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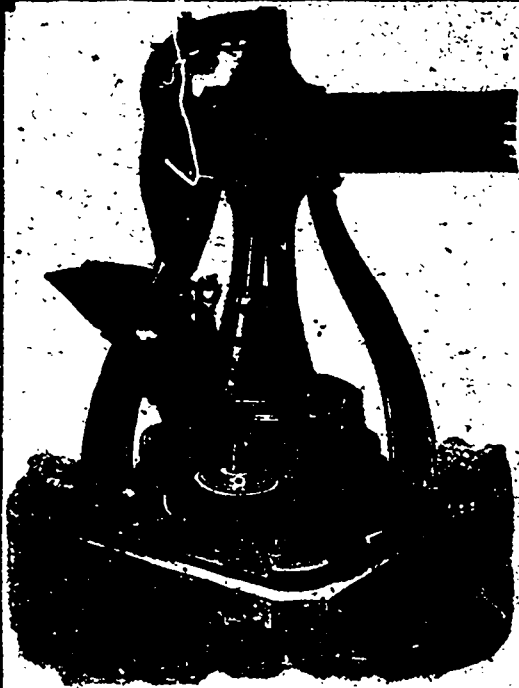
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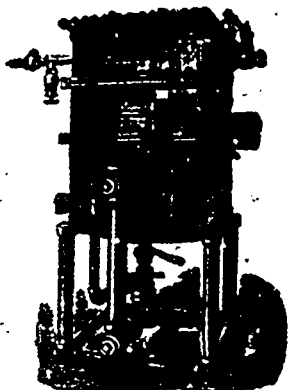
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In the next issue of THE CANADIAN MANUFACTURER—  
 Oct. 19 will be published in full the two Acts passed at  
 the last session of the Dominion Parliament affecting elec-  
 trical industries, both of which became law July 23, 1894.  
 The Electrical Units Act (Chap. 38) defines the electrical  
 measure for Canada, describing the legal meaning and  
 value of Ohms, Amperes, Volts, Coulombs, Farads,  
 Joules and Watts; the constituents of the chemical pre-  
 paration to be used in determining these values, and the

manner in which they are to be used. The Electric Light  
 Inspection Act (Chap. 39) having reference to transac-  
 tions between the seller and buyer of electrical energy,  
 interprets the expressions, Contractor, Purchaser, Meter,  
 Purchasers' Terminals, Unit of Supply, Pressure, Varia-  
 tion, Responsibility of Contractors, Inspection on Pur-  
 chaser's Premises, Discontinuance, Testing by Inspector,  
 Penalty for Default as to Supply, Theft of Electricity,  
 etc., and the power of the Governor General in Council  
 to establish rules and regulations for testing electric light  
 lamps, etc. Every electric light station, and every manu-  
 facturer of and dealer in electric supplies in Canada will  
 receive a copy of the CANADIAN MANUFACTURER containing  
 these laws; and as they are of the utmost importance to  
 all concerned—consumers as well as producers of elec-  
 tricity for commercial purposes, and dealers in electrical  
 supplies no doubt the paper will be carefully preserved  
 for reference. It cannot but be observed, therefore, that  
 this journal is a most valuable medium for our adver-  
 tising friends to reach those whom they would like to do  
 business with. Those who are not already advertisers  
 would do well to embrace this opportunity to become such,  
 further information regarding which may be had on appli-  
 cation to this office.

AGRICULTURAL IMPLEMENTS AND THE  
 NATIONAL POLICY.

Without doubt the most interesting episode occurring  
 Canadian politics since the adjournment of Parliament  
 was that where it was announced that the Massey-Harris  
 Co., manufacturers of agricultural implements, would  
 transfer one of their large factories from Canada to the  
 United States. This concern have a very large factory in  
 Toronto and another in Brantford, Ont., and they are  
 considered to be the largest and most wealthy concern of  
 the kind in the Dominion. Currency was first given to  
 the report of this proposed transfer by The Cataract, a  
 newspaper published on the New York side of the Niagara  
 River. In an interview between that paper and Mr. H.A.  
 Massey, the head of the Massey-Harris Company, Mr.  
 Massey was made to explain the situation substantially as  
 follows:—

Our company is a very large concern, and we naturally  
 seek the cheapest field. The Canadian Government re-  
 duced the duty on manufactured goods entering that  
 country from 35 to 20 per cent., but kept the duty on the raw  
 materials as high as ever, thus enabling the Americans to  
 ship to Canada their manufactured goods. That is one  
 consequence of the action of the Canadian Government.  
 Another is that our raw materials here (in Canada) cost us  
 much more than your raw materials in the States under  
 the new Democratic tariff, which lowers the duties on raw  
 materials all around, and our manufactured goods are  
 therefore necessarily more expensive. Now, under such  
 conditions, how could we compete in the markets of the  
 world? We simply could not. We would either have to  
 withdraw from the foreign fields, or go to the other side  
 (the United States)—and we intend to go to the other  
 side. We use but little lumber in our manufactured

articles, the principal materials used being steel, pig iron, bar iron and nails. McCormick of Chicago, and the Deering Company also, can get a ton of pig iron for \$9, while it costs us \$16.50 a ton—and this though we buy from the same company. This is because of the Canadian high tariff. Similarly with steel, bar iron, nails, etc. The difference between the Canadian duty and the new American duty is very great, being at least 50 per cent. higher in Canada. Just as \$9 is to \$16.50 so is our ability to compete with American manufacturers in foreign markets so long as we remain in Canada. We have, I repeat, either to withdraw from the foreign markets or go to the United States—and we intend to go to the United States. That new Democratic tariff of yours will benefit your country immensely. By freeing raw materials it will cheapen the cost of manufactured articles both to manufacturer and consumer. It will draw to your side manufacturing concerns from Canada who want a wider market and an opportunity to manufacture goods cheaper and more profitably. It is that new tariff which has attracted us to your shores.

Of course this matter excited a great deal of interest in both countries. The substance of what Mr. Massey said was sent out as a press telegram in all directions and called forth many expressions of opinion both favorable and unfavorable as regards the fiscal policies of the two countries. In fact soon after his deliverance to the New York newspaper man Mr. Massey woke up to find himself famous or the contrary according to circumstances. In Canada the enemies of protection are making use of the incident to injure the cause of protection, and unfortunately the friends of protection have thus far failed to show the real weaknesses of Mr. Massey's contention. One thing is certain, however, and that is that Mr. Massey and his company are not enraptured at the expressions of opinion being so freely spoken regarding them by newspapers and individuals on the Canadian side of the line. They have discovered that they have blundered very badly in a matter where blundering assumes a character almost akin to crime. With the ingratitude of the viper that stung the bosom that had warmed it into life and energy, they have denounced the policy that made them what they are. Let sink who may, their efforts are to float on a sea of prosperity regardless of the necessities of the weaker ones who also desire to live. That Mr. Massey is conscious of the fact of his having blundered is shown in a letter written by him only a few days ago to the editor of *The Cataract* in which he protests that he had been misrepresented, his desire evidently being to retrace his erroneous steps if possible. Fortunately in the interest of truth and of all concerned the editor disavows the possibility of any misunderstanding in his interview with Mr. Massey, and insists upon the correctness of the original report.

A noticeable feature in this matter is that the Finance Minister, Mr. Foster, deemed it of sufficient importance to correct some of the wild statements made by Mr. Massey. Mr. Foster shows that while the duty on agricultural implements had been reduced from 35 to 20 per cent., it is not true that the duty upon the raw materials used in that industry have not been reduced. It is true that the duty upon pig iron was not changed—that it is the same now that it has been ever since the Tupper tariff came into force—but the duty upon puddled bars has been reduced from \$9 per ton to \$5; that the duty upon bar iron and

steel has been reduced from \$13 per ton to \$10; that sheet iron and steel of No. 17 gauge and under has been reduced from 30 per cent. advalorem to 5 per cent.; that all forgings of iron and steel formerly dutiable at 12 cents per pound were reduced to 35 per cent., but not less than \$15 per ton; that malleable castings were reduced from \$25 per ton to 25 per cent. advalorem, and that considerable reductions had also been made upon nails, screws and all kinds of hardware. Mr. Massey was well aware of these important tariff reductions at the time he was being interviewed by the American newspaper reporter, and it was because his wild and unreliable statements regarding the tariff were doing much mischief the Finance Minister saw proper to correct them.

If the contention of the enemies of protection is true that the duty upon an article enhances its cost to the extent of the duty, then it is clear that if the Massey-Harris Company should remove one of their factories to the United States, they would not be in as good position to manufacture for export as if they had continued in Canada, for not one of the raw materials to which Mr. Massey alludes but what is protected in the United States even under his beloved Democratic tariff, quite as high or higher than similar articles are protected in Canada; and this fact any reader can verify by reference to the tariffs of the two countries, as recently reproduced in these pages.

If the Massey-Harris Company really intend to remove one of their factories from Canada to the United States, it is because of inducements other than those mentioned by the senior member of that concern. If they intend making the removal, or even if they do not, their actions indicate that they are to some degree actuated by a spirit of spite against the Government because they failed in bulldozing the Government to either restore the duty upon agricultural implements to 35 per cent., or to give them free pig iron, bar iron and steel, as they demanded during the late session of Parliament, as alluded to in these pages at the time.

#### *THE NATIONAL POLICY AND EXPORT TRADE*

The chief reason assigned by Mr. H. A. Massey for the desire of the Massey-Harris Company to transfer one of their Canadian factories to the United States was that they desired to increase and extend their export business in agricultural implements, and that in that country they could obtain their raw materials cheaper than in Canada. If the statement had rested there no one would have been justified in objecting to such a change being made; but when in support of the contemplated move Mr. Massey saw proper to make assertions concerning our tariff that were misleading, and which could not be verified by the facts, his proposed action became fully open for criticism.

In this article we do not propose to criticise Mr. Massey and his company, but rather to show that there is much truth in the statement that the United States tariff deals much more favorably with manufacturers of articles for export than the Canadian tariff. Under the Canadian tariff, where foreign materials are used in manufacturing for export, a reimbursement of 90 per cent. is made of the duties paid upon such materials, always provided that such materials are not of a kind produced in Canada; while in



the United States the manufacturer is allowed reimbursement to the extent of 99 per cent. of the duty paid upon his imports of materials, and there is no restriction whatever. In other words the American manufacturer of articles for export may freely import any materials necessary in his business, paying only one per cent. of the duty imposed upon them, regardless of the fact that precisely similar articles may be produced at home. Thus if the Massey-Harris Company were operating a factory in the United States and another factory in Canada, and they discovered that they could purchase pig-iron, bar-iron and steel, cheaper in Great Britain or Germany than in the United States or Canada, they would be free to import such materials into the former country, paying only one per cent. of the duty imposed thereon, although such materials were made there; while they would not be allowed to import them into Canada unless full duties were paid, because such materials are produced here. It is this discrimination in the American law that makes it more favorable for the manufacturer there to make goods for export than in Canada; and it is quite probable that this is the explanation why the Massey-Harris people desire to migrate.

This view of the subject is not new to our manufacturers or to the Government, for it is within our knowledge that manufacturers who desired to manufacture goods for export have time and again requested the Government to make our tariff in this respect conform closer with the American tariff, but always in vain. Is it possible that this refusal has led or is leading to the loss of a large and valuable industry to Canada, and the removal of several hundred highly skilled workmen and their families, to the gain of the United States? It appears so. And is it not only possible but extremely probable that the example of the Massey-Harris Company will be followed by many other concerns who desire to engage in export trade? Mr. Bowell, our Minister of Trade and Commerce, has within a year visited Australia with a view to building up a trade between those colonies and Canada; and in furtherance of that laudable object Mr. John S. Larke, one of the ablest business men in the country, has been appointed a Commissioner to look after and promote Canadian-Australian trade; yet when this much to be desired project seems within grasp and when all eyes are directed to a condition that should be highly remunerative to our manufacturers, we observe one Canadian concern that has been a leader in the business of sending Canadian manufactured products to Australia, withdrawing the Canadian end of their business from Canada and establishing it in the United States. How, then, can it be possible for Mr. Bowell, or Mr. Larke, or the Government to build up this much to be desired Canadian-Australian trade, in competition with American manufacturers, when our Canadian manufacturers are handicapped in the manner here alluded to? The matter deserves and should receive the most serious consideration of the Government; for it is evident that unless our manufacturers are as much favored as their American competitors, the Canadian-Australian trade cannot become an unbounded success; it being equally evident that unless such favors are shown them, they too, many of them, will also evacuate the country.

If we are correctly informed as to the reasons why the Government decline to allow our manufacturers the same privileges that are accorded their American competitors under their tariff, it is because to thus admit foreign materials of a kind produced in Canada would be to restrict the sale of the Canadian products, and in that manner to injure Canadian manufacturing industries. On the other hand it contended, seemingly with much force, that unless the raw materials are as cheap to Canadian manufacturers as to their American competitors, they cannot profitably engage in foreign trade; and if they cannot engage in that trade they would not be consumers of Canadian made raw materials. How then could it injuriously affect the producers of Canadian materials if circumstances rendered it impossible that such materials could be consumed by manufacturers of goods for export? On the contrary it is contended that a concern manufacturing articles for home consumption, where only home made materials are used, and also manufacturing for export, using foreign materials, would be able to keep their works in operation more days in the year, employing a more skilled class of labor, and thereby enabled to produce at a less cost than possible under restriction. The tendency of this continuous operation would be not only to lessen the cost of production, but also to increase the consumption of the native raw materials, and in that manner the producer of them would be benefited. All that the Massey-Harris people, and all other Canadian manufacturers, should demand of the tariff is that it give them the control of the home market. But have they any right to demand that other Canadian manufacturers shall not engage in the manufacture of articles for export? In these days of keen competition manufacturers should be content to have control of their home market. This is what the National Policy intended; but it was not intended that the occupants of the home market should prevent other manufacturers engaging in foreign trade in competition with the world.

#### PROTECTION IN AUSTRALIA.

For many years past the principle of protection has been dominant in the Australian Colonies. The only exception was New South Wales, which, however, swung into line two years ago under the influence of Sir George Dibbs, and despite the recent election there which is said to indicate a reversal of the old policy, it still remains true that protection, as we understand it, and as the United States understand it, is the present future fiscal system of the Australias.

The tremendous financial crisis of the past two years has, however, depleted the colonial revenues, decreased the imports and exports, increased the taxation to an almost unendurable degree, restricted the industrial output, limited the market for labor, and made poverty and lack of work the cry of the times. Naturally it has had the effect of rendering Governments—never very stable—still less so, and the ministry of Sir James Patterson in Victoria has been defeated at the polls, just as was the sister ministry of Sir George Dibbs, by a revolt against necessary but unpleasant direct taxation and not by any particular objection to the Customs duties or the encouragement of native industries.



Where there was opposition to the protective tariff it was concentrated upon the unnatural and heavy duties charged by neighboring colonies against each other. On either side of the River Murray, New South Wales and Victoria maintained heavy imposts upon each other's products as though they were rival and hostile states, and then proceeded to talk of a federation like that of Canada, and to hold Conferences looking to union, when most of the statesmen present were afraid even to advocate inter-Colonial free trade. But to a very considerable extent the latter idea has triumphed in the two elections just held, and the protection which we may expect to see in the Australia of the future is the kind we now have in this Dominion of Canada.

Protection in its true form is patriotism. It involves the principle of nationality. It aids the unity of the State. It confirms the national attributes and power of a country. Exercised by Ontario against Quebec, by Tasmania against Victoria, it is absurd and dangerous. Exercised by the Dominion of Canada against the United States; by the future Dominion of Australia against foreign countries; or by the British Empire against the world, it is patriotic, effective and beneficial. This is the principle that is growing at the antipodes and which the new Government of Hon. G. H. Reid in New South Wales, and of Hon. George Turner in Victoria, will aid in pushing to a successful issue.

In the latter colony free trade of the usual theoretical sort has never had the slightest chance of practical acceptance, since the Liberal party in 1863 adopted protection under the Leadership of Sir Graham Berry, and carried it at the polls. During the election of 1892 Mr. Shiels, the predecessor of the new Premier in the Liberal party of today, delivered the most elaborate public speeches without even mentioning the question. What little free trade sentiment there now is in Victoria will find expression in lowering the barriers against the other colonies as a preparation for federation, and not in an attack upon local industries, or protests against the protection which will still be given them in competition with external countries. And so to a great degree in New South Wales, where hard times have defeated a protectionist Government without putting into power a free trade one.

#### THE USE OF FOREIGN CEMENTS IN GOVERNMENT WORKS.

Again we refer to the cement question. We consider it our duty to make some remarks on what appears to us, to say the least, as very unfair treatment extended to a portion of our Canadian manufacturers, and that by those high in authority and from whom better things are expected.

