassed, and users of Lamps will find it greatly to their interest to give them a trial. They have a long life, give out full-rated Candle-power, and do not blacken.

QUOTATIONS GIVEN ON APPLICATION

Stating Candle-power, Voltage, Base, and quantity wanted.

These Lamps are packed in an improved manner, each Lamp being done up in a separate package, with particulars stamped on the outside. This renders them most convenient to handle, and avoids breakage. They can also be packed in smaller compass.

CORRESPONDENCE SOLICITED.

John Starr, Son & Co., Ltd.

Manufacturers and Dealers  
in Electrical Apparatus and Supplies

HALIFAX, N.S.

are very heavy and pass through several processes and complicated machines before they are finished. As a sample of the kind of work required in making them it may be mentioned that one bar of iron, for a comparatively small part of a joint, when hot required fifteen men to handle it and to manipulate it on a large machine that quickly shaped it and turned it into the form required. The joints when used to unite the pipe permit of movement, and will move twenty degrees from being straight without leaking. They are invaluable for such purposes as these are being made for.

W. J. CAMPBELL, Ottawa, is building three large boilers for the Parliament Buildings, also three for the Parry Sound Railway for pumping stations.

MESSRS. S. & B. SLINN, Ottawa, are putting in a new engine and boiler and two of Low's dough mixers in their bakery. The work is being done by Mr. George Low, Ottawa.

MESSRS. HAMELIN & AYERS, Lachute, Que., have bought all the machinery in McClymart & Co.'s old woolen mill at Ottawa. They are building an addition to their mill preparatory to moving the machines to Lachute.

MESSRS. W. & R. FARMER, Ottawa, are putting in a new boiler and making some improvements to their tannery.

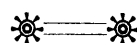
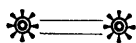
THE Cleveland, Ohio, Marine Review, has the following:—"The announcement a few days ago, that Mr. Arendt Angstrom, naval architect and constructing engineer of the Cleveland Ship Building Company, had resigned his position with that company and had accepted the position of general manager with the Doty Engine Works Company, Toronto, directs attention to a class of men of scientific attainments, who have within the past few years found responsible positions in nearly all of the steel ship building plants on the lakes, but about whom little is heard outside of the "draughting room." A few notes about Mr. Angstrom, secured through a friend, will tend to show the training necessary to fit these men for the work of designing all parts of a ship. Mr. Angstrom is a native of Sweden, and his early education in mechanics was secured with his father, Professor C. A. Angstrom of the Royal Technical High School of Stockholm. Upon graduating from the Stockholm school, he spent some time at the ship yards in Sweden, and later took a course at the naval institute in Cher-

bourg, France, where our young naval constructors now get their finish. After visiting England and Scotland he came to the United States in 1883 and soon obtained profitable employment at the United States torpedo station, Newport, R.I. While there he was sent by the Government, together with Professor White, to study the manufacture of gun-cotton in Great Britain, and after his return completed and perfected the gun-cotton plant at the torpedo station. He remained there for six years, and during the latter part of this period he designed several coast steamers and also assisted in the designs of the Old Colony steamers Puritan and Plymouth. Later the opportunity with the Cleveland Ship Building Company presented itself and his first production of importance with that company was the horizontal triple expansion engines of the paddle steamer City of Toledo, which has been engaged during the present season in the World's Fair service. He also designed for the Cleveland company the monitors Choctaw and Andaste, owned by the Lake Superior Iron Company, the steel steam yacht Wadena, the Wilson line steamer Yuma and the Bradley steamer Alva."

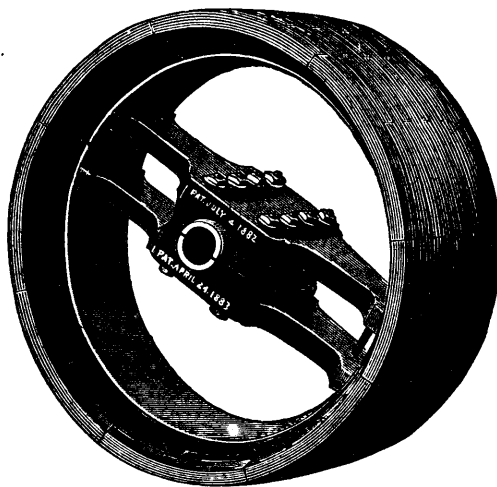
MR. A. P. MENDE, 14 Water Street, New York, has shown us a letter received by him from the head dyer of the largest thread works in the United States, in which, speaking of the "one dip" dye manufactured by Mr. Mende, he says: "I have experimented with and thoroughly tested your 'one dip' dyes and am pleased to state that I find them in every respect all that you claim for them. For single or double twisted yarns, warps, hosiery and piece dyeing they excel any other one dip dye of which I have any knowledge. It excels 1, In getting the shade to sample; 2, In always coming out perfectly even; 3, In softness, smoothness and cleanliness; 4, In being faster to soap with light and weak acids; 5, It is cheaper than any other one dip dye. Your black is excellent and ought to be a welcome guest to any cotton dyer. Any dyer who will follow your directions and exercise common sense, cannot fail to succeed."

MESSRS. LENNARD & SONS, Dundas, Ont., of the Dundas Knitting Mills, inform us that they have large orders ahead for their well-known fast black cotton hosing and ladies' underwear. This firm make a speciality of their ladies' "Eclipse" nursing vest (registered) which has become very popular with the wholesale trade, large orders being the result.

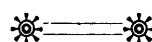
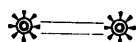
# Dodge <sup>PATENT</sup> Wood Split Pulleys



**33  $\frac{1}{3}$  Per Cent. More Power  
with Same Belt  
Over  
Iron or Steel Pulleys**



**50 to 75 Per Cent. Lighter  
Than  
Iron Pulleys  
and Much Cheaper**



Remember that every Pulley is fully guaranteed by us. Rim of our Pulley is **Thoroughly Nailed**, as well as being glued and pressed up, making it the only perfect Wood Pulley made. We fill all orders on day received. We solicit your orders knowing we have the best Wood Split Pulley in the World. Send for Catalogue.

