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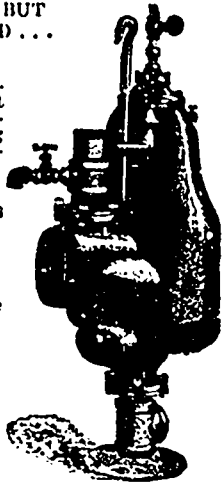
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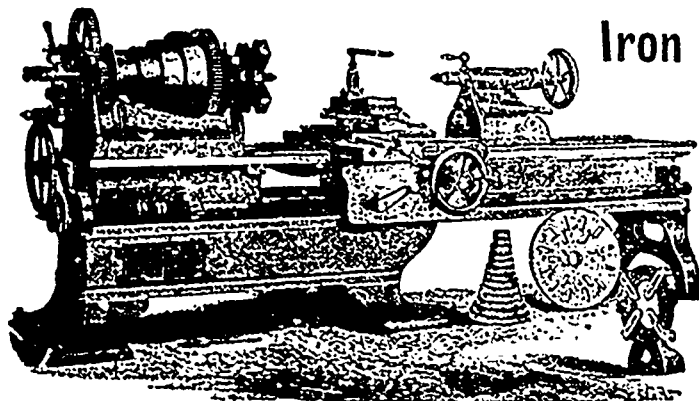
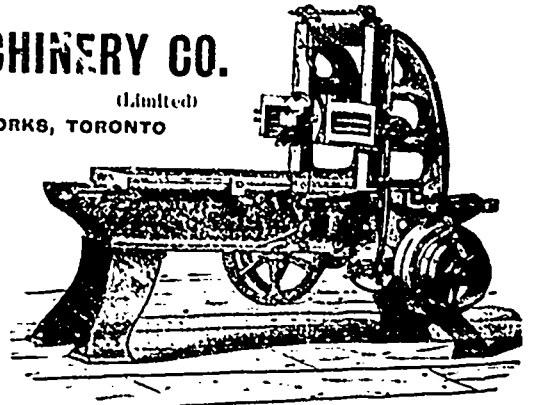
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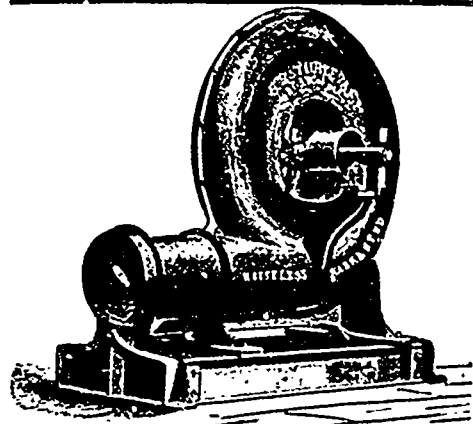
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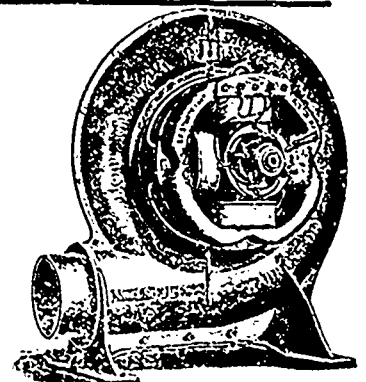


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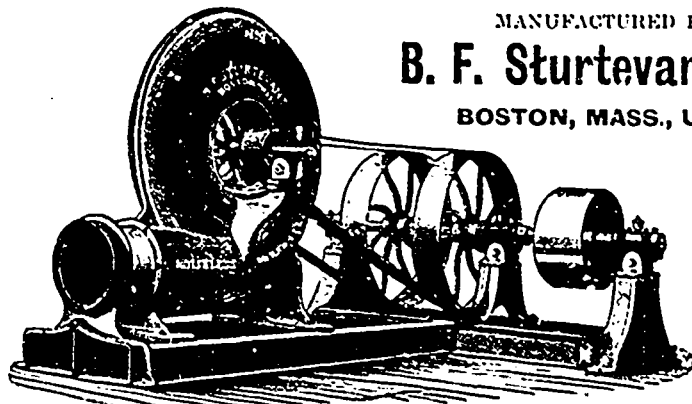