A correspondent in a late issue of The Empire writes as follows:—

In to-day's Empire, under the heading, Notes from Ottawa, I find the following item, most interesting to manufacturers of cement in Canada: "Mr. J. B. Desota, of Montreal, representing a Belgium firm, has been awarded the contract to supply 11,000 barrels of Portland cement to the Department of Railways and Canals for use on the Lachine Works." Let me inform you that the cement manufacturers of Canada are prac-

tically doing nothing at the present time. Most of their works are shut down. Let me also inform you that the stave mills of Essex county and vicinity are also practically doing nothing, most of them are shut down, and it is from them we procure the material to make our barrels. And our dear, paternal Dominion Government deem it the proper thing to boom the cement mills and stave works of Belgium. They must be very much interested in Belgium when they use its inferior cement in preference to our Canadian product. Let me tell you and the Dominion Government that the makers of cement in Canada can produce and are producing, a better cement than the Belgian. I consider it would be quite in order for The Empire in its editorial columns to call the attention of the Government to the injustice being done.

The writer of the foregoing who signs himself "Canadian Cement," has apparently just grounds for the grievance he complains of. Without at all going into the question of the relative merits of natural and artificial cements, we have every confidence in stating in the most emphatic terms, that Canada produces a most superior article in both these lines. We can mention the Thorold cement, manufactured at Thorold, Ont., as one of the very best natural cements manufactured in this or any other country; the Star Portland cement, manufactured at Deseronto, Ont., and the Samson Portland cement, manufactured at Owen Sound, Ont., as the very best among the artificial cements of this or any other country. In The Empire of Sept. 24, there appeared quite a lengthy letter from Mr. E. W. Rathbun of the Star Portland Cement Works, which sets forth in clear and able terms, the superior merits of his cement. He certainly shows that the Belgian Portland cement is not by any means the extra superior, superfine article some people consider it to be. He also states that he did not tender for the reason that he had other contracts which prevented him doing so. His letter is well worthy perusal. The Samson Portland cement we know is approved of by the City Engineer of Toronto, and by the engineer in charge of the Sault Ste Marie Canal works, for considerable of it was used there. It may be that owing to the recent burning of their works, they were not in a position to tender.

Now if these two Portland cement works were unable to tender, why do our officials pass over the natural cements of the country? There are works of this kind at Thorold, Queenston and Hamilton, in our Province of Ontario. We know for a fact that the Thorold and Queenston cements were used largely in the Sault Canal above referred to—from their published statements the makers of the Thorold cement supplied to this important work 17,540 barrels, the quantity of Queenston used has not come under our notice, but we presume it would be equally large. However, be the quantities large or small, the fact that these natural cements were considered good enough in quality to use in work so important as the "Soo" Canal, should, we think, justify their use on the Lachine and Soulanges Canals.

We submit a few extracts from some of the papers that have referred to this matter.

The Canadian Architect and Builder says: The protest of the cement manufacturers seems a reasonable one. Recent tests made of the cement used in making concrete pavements in the City of Toronto, showed the cement made in Canada to be as durable, if not more so, than the

foreign material. In view of this what necessity is there for the Government to pass by our home manufacturers?

The Montreal Journal of Commerce says: Canadian cement manufacturers feel hurt at the action of the Government in purchasing 11,000 barrels of Portland cement from the agent of a Belgian firm. They argue that Government expenditure should be made to benefit Canadian industry, and not to boom the cement mills and stove works of Belgium.

The St. Catharines Standard says: According to an Ottawa despatch, the Dominion Government has lately ordered a very large quantity of cement for use on public works from a Belgian firm. Why? It is a well-known fact that some of the best cement on earth is made right here in Canada, and the cement manufactured in this district has a world-wide reputation. Why then is it at all necessary to import cement from Belgium or from any other country? This is one case that does not look much like "protecting" home industries.

The Thorold Post says: Thorold is the seat of important cement industries, one establishment having been running for nearly half a century. The product has stood the tests of experts, and has received the higher credit of actual use in some of the most important public works in Canada and the United States. Canadians have heard much about a "national policy," and are heavily taxed on the necessities of life in the name of that great fad, yet the paternal government, which yearns over the "infant industries"—and keeps itself in power by protecting them—can go all the way to the continent of Europe to buy cement, leaving the native makers to close their works, and the barrel makers to go out of business.

However, what is done cannot very easily be undone, but in any future public works, such as the Trent Valley Canal, or any other canal, we consider the Department would only be doing just and fair by inserting in the specifications where cement is to be used the words "approved cement, of Canadian manufacture."

In conclusion we may say that the position taken by the CANADIAN MANUFACTURER on this question, is, that if our Canadian cement makers produce first quality cement in every respect, then the Dominion Government should in its works distribute its patronage as fairly as possible among them at fair business prices, and thus assist in keeping our own Canadian industries going, and our own Canadian workmen employed, in preference to assisting Belgium and the Belgians.

#### MR. LAURIER AND THE TARIFF.

Mr. Laurier has now made a number of speeches throughout the country in preparation for the general elections. Protection, he declares, must be destroyed root and branch, but we have no information as to the financial and fiscal policy by which he proposes it should be replaced. Is it to be a direct taxation for which no French-Canadian representative would dare vote? Is it to be a revenue tariff like that of 1874-8 and an attempt to reduce the receipts and expenditure of Canada to those of twenty years ago under totally different conditions and obligations? Is it to be free-trade with the United States and a slaughter market for American goods vastly greater and more important than that offered to the Republic in its revival from the hard times of the early seventies? Is it to be a policy of higher duties upon British goods as against the lower ones imposed upon American products?

Or is it to be effected in the manner indicated by his Winnipeg speech, from which we quote a paragraph very interesting to manufacturers:—

To get this money which will be lost if we take off some of the present taxation, and to make up the deficit which will arise, it will be necessary to get an addition from some other sources. This will be attempted to be done in this manner: In the first place there will be a difference made in the present tax imposed upon raw material which is to be used for manufacturing articles.

Now this seems to be a most important announcement. Does Mr. Laurier know what raw materials are? Henry C. Carey declares that "all the products of the earth are in turn finished commodity and raw material." Coal and ore are the finished product of the miner, but the raw material of pig-iron. The latter again is the finished article of the smelter, but only the raw material of the puddler. This product may be finished into sheet iron which again is but the raw material of the nail and spike.

But he may take a narrower interpretation than Carey's. The Hon. Abram S. Hewitt, a leading Democrat of New York, defines raw material as including "fuel, all food products, all materials to which no process of manufacture has been applied, all metallic ores and all waste products which are fit only to be manufactured." Senator John Sherman, the Republican leader, defines the chief raw materials as being "agricultural productions—namely, wool, flax, hemp and other textile grasses, hops, bristles and seeds." The remainder, he declares, are chiefly in metals, in ore or pigs, coal and marble. It is evident, therefore, that the higher taxation of raw materials, or the imposition of duties upon those not now taxed, and many of which we do not produce in sufficient quantities, must have a serious effect upon our Canadian industries. When to this is added free competition in the finished product, the result can be little short of fatal. It would be a double distilled dose of political poison for the manufacturers.

If Mr. Laurier means this to be his policy, the whole country should know it at once. Taxed wool and free American woolen goods; taxed coal and iron ore and free iron or implement manufactures; taxed cotton and free cotton manufactures; taxed wheat and free flour; taxed agricultural products and free tea and coffee and cocoa would indeed be a new policy. It would be worse than commercial union, worse than free trade with the world, worse than any industry-destroying proposition which even Sir Richard Cartwright in his attacks upon manufacturers as "robbers and thieves" has ever proposed. If Mr. Laurier does mean this he should explain his speech.

#### EDITORIAL NOTES.

The Canadian Manufacturer's Association are under many obligations to Mr. W. G. Parmelee, Deputy Minister of Trade and Commerce, for a complete set of the tariffs of all the different nations of the world as published by the International Customs Bureau. Canada was entitled to receive only a certain number of copies of these tariffs—not enough to supply each Board of Trade in the Dominion, to say nothing of all the Custom Houses. The Secretary of the Manufacturer's Association will take plea-

sure in exhibiting these tariffs to any members of the Association who may desire to examine them.

The Toronto Telegram, speaking of the Toronto Fair and what was to be seen there, says :

In many buildings the peripatetic advertisement canvasser is the bane of the exhibitor's existence. Tiresome adulation is offered for sale at thirty-five cents a line. New exhibitors pay it. Older and experienced exhibitors reject the attempts at advertisement writing by amateurs.

We are pleased to welcome the Telegram as an advocate of the suppression of newspaper fakirs at the Toronto Fair.

Another wrench such as the Senate gave the American constitution anent the tariff bill and the republic will cry for representative government and the British system. Four Senators have defeated the will of the people, and if they are allowed to escape punishment the Senate will be emboldened to similar abuses of power in the future. The time for reform in the States is ripe, but it will take men of resolution to render reform successful.—The Empire.

The wrench which the four Senators spoken of gave to the American constitution, and which The Empire thinks will cause the republic to cry out for the British system, consists in insisting on the enactment of legislation favorable to the sugar trust. Under a duty of only \$10 per ton on refined sugar the trust have been making millions of dollars a year more than what they should have been allowed to do. The Canadian sugar trust, however, seem to have even a stronger cinch in the Canadian tariff, and yet we do not observe the Empire denouncing the Canadian Senate where a Canadian sugar lord holds a seat, and that, too, under the British system.

"Anyone familiar with prices in Canada and England knows that The Empire makes an absurd misstatement. English and Scotch tweeds, after their prices have been enhanced from one-third to one-half by taxation, are no dearer than Canadian tweeds direct from the mills."—The Globe.

The Globe makes an absurd statement. There are tweeds and tweeds. In Canada certain styles of tweeds are made, and because the equivalent of them cannot be made any cheaper in England and Scotland they are not imported, the Canadian article, because of its excellence and cheapness keeping the other out of this market. Such tweeds as are brought to Canada from England and Scotland are of a character not made in Canada.

Our esteemed St. Louis contemporary the Stoves and Hardware Reporter, has favored us with a beautiful chromo-litho of the new Union Station recently opened for business in that city, said to be the finest and largest railway passenger station in the world, emblematic of the importance of the city as a trade centre and of its growth and that of the surrounding country. The picture is printed in ten colors on fine plate paper, size 32x40 inches, and is an ornament in our office.

Good Housekeeping for October begins its announced discussion of the food question, under the title of "Food for the Family of Man." The initial papers are of themselves very valuable, and give great promise for the excellence of the series, which will continue during the year 1895. The leading articles of this number are "Economy of Food," by Prof. W. O. Atwater, of Wesleyan University; "Wheat and Wheat Flour," by Prof. Charles D. Woods, also of Wesleyan University; "Uncle Sam and the Food Question," by George K. Holmes, of the United States Census Bureau, Washington; "Some Peculiar Food Substances," by J. Brewster Sedgwick, M. D.; and Characteristics of the Markets of the World," by Maria Parloa, from personal study and observation during a two-years' sojourn in the Old World. Apart from this special feature,

the magazine has its usual rich variety of practical papers, choice literature selections from the current thought of the day, and the various departments for the entertainment of the young. It is a notable number, marking an important departure in the life of a magazine having an already world-wide fame. Clark W. Bryan Company, Springfield, Mass.

Woollen Superintendents' Guide,—by Charles Green, Newport, Me. Price, \$5. This is a work of 78 pages, and is a practical treatise on all matters pertaining to woollen manufacturing, containing practical information for superintendents, designers, overseers, agents, commission houses and wool dealers. The author is a practical designer, and is favorably known as an efficient overseer and superintendent of several woollen mills in New England. The American system of woollen manufacturing is carried out in this book. Overseers, superintendents, and all having to do with the practical operations of a woollen mill, will find this work of great assistance, and well worth the price that is charged for it. The information that it contains shows the evidence of being collected by one thoroughly familiar with all the practical details of manufacturing.

The Textile World, Boston, Mass., comes to us changed both as to name and form, the word Manufacturing having been dropped from the title and the size changed to that of a magazine. We assume that the publishers have reached the conclusion that the magazine form, with a printed page only 4½ x 8 inches, is destined to fill satisfactorily that longfelt want with which we are all familiar. Whether this will be the result we cannot say. We heartily commend the publishers of The Textile World for having the courage of their convictions, and wish them the success for which they so earnestly strive.

"An Intra-Mural View," in very artistic brochure, has been received from The Curtis Publishing Company, Philadelphia, publishers of The Ladies' Home Journal. As the title indicates, the booklet gives us glimpses of the interiors of the Journal's offices, and some idea of the work carried on there. The main building, entirely occupied by the editorial and business offices, was completed in January, 1893. The exterior is attractive and the interior elegantly appointed and admirably planned. The numerous illustrations showing the commodious and well-fitted offices, and the accompanying text, giving some insight into the work in the different bureaus, requiring a force approximating four hundred employes, indicate the wonderful success which The Ladies' Home Journal has achieved in an almost incredibly short time. The first number was issued in December, 1893. In this short time its merit and steady improvement in all departments have received such recognition that its circulation has reached the average of about 700,000. The brochure also describes at some length the work of printing and binding the Journal, which is carried on in a separate building. "An Intra-Mural View" will be sent to any one who will address The Curtis Publishing Company, and inclose four cents in stamps for postage.

Scribner's Magazine for October contains the first of two articles on English Railways by H. G. Prout, editor of the Railway Gazette. Colonel Prout recently made a trip to England expressly for the magazine, to accumulate fresh material on a subject with which he was already familiar. In this first article, which deals with "Railroad Travel in England and America," he compares the systems of the two countries, particularly as to safety, speed, cost, comfort and construction. The article is richly illustrated by A. B. Frost and from photographs collected by the author. Dr. J. West Roosevelt describes life "In the Hospital," from the point of view of the house physician. The article has the vividness and picturesqueness of one who has actually experienced the things which he describes. It is unusually strong and wholesome in tone. Dr. Carl Lumboltz, the explorer, concludes his observations on the Tarahumari—the Mexican cave-dwellers. The illustrations have been drawn with great fidelity from the author's own photographs and show subjects which have been never before depicted. The number is strong in fiction and there are poems by Julia C. R. Dorr (illustrated), Edith Wharton, Henry Tyrrell and John Hall Ingham.

The Babcock and Wilcox Company, 29 Cortlandt street, New York, the well-known manufacturers of water-tube boilers, have recently issued the twenty-eighth edition of their valuable book on "Steam: Its Generation and Use." While making known the character and quality of their manufactures the company present to their customers and the public a mass of useful information concerning steam and boilers, derived largely from practical experience, which can not readily be found in any other publication and which can be depended upon as being absolutely correct. The book is very handsomely bound, and the printing and illustrations are above criticism.

The beauty of glowing foliage and the bracing freshness of Autumnal airs pervade the pleasant pages of Outing for October. The contents are as follows: "Regina die Walsche," by Jean Porter-Rudd; "Sport in Samoan Craft," by F. M. Turner; "With the Squirrels in Brown October," by Jas. R. Benton; "Blank Cartridges," by Edgar Fawcett; "Fencing, Old and New," by H. Colmore Dunn; "Lenz's World Tour Awheel;" "A Rocky Mountain Goat Hunt," by G. M. Dillard; "A Woman in the Mackenzie Delta," by Elizabeth Taylor; "Football of '93," by Walter Camp; "Our Sailor Soldiers," by Everett B. Mero; "Naval Messenger Pigeon Service," by Major Howard A. Giddings; "A Rough-and-Ready Fox Hunt," by Herman Rave; "Mallard Shooting," by Dace; "Training

for Football," by Jas. G. Lathrop; and the usual editorials, poems, records, etc.

Under the title of "Facts About the South" Mr. Richard H. Edmonds, the editor of the Manufacturers' Record, of Baltimore, Md., has issued an interesting pamphlet filled with information about the "Old South" as well as the "New." The writer gives a short sketch of the early establishment of the iron industry, on Southern soil, the growth of the cotton industry, the building of railroads, the development of diversified manufactures, the advancement of agriculture, etc.

Messrs. F. B. Vandegrift & Co., Custom House Brokers and United States Tariff Experts, Philadelphia and New York, have sent us a copy of the new United States Tariff, the publication of which has heretofore been alluded to in these pages. The work is fully digested, making reference to over 12,000 articles, giving the rate of duty, paragraph of the law and decisions of the Courts, General Appraisers, and Treasury Department regarding them; also a complete list of articles on which drawback has been allowed, with the amount of wastage. There is also a table of foreign coins with values as proclaimed by the director of the mint; a foreign express tariff; the administration law and other law on the administration of the customs service. It is a complete digest for every importer, exporter or treasury official. The book, which contains 547 pages, is printed in handy form, being five by six inches, and will prove of considerable value to those seeking the information which its pages contain. Copies can be had of F. B. Vandegrift & Co., 50 South Fourth street, Philadelphia, and 27 William St., New York, or on the stands of the American News Company.

The Penberthy Bulletin, issued monthly by the Penberthy Injector Co., Detroit, Mich., is becoming a valuable exchange for class papers. The bulletin, while published principally in the interest of the manufacturing company issuing it, contains the best excerpts and articles printed in the technical journals of the country.