## THE DODGE WOOD SPLIT PULLEY COMPANY

Office and Warerooms

68 KING STREET WEST, TORONTO

The Simpson Company, Berlin, Ont., has been incorporated with a capital stock of \$300,000 to take over the business of the Simpson Company and manufacture furniture, etc.

The engine recently purchased by the Intercolonial Railway authorities to run their electric light station at Moncton, N.B., having proved unsatisfactory, they have decided to return it to the makers and have ordered a 125 horse-power Robb-Armstrong engine from the Robb Engineering Company, Amherst, N.S.

The contract for the seating in the new \$30,000 Presbyterian church, at Paris, Ont., has been given to the Pennington-Baker Seating Company, of Dundas, Ont.

The Wm. Hamilton Manufacturing Company, Peterborough, Ont., have just built a large pulverizer for parties in Liverpool, Eng.

Messrs. MOFFATT & KINCH, who recently bought out John White's machine shop and foundry, at Peterborough, Ont., are very busy, and have had to add more machinery. The foundry they have rented to Messrs. John King & Sons.

The Peterborough Woollen Mills, Peterborough, Ont., have built an addition 40 x 40 feet, three stories high, and have added more machinery. They are very busy working night and day.

Messrs. JOHN C. TAYLOR & Co., Bristol, Eng., are manufacturers of a liquid anti-scale vegetable boiler composition for the prevention and removal of incrustation in steam boilers, and for preserving the plates and preventing leakage of bed taps, water gauges, etc. Messrs. Taylor & Co. have been manufacturers of boiler compounds for the past thirty-five years, and the article they are now offering is their latest invention, having been brought out about two years ago. Being a vegetable compound entirely, and it having proved to be eminently efficient in performing all that has been claimed for it, the manufacturers think they have every reason for bringing it to the attention of steam users in Canada. It has been most thoroughly tested by experts in a six months' experimental trial at Hamburg, Germany, where it was used in two batteries of large boilers in a large industrial establishment, the result being entirely satisfactory. The company's Canadian representative, Mr. Samuel Fuge, London, Ont., informs

us that the compound is meeting with much favor and constantly increasing sale in this country, and that he is in receipt of many letters from those who use it, one of which, from Messrs. Stevens & Burns, of London, is as follows: "Making reference to J. C. Taylor & Co.'s boiler composition which you supplied us a few months ago, we beg to say that we have given it a thorough test, and find it to fully verify all your representations as to its excellence in being able to remove all scale from the tubes and inside of boiler, and we find in using it, that it takes even a less quantity than is represented to do the work of keeping the boiler clean. We have, in consequence of the use of it, set aside all other appliances which we had for removing and preventing scale accumulating in our boiler, and are so much pleased with it that we can cheerfully recommend it to all who have steam boilers and wish to save money in fuel by keeping their boiler perfectly clean. We cannot recommend it too highly." Fuller particulars, including letters from users, and all information may be had by applying to Mr. Fuge at London, Ont.

Messrs. J. A. GOWDY & Sons, Manufacturers of reeds and harness, are introducing into woollen mills a new style reed, which is giving the best of satisfaction. In the place of narrow thick wire for dents, they are putting in a very wide thin dent, which gives about one-third more space for the warp, yet the reed is much stronger on account of the wide wire. It can readily be seen that by leaving more space, the friction on the warp is reduced, and the warp will not be as liable to break because of less friction, while the weaving is much easier.

The James Smart Mfg Co., Brockville, Ont., announce to the stove trade that they have purchased the entire line of patterns and the stock in trade of the Chown & Cunningham Co., of Kingston, Ont.; and that orders and enquiries for the Favorite line of stoves and ranges, and for repairs for the same, as well as for the miscellaneous goods hitherto supplied by the Kingston concern, should be addressed to them at Brockville.

**ECO MAGNETO**

**WATCHMAN'S ELECTRIC CLOCK**

WITHOUT BATTERIES

Write for Descriptive Circular to

**Eco Magneto Clock Co.**

Room 71 - 620 ATLANTIC AVE.

**Boston, Mass.**

**Michigan Emery Wheel Company**

184 Catherine Street, Detroit, Mich.

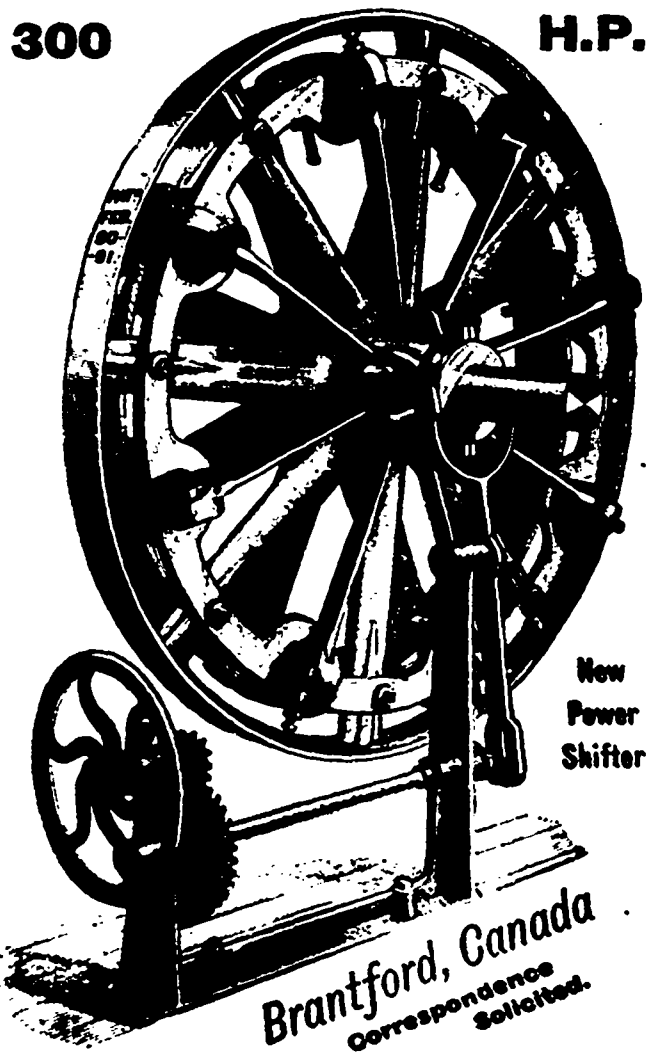


**Solid Emery  
AND  
Corundum  
Wheels**

To Run Wet or Dry Special Shapes

PERFECTION  
SAW GRINDERS

SEND FOR PRICE LIST



**300**

**H.P.**

**New  
Power  
Shifter**

**Brantford, Canada**  
Correspondence  
Solicited.

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# **THE HAWORTH BELTING CO.**