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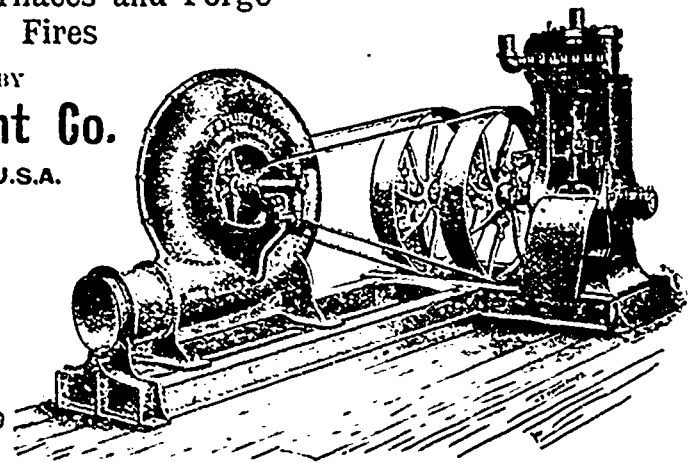
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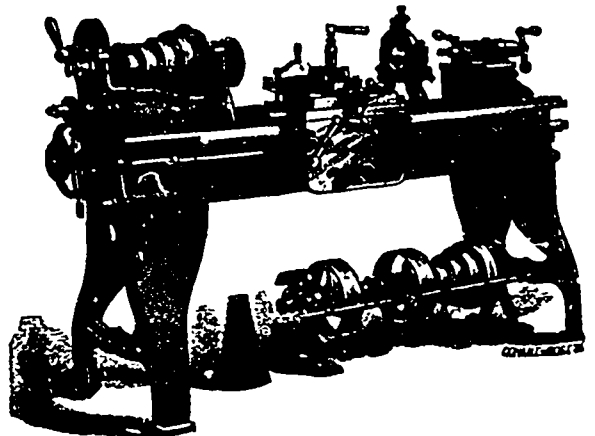
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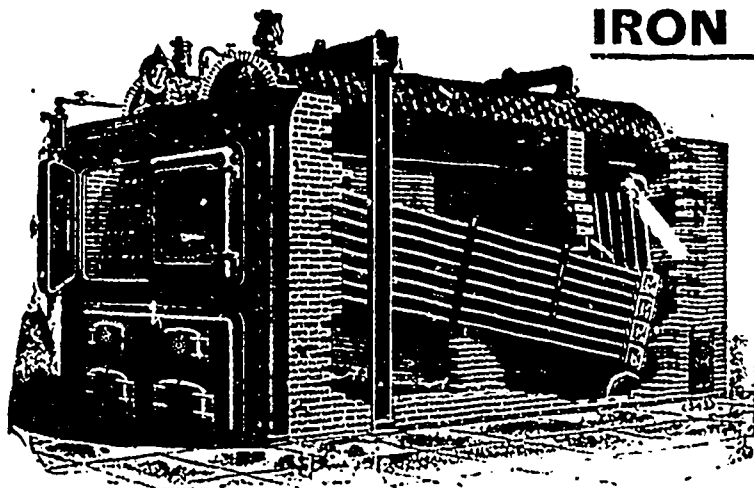
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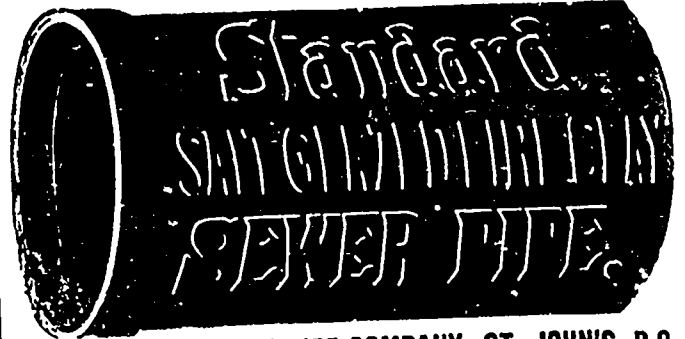
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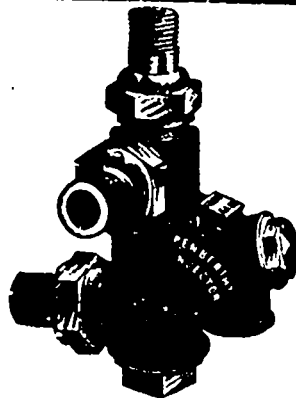