The Popular Science Monthly closes its forty-fifth volume with an issue of marked and varied excellence. Especially seasonable is the opening article on The Football Situation, by Prof. E. L. Richards, of Yale. Prof. Richards sets forth the many advantages of the game, and maintains that the evils ascribed to it are unreal or can be removed by changes soon to be introduced. Prof. James Sully contributes the third of his Studies of Childhood to this number, taking up The Questioning Age, and giving a vivid picture of the various gropings of a child's mind for knowledge. An account of The American Champagne District, with a description of the various processes in the making of champagne, is given in an illustrated article by Lee J. Vance. The district is not California, as many would suppose, but the lake region of New York. An anthropometric study of The Half-blood Indian is contributed by Franz Boas, being accompanied by diagrams of various measurements. In West African Folklore, by the late Colonel A. B. Ellis, some interesting tales of the too lowly estimated people of the Slave Coast are given. M. V. O'Shea depicts the Professional Training of Teachers according to modern ideals. J. H. Long presents a curious collection of Funeral Customs of the Incas. M. Jean du Gourcq gives an account of the Astronomy of the Incas. There is a Sketch of Asaph Hall, the celebrated Washington astronomer, whose life struggles and triumphs make an interesting story. The editor comments upon the recent suppression of the teaching of evolution in the State University of Texas and upon the Brooklyn Meeting of the American Association. New York: D. Appleton & Company. Fifty cents a number, \$5 a year.

The Electrical World of September 8 contained, among other things:—How to Deal with Apparent Death from Electric Shock, by Augustin H. Goelet, M.D., a contribution of great practical importance, from one of the leading authorities on electro therapeutics in the world. The question of resuscitation from electric shocks is one which possesses a vital interest for everyone engaged in electrical pursuits, for it is claimed that in very many instances, at least, the results of accidents might not have proved fatal had the victim been subjected to proper treatment. The method of treatment is somewhat similar to that usually applied to the drowned, but more nearly that employed for reviving a person from an exaggerated faint. In order to show more clearly the method of applying the treatment, The Electrical World's special artist prepared illustrations, under the direction of Dr. Goelet, which will enable the reader to readily understand the process.

The Textile Schedules of the New Tariff,—By Herbert Myrick, Springfield, Mass. The editor of this pamphlet is well known by all readers of textile journals, as the treasurer of the Metallic Drawing Roll Company, Indian Orchard, Mass. The author compares the tariffs of 1890 and 1883 with the newly enacted tariff of 1894, comparing paragraph by paragraph and item by item. There is appended an official statement, showing for the fiscal year ending June 30, 1893, the quantity imported of the class of goods specified in each paragraph of the tariff schedules, detailed values of such imports, duties paid on same, and units of value, also in parallel columns the rates of duties on each of these classes of goods under the tariffs of 1883, 1890 and 1894, also the average ad valorem duty under each of these tariffs and the Mills bill. The pamphlet confines itself to the textile schedules, cotton, wool, flax and silk. Those desiring this pamphlet can obtain it by writing to the author.

The first Treatise on the Patent Law of Canada. This much needed book, the first of its kind published in this country, has just been issued from the press of Boswell & Hutchison, Toronto. Its author is Mr. John G. Ridout (late C.E.) barrister, etc., of the firm of Ridout & Maybee, Solicitors of Patents, Toronto, who states in his preface:—"Seventy years have elapsed since our first Patent Act was passed, and during the whole of this period there has been no Canadian Treatise on Canadian Patent law or the work of a Solicitor of Patents; hitherto we have been obliged to rely entirely on American and English text books, which in many respects are manifestly inapplicable; this obviously should not continue to be the case. As a pioneer work, this is intended to be adapted to our own Patent Act as amended to date, &c. Having had nine years' experience as a Solicitor of Patents and having acted both as Solicitor and Counsel in some of the most important patent suits in our Ontario and Dominion Courts, the author trusts that he may be of assistance to the legal profession and Patent Solicitors, in this and other countries, &c., and that he may also advance the interests of many inventors and manufacturers who are interested in the Patent Law and its administration and in the procuring of properly prepared specifications, claims and drawings of all degrees of complexity and relating to all classes of subjects."

The Branden Pump Valve.

The accompanying illustration is of a new pump valve manufactured by the Crosby Steam Gauge and Valve Co., Boston, Mass.

This valve is something entirely new in its line. The merits of these valves are so obvious to the average mechanical mind that they have gained in public favor with great rapidity and are now in constant and growing demand wherever pumps are employed. They have the appearance of ordinary rubber valves, but through their central plane runs a wire-coil spring, as shown in the cut. This not only serves as a firm support to keep the central opening round, but strengthens the whole body of the valve, so that they are able to



THE FIGURE REPRESENTS THE BRANDEN VALVE. PART OF THE RUBBER IS REMOVED TO SHOW THE WIRE COIL.

withstand more than double the pressure of ordinary rubber valves, at the same time—owing to the peculiar nature of the coil spring insertion—they are flexible and elastic throughout. This permits them to bend over temporary obstructions and form a water tight seat, by which the efficiency of the pump is maintained, and thereby a considerable saving in fuel effected. Their elastic quality prevents them from "dishing," or bending up on the edge. As the spring preserves the valves in their normal shape, they can be turned over and used until

both sides are worn out. These qualities render them much more durable than ordinary rubber valves, and, this fact taken into consideration, their price will be found considerably lower.

These valves are made in all the regular sizes, used in steam and power pumps of standard makes. Special sizes to any dimensions can readily be made to order.

The Branden Valve is controlled exclusively by the Crosby Steam Gauge & Valve Company of Boston, Mass., and may be ordered from there, or from any of its branches, in New York, Chicago or London, England.

A New Emery Wheel Dresser.

The accompanying illustration is of a new emery wheel dresser now being manufactured and introduced by the Malleable Iron Co., Montreal.

The construction of the tool is exceeding simple, and it is not at all liable to become deranged or out of order. It is most valuable for the purpose for which it is intended, and with it emery wheels that have become worn and out of true may be very quickly dressed up



into good condition. It is also equally useful in removing the glazed or smooth surface of wheels which prevents them from doing their proper work. The work is done by the revolving at high speed of the three small carbonated discs, the points of which make indentations in the wheel, thus removing the gloss and any uneven parts of the wheel.

For further information apply to The Malleable Iron Co., 19 to 29 Mill street, Montreal.

## The Industrial Exhibition.

In the last issue of this journal was contained nearly two hundred notices of exhibits of Canadian manufactures shown at the recent Toronto Fair. As is our usual custom on such occasions we desire to make some mention of every such exhibit that possesses the merits of novelty and usefulness, but before we succeeded in alluding to half of them it was found that all our available space had been absorbed and that we would be obliged to hold over for another issue quite as many, perhaps a greater number of notices than were then given. By reference to our last issue it will be observed that but scant space was given to editorial matter, and that all allusions to such subjects as literary notices, mention of new manufacturing enterprises in different parts of the country, meetings of industrial bodies, etc., were omitted entirely. It was unavoidable, and for which we crave the indulgence of our friends. To a certain extent a similar condition prevails in this present issue.

We all know that Canada is a great manufacturing country, but the extent of that greatness none can tell with accuracy. The Toronto Fair, however, is a wonderful indicator, and it is only there that anything like an approximate idea can be obtained of the manufacturing industries of the Dominion. It is only there that a proper idea may be had of the diversity of those industries, their number and their value.

Another feature of the notices of these exhibits at the Toronto Fair to which we direct the attention not only of the exhibitors but also of all our readers, and of the newspapers of Toronto and other places, is that, unlike the methods observed by some of these papers, no charge whatever is made for giving them. Our opinion is that when manufacturers put themselves to the trouble and expense of bringing their machines, machinery and manufactured products to the Fair, and at great expense and inconvenience to themselves contribute to the full extent of their ability to the attractiveness and success of the Fair, they should not be subjected to a thumbscrew process at the hands of Toronto daily newspapers to force reluctant contribution at so much per line for notices of their exhibits. It is a sort of blackmail from which the manufacturers should be exempt, and which the management of the Fair should incontinently suppress. The prosperity of the Fair implies prosperity for Toronto, and the prosperity of Toronto means the prosperity of Toronto newspapers—those that deserve it.

No charge made for these notices.

### SOHO MACHINE WORKS.

A. R. Williams, proprietors of the Soho Machine Works, Toronto, had one of the largest and most varied exhibitions in Machinery Hall; consisting largely of iron working machinery, lathes, planers, drilling machines, etc. His radial drill, drilling to the centre of 50 inches and drilling at any angle without changing the position of the work, attracted very special attention. He also showed a large assortment of Reeves' wood-split pulleys, a shaft loaded with these pulleys being constantly in motion. These pulleys are very strong, being nailed and glued throughout, and the arms being built into the rim gives them great firmness at this joint. The quartered bush gives great adhesion to the shaft, while the arm is so constructed as not to fan the air and to be easily bolted to the shaft.

Another attractive feature was a row of the celebrated Pickering governors, also in operation in front of his exhibit; the name of "A. R. Williams" being artistically worked in twist drills of the celebrated Cleveland make. He also displayed two cases of glass goods and machinist tools very neatly and tastefully arranged, while the Sturtevant heating and ventilating apparatus was in full blast, the engine driving the same being attached to the shaft of the fan. The effect of this blast was neatly shown by red, white and blue ribbons attached to the discharge of the Fan. This celebrated heating and ventilating apparatus may be seen in operation in the Massey Music Hall, the Massey Mission Hall, and in dry kilns in various parts of the city and Province.

He also had in operation one of his celebrated duplex Worthington pattern steam pumps supplying the water for the cascade at the east end of the building.

He also showed one of the Barnes foot power lathes which are so much in demand among the manufacturers and repairers of bicycles; while in the rear on a table was a fine display of lathes and drill chucks of the best American makers.

The same exhibitor showed at the east end of Machinery Hall outside of the building a wood-yard apparatus, consisting of a portable engine and boiler, swing crosscutting wood saw machine, and the Hildrith patent single woodsplitter, cutting and splitting the wood used by the various engines on the ground.

### D. W. KARN CO.,

Woodstock, Ont., occupied a prominent position in the west side of the Music Pavilion, made exceedingly attractive by the tasteful ornamentation of the space, and the fine display of pianos and organs manufactured by them. This is an old, long established and wealthy

No charge made for these notices.

concern who have acquired a world-wide celebrity for their instruments. They have always received the highest awards wherever exhibited, where awards have been made, not only in Canada, but also at the International Exhibition at London, at Barcelona, Spain, at Kingston, Jamaica, and other places.

Messrs. Karn & Co., make no pretensions as manufacturers of cheap instruments, which are offered complete for less than good material would cost. The Karn pianos have their cases in rosewood, ebony, fancy walnut, mahogany, oak, etc., and are double veneered throughout. The very best materials are used in the construction of these pianos. Many points of superiority characterize them. The patent scales are so constructed that they produce throughout the entire register great depth and purity of tone, combined with prolonged singing quality. The sounding boards are made convex or crowning, from the best spruce lumber. The iron plates used are patent full iron frame, covering the entire wrest plank. It is beautifully ornamented and will not tarnish by use or time, being baked or burned in.

The reputation of the Karn Organ is equal to that of any other manufacturer on the Continent. The company have one of the largest and most complete establishments in the world for the manufacture of organs. Their patent independent pedal bass can be applied to any organ of any make, giving perfect pedal practice—it is considered and acknowledged one of the most valuable acquisitions ever invented for reed organs. All organs are made first-class. No imitation; all cases made of genuine black walnut, and beautiful figured walnut veneer. These organs have always received the highest awards wherever exhibited.

### HEINTZMAN & CO.,

Toronto, made their usual magnificent display of pianos in the Music Pavilion. The reputation of these instruments is well known. The firm is an old one, and every member of it is thoroughly practical in the part of the business over which he has supervision. Their pianos are made in all desirable styles, and the carvings and furnishings of them are of the most elegant description.

It is unnecessary to refer to the wide reputation this firm has attained. Their instruments have been before the public for more than forty years, and, from their excellence alone, have obtained a most gratifying pre-eminence. Since commencing business this concern have manufactured between ten and eleven thousand pianos, each one being a standing recommendation. They have one of the largest, most complete, and best equipped establishments in the Dominion. The best evidence of the progress made by them in piano manufacturing, is the fact that during the last ten years their business has increased at the rate of fifty per cent. per annum.

### BELL ORGAN & PIANO CO.

Occupying a prominent location in the Music Pavilion was the exhibit of the Bell Organ & Piano Co., whose head office and factories are at Guelph, Ont. Heretofore, and until last year, when musical instruments were displayed in the Main Building, the Bell company occupied a space near the eastern entrance. That space was necessarily contracted and entirely too limited to allow of the exhibition of an assortment of even the more prominent lines of organs and pianos made by this concern. It was decidedly in the interests of the manufacturers of musical instruments that the new quarters were assigned them; and the Bell company improved their opportunity to decorate and arrange their space in a most tasty manner, and to show several lines of instruments not heretofore exhibited at the Fair. A close description of these goods is not necessary here—they are well known not only in Canada, but all over the world.

### DOMINION ORGAN & PIANO CO.,

Bowmanville, Ont., occupied their own Pavilion, and in exhibiting their instruments they were free from the annoyance of hearing other instruments being played upon at the same time. Probably their most interesting exhibit was their Farwell piano. This instrument is built with a solid metal frame constructed to hold all the interior works of the piano, such as action, rest plank, tuning pins, etc., thus rendering it doubly strong and durable. On this metal framework a line of nickel agraffes are threaded directly into the plate. This replaces the old cast-metal bridges in use in almost all other pianos. Through holes pierced in the agraffes each of the strings pass. These individual agraffes have a threefold purpose. They insure purity and a singing quality of tone found only in the best pianos. They remove 50 per cent. of the strain of the strings from the tuning pins. It is also provided with a system of double sounding boards, ensuring a rich volume of tone. A number of other excellent organs and pianos were also shown.

### BERLIN PIANO & ORGAN CO.,

Berlin, Ont., exhibited specimens of their instruments in the Music Pavilion. These pianos and organs are attractive in appearance, are substantially constructed of good designs, and emit full and pleasing volumes of melody.



No charge made for these notices.

**MASON & RISCH PIANO CO.,**

Toronto, presented a fine display of their instruments in the Music Pavilion, the most noticeable of which was their vocation organ. This organ is constructed on the principles of the pipe organ. In both instruments the tone is produced by the stationary vibrations of columns of air. They differ, however, in two very important particulars, i.e., in the method adopted for producing the stationary vibrations and in the size of the chambers to which the stationary vibrations are confined. In the vocation, metallic reeds are employed to produce the vibrations; in the pipe organ air reeds perform this function. The former require chambers of small capacity, the latter chambers (pipes) of large capacity. By this ingenious device of substituting the metallic reed for the air reed, tones are obtained which have even increased purity, richness and delicacy to those obtained from pipes. The vocation organ in its method of producing tones as well as in its construction, is a patented invention and is the outcome of many years of labor and experiment, involving large expenditure.

**WHALEY, ROYCE & CO.,**

Toronto, the well known manufacturers of brass band instruments etc., had a fine display in the Music Pavilion including some beautiful specimens of the Reimer pianos. A peculiarity of this piano is a separable case so arranged that the entire front may be instantly removed from the back. The convenience of this device is at once apparent, as the difficulty of moving the ordinary instrument is entirely obviated, it being possible by this arrangement to carry the piano through small doorways and up narrow staircases. Another ingenious device is a tone liberator, which so acts that when the music desk opens a space of three inches wide and the full length of the upper part of the top door falls back, thus allowing the fullest power of tone to escape.

**GODERICH ORGAN CO.,**

Goderich, Ont., displayed specimens of their instruments in the Music Pavilion which presented a very attractive appearance. Some of the special features embodied in these organs are the Hesler wind regulator and a transposing arrangement which adds much to their value. They are well adapted to Sunday-school and church use.

No charge made for these notices.

**DOHERTY ORGAN CO.,**

Clinton, Ont., displayed a number of their parlor and concert organs in the Music Pavilion. These instruments are well-known to the public, and are much appreciated.

**MENDELSSOHN PIANO CO.,**

Toronto, made a good display of their pianos in the Music Pavilion. These instruments all embody special features, such as the company's improved sounding board, wrist plank, etc.

**MORRIS, FIELD, ROGERS & CO.,**

Listowel, Ont., a comparatively new concern engaged in the manufacture of musical instruments, showed a fair line of these goods in the Music Pavilion, their pianos being artistic in design, of good construction, and possessing many points of excellence.

**R. McDOUGALL & CO.,**

Galt, Ont., made their customary display of their Eclipse hot water boilers in the Stove Building. Regarding the principle of hot water heating for residences, hospitals, schools, etc., Messrs. McDougall say that as now generally understood, it is based on the law of gravitation, and is the circulation of water through coils and radiators, caused by the difference in weight of the two columns of water at different temperatures. A constant circulation is obtained as long as the generative force of heat exists, and even longer, as it will continue to circulate until the water in the system is the same temperature as the surrounding atmosphere. The system being open to the atmosphere through the expansion tank, the temperature of the pipes, etc., cannot exceed 212 Fahr., and the formation of steam is therefore impossible, so that a perfect system of heating is thus secured, free from danger and noiseless in operation. To make hot water heating satisfactory, economical and effective, a good and powerful heater is necessary, one which is not over-rated, but that has sufficient grate area and fire surface; then attach sufficient radiation in a proper manner and a satisfactory heating system is obtained. It is according to this system and principle, we are informed, that the Eclipse heater is constructed.