**MANUFACTURERS**

**OFFICE AND FACTORY: 9 AND 11 JORDAN STREET**

**TORONTO**

---

S. M. ELLIOTT'S saw mill near Port Elgin, Ont., was destroyed by fire Sept. 27th; loss about \$2,000.

The Department of Railways and Canals are calling for tenders for the construction and erection of a steel bridge to carry the C.P.R. over the Sault Ste. Marie canal. The bridge is to be composed of one swing span of 250 feet and a fixed span of 75 feet.

The works of the G. & J. Brown Manufacturing Company, at Belleville, Ont., are being pushed to their full capacity, building railway and highway bridges, steam engines, boilers, etc. During the present season they have built twenty iron and steel bridges, and have eight other bridges now in course of construction.

D. W. CLARK & SONS, Lancaster, N.B., have been incorporated under that name with a capital stock of \$22,500 to carry on the business of manufacturing electrical appliances, etc.

A COMPANY is being formed to build and operate an electric railway between Winnipeg and Selkirk, Man. Mayor Dagga and R. B. Cumming, of the latter city, are promoting the scheme.

MESSRS. DUNN BROS., Grand Bay, N.B., will build a large gang saw mill on the site of their mill destroyed by fire some months ago.

The St. Lawrence Cotton Company is being incorporated at Montreal with a capital stock of \$250,000, to build print cotton works at Sorel, Que.

The edge tool works of Messrs. James Warnock & Co., at Galt, Ont., were damaged by fire Sept. 23rd to the extent of about \$2,000.

MESSRS. DOUGLASS & Co., iron founders, who recently removed their works from Halifax, N.S., across the harbor to Dartmouth, are now well fixed in their new premises. The main building is 90 x 30 feet, and the engine room and pattern shop 65 x 25 feet.

The Canada Paper Company, of Montreal and Toronto, and whose works are at Windsor Mills, Que., have begun the manufacture of cartridge paper, and are producing an excellent article. This should be appreciated by users of this class of paper, as consumers have heretofore been compelled to depend upon foreign mills for their supplies. It is quite a difficult matter to produce the ribbed appearance always seen in this paper.

LETTERS patent have been issued incorporating the McLennan-French Paint Company, of Toronto, with a capital stock of \$300,000. The company will manufacture and sell machinery used in connection with the McLennan dipping process.

The William A. Fraser Wood Manufacturing Company, with headquarters at Thorold, Ont., are applying for incorporation, and will manufacture collins, caskets, etc. Capital stock \$40,000.

The Surprise Soap Company, Toronto, is being incorporated with a capital stock of \$10,000, to manufacture soaps, etc. William Elkins, James P. Murray, F. B. Hayes, S. W. Beard and L. N. Beard, all of Toronto, are to be the first directors of the company.

The Central Bridge & Engineering Company, Peterborough, Ont., have made arrangements with the Ramapo Iron Works, of New York, to manufacture in Canada their celebrated safety railway split switch; and they have just completed twenty-four of such switches for the Grand Trunk Railway. It is said that this is the best stand switch in use in America, and that about 90 per cent. of all the railway switch stands in use in the United States are of this style.

The rake factory of Mr. S. Buschelin, at Port Elgin, Ont., was destroyed by fire Aug. 31st; loss about \$6,000.

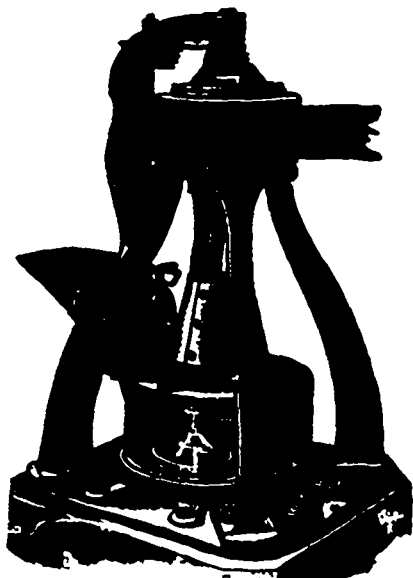
The Ottawa Car Company, Ottawa, has been incorporated with a capital stock of \$200,000 to manufacture railway and street cars, snow plows, etc. W. W. Wylie, Thomas Ahern, W. Y. Soper, J. W. McRae and Wm. Scott are the incorporators.

The William Clendinning & Son Company, Montreal, have been incorporated with a capital stock of \$500,000, to take over the business of Messrs. Wm. Clendinning & Son, and manufacture iron pipes, iron castings, stoves, ranges, etc.

# THE GRIFFIN MILL

## The Only Perfect Pulverizer

OF  
**QUARTZ,  
GOLD  
OR SILVER  
ORES,  
PLUMBAGO,  
PORTLAND  
CEMENT,**



OF  
**PHOSPHATE  
ROCK,  
FOUNDRY  
FACINGS,  
And All Other  
Refractory  
Substances.**

Will work either wet or dry, and deliver a finished product. Capacity, 3 to 4 tons per hour on Phosphate Rock, 1½ to 2 tons per hour on Portland Cement, Quartz or Ores, depending on hardness of material to be pulverized and fineness of product. Grinds from 30 to 250 Mesh with equal facility.