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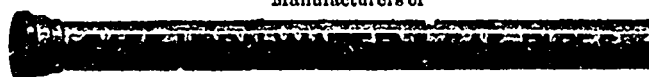
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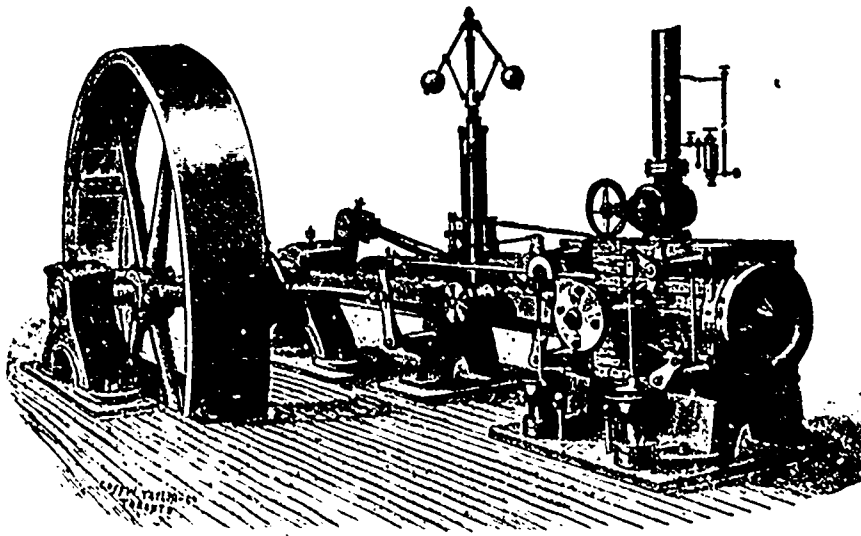
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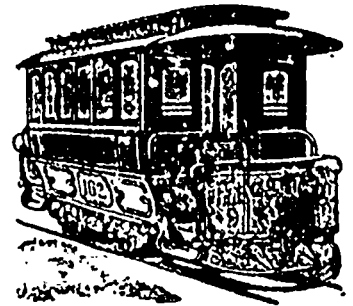
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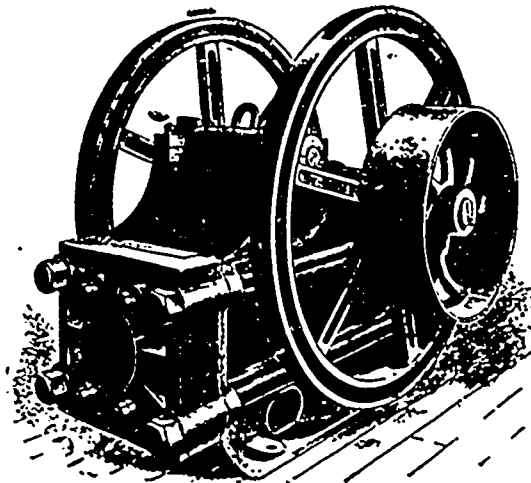
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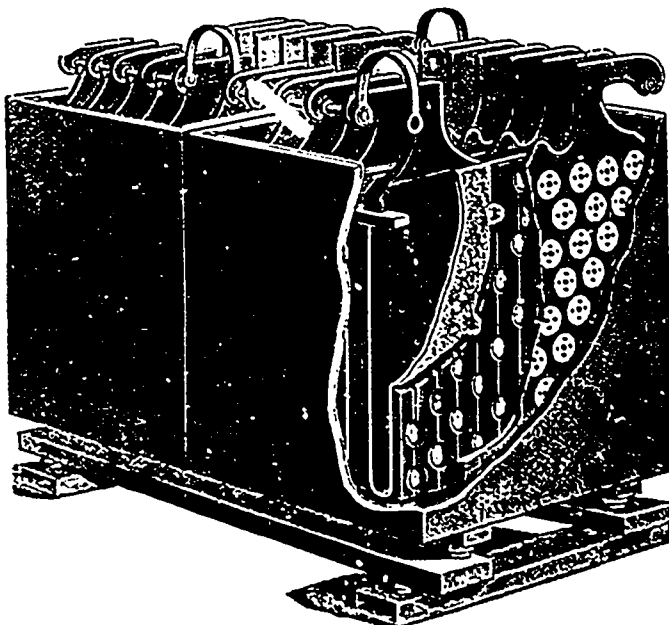
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CANADIAN INDUSTRIAL LEAGUE.