**WE CAN SUIT ALL.**

Look for the Wire Shape you want and write for price.  
We also Manufacture

**Suspender Buckles  
Suspender Furnishings, etc.**

**McKinnon Dash & Hardware Co.**  
OF ST. CATHARINES, LTD.  
**St. Catharines - - Ont.**

No charge made for these notices.

WILLIAM BUCK,

Proprietor of Buck Stove Works, Brantford, Ont., had a remarkably fine exhibit in the Stove Building, occupying a space 150 feet long, in which was full lines of their heating and cooking stoves. Mr. Buck made a specialty of displaying his Happy Thought cook range, Radiant Home base burning heater, Honor Bright wood cook and Leader hot air furnace. These goods are all of standard excellence, and are favorites in the trade throughout the country, the merits of them being attested to by users everywhere.

GURNEY FOUNDRY CO.

One of the most interesting exhibits at the Exhibition was that made by the Gurney Foundry Company of Toronto, seen in their own separate building. This concern have been manufacturing stoves since 1843. On the ground floor of the building was shown their radiators, among which were the old box coil, the Bundy patent steam and hot water, the Gurney's eam and hot water line, the Rugby two loops and the Rugby quintet. The Rugby quintet is made direct or indirect for schools, hospitals and similar buildings, where fresh air is essential. Another of their specialties is the Dado, which is invaluable for bay windows so that curtains and other draperies can be hung without interference. The line of radiators run from 12 inches high up to 47 inches and from one foot of surface up to 13 square feet of surface per loop. Outside the building was exhibited a very large and fine display of Oxford hot-air furnaces for coal and wood, and also a line of Oxford wood furnaces. They also exhibited the Gurney, the Oxford and the Oxford Double Crown hot water boilers. The Double Crown is used in some of the largest and best buildings in Canada and the United States, and a duplicate pair of the ones used in the Protestant Orphan's Home in Toronto, are now heating about 30,000 feet of surface. On the second floor of the building were shown the latest production in the Countess of Oxford base burner, which is a marvel of the mechanic's art of economy and heating power. The Wasp heater was also shown, and this is undoubtedly the smallest heater made. The John Bull heavy rolled steel-plated range with a capacity of cooking for 400 people was also to be seen. The object of the Gurney Foundry Company has been to make heaters that will not only heat the smallest amount of space but also the largest building.

No charge made for these notices.

McCLARY MANUFACTURING CO.,

London, Ont., presented a very attractive display in the Stove Building of lines of their products, including their Famous warm air furnaces, combination warm air and hot water heaters, heating stoves, etc., also cooking stoves and ranges, hot air registers, tin ware, sheet iron goods, housefurnishing goods, etc. This is one of the largest and most reliable concerns in Canada, and their products are well-known and appreciated throughout the country. While their extensive works and head offices are at London, they maintain branch offices and warehouses in Toronto, Montreal, Winnipeg and Vancouver.

J. F. PEASE FURNACE CO.,

Toronto, occupied their usual space in the Stove Building for the display of their Economy hot water and warm air combination heater with pipe boiler. The primary advantage embodied in this apparatus, we are informed, is one which has been a large element in making a popular reputation for this combination heater, and that is a double capacity for producing direct and indirect heat. The indirect heat is produced by taking the air from the outside through the cold air duct and passing it through the air-heating chamber in the same manner as by a warm air furnace. The air is properly heated, moistened by water evaporation, and distributed through the warm air pipes to the registers in the principal apartments nearest the heater. The direct hot water radiation is obtained by a continuous circulation of water, which passes into the lower chamber and then, on being heated, passes through the upright pipes to upper chamber and through the feed pipes to the radiators where the heated water radiates its heat and by natural gravity returns to the lower section of the heater to be reheated. The construction of this heater is such that the best results are insured. The circulation of water through the pipes is positive, being almost direct from the lower to the upper chamber. The position of the heater in the dome of the furnace is such that the draft is not impeded or destroyed in any way, but passes between and around the pipes of the boiler before it reaches the radiator. The total products of combustion in this way come in direct contact with the water chambers and pipes making a very powerful and effective boiler. This style of boiler has been thoroughly tested and proved itself very easy to keep clean and most durable and satisfactory in every way.

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MONTREAL.

Importer and Manufacturer of High Grade

# Lubricating Oils

ALL OILS GUARANTEED TO GIVE SATISFACTION.

SAMPLES AND PRICES ON APPLICATION

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CLARE BROTHERS & CO.,

Preston, Ont., showed representative lines of their heating furnaces in the Stove Building, prominent among them being their Marvel, which is a steel plated furnace, for coal and wood, possessing some very important features. It is constructed of cast iron and heavy steel plate, and has an extra large ash pit, which contains sifter and ash pan of ample size. It also has a large dust escape from the back of the ash pit direct with the chimney, which is operated from the front of the furnace. The firepot is very heavy and of the most approved shape. It has a draw-centre, anti-clinker dumping and shaking grate, which rests on wheels and is easily shaken, can be completely or partially dumped and is so set that the furnace can be raked. An upright shaker bar is provided, with which the grate is effectually operated without stooping, and this is a very essential point in a furnace. In having a double low radiator, which adds largely to heating capacity, it is most desirable. Every part of the furnace can be easily cleansed, which people should consider a strong point. The feed door is large, so that rough wood can be utilized at such portions of the year as desired. It is also fitted with a gas burning device. With the Marvel furnace a person will not be obliged to walk downstairs to the cellar every time they wish to turn on the drafts, because it can be operated with direct or indirect drafts, which are arranged so that they can be regulated from above.

ALPHA CHEMICAL CO.

Berlin, Ont., had a most attractive exhibit in the Main Building in the care of Mr. W. J. Moody, consisting of quite a variety of dressings for leathers, shoes, etc. Noticeable among these were their French oil dressing, Ivory Gloss waterproof dressing, Reliable French shoe blacking, Reliable harness and patent leather polish, harness soaps, oils and dressings, Sunlight stove polish, stove pipe varnish, inks, mucilage, etc. The handsome case containing these goods was some 14 feet long. The Alpha Chemical Co. are a comparatively young manufacturing concern, but one of the most energetic in the country, and the trade consider their products entirely reliable.

No charge made for these notices.

TORONTO RADIATOR MANUFACTURING CO

Occupied a large space in the Stove Building, in which they exhibited many of the prevailing styles of their Safford steam and hot water radiators. These radiators are made to fit into any desired place in a building, and the artistic form and ornamentation of them make them acceptable not only in halls, dining rooms, bed chambers, etc., but also in the most elegantly furnished parlors. The radiators that are usually kept in stock include some ten styles and upwards of two hundred sizes, the radiators all being patented, and the designs registered. Some of the largest and most important buildings in Toronto are equipped with these radiators, among which are the new Parliament Buildings, Board of Trade building, Confederation Life building, Toronto University, School of Science, Upper Canada College, and thousands of other buildings throughout the country. Branch offices and warehouses are maintained at Montreal, St. John, N.B., Winnipeg and Victoria, B.C.

WARDEN KING & SON,

Montreal, had a fine exhibit in the Stove Building of their Daisy hot water heater, the apparatus being shown in actual operation. The Spence "Daisy" Heater is portable, easily set up, and of the simplest construction. The only water joints are those which connect each section with the water post at the back, each section in itself being an independent heater. The water is fed into each section direct from one side of the water post; it passes through the section, and is discharged into the other side of the water post, and does not require to traverse the successive sections above; consequently, there is the least possible friction, and circulation issues from each section as fast as it becomes heated. When the temperature outside ranges around the zero point and a good fire is necessary, all the sections will contribute to the system through the water post, but in Spring and Fall, when a slight fire is sufficient, the lower sections will receive the heat from the fire, and the water will pass from the hottest part of the system, without passing through the sections above, which may be colder; this is one of the many valuable points in this Heater, and is a feature of far more importance in a hot water heater than in a steam boiler, as in the latter case there must be always sufficient fire to raise the temperature of the water to 212°.

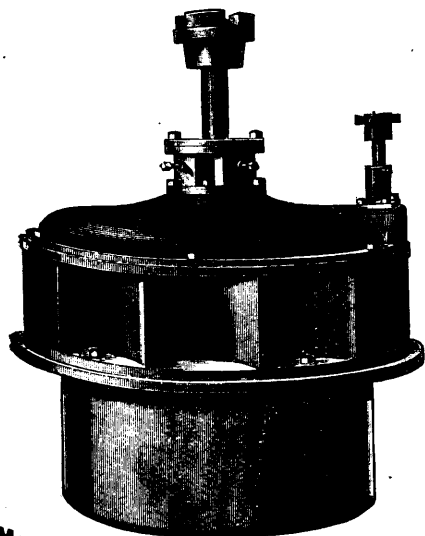
ROE & GRAHAM

Iron Founders and Machinists

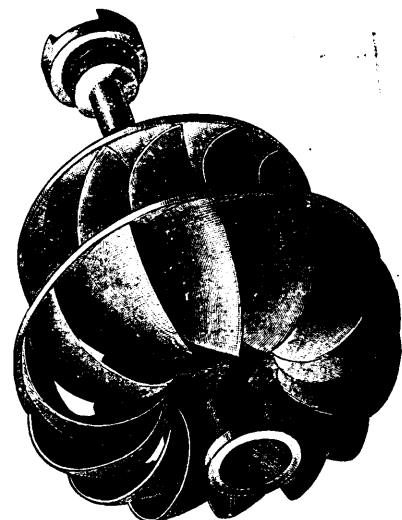
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Standard  
Water..  
Wheel



Cut Showing Wheel Removed from Case

Made in sizes from 6 inches to 84 inches diameter. Wheel One Solid Casting. 94 per cent of power guaranteed  
In Five Pieces. Includes whole of case, either register or cylinder gate.

Water put on full gate or shut completely off with half-turn of hand wheel, and as easily governed as any engine.

Write for Estimates, References and Catalogues of the STANDARD WATER WHEEL, also Milled and Rough Gearing of every size and description; Engines, Mill Machinery and Electric Power Plants; Latest Improved Band Saw Brazing Tables; Shears and Gummers, also Surface Grinder for Shingle Saws.

No charge made for these notices.

**TORONTO PORTABLE OVEN & MANUFACTURING CO.,**

Manufacturers of the Hubbard patent portable steel oven, had one of those articles on exhibition in the Stove Building. It is claimed for this oven that it will do better work than a brick oven. It can be moved from one location to another at a very trifling expense. It is convenient in its construction. It is much cheaper than the ordinary brick oven. It is used with equal advantage by baker, hotel man, restaurateur, and every other public or private institution where the limits of the ordinary kitchen range have to be exceeded. It is constructed on the principle of admitting fresh air while in operation and circulating this air in a current throughout the entire oven, making it an even and rapid baker.

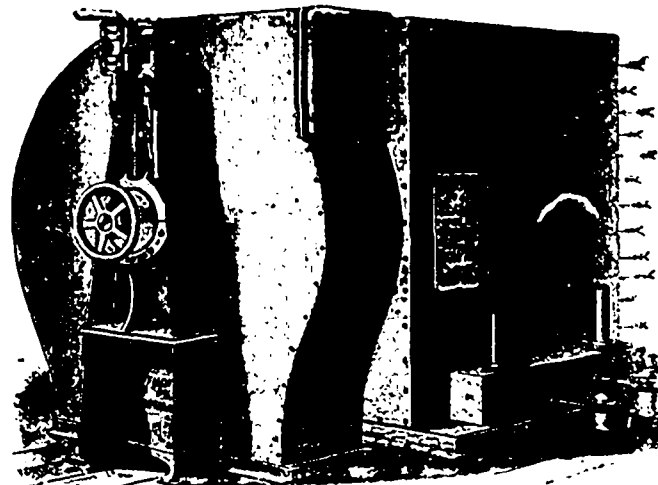
R. BIGLEY,

Toronto, exhibited in the Stove Building his patent base burning furnace, by which he claims that two-thirds of the heat required to warm a dwelling can be supplied by his hot water system in connection with this furnace, and the balance with hot air. This combination system of Mr. Bigley's seems to do all that he claims for it. The hot water heater is placed in the base-burning furnace. It does not in any way interfere with the heating surface of the furnace, but adds two-thirds to its heating capacity. The advantage of this system is, it saves fuel and secures a uniform heat throughout the dwelling. Mr. Bigley also showed his patent gas cooking attachment which can be attached to any cook stove or range. This attachment is bolted to the back end of the stove so that the attachment and range can both be used at the same time.

**PENNSYLVANIA GAS FURNACE CO.**

A. H. Dixon, Toronto, Canadian agent, exhibited in Stove Building a very excellent furnace for heating residences with gas. The cleanliness of gas as fuel, entirely avoiding dirt, soot and ashes, saving servants' labor, and wear of carpets and furniture; the perfect simplicity and unequalled excellence of heating which may be had by its means; the convenience it offers of commanding a fire instantly at any hour of day or night, and the economy of its utilization when the best appliances are employed for the purpose, are advantages which make its use almost a necessity for domestic comfort.

## Buffalo Lumber Dry Kilns



The Largest Drier in America is equipped with a "BUFFALO" Hot Blast Apparatus.

THE OWNERS ARE ENTHUSIASTIC

All Users of Buffalo Kilns write letters similar to this one

"The Kiln answers every purpose to perfection: the Dry Rooms are run with exhaust steam at mere nothing in the way of cost, compared with the old way. Your arrangement is very simple and easily managed, besides being a money saver in operation. We are able, with the Kiln you sent us, to dry soft woods in three days, and hard woods in five days. That's good enough for anyone."—SMITH BROS., Sayre, Penn.

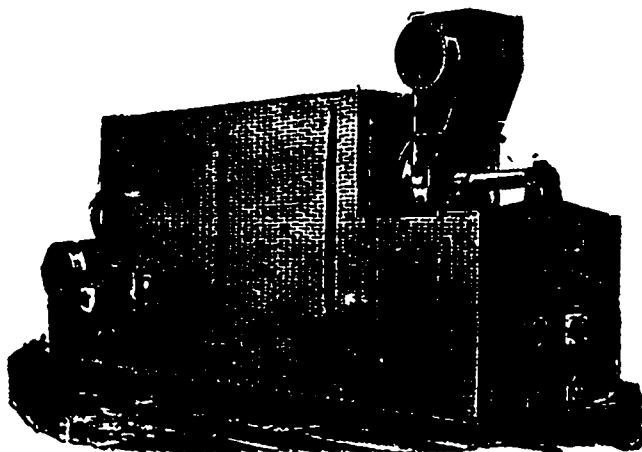
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**BUFFALO FORGE CO., Buffalo, N. Y., U.S.A.**

H. W. PETRIE, Toronto Representative, Toronto, Ont.

CANADIAN MACHINERY & SUPPLY CO., Brantford,  
Brantford representatives.  
Chicago Office:—22 & 24 West Randolph St.

Labor Dispensed With; Very Little Fuel Used; No Break Downs; Superior Product Obtained; Clay Dried Summer and Winter Rain or Shine, Are a Few of the Special Advantages Obtained by using the



# CUMMER CLAY DRYER..



....SIX SIZES MADE....

Prepares from 3 to 20 Tons of Clay per hour for dry pan or pulverizer. The clay is handled mechanically (without men) from bank to press or other machines. Dryers and Hot Air Apparatus can be seen in Daily operation in largest manufactories in Canada.

**NEW METHODS.**

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Phosphate, Sand, Earths, Paint Stocks, Peat, Lignite, Coal, Salt, Marl and Clay for Cement making, Chalk, Cereals of all kinds, Tankage, Night Soils, Animal Manure, etc., etc.

**CALCINING AND ROASTING MACHINERY**

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613-516 Arcade,

CLEVELAND, OHIO, U. S. A.

Send for our  
New Catalogue.

CHARLES ERITH & CO., No. 70 Grace Church St. London, E. C.

No charge made for these notices.

MACDONALD MANUFACTURING CO.,

Stratford, Ont., manufacture the Decker threshing machine, which they showed in Agricultural Implement Building. This is a popular machine for which they enjoy a large demand.

T. E. BISSELL,

Prescott, Ont., exhibited in Agricultural Implements Building his "Prescott '94" disc harrow, which is substantially the same, we understand as the Corbin harrow. It is undoubtedly a good implement.

J. B. ARMSTRONG MFG. CO.,

Guelph, Ont., made a largely assorted and magnificent display of their specialties in road wagons, buggies, carriages and cutters. They are always to the front with novelties in their line, having been for years recognized as leaders in their different classes of work. This season they show a new elliptic spring gear called the "L.X.L." Is very light, neat and stylish, making a complete road wagon or general purpose buggy. Their adjustable seat surrey is one of the most compact four passenger carriages on the market, and is instantly adjusted for two passenger use, the back seat being entirely concealed under the front, and both seats move in adjusting so that the job is perfectly balanced in either way. Their "Young Men's Buggy" will meet with popular favor with that class. It is low down, light, stylish and can be used with or without top. Their Diamond Phaeton has very roomy, comfortable seat and perfect riding springs. Is handsomely upholstered and finished.

Their Guelph cutter with folding small seat is a complete job. Their adjustable seat cutter with their newly patented folding seat is complete. It is as light as an ordinary single cutter and strong enough for four passengers.