NO JOURNALS IN GRINDING CHAMBER. FULL RIGID ON SHAFT HAVING DIRECT POSITIVE ACTION ON MATERIAL. MINIMUM POWER PRODUCES MAXIMUM AMOUNT OF PRODUCT. IT IS ABSOLUTELY GUARANTEED IN EVERY RESPECT, BOTH AS TO CONSTRUCTION AND CAPACITY. FIRST COST, WEAR, AND OPERATING EXPENSE MUCH LESS THAN STAMP MILLS. LARGE NUMBER OF MILLS IN USE ON DIFFERENT MATERIALS WITH POSITIVE SUCCESS IN EVERY INSTANCE.

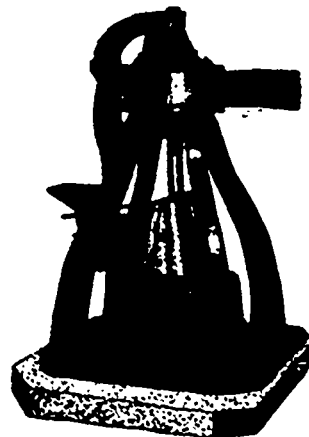
Correspondence solicited, and illustrated descriptive pamphlet furnished on application to

**BRADLEY FERTILIZER CO., 92 State St., Boston, Mass.**

# THE GRIFFIN MILL IN CANADA

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PULVERIZES PORTLAND CLINKER, NATIVE CEMENT, GOLD AND SILVER ORES, PLUMBAGO.



PULVERIZES PHOSPHATE ROCK, FOUNDRY FACINGS & REFRACTORY SUBSTANCES OF ALL KINDS.

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SHERBROOKE, QUE.

Branch Office - 18 VICTORIA SQUARE, MONTREAL

CORRESPONDENCE SOLICITED

THE Central Bridge & Engineering Company, Peterborough, Ont., have just completed fifteen large flexible joints for the intake pipe of the Rochester, N.Y., water works. These joints are the invention of Mr. W. H. Law, who is the president and manager of the company manufacturing them. This joint overcomes the difficulty heretofore experienced in laying pipes on an uneven bottom in deep water. These Rochester joints are 60 inches in diameter and weigh about 3,250 pounds each, and are said to be the largest ever sent into the United States. The largest of these joints ever made are those used in the intake pipe of the Toronto water works, and are 72 inches in diameter.

THE Peterborough Milling Company, Peterborough, Ont., have made extensive and important alterations and repairs to their Blythe flour mill, including an addition thereto 150 x 40 feet, increasing the capacity to 600 barrels. The machinery is entirely new throughout, and it is fully equipped with electric lights.

MESSRS. MUNRO BROS., wire workers of New Glasgow, N.S., have been awarded a diploma by the United Counties Exhibition held at Pictou, N.S., for the admirable display of wire work manufactured by them, consisting of iron gates, window guards, wire mattresses, wire fencing, etc.

ONE hundred and thirty-three thousand pickets were landed at New Glasgow, N.S., a few days ago for Messrs. Munro Bros., who will use them in constructing picket wire fencing.

THE Smith's saw works, at St. Catherines, Ont., which were recently taken over by Messrs. Shurly & Dietrich, of Galt, Ont., are being considerably improved. A number of workmen from the Galt works have been transferred to St. Catherines.

MR. ALONSON HARRIS will start a factory in Brantford, Ont., for the manufacture of a new lawn mower, of which Mr. M. E. Burham will be manager.

THE Dresden Canning and Pickling Company's factory, at Dresden, Ont., was destroyed by fire Sept. 20th, throwing 60 hands out of work.

THE incandescent electric lamp works of the Canadian General Electric Company, at Hamilton, Ont., are to be transferred to Peterborough, Ont., where the other works of the company are.

MR. A. P. MENDE, 14 Water Street, New York, has sent us a sample of what he says is positively the finest and cheapest belt grease in the American market. His advice is to try it and note its softening and preserving effects on leather.

THE large flour and grist mill of Mr. M. Creighton, at Comber, Ont., was destroyed by fire Sept. 23rd; loss about \$12,000.

MR. W. CLAY, who was the practical man in the mills of the Paris Knitting Company, Paris, Ont., a few years ago, and who was considered a mechanical genius, has invented and patented a new knitting machine, the right to manufacture and use which in Canada he has sold to the Kingston Hosiery Company, Kingston, Ont. It is said that each machine will produce 160 pairs of stockings per day.

THE Galt & Preston Street Railway Company, intended to connect these two enterprising Ontario towns, will probably make it an electric road.

THE Goldie & McCulloch Company, Galt, Ont., have just shipped a complete 50-barrel flour mill outfit to Minden, Man.

MESSRS. COWAN & Co., Galt, Ont., have just made shipments of wood-working machinery to Tilsonburg, Mitchell and Welland, Ont., New Glasgow, N.S., and Rat Portage, Man.

A LARGE stone addition is being made to the dye house of the Auburn woolen mill at Peterborough, Ont.

THE electric railway connecting Port Arthur, Fort William and West Fort William, Ont., has been completed and is in operation. The road is eight miles long, and an hourly service is inaugurated.

THE saw mill of John McConachie, at Peninsular Portage, near Huntsville, Ont., was destroyed by fire Sept. 27th; loss about \$3,000.

THE fruit evaporating works of Messrs. L. J. Shounds & Co., at Wellington, Ont., were destroyed by fire Sept. 28th; loss about \$3,000.

THE Richelieu & Ontario Navigation Company, Montreal, will build two more steamers for their Upper St. Lawrence and Lake Ontario business. They will be of steel, 300 feet long, with twin screws, and equipped in the best style.

Crescent



Brand

**Brunner, Mond & Co., Ltd.**

**NORTHWICH, ENG.**

**PURE ALKALI**

Guaranteed 58 Degrees.