A very largely attended meeting of Manufacturers was held under the auspices of the Canadian Industrial League in McKinnon Building, Toronto, on Tuesday, May 19, 1896.

Among those who were present were:—

A. E. Kemp, Kemp Mfg. Co., Toronto; W. H. Law, Central Bridge Works, Peterboro', Ont.; Auburn Woolen Mills, Peterboro', Ont.; Peterboro' Lock Co., Peterboro', Ont.; E. Cox, Port Sandfield, Ont.; Geo. Smith, Smith Woolstock Co., Toronto; J. J. Clarendon, Claremont, Ont.; D. A. Gordon, Sydenham Glass, Wallaceburg, Ont.; W. T. Bonner, Babcock & Wilcox Co., Montreal; Geo. Lang, Lang Tanning Co., Berlin, Ont.; Thomas Cowan, Cowan & Co.,

Galt, Ont.; John McClary, McClary Mfg. Co., London, Ont.; John Loudon, Diamond Glass Co., Montreal; J. R. Loudon, Malleable Iron Co., Montreal; S. J. Lennard, S. Lennard & Son, Dundas, Ont.; T. B. Hayes, Toronto Carpet Co., Toronto; Joseph Simpson, Simpson Knitting Works, Toronto; W. K. McNaught, American Watch Case Co., Toronto; R. W. Elliot, Elliot Co., Toronto; C. Calvert, Calvert-Wilson Wool Co., Toronto; Hugh N. Baird, Paris Wincey Mills Co., Paris, Ont.; John Taylor, Dominion Dyewood & Chemical Co., Toronto; Morse Soap Co., Toronto; M. Staunton, Staunton & Son, Toronto; J. S. Fisher, Doon Woolstock Co., Toronto; F. H. Wright, August Newell & Co., Toronto; J. C. Ford, Oakville Basket Co., Oakville, Ont.; Wellington Boulter, W. Boulter & Son, Picton, Ont.; C. R. H. Warnock, Galt Knitting Co., Galt, Ont.; C. J. Shurley, Shurley, Deitrich & Co., Galt, Ont.; H. McCulloch, Jr., Goldie, McCulloch Co., Galt, Ont.; Geo. Booth, Toronto Steel Clad Bath Co., Toronto; Booth Copper Co., Toronto; G. H. Luscombe, Brook Woolen Co., Simcoe, Ont.; F. Outram, Globe File Works, Port Hope, Ont.; D. W. Karn, Karn Organ Co., Woodstock, Ont.; R. E. Menzie, Menzie, Turner & Co., Toronto; C. E. Pease, American Rattan Co., Toronto; John Cowan, Ontario Malleable Iron Co., Oshawa, Ont.; John F. Ellis, Barber & Ellis Co., Toronto; T. A. Staunton, Staunton & Son, Toronto; Brantford Box Co., Brantford, Ont.; A. W. Allan, Allan Mfg. Co., Toronto; John Bertram, John Bertram & Son, Dundas, Ont.; C. H. Hubbard, Toronto; P. Freysing, Cork Mfrs., Toronto; J. Sykes, Sykes & Ainley, Glen William Ont.; P. W. Ellis, P. W. Ellis & Co., Toronto; Geo. Scovell, Robin, Sadler & Haworth, Montreal and Toronto; Samuel May, Dodge Wood Split Pulley Co., Toronto; J. McDonald, National Oil Co., Petrolca, Ont.; J. Lockhart, Jas. Lockhart, Son & Co., Toronto; Jas. Robinson, Markham Woolen Co., Markham, Ont.; W. H. Childs, Ontario Rolling Mill Co., Hamilton, Ont.; Samuel Rogers, Saml. Rogers & Son, Toronto; G. Hutchinson, Dovercourt Twine Mills Co., Toronto; A. R. Clarke, A. R. Clarke & Co., Toronto; J. Parker, New Toronto Woolstock Co., New Toronto; J. J. Cassidey, Toronto; John Hewton, Kingston Hosiery Co., Kingston, Ont.; E. G. Swift, Parke, Davis & Co., Walkerville, Ont.; F. H. Clergue, Sault Ste. Marie Pulp and Paper Co., Sault Ste. Marie, Ont.; J. B. Henderson, Penman Mfg. Co., Paris, Ont.; J. E. Mollicu, St. Johns, Que.; S. J. Williams, Williams, Greene & Rome, Berlin, Ont.; E. E. Cary, Packard Electric Co., St. Catharines, Ont.; W. J. Bullock, Parmenter & Bullock, Gananoque, Ont.; Wm. Chaplin, Welland Vale Mfg. Co., St. Catharines, Ont.; J. A. Coulter, Morrow Machine Screw Co., Ingersoll, Ont.; G. H. Taylor, Dominion Glass Co., Montreal; Geo. Pattinson, Ferguson & Pattinson, Preston, Ont.; John Hepner, Port Elgin, Ont.; H. J. Bird, Bracebridge, Ont.; James Goldie, Guelph, Ont.; B. Rosamond, M.P., Rosamond Woolen Co., Almonte, Ont.; W. Whitaker & Sons, Oakville, Ont.; J. C. Gardner, Toronto.