Great care is exercised by this firm in oversight of the output before shipment, assuring satisfaction in use as regards durability and easy riding. None but best material is used, and while they do not pretend to compete in price with many makers, their buggies, where given fair trial, are acknowledged to be among the cheapest, durability and freedom from repairs being considered.

They are pleased to mail catalogue showing all their styles and to give any particulars desired. Their goods are sold almost entirely through the carriage makers and handled in all parts of Canada, from Halifax to Victoria, and in most of the vehicle using countries of the world.

GUELPH CARRIAGE TOP COMPANY,

Guelph, Ont., make a specialty of making an improved folding buggy top shown in the Carriage Building. When this top is thrown back the front part acts as a hood, covering the lining and preserving it from mud and dust. The convenience in entering a buggy with this top will be appreciated by all, especially ladies and old people. In all tops Cately's improved prop springs used. This spring is covered with prop block rubber, and does away with broken bows, bent seat rails and rattling joints. One of the features of their display is a patent adjustable body or seat for cutter or carriage. This invention is so arranged as to seat two or four passengers.

No charge made for these notices.

JAMES WARNOCK & CO.,

Galt, Ont., exhibited in the Carriage Building a number of the elliptic and spiral wagon springs manufactured by them. Regarding their duplex bolster springs they say:—

These springs are readily mounted, save the running gear of the wagon, and effect a material saving to Lime burners, brick makers and others, whose goods are liable to damage or deterioration in bulk or quality, from the rough jolting of an ordinary wagon.

Of their fruit and dairy bolster springs they say:—

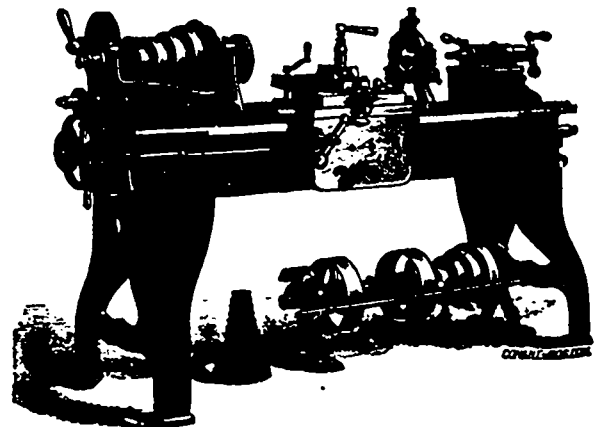
With these springs on the wagon there is no jolting or jostling, bruising of produce, discomfort to rider, and in short they obviate all the annoyance to which those who have been worried and harassed by rough travel over country roads have been subjected heretofore. They are so perfectly made that farmers, fruit growers and dairy men can easily adjust them to any ordinary farm wagon without expense or alteration in the wagon box or bolster.

ESTABLISHED 1850

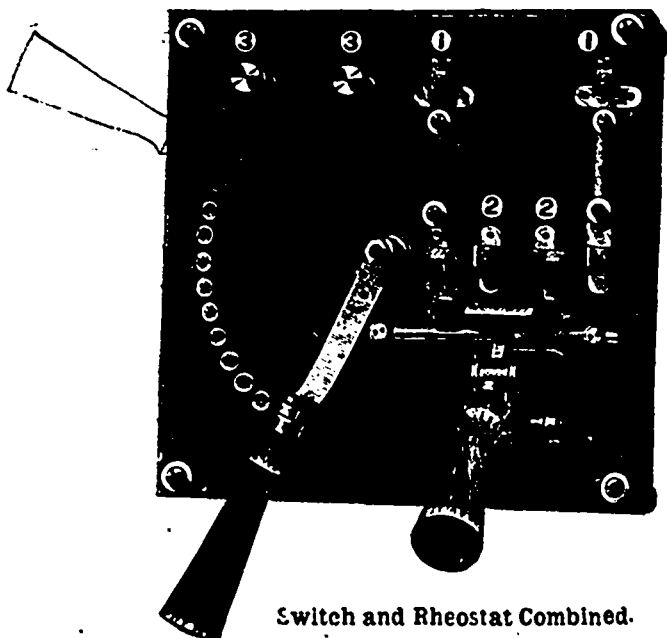
Robert Gardner & Son,

MANUFACTURERS OF

Fine Tools, Lathes, Planers, etc.  
Shafting, Hangers & Pulleys, etc.



Nazareth, Brennan & Dalhousie Sts., MONTREAL.



Switch and Rheostat Combined.

PROTECT YOUR MOTORS

...By using the...

HILL PATENT

Self-Locking Starting Switch

No possible chance for an accident as the Switch cannot be closed until the resistance is all in.

CHEAP • COMPACT • DURABLE

... Made only by the...

W. S. HILL ELECTRIC CO.

132 Oliver St., Boston, Mass.

SEND FOR CIRCULAR AND PRICE LIST.

NEW YORK  
Elson & Brewster, 143 Liberty St.

CHICAGO  
Central Electric Co

No charge made for these notices.

**JOHN ABELL,**

Proprietor of the John Abell Engine and Machine Works, Toronto, made his usual extensive exhibit in Agricultural Implement Building, of reapers, mowers and other farm machinery. These exhibits attract much attention. Included in the exhibits were traction and compound portable engines, "Triumph" and "Advance" engines, straw-burning engines; "Advance" and "Paragon" steam threshers, vibrator threshers for steam or horse power and horse power threshing machines. Mr. Abell manufactures steam boilers of every description and size, and has every facility for turning out work on the shortest notice.

**B. BELL & SON,**

St. George, Ont., showed a large number of their machines of their manufacture, including ensilage and fodder cutters, horse powers, strawcutters, root pulpers, horse hoes, cultivators, plows, land rollers, etc.

**JOHN GOODISON,**

Sarnia, Ont., proprietor of the Tunnel City Thresher Works, exhibited his new McCloskey thresher, which, he says, has stood the most severe tests for many years, and which has always proved itself to be all that he claims for it.

**AMERICAN HARROW CO.,**

Windsor, Ont., and Detroit, Mich., exhibited in Agricultural Implements Building a disc harrow that was shown at the Chicago World's Fair. It possesses many points of excellence that commend it to farmers.

**EAGLE FOUNDRY**  Established 1820.

...GEORGE BRUSH...

14 to 34 King and Queen Streets, - Montreal

.. Maker of ..

STEAM ENGINES, STEAM BOILERS,  
HOISTING ENGINES, STEAM PUMPS,

Circular Saw Mills, Bark Mills, Shingle Mills, Ore Crushers, Mill Gearing, Shafting Hangers and Pulleys.

Safety Elevators and Hoists for Warehouses, Etc.

HEINE SAFETY STEAM BOILERS....

Blake "Challenge" Stone Breaker.

THE CHLORIDE ELECTRICAL STORAGE SYNDICATE, LIMITED,  
MANCHESTER, ENGLAND.

No charge made for these notices.

**JOHNSTON PATENT PLOW SHARE CO.**

Toronto, exhibited a patent plow share and a plow which embodied many of the Company's new improvements.

**D. MACKENZIE,**

St. Thomas, Ont., showed an automatic tile ditcher. The elevating scoops are so arranged on the outside of the main wheel as to act like spuds, by sinking into the ground from one to four inches, increasing its elevating power and doing away with all possibility of slipping in soft, wet ground, or choking in sticky clay soil. The plow is not hinged rigidly to the frame, but works in slides which allows it to free itself when coming in contact with stone or gravel. It is simple in its construction and not liable to get out of order.

**FROST & WOOD,**

Smith's Falls, Ont., showed among other articles exhibited in Agricultural Implement Building, their improved Buckeye mower, which has achieved a splendid reputation; and their single apron binder, with chain drive, which is a first-class machine in every respect. Other of their products were Daisy light reapers, horse rakes, spring tooth harrows, two furrow gang plows, etc.

**GEORGE WHITE & SONS,**

London, Ont., proprietors of the Forest City Machine Works, exhibited on the lawn one of their excellent threshing engines. Recent improvements made in this engine include wrist pin oiler, new governor with new speeder spring, safety valve, etc. Messrs. White & Sons manufacture straw burning engines, portable and semi-portable engines, traction engines, etc.

**E. LEONARD & SONS**

LONDON - - - CANADA  
MANUFACTURERS OF

**ENGINES AND BOILERS**

(NEW DESIGNS)

**STEAM PLANTS EQUIPPED FOR ALL PURPOSES**

Highest Economy, Regulation Perfect. Send for  
Circular. Interviews Desired.

**THOS NOPPER, - - - Sales Agent**

79 YORK STREET, TORONTO, ONT.

SOCIETE ANONYME POUR LE TRAVAIL ELECTRIQUES DES METAUX,  
PARIS, FRANCE.

**The only Storage Battery in use in Central Stations of American Manufacture.**

**THE ELECTRIC STORAGE BATTERY COMPANY,**

Drexel Building, Philadelphia, Pa.

Trade Mark

**CHLORIDE ACCUMULATOR**

Registered September 11th, 1894.

**ELECTRICAL STORAGE CELLS OF ANY DESIRED CAPACITY.**

Catalogue giving capacities, dimensions, weights, prices, etc., on application.

No charge made for these notices.

MACPHERSON & CO.,

Fingal, Ont., exhibited their new Challenge thresher, which, in its operation seems simple and efficient.

COCKSLUT PLOW CO.,

Brantford, Ont., showed an extensive assortment of the implements manufactured by them. This included a riding plow which embodies many new, novel and valuable ideas, for which patents have been obtained or applied for in all principal countries.

NOXON BROS. MANUFACTURING CO.,

Ingersoll, Ont., occupied a large area in Agricultural Implement Building, showing their seeding and harvesting machines. Their mechanical principles and construction are such that they have to full extent filled the requirements for a superior class of implements.

JOHN H. GROUT & CO.,

Grimby, Ont., showed mowing machines, cultivators, disc harrows, walking plows, sulky plows and a grape hoe for the cultivation of grapes and berries.

AMERICAN ROAD SCRAPER CO.,

Hamilton, Ont., showed one of their excellent scrapers. It is drawn by two or four horses and operated by four men.

MACPHERSON & HOOEY CO.,

Clinton, Ont., exhibited one of their Monarch separators which attracted much attention.

NEELY & DURAND,

Dorchester Station, Ont., showed their patent reversible hay and grain elevators and carriers. They make complete outfits for unloading hay or any kind of loose grain.

No charge made for these notices.

ERIE IRON WORKS MANUFACTURING CO.,

St. Thomas, Ont., of which Mr. William Risdon is manager, showed an extensive line of goods for farmers' use, such as plows, harrows, cultivators, potato diggers, lawn rollers, corn shellers, etc.

TOLTON BROS.,

Guelph, Ont., showed a pea harvester which consists of an attachment for a mowing machine. It is mounted on a stand and fitted with supplementary lifters which carry the short vines over the knife and prevents any of the pods being cut off and lost.

WORTMAN & WARD MFG. COMPANY,

London, Ont., exhibited spade harrows which, they say, are specially useful in working inverted sod, hard clay lumps, etc. The spades are made of steel which is too stiff to bend and not hard enough to break.

P. E. SHANTZ,

Preston, Ont., presented a Buckeye frameless binder which possesses many points of excellence. Mr. Shantz also manufactures mowers, hay rakes, disc harrows, etc.

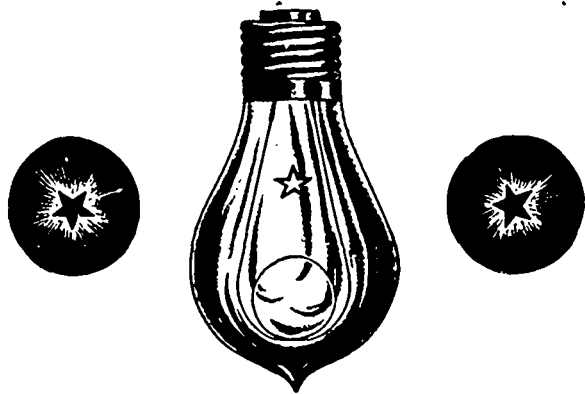
A. FLEURY & SONS,

Stouffville, Ont., exhibited their Tinkler patent wheel plow, also ensilage cutter, both substantial articles.

R. WOON & CO.,

Oshawa, Ont., exhibited two of their well known threshers for steam and horse power. This concern have a large machine shop at Oshawa, where all sorts of repairs for agricultural machinery are kept in stock.

**"STARR"** Incandescent Lamps..



Full Candle Power. Long Life. Low Price.

Made of any Candle-Power and Voltage, and with bases to suit the different sockets in use.

Unrivalled Quality. :- High Efficiency.

Write for Quotations, stating Voltage and Base used.

**JOHN STARR, SON & CO.**  
(LIMITED)

... Halifax, N.S. ...

Illustrated Catalogue of Electrical Supplies on Application.

**The Packard Transformer**

The Transformer can be cut out of circuit and a burned out fuse replaced without the use of any tool whatever.



Packard Transformer Fuse Box Complete (4 SIZE)

Packard Lamp Co., Ltd.

:-:-

Montreal

Makers of Packard Lamp and Transformers.

No charge made for these notices.

**WHEELER & BAIN,**

Toronto, exhibited in the Stove Building their popular Success heater, which seemed to be appropriately named. It is specially adapted to heat hotels, stores, school houses, etc. The fire pot comes immediately into contact with the air, and is not covered over with fixtures that prevent the escape of heat.

**THE COPP BROS. CO.,**

Hamilton, Ont., included in their display in Stove Building their Aberdeen Warrior, a very handsome cook stove made in all the popular sizes, and to burn both wood and coal. Their Gold Peninsular is a beautiful stove to burn either wood or coal with oven of sufficient capacity for the requirements of large families.

**BURROW, STEWART & MILNE,**

Hamilton, Ont., made a fine display in Stove Building of their jewel cook stoves and ranges, all splendid articles equipped with steel ovens. They also showed lines of their jewel heating stoves and hot air furnaces and hot air and hot water combination furnaces.

**THE MOFFAT STOVE COMPANY,**

Weston, Ont., showed a very handsome cook range, which they call Splendid Pearl, and which possesses many points of excellence, one of these being that the hot water boiler, which is usually detached, standing on end in a corner, is, in this range a part of it, being placed horizontally above the warming closet. It is handsome in appearance.

**DOHERTY MFG. CO.,**

Sarnia, Ont., made a good display in Stove Building of their cooking and heating apparatus. Of the former their World's Fair range attracted much attention, divided with The Favorite, an entirely new base burning heater just out. They also showed a good line of gas cooking ranges.

No charge made for these notices.

**PATENT ELBOW CO.,**

Montreal, exhibited specimens of their Shipe patent stove pipe and elbow. The article is handsomely made, always true to size and easily put together, and sold at same price as the old style that is the cause of so much profanity.

**WESLEY MORROW,**

Millbrook, Ont., exhibited a newly patented potato digger which takes the potatoes from the earth, separates them from the dirt, and deposits them to one side.

**J. FLEURY'S SONS,**

Aurora, Ont., made a specialty of implements for use of stock raisers, full lines of which they exhibited. The use of such implements add largely to the profits of stock raising.

**SYLVESTER BROS. MFG. CO.,**

Lindsay, Ont., exhibited their Sylvester steel binder in practical operation every day. They are also manufacturers of many other sorts of agricultural implements and harvesting machinery.

**SAWYER AND MASSEY CO.,**

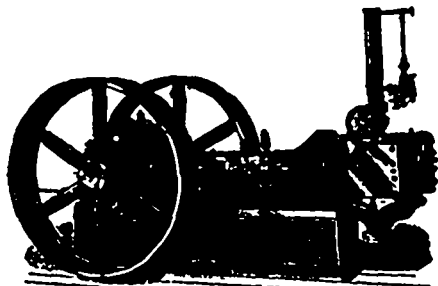
Hamilton, show in operation on the lawn one of their S. & M. traction engines. The motion is rapid, it is capable of being turned in about its own length, it is under quick and entire control, and is sufficiently powerful to accomplish all that may be required of it.

**MOWAT MFG. CO.,**

Whitby, Ont., exhibited in the Agricultural Implement Building their Turnbull light binder, which combines light draft, large capacity, simplicity and convenience. Weight 1,050 pounds. They also show a Clokey patent centre cut mowing machine, which weighs but 550 pounds.