Equal to 98 per cent. Carbonate of Soda. The Strongest and Purest form of Soda Ash in the Market

And therefore the most economical for the use of

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**CONCENTRATED CRYSTAL SODA**

Purest and Cheapest Form of

**WASHING SODA**

**WINN & HOLLAND, Montreal**

Sole Agents for the Dominion of Canada

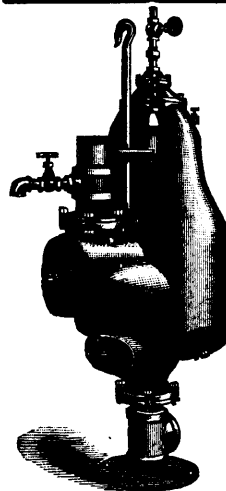
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**MACHINERY**

New and Second-Hand:  
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*Bought, Sold and Exchanged*

Call or Write for List

Address - 489 Church St., TORONTO



**THE PULSOMETER**  
**STEAM PUMP**

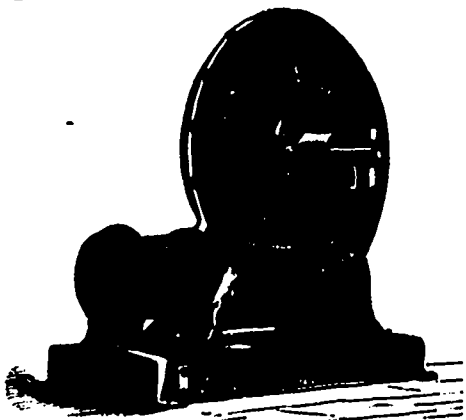
Often Imitated, but Never Equalled

The handiest, simplest, and most efficient steam pump for general Mining, Quarrying, and Contractor purposes.

**MUDDY OR GRITTY LIQUIDS**  
HANDLED WITHOUT WEAR.

Descriptive Catalogue, with Prices, furnished on application.

**PULSOMETER STEAM PUMP CO**  
New York, U.S.A.

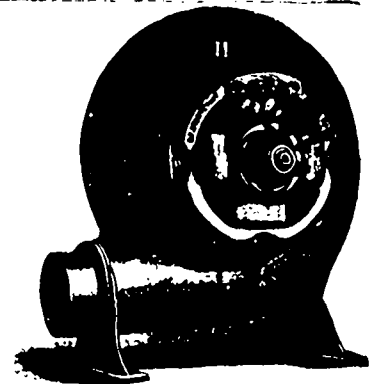


Blower on Adjustable Bed.

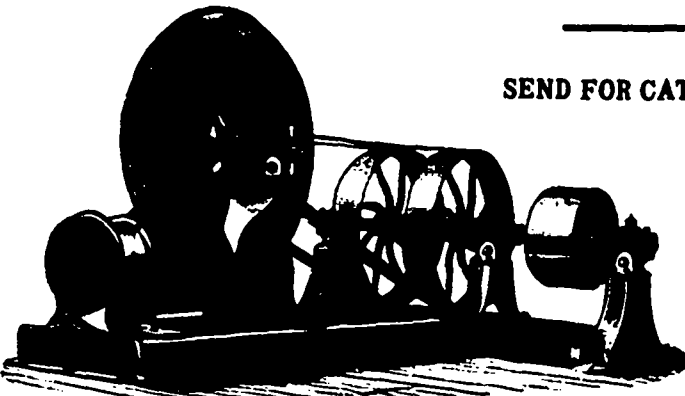
**THE STURTEVANT  
STEEL  
Pressure  
Blowers**

- FOR -

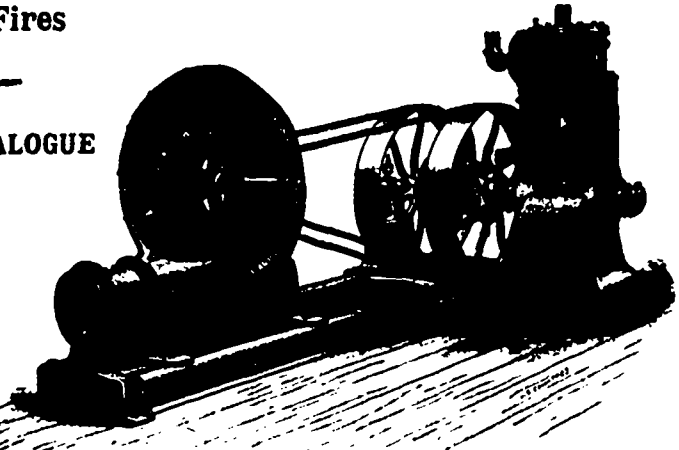
**Cupola Furnaces and Forge  
Fires**



Blower with Electric Motor.



Blower on Adjustable Bed with Combined Countershaft



Blower on Adjustable Bed, with Double Enclosed Engine.

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**CANADIAN GENERAL ELECTRIC COMPANY, LIMITED**

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Winnipeg, Man., Vancouver, B.C.**

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Continous Current Dynamos, Alternating Current Dynamos, Generators for the Transmission of Power.  
Arc Lighting Apparatus, Electric Railway Motors and Equipments, Electric Mining Apparatus.  
Electric Motors for Every Possible Duty, Flexible Cords, and General Electrical Supplies of Every Description.  
Electric Cables and Conductors for Telephone, Telegraph, and Electric Lighting and Power Circuits.

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WATER PIPES, ETC.**

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**BRIDGEVILLE, NOVA SCOTIA**

WORKS:      HEAD OFFICE:  
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**MARINE, RAILWAY and MACHINERY Forgings up to 20,000 lbs. weight. MACHINERY STEEL, Round, Square and Flat. MILD STEEL for Rivets, Bolts, Thresher Teeth, Etc.**

PLOW BEAMS, SOFT CENTRE AND SOLID STEEL PLOW PLATES, HARROW DISCS,  
PLAIN AND CUTAWAY, BOTH BLANK AND FINISHED  
AGRICULTURAL STEEL CUT TO PATTERN. SPRING, SLEIGH SHOE, TIRE, TOE CALK AND CROW BAR STEEL.  
STEEL NAIL PLATE.

 *Binder Bars.      Z Bars and Special Sections*

OF EVERY DESCRIPTION

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**"C.I.F." THREE RIVERS CHARCOAL PIG IRON**

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

This Brand of Iron has been found Equal to the Famous "SALISBURY" Iron

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SPECIAL CASTINGS

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**DRUMMOND McCALL  
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LIMITED



"SPECIALS," HYDRANTS, VALVES, Etc.

Offices, - New York Life Building, Montreal  
Works, Lachine, Que.

**THE "OPTIMATES" POWER HAMMER**  
HAS NO EQUAL  
FOR SIMPLICITY IN OPERATION

It is the **Only Power Hammer** ever made that the stroke of the ram can be set to travel any distance required between zero and full stroke by the manipulation of the *treadle only*, and whilst the process of forging is going on.

It is the **Only Power Hammer** made that will give blows varying in force from a few ounces to the full force of the blow the hammer is designed to strike, *without any decrease in the number of blows given.*

It is the **Only Power Hammer** in which the power consumed is in proportion to the work done, therefore effecting a great saving over other hammers.

It is the **Only Power Hammer** in the world in which the ram can be made to travel the *full length of stroke* or *short strokes* for all thicknesses of metal the hammer is designed to forge, without the operator leaving the anvil or stopping the operation.

**W. H. LAW**

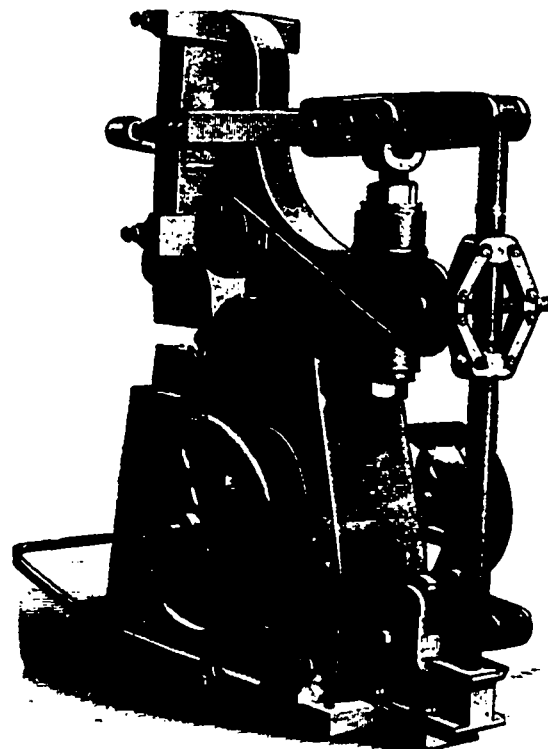
*Inventor.*

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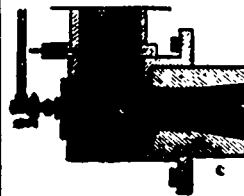
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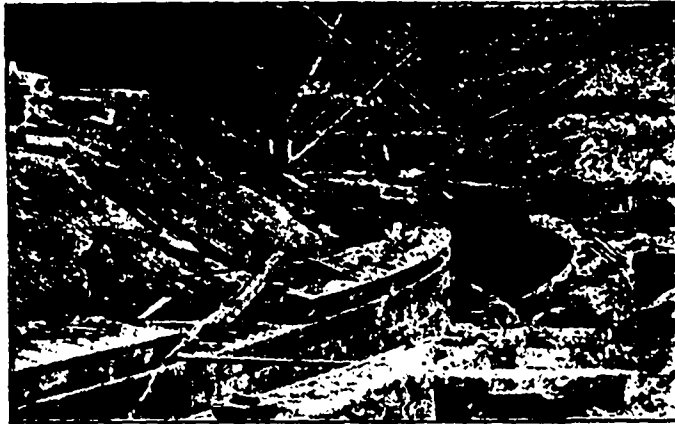
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Average tensile strength of 25 to 50 briquettes each, 1 in. square, made of neat cement consistency of mortar.	7 days	371.04	319.04	192.06	357.12	303.32	83.12	54.20	69.00	23.52
	30 "	523.70	445.96	242.32	523.44	447.00	190.80	130.28	111.72	55.32
	3 mths	519.12	519.20	330.34	551.84	448.20	349.56	237.88	214.00	134.24
	6 "	654.52	626.20	391.76	589.72	530.20	308.24	324.40	311.20	178.68
	9 "	604.16	646.56	not given	620.36	601.20	406.88	353.96	370.20	199.76