## Armington & Sims

**AUTOMATIC HIGH SPEED ENGINES**



—FOR—  
**ELECTRIC LIGHTING**  
—AND—  
**GENERAL FACTORY PURPOSES**  
Perfect Regulation and Highest Economy.  
**Steam Pumps**  
**SHAFTING, PULLEYS**  
—AND—  
**General Machinery**

**Nie & Whitfield - HAMILTON, ONT.**



**THE WEBBER PATENT**

### Straitway Valve

FOR  
**STEAM, WATER OR GAS**  
EVERY VALVE TESTED

**THE KERR ENGINE CO. (LTD.)**

**WALKERVILLE, ONT.**

Solo Manufacturers for Canada

Send for Price List

## Kay Electric Co'y

MANUFACTURERS OF

### DYNAMOS

FOR

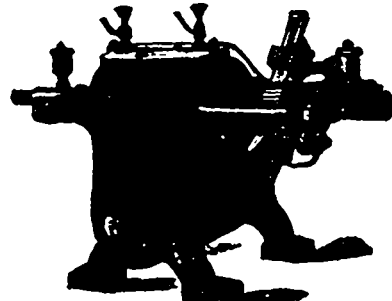
**ARC AND INCANDESCENT LIGHTING,**

**Plating Machines,**

**Medical Batteries**

AND ALL KINDS OF

**ELECTRIC APPLIANCES**



**HAMILTON, ONTARIO**

THE PETERBOROUGH

## CARBON & PORCELAIN CO.

LIMITED

MANUFACTURERS OF

### Carbon Points for All Systems of Arc Lights

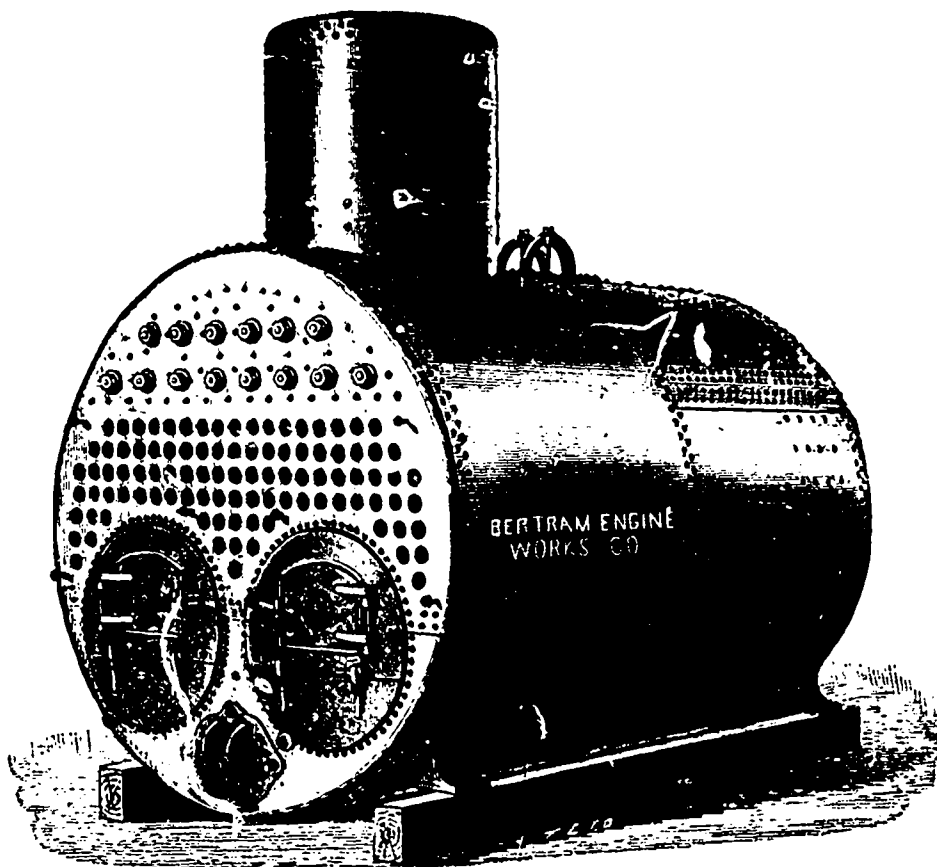
**BATTERY PLATES, CARBON BRUSHES, and all kinds of PORCELAIN for Electrical and Hardware Lines.**

All goods guaranteed equal in quality to the best manufacturers in the world.

**PETERBOROUGH, - - ONTARIO**

# The Bertram Engine Works Co., Ltd.

- - - ENGINEERS AND BOILER MAKERS. - - -



**. BEST EQUIPPED PLANT IN THE DOMINION .**

....FOR THE CONSTRUCTION OF....

Marine Engines and Boilers,

Corliss and Vertical Engines,

Steel and Composite Yachts & Steamships.

**CASTINGS & GENERAL MACHINERY.**

**The Bertram Engine Works Co., Ltd.**

**Bathurst and Niagara Sts. TORONTO, CANADA.**



No charge made for these notices.

THE McLAUGHLIN CARRIAGE CO.,

Oshawa, Ont., make one of the largest exhibits in the Carriage Building. This is an old concern, having been in business many years, and they have acquired a deservedly high reputation for their vehicles. They include all varieties of both two and four wheel carriages, adapted for all purposes. Some of the more pretentious of these carriages shown are Aberdeens, Gladstones, Kensingtons and Mikados. All the exhibits are first class in every particular.

WILLIAM GRAY & SONS,

Chatham, Ont., occupied a very large space on the north side of the Carriage Building, displaying complete lines of Victorias, landaus, dog carts, phaetons, surreys, sleighs, etc. These goods are all first class. The firm is an old one, and one of the most reliable in Canada.

TUDHOPE CARRIAGE CO.,

Orillia, Ont. This concern are wholesale manufacturers of carriages, buggies, phaetons, spring wagons, carts and cutters; and they show lines of these vehicles in the Carriage Building. This concern was established in 1855, and have a reputation for producing first class work.

D. CONBOY,

Toronto, made a good display in the Carriage Building, which included his improved bow socket carriage top, etc. These goods are made in every desired variety for the trade. Mr. Conboy had an exhibit in the Transportation Building at the World's Fair, Chicago, for which he was awarded the highest diploma.

E. N. HENEY & CO.,

Montreal, made an exhibit in the Carriage building of some exceedingly fine and beautiful collars and harness manufactured by them. This is a very large concern, and they manufacture all sorts of wheeled vehicles and supplies, and in their saddlery department about everything that might be enquired for in such an establishment.

No charge made for these notices.

McKINNON DASH & HARDWARE CO.,

St. Catharines, Ont., made a very fine and characteristic display in the Carriage Building of carriage hardware, trimmings, etc. This old and well known concern are prepared to supply about everything that a carriage maker can find use for in their particular lines.

MARLATT & ARMSTRONG,

Oakville, Ont., manufacturers of patent enamelled leathers, dal finish morocco for carriage and furniture trimmings, top, dash, winker and split leathers, had quite a display of their goods in the Carriage Building.

BRANTFORD LAWN MOWER CO.,

Brantford, Ont., showed in the Carriage Building a specimen of their new Matchless trimmer lawn mower, an entirely new article recently patented, and only just now being placed in the market. They are made to cut 12, 14 and 16 inches.

DR. P. HESELTINE, V.S.,

A graduate of the Ontario Veterinary College, and now residing at Rochester, N.Y., exhibited in the Carriage Building a model of his veterinary ambulance which seems to possess much merit, and which should commend it very strongly to all humanitarians.

CANADIAN HARNESS CO.,

Toronto, of which Messrs. Adams Brothers are proprietors, displayed in the Carriage Building some forty or fifty sets of harness made by them, including some excellent Mexican saddles, also whips, saddles, etc. A branch factory is maintained at Brandon, Man.

A. SPENCE & SONS,

Brantford, Ont., had on exhibition in the Carriage Building their Star spring shaft support for holding up the shafts of a buggy, thus greatly facilitating the hitching up of the horse. It is a very useful article.

## ALL FACTORY OWNERS

Require Electric Light these dark afternoons.

### Put in Your Own Dynamo

And save money. Consult an experienced, independent engineer as to specifications, estimates, etc.

WRITE **GEO. WHITE FRASER,** G. E., ELECTRICAL ENGINEER,  
TORONTO, - - - 18 IMPERIAL BUILDING.  
ONT.

- OUR 1894-95 -

## CUTTER = STYLES

... ARE READY ...

### FURNISHED

READY TO IRON  
READY TO PAINT  
OR READY TO RUN

Descriptive Circulars on Application.

J. B. ARMSTRONG MFG. CO., LTD.  
GUELPH, CANADA.

## Suspender Buckles

AND...

### Wire Shapes <sup>OF</sup> All Kinds.

We have put in a complete plant of **AUTOMATIC MACHINERY** for making above articles. . . .

#### Write for Quotations

McKinnon Dash & Hardware Company  
St. Catharines, Ont.

## Second-Hand ENGINES

In Good Condition, for sale low.

50 H.P. Corliss.  
50 H.P. Automatic Ball (American.)  
60 H.P. Automatic Leonard-Ball.  
50 H.P. Automatic Armington & Sims.  
25 H.P. Automatic Westinghouse.

Replaced by Robb-Armstrong Engines

Robb Engineering Co., Ltd., Amherst, N. S.

No charge made for these notices.

BRANTFORD CARRIAGE CO.,

Brantford, Ont., exhibited some handsome specimens in the Carriage Building of the carriages manufactured by them. They make every serviceable platform spring wagon, with one, two and three seats, with and without gypsy tops, also a great variety of other styles of vehicles. They also showed specimens of their Galbraith adjustable carriage pole, the simplicity and utility of which are its strong recommendation. It is adjustable to any vehicle varying from 32 to 40 inches between the shackles.

SPEIGHT WAGON CO.,

Mackham, Ont., had a large and attractive exhibit in the Wagon Building, including farm, express and delivery wagons, coal carts, a jump seat and a Buffalo road wagon. This company was established in 1850. Its products are all first-class.

No charge made for these notices.

SULLIVAN CARRIAGE & BICYCLE CO.,

Toronto. This concern was formerly known as the Sullivan Carriage Co.; but recently they have changed their name, as above, and added a bicycle department, giving special attention to repairs of bicycles. In the Carriage Building they exhibited quite a number of vehicles including novelties in sleighs, a specially designed carriage for physicians' use, phaetons, Victorias, Stanhopes, Concorde, Tilbury carts, etc. Mr. W. J. Hunter is manager.

HUTCHINSON & SON,

Toronto, display in the Carriage Building a varied and comprehensive line of their carriages which excite the admiration of all who see them. This is an old Toronto concern who have for twenty years supplied many of the beautiful carriages to be seen on the streets of this city, and in many other places also.

**VALVES** and -  
Pipe : :  
Fittings

Write for Latest Prices.

**RICE LEWIS & SON**  
(LIMITED)

Cor. King and Victoria Sts. - TORONTO.

**Black Sheet Iron, all sizes.**  
**Sheet Steel, Ordinary & Dead Flat.**  
**Russia Iron, Genuine and Imitation.**

**M. & L. SAMUEL, BENJAMIN AND CO.**

30 Front Street West, Toronto

ENGLISH HOUSE :  
SAMUEL, SONS & BENJAMIN  
164 FENCHURCH ST., LONDON. E.C.

SHIPPING OFFICE  
1 RUMFORD PLACE, LIVERPOOL

.....THE.....

**Goldie & McCulloch Co., Ltd., Galt, Ont.**

.....MANUFACTURERS OF.....

**STEAM ENGINES = BOILERS = WATER WHEELS,**

Steam Engines, Boilers.

Water Wheels, Flouring and Saw Mill Machinery, Wood Working Machinery, Wool Machinery.

Fire and Burglar-Proof Safes, Vault Doors.

Wood Rim Split Pulleys, Friction Pulleys, Friction Clutch, Couplings, etc.

**"Dumfries Foundry," Galt, Ont., Canada.**

**ELECTRICAL SUPPLIES**

Do not fail to write for Prices and Quotations on all kinds of Electrical Supplies.

We carry the largest stock of high-class fittings for Electrical Work in Canada.

FANCY PORCELAIN CUT-OUTS, ROSETTES, WALL PLUGS, SWITCHES, BRACKETS, ETC.

Have you tried the I. R. G. P. Wire? We guarantee our wire to have a higher insulation resistance than any wire in Canada.

WRITE FOR PRICES ON ALL SUPPLIES REQUIRED. - - - SEND US THAT RUSH ORDER.

**JOHN FORMAN, = = 650 Craig Street, Montreal.**

AGENT for Crompton Howell Battery Co., Ediswan United Electric Co. and the India Rubber, Gutta Percha and Telegraph Works Co.



# TANITE MILLS

## Emery, Emery Wheels, Grinding Machines, Polishes, Etc.

Quick Process and Large Stock.

Special Inducements suited to our Stock and the Times

**THE TANITE COMPANY,** STROUDSBURG, Monroe Co., Pa.  
NEW YORK, 161 Washington Street.  
CINCINNATI, 1 West Pearl Street.

**BROWN & CO.**



MANUFACTURERS  
OF  
Square and Hexagon  
**HOTPRESSED NUTS**  
Paris, Ont.

**WELLAND VALE MANUFACTURING CO**

LOCK No. 2, ST. CATHARINES, Ont.

Manufacturers of  
**Axes, Scythes, Forks, Hoes,  
Rakes and Edge Tools.**

**The Paris Electro Plating Co.**

Manufacturers of

**STOVE TRIMMINGS**  
and Novelties. Orders Solicited.  
PARIS STATION - - - ONT.

**F. W. HORE'S SONS**

Hamilton - - - Ont.

Manufacturers of

**Wheels, Wheel Materials, Shafts, &c**

**FOUNDRY ::=**

**::= FACINGS**

*Ceylon Plumbago Foundry Supplies,  
Fire Brick, Fire Clay and  
Moulding Sand.*

CANADIAN AGENTS FOR

**Colliau Cupola Furnace.**

Hamilton Facing Mill Co.

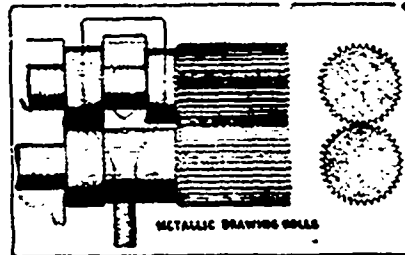
HAMILTON - - - Ontario

## The Greatest Invention in Cotton Spinning Since Arkwright's Time

Now in general use in OLD FRAMES, and being  
applied to New Machinery.....

TO LEARN ALL  
ABOUT IT,

write to



TO LEARN ALL  
ABOUT IT,

write to



## THE METALLIC DRAWING ROLL CO.

.. Indian Orchard, Mass..

SOLE PATENTEES, Exclusive Owners and Only Manufacturers for United States and Canada

**CAUTION-** The patents held by this Corporation cover every description of metallic rolls so separated or adjusted as to perform the function of drawing or elongating the fibers of cotton or other material preparatory to twisting or spinning the same. Consequently whoever makes, sells, or offers for sale, or uses, or has in his possession any infringing device with intent to use the same, will be promptly prosecuted to the utmost extent of the law for damages.

**Our Motto on EMERY WHEELS**

**"LARGE CONTRACTS, QUICK SALES and SMALL PROFITS"**

For an A NO. 1 Wheel

ALSO THE LARGEST and BEST LINE OF EMERY WHEEL MACHINERY in the U.S.  
Catalogue furnished upon application.

The Springfield Emery Wheel Co. - - - Bridgeport, Conn.

## BANK AND OFFICE COUNTER RAILING

Inside Wire Windows, Blinds and Signs, Plain and Lettered.

## BASEMENT WINDOW GUARDS

WRITE FOR CATALOGUE.

The B. GREENING WIRE CO., Ltd., Hamilton, Ont.

No charge made for these notices.

WILLIAM RAMSAY,

Orillia, Ont., manufacturer of the popular and well known Mineola road cart, exhibited specimens of them in the Carriage Building. The merits of this vehicle have heretofore been discussed in these pages. Mr. Ramsay has exported many of these carts to Great Britain, where they have been awarded prizes as follows: - Silver Medal, Dublin, 1893; Silver Medal, Chester, 1893; Bronze Medal, Leicester, 1893; Silver Medal, Dublin, 1894; Silver Medal, Liverpool, 1894, and numerous other awards.

HANES & MISNER,

Brantford, Ont., exhibited in the Carriage Building specimens of their high grade light running vehicle wheels. This wheel has a self-oiler, and requires oiling only once a month. It is dust proof, and can be placed on the wheels of any carriage.

GEO. LUGSDIN & CO.,

Toronto, occupied a liberal space in the Carriage Building in which they showed a large and varied line of harness and saddlery goods manufactured by them. This is an old and well known concern, and their fine harness for city use cannot be excelled.

**Emery AND MACHINERY**  
Standard Emery Wheel Co., Albany, N.Y.

IMPORTANT TO LIGHTING STATIONS

- - OUR NEW - -

Alternating Current Indicators

Are now ready. Before purchasing elsewhere send for our New Catalogue, which contains the prices and description of the above instruments, and also a list and prices of other new instruments of our manufacture.

WHITNEY ELECTRICAL INSTRUMENT CO'Y.  
Sherbrooke, P.Q., Canada. Penacook, N.H., U.S.

AGENTS...  
Henry F. Kollegz, General Selling Agent.

- |  |                              |
|--|------------------------------|
| BOSTON MASS. W. S. Hill.                 | NEW YORK CITY. Geo. L.       |
| BALTIMORE, M.D. The Poole Electric Co.   | Colgate, 136 Liberty Street. |
| CHICAGO, ILL. Electric Appliance Co.     | SAN FRANCISCO, CAL. Cal.     |
| CINCINNATI, O. Nowotny Electric Co.      | ifornia Electrical Works.    |
| HALIFAX, N.S. John Starr, Son & Co. Ltd. | TORONTO, ONT. Toronto        |
|  | Electrical Works.            |

No charge made for these notices.

R. B. FISDALE & CO.,

Brantford, Ont., occupied their attractive kiosk on the lawn, in which they showed their lines of stable fixtures. These goods enable those who have horses to have them properly attended to without discomfort or inconvenience.