	12 "	686.76	613.60		644.00	615.96	428.28	367.06	383.02	221.00
Average tensile strength of 25 to 50 briquettes of each Cement, 1 in. square, neat Cement, rammed in mould.	7 days	376.12	467.70	391.80	431.72	313.32	196.18	206.92	172.02	69.92
	30 "	421.22	512.30	375.40	562.40	423.88	277.08	131.02	164.16	60.72
	3 mths	537.94	544.30	420.00	688.20	510.24	417.58	314.76	253.92	153.06
	6 "	614.74	623.40	427.00	636.84	512.88	472.18	333.36	400.32	226.82
	9 "	637.24	601.12	408.20	618.52	546.08	484.84	389.98	389.32	264.00
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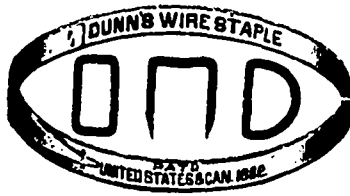
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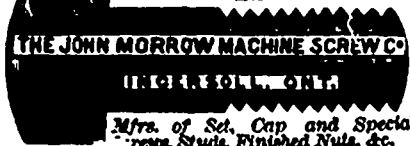
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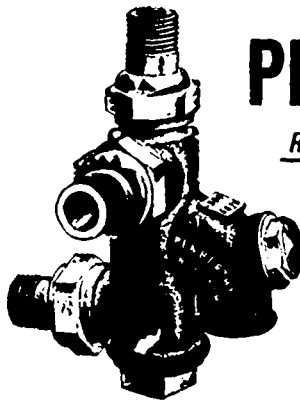
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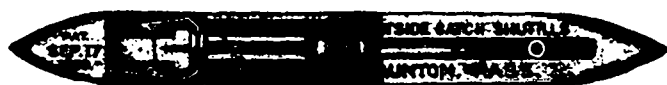
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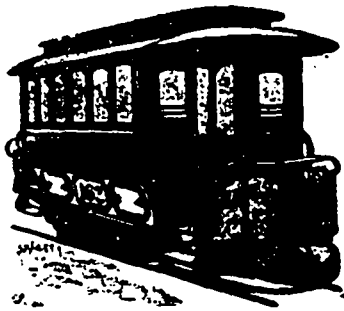
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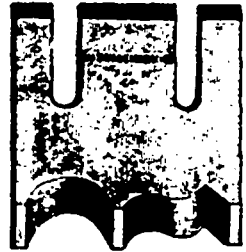
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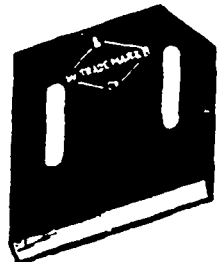
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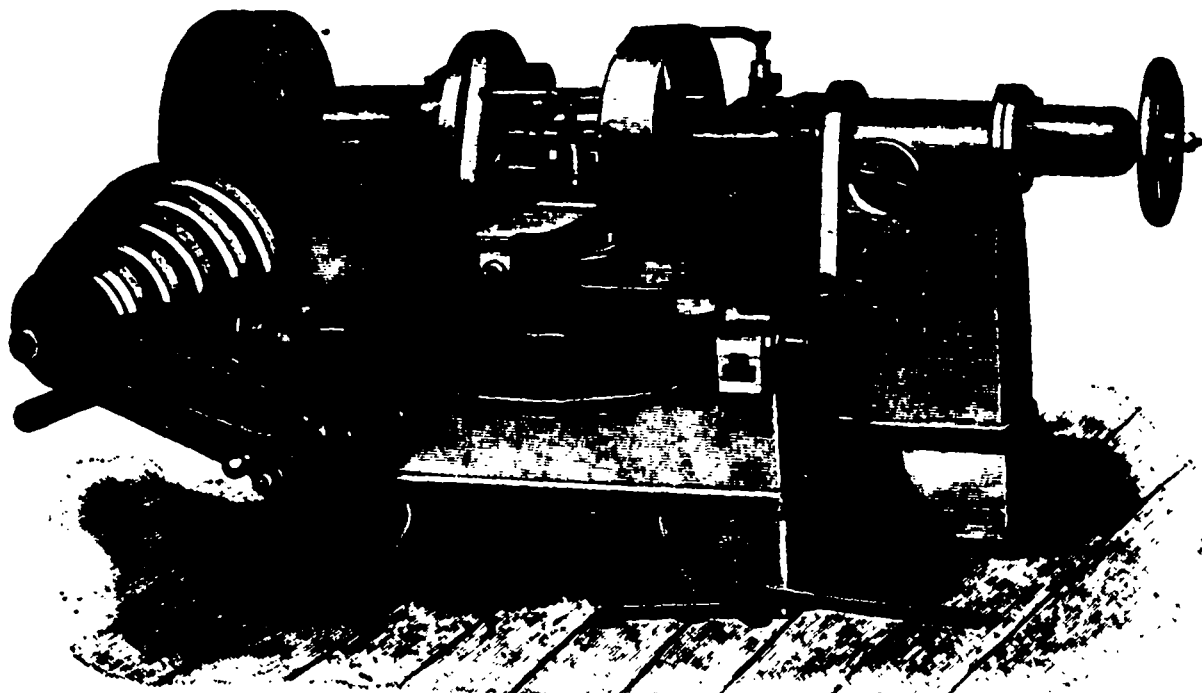
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The report was adopted and the retiring Directors unanimously re-elected. The Board of Directors are now constituted as follows: James Goldie, Guelph, pres.; W. H. Howland, Toronto, vice-pres.; H. N. Bald, Toronto; Wm. Bell, Guelph; Hugh McCulloch, Galt; S. Neelon, St. Catharines; George Pattinson, Preston; W. H. Story, Acton; J. L. Spink, Toronto; A. Watts, Brantford; W. Wilson, Toronto.

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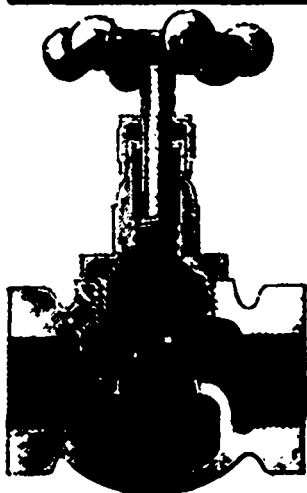
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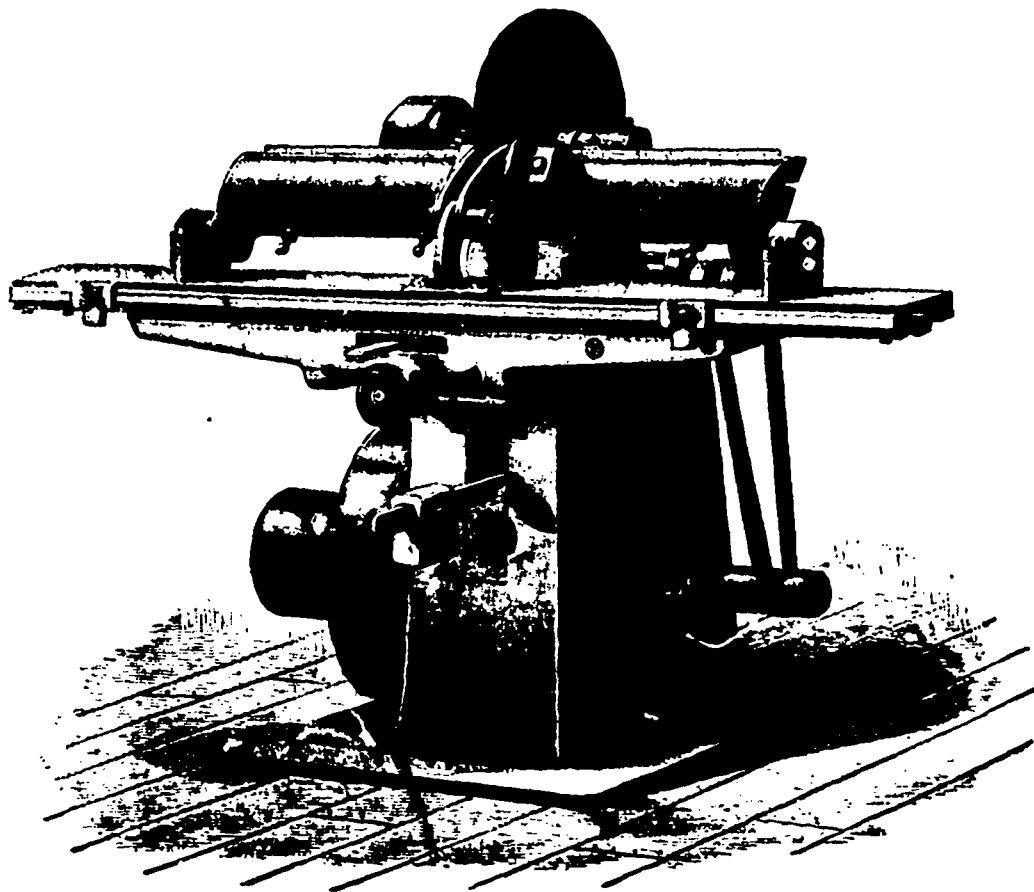
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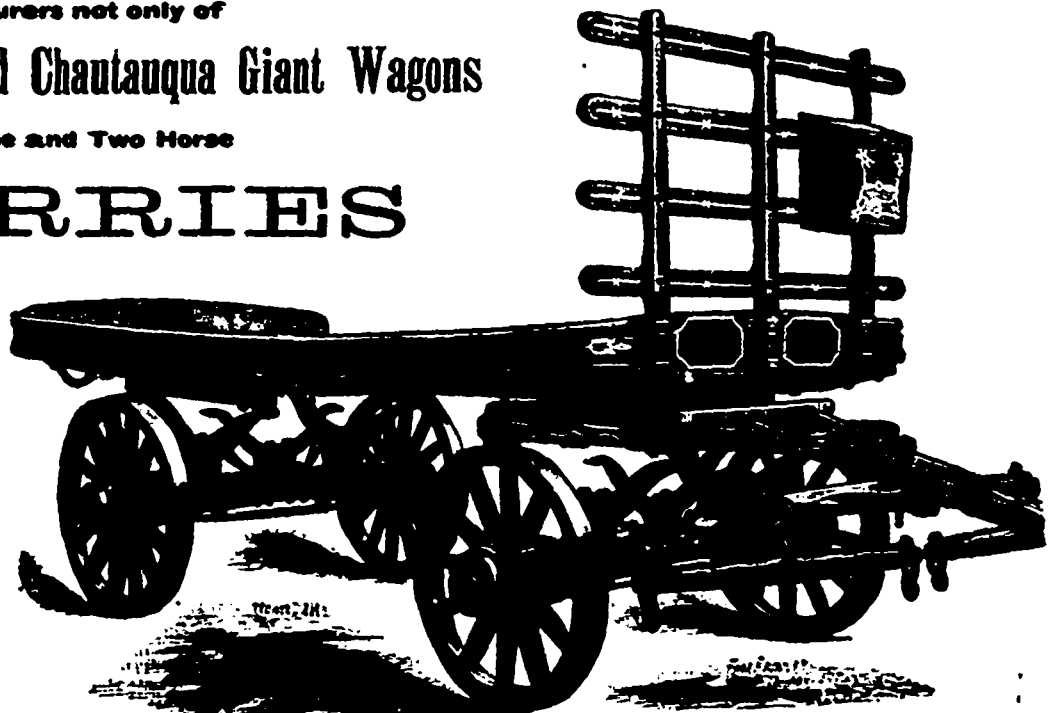
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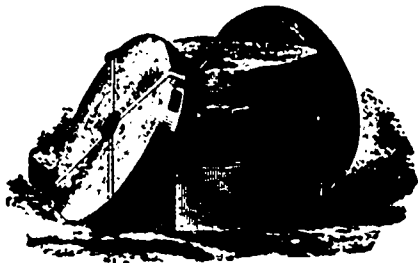
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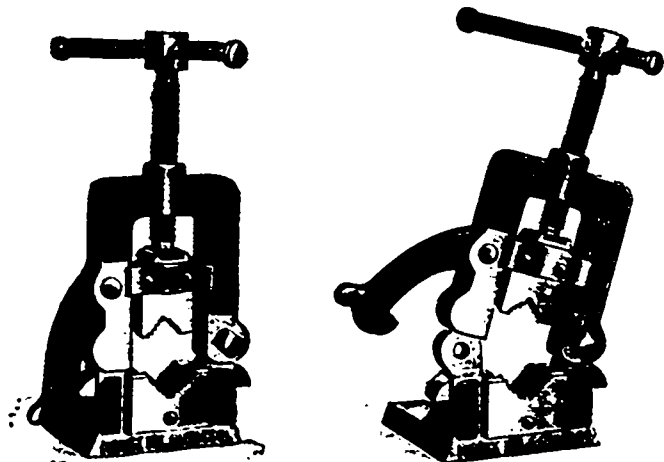
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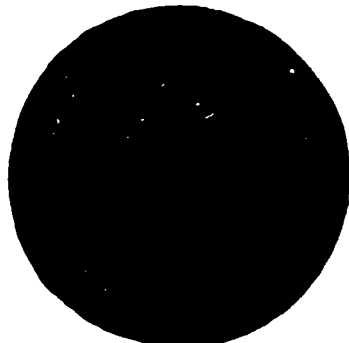
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**THE OBJECTS OF THIS ASSOCIATION ARE:**

To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.  
To enable those in all branches of manufacturing enterprises to act in concert as a united body whenever action in behalf of any particular industry, or of the whole body, is necessary.  
To maintain Canada for Canadians.  
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