MATTHEW GUY,

Toronto, who makes a specialty of manufacturing hearses, made an impressive display of these sombre carriages in the Carriage Building. They were richly finished and seemed inviting to those who might be anxious to take a final journey.

B. J. NASH & CO.,

London, Ont., make a display of their products, the most striking of which is, undoubtedly, their hearses. These vehicles are equipped with all the best modern improvements. They also exhibit very beautiful specimens of buggies, cabs and carriages.

The Unexpected Generally Happens.

Have your boiler inspected and insured, it pays to know that you are right.

Don't Trust to Luck. Will Your Boiler Stand the Pressure at its Weakest Point? Can you Judge It? Are the Safety Valves and Steam Gauges Right? It is your duty to take every precaution. Inspection makes you safe. Insurance indemnifies you against loss.



- DIRECTORS -

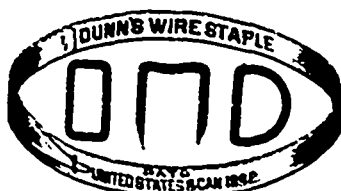
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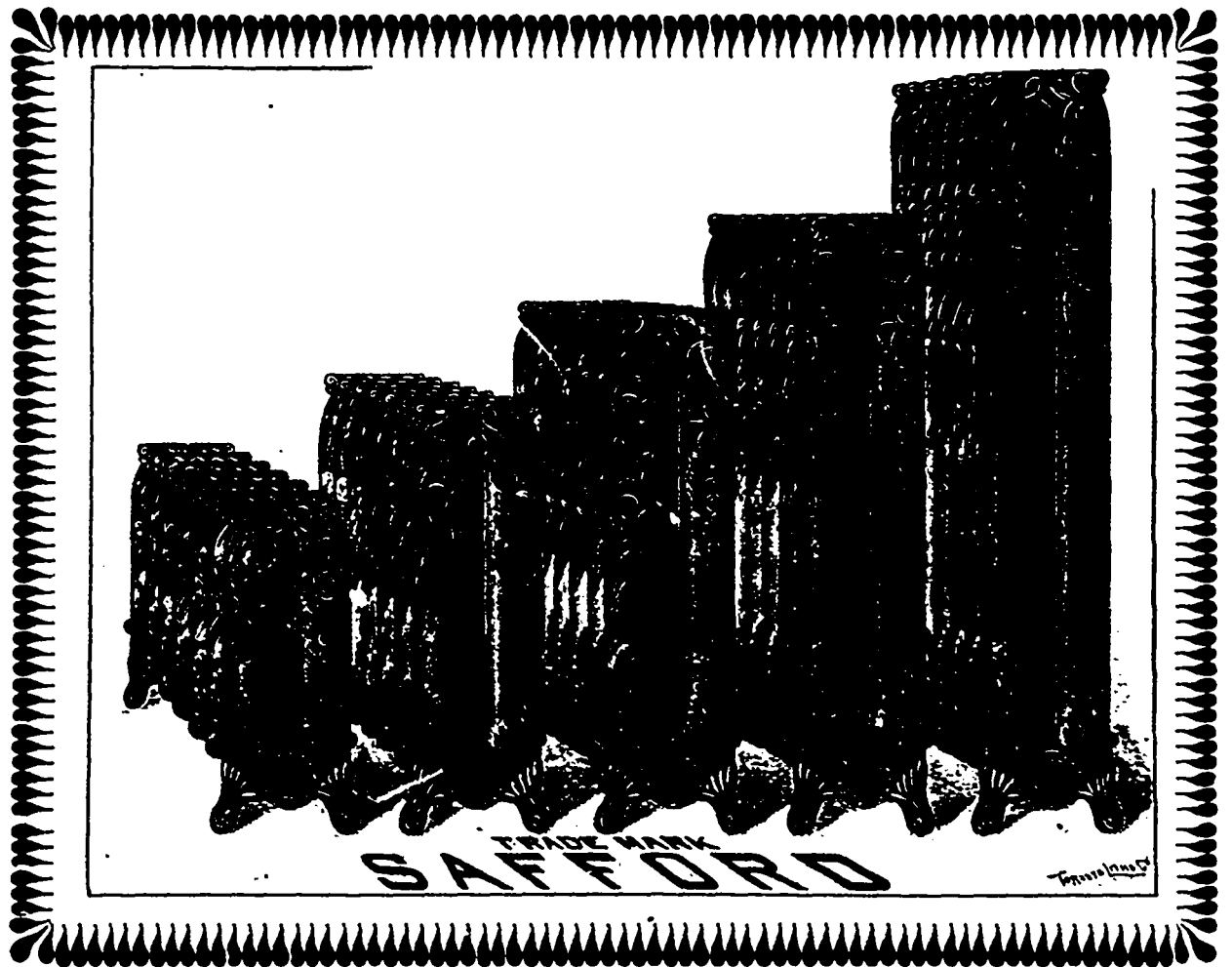
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ST. CHARLES & PRINGLE,

Belleville, Ont., manufacturers of electric and horse cars, omnibuses, hose wagons, etc., displayed two very fine and beautiful hotel omnibuses in the Carriage Building. There were no more attractive vehicles of the kind at the Fair.

A. K. MELBOURNE,

Hamilton, Ont., showed in the Carriage Building assortments of the blacksmiths' supplies, carriage hardware, bent goods, trimmings, etc., made by him.

JOHN CAMPBELL,

London, Ont., had a good display of carriages, landaus, etc., in the Carriage Building. Mr. Campbell also makes a specialty of sleighs and cutters, some of them very elegant.

M. T. BUCHANAN,

Ingersoll, Ont., showed on the lawn specimens of his dead lock wire fence, which is simple, strong and durable. It is specially adapted to farm purposes.

No charge made for these notices.

G. W. ROBINSON,

Kingston, Ont., showed some very handsome carriages, sleighs etc., made by him.

E. H. HILBORN,

Toronto, proprietor of the Ball Bearing Axle Mfg. Co., displayed in the Carriage Building his Arnold ball bearing carriage axle which received considerable attention.

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A. BROHMANN,

Mildmay, Ont., has patented and is building a road cart which seems to possess much merit, and which was shown in the Carriage Building.

ASHLEY CARRIAGE WORKS,

Belleville, Ont., exhibited in Carriage Building some very handsome business vehicles, including a bread wagon and a grocer's wagon that seemed to possess many points of merit.

C. KLOEPFER,

Guelph, Ont., made an attractive display in the Carriage Building of many of the carriage hardware and trimmings manufactured by him.

WILLIAM BROWN,

Toronto, manufacturer of carriage makers' supplies, carriage hardware, etc., displayed full lines of his goods in the Carriage Building.

T. A. CROW,

Toronto, showed a line of fine carriages in the Carriage Building.

No charge made for these notices.

ANDREW MUIRHEAD,

Toronto, manufacturer of varnishes, paints, brushes, etc., made a good display of his goods in the Carriage Building.

SMITH BROS.,

Toronto, made a display of salvage wagons, delivery wagons, etc. in the Carriage Building.

J. A. DARCH & CO.,

Toronto, exhibited a very handsome hearse, also a fine buggy in the Carriage Building.

RICHARDSON & WEBSTER,

St. Mary's, Ont., exhibited their Champion ensilage and feed cutter. The machine is covered in on top and cased with hardwood frame, has three knives, reversible feed and angle and direct carrier. In the Dairy Building this concern exhibited a cheese press, a 400 gallon power churn, a power butter worker and a steam cream separator.

DAVID MAXWELL & SONS,

St. Mary's Ont., occupied a large space in the Agricultural Implement Building, exhibiting their binders, mowers, rakes, reapers, etc. The machines combine simplicity of construction, strength, and capacity of work. This is one of the largest agricultural implement manufacturing concerns in Canada.

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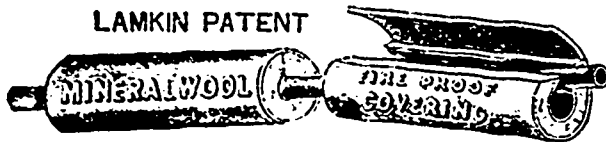
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No charge made for these notices.

**WATEROUS ENGINE WORKS CO.,**

Brantford, Ont., made a fine exhibit of mill machinery in the Agricultural Implements Building. They claim, and not without reason, the following points of advantage for their band saw-mills: First, the saving of timber in a large mill owing to the thin saw of not less than \$30 per day; and that the lumber is much better than when cut with a circular saw. This advantage is considered to be worth no less than twenty-five to fifty cents per thousand. The experience of Mr. Heath, manager of the Huntsville Lumber Co., fully justifies their claims. He says that in their mill they are cutting an average of fully 2,000 ft. per day more than was cut with the circular power, and all other appliances remaining the same. Contrary to the general opinion "we have not since found it necessary to hire an expert or experienced band-saw man to run this mill. All the old hands we formerly employed on the circular are still with us. In fact, so far as our view of the matter is concerned, we consider our logs worth as much to us now in the log as they used to be after being manufactured by the circular, the saving being so great that it more than pays the cost of manufacture in cutting with a band saw." It is evident that Mr. Heath is quite proud of their mill, and any one interested should visit it and carefully inspect it while working. He further says that "after months' trial with the band saw, every member of our firm are of opinion that the band saw has come to stay," and he advises that every one doing any considerable amount of business should lose no time in making the change from the old wasteful circular saw for cutting either hemlock, pine or hardwood.

**WATSON MANUFACTURING CO.,**

Ayr, Ont., exhibited representative lines of their feed cutters, grinding mills, root cutters, pulper and slicer, ensilage cutter, etc. They showed a Webster grinding machine for grinding the sickles and knives of reaping and mowing machines. It is simple in construction, easily worked, and portable.

T. T. COLEMAN,

Seaforth, Ont., manufacturer of improved modern agricultural implements, has in his exhibit his two-furrow plow; Model root pulper, etc. This pulper has an attachment for preventing the roots becoming blocked in the hopper, by which device the operator runs no danger of having his hands mangled by the knives.

No charge made for these notices.

**COULTHARD-SCOTT CO.,**

Oshawa, Ont., exhibited a large line of the implements made by them. Their Lion disc harrow embodies many good features. Champion spring tooth cultivator is very strong and durable. Champion drill is constructed on well tested principles, the grass seed distributor can sow in front or rear as desired.

**MASSEY-HARRIS CO.**

Perhaps the largest and most varied exhibit of certain lines of agricultural machinery made at the Fair is that of the Massey-Harris Co. in Agricultural Implement Building. It includes the Massey harvester, Toronto mower, Massey-Harris hay tedder, Ithaca hay rake, sectional seeder, combined drill, shoe drill, cultivator, harrows, etc.

**COSSITT BROS.,**

Brockville, Ont., in Agricultural Implements Building, exhibited a line of their excellent agricultural implements and harvesting machinery. Over thirty years' test of thousands of machines made by this concern in the grass and grain fields of Canada has established their reputation on a most solid foundation.

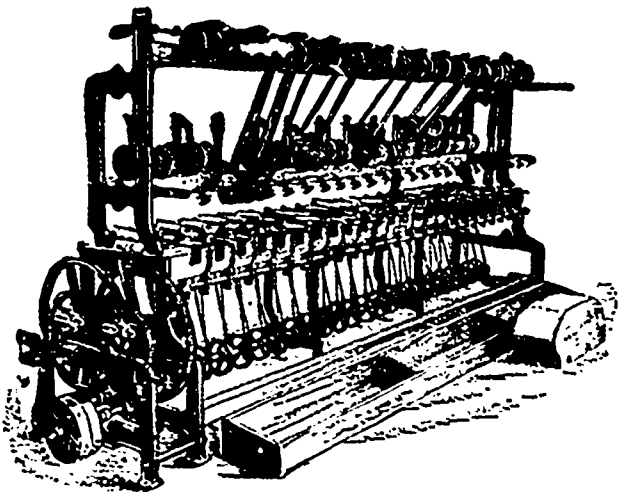
**MERCER MANUFACTURING CO.,**

Alliston, showed their Mercer steel binder, mower and hay rake. The binder works without canvas, and the knottor requires no more power when the sheaf is being discharged than at any other time. The machinery being in motion, the exhibit was a most interesting one.

J. W. PROVAN,

Oshawa, Ont., showed his patent ear, fork and sling, a double acting self-reversing machine for carrying hay. There are but few joints, is automatic, and has neither springs nor clutch liable to wear out or break.

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Patent Bobbin Winding Machine, for Worsted or Cotton Yarns  
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A.W. LEITCH, 16 Hughson St. South, HAMILTON, ONT

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**WILKINSON PLOW COMPANY,**

Whose factory is at Toronto Junction, and offices in Toronto, showed full lines of the all steel plows manufactured by them. The patent steel plow head, or frame of the plow is a departure from the old cast iron head.

**WATERLOO MANUFACTURING CO.,**

Waterloo, Ont., are manufacturers of portable engines, threshers, horse powers, plows, etc.; and of some of these they made an attractive display, noticeably a 13 horse-power return flue boiler portable engine for threshing and farm purposes.

**DAVID THORN,**

Watford, Ont., exhibited his Ripper feed cutter in the Agricultural Implements Building. The machine is intended to cut and split corn stalks and similar articles. There is a carrier attachment which carries the cut food away from the machine.

**COPP BROS. CO.,**

Hamilton, Ont., showed their improved Queen steel frame cultivator, Empire steel harrow and Manitoban channel steel harrow. They manufacture all kinds of farm and agricultural implements.

**W. M. WILKINSON,**

Brampton, Ont., exhibited in Agricultural Implements Building his Little Champion power chopping mill. It is substantially built and capable of much hard work.

**BEATTY BROS MFG. CO.,**

Fergus, Ont., manufacture a line of plows, specimens of which were shown in the Agricultural Implements Building. They also make ensilage cutters, root pulpers, hay car, etc.

No charge made for these notices.

**MANSON CAMPBELL,**

Chatham, Ont., showed his Chatham fanning mill, which is accepted as a most excellent machine. It has an attachment for bagging the grain as it comes from the mill.

**J. W. MANN MANUFACTURING CO.,**

Brockville, Ont., showed some excellent seeders, cultivators and harvesters. They have for years confined their business to manufacturing this class of machinery.

**MATTHEW MOODY & SONS.,**

Terrebonne, Que., exhibited their Moody two horse threshing machine and Moody ensilage and feed cutter. They are manufacturers of a large line of labor saving farm machinery.

**W. A. GEROLAMY,**

Tara, Ont., exhibited a farming mill which seemed to do good work. He also showed an ensilage cutter, turnip sower, root slicer, plows, etc.



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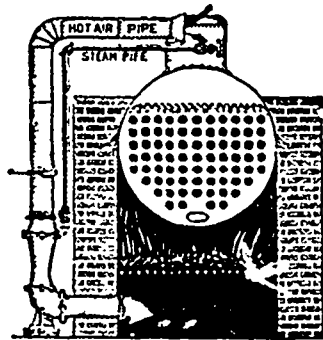
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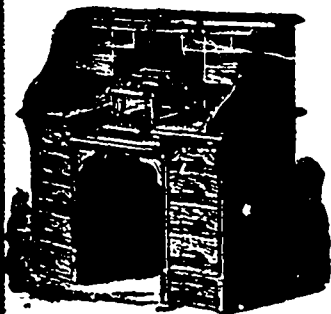
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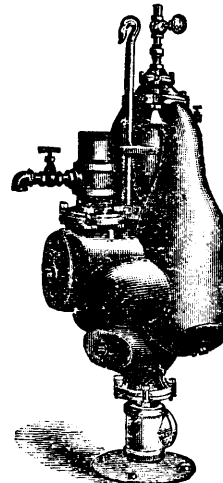
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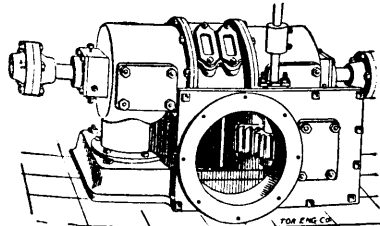
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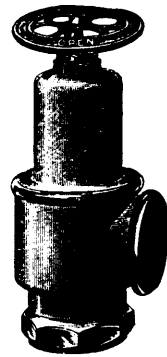
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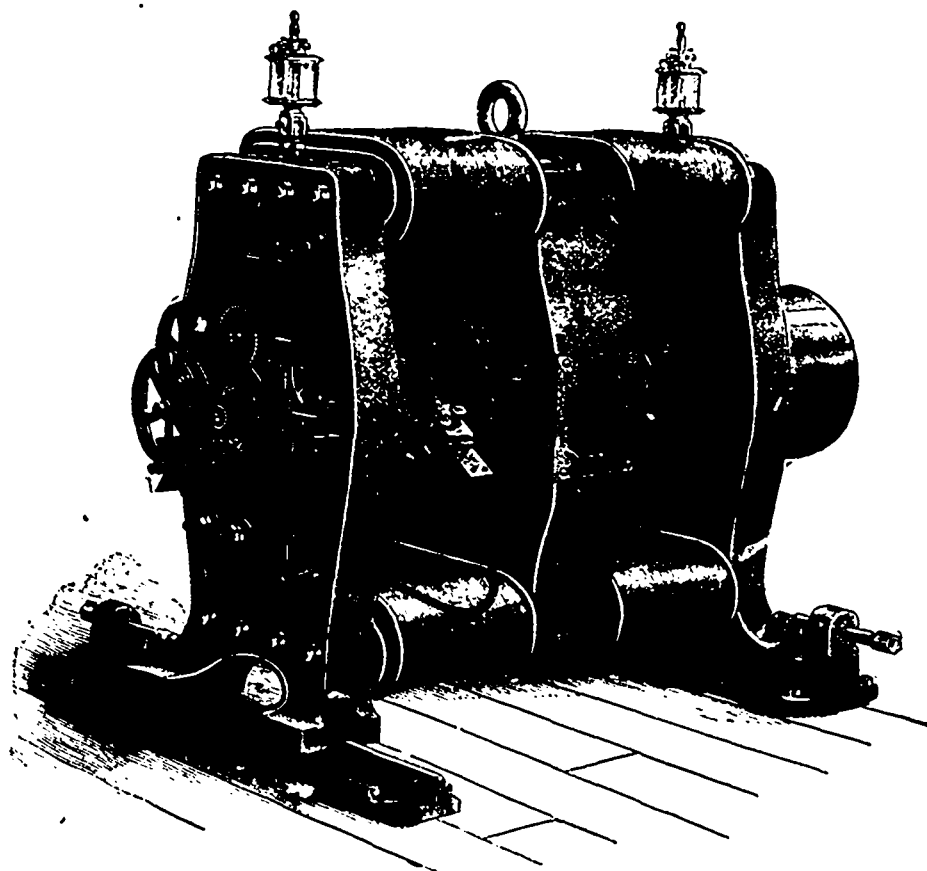
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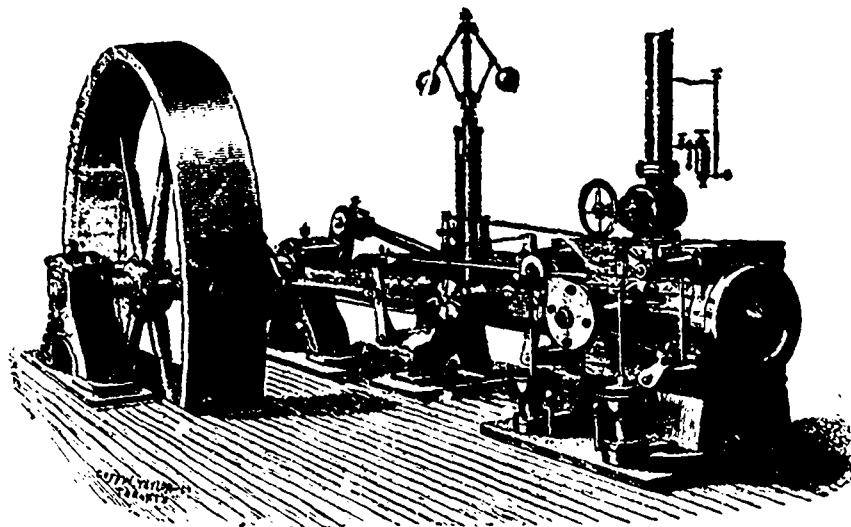
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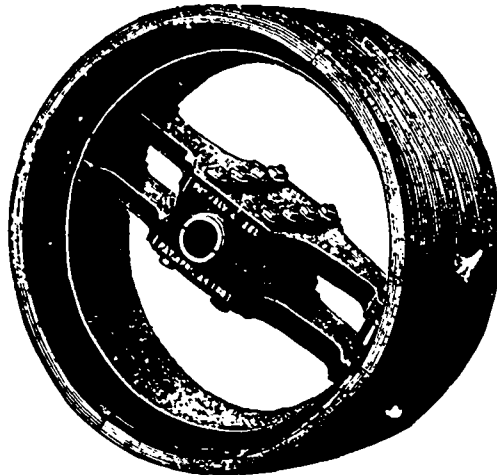
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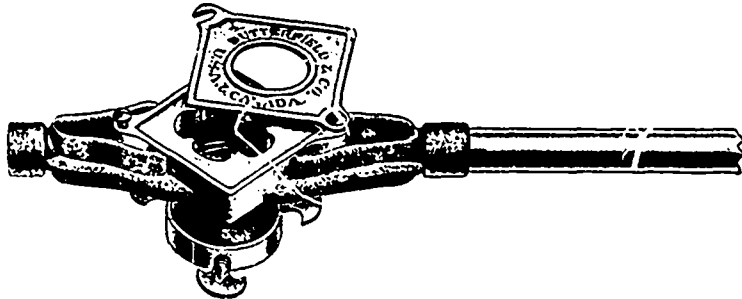
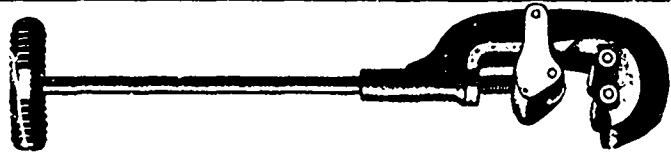
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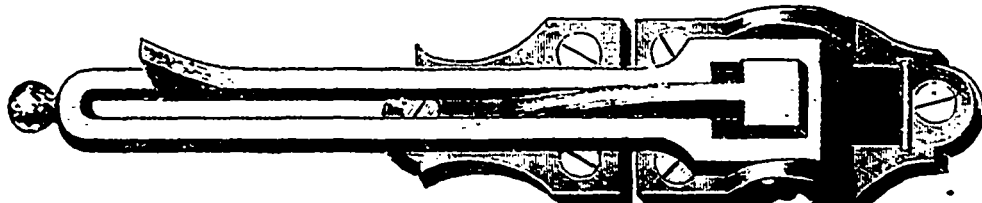
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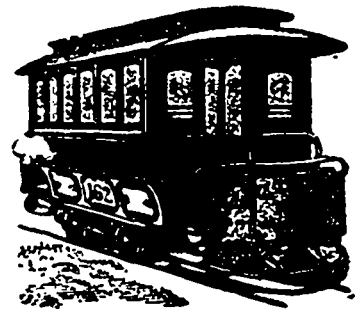
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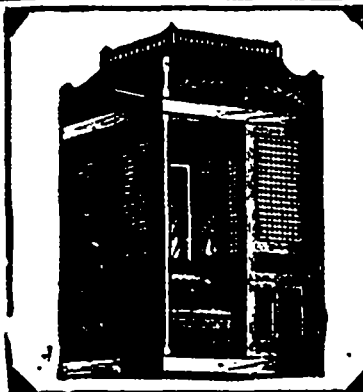
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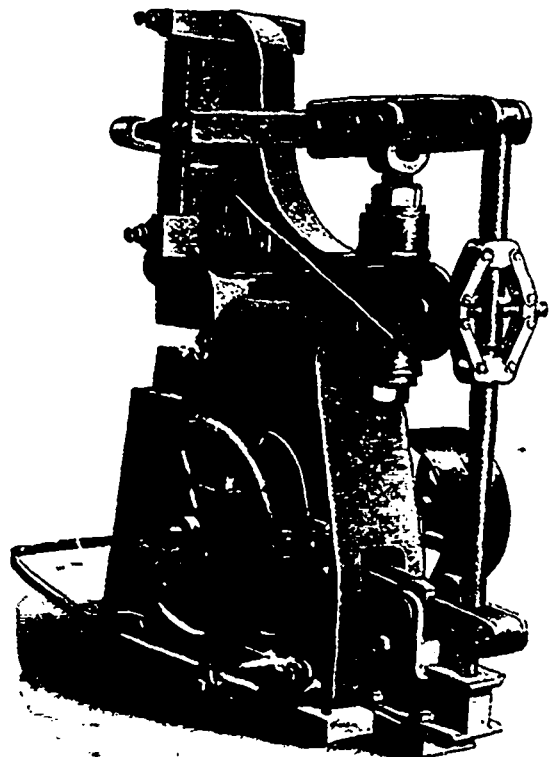
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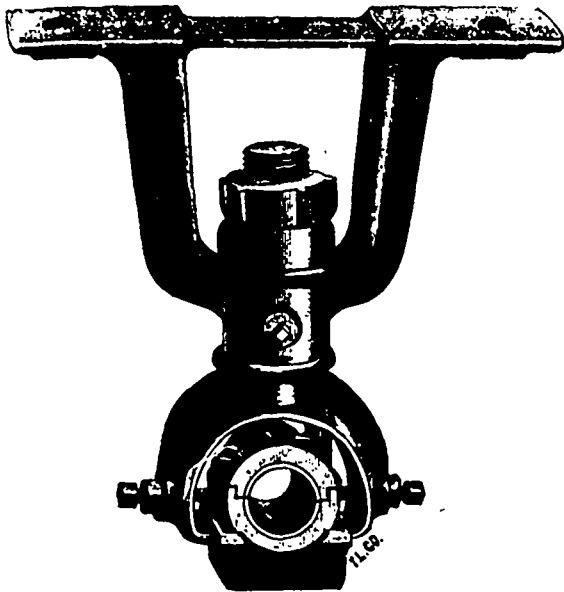
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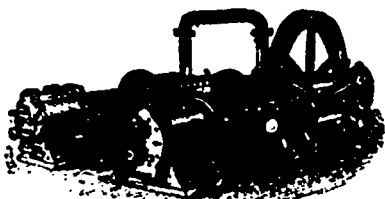
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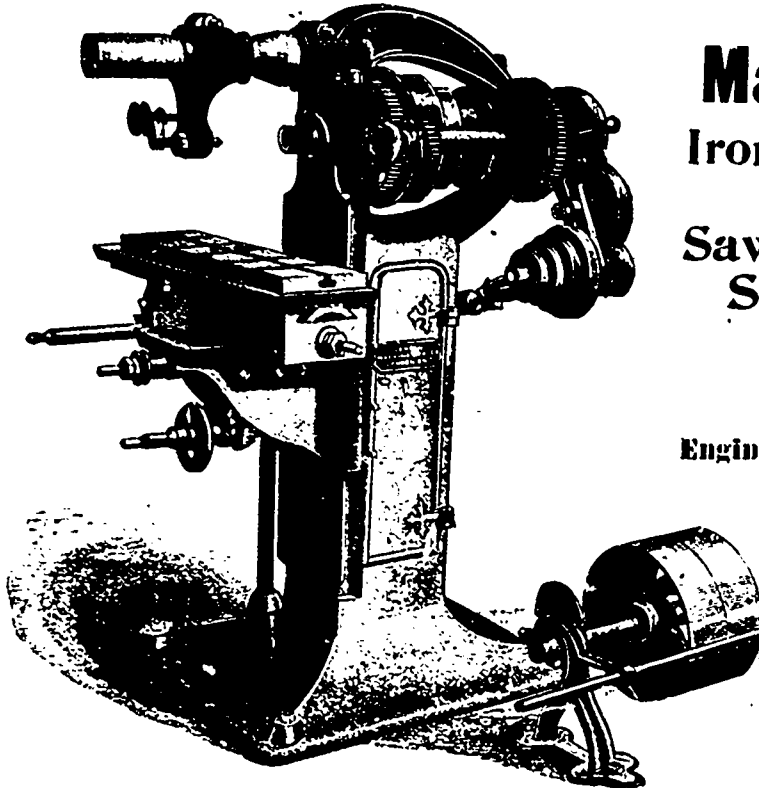
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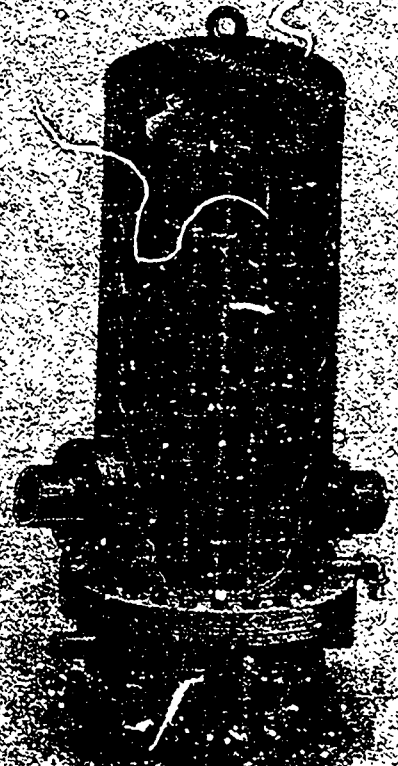
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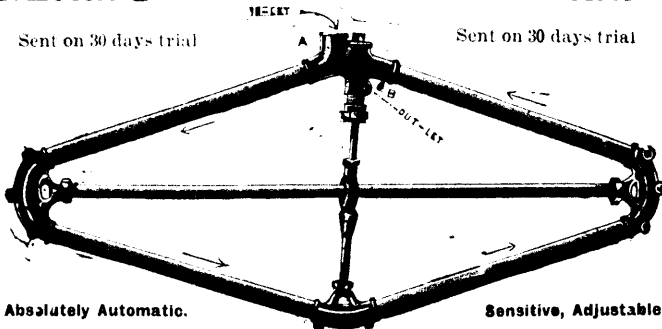
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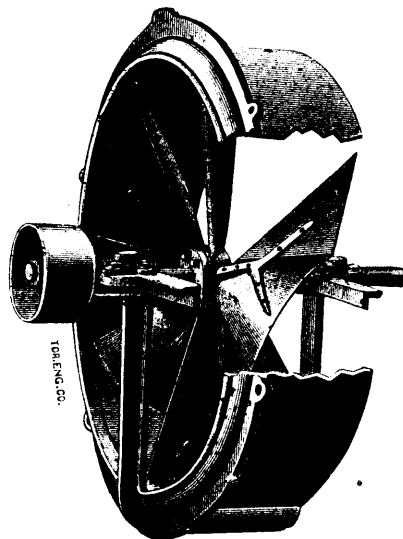
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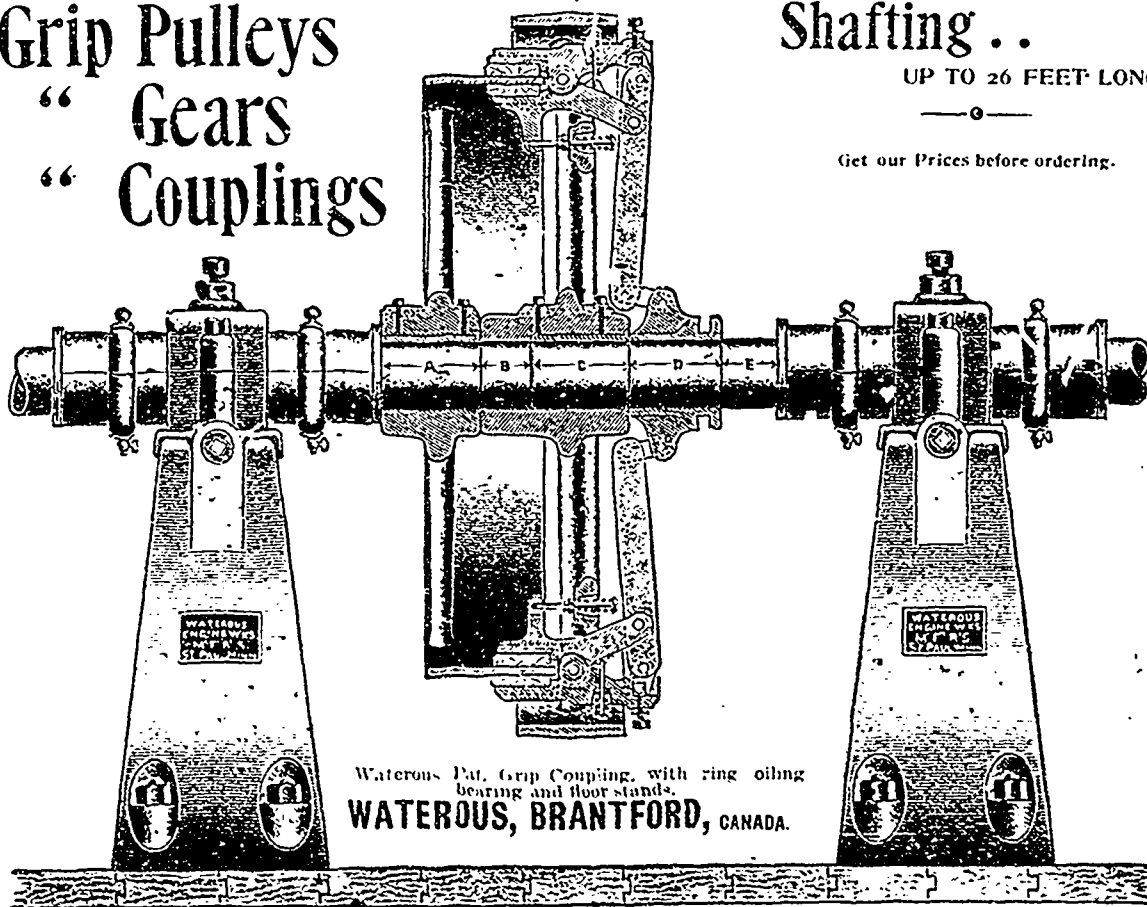
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