In the absence of Mr. James Kendry, of Peterboro', Ont., President of the League, the meeting was called to order at 2 o'clock p.m., by Mr. J. J. Cassidey, the Secretary.

The Secretary read the circular calling the meeting, as follows:—

SECRETARY'S OFFICE, ROOM 408 MCKINNON BUILDING.

TORONTO, May 8, 1896.

The Executive Committee of the Canadian Industrial League have decided to call a General Meeting of Canadian Manufacturers, to be held in the McKinnon Building, corner Melinda and Jordan Streets, Toronto, on May 19th instant, at 2 p.m. sharp. Taking it for granted that you are strongly in favor of tariff protection for our manufacturing industries, you are respectfully invited to attend and participate in this meeting.

The object of the meeting is to ascertain the views of the manufacturers as to the best course to adopt in the present political campaign in keeping the great issue of protection prominently to the front. The results possible to flow from the peculiar conditions surrounding the political questions of the day are causing much anxiety to our manufacturers, and the committee feel that it is of the utmost importance that the manufacturers generally should, without delay, take a decided and unequivocal stand in this matter. Tariff protection to our manufacturing industries should not be a question of politics, but rather a policy to be permanently adopted as eminently necessary for Canada. In this you and all other manufacturers will no doubt agree.

This policy being brought prominently to the front, it is of the utmost importance that only men favoring it, should be the ones who should be selected for the Dominion House of Commons.

We have a great object lesson presented to us in the tariff changes and adjustments that have recently occurred in the United States. Many of the most important industrial centres of that country are contiguous to our borders. The peculiar financial conditions, over-production, and stagnation in many industries prevailing there, are forcing their manufacturers to slaughter their products in the Canadian market. This unfair competition, together with similar conditions existing in other countries, is dividing our already contracted home market.

The Committee hope that you will show by your presence at this meeting that you feel a personal interest in this matter. You can assist the object of it by bringing other manufacturers with you; and the Committee would thank you to notify them promptly of your intention to attend and explain your views. Let us meet and discuss the situation to our mutual advantage. For the Committee,

J. J. CASSIDY, Secretary.

On motion of Mr. John McClary, of London, Ont., seconded by Mr. Joseph Simpson, of Toronto, which was put and unanimously carried, Mr. A. E. Kemp, of Toronto, was called to preside as Chairman.

When assuming the Chair, Mr. Kemp said:—

"I am very sorry to know that Mr. Kendry is not able to be with us to-day to occupy this chair. You know that the reason he is not able to be here is on account of the fire damage he sustained a couple of days ago. He is a very enthusiastic supporter of protection, and a friend of the manufacturers. We are here to-day, not for the purpose of talking politics, but of talking business. We often hear the statement made that we are in antagonism to our agricultural population. I claim that this is not the case. Agriculturists of this country are as much interested in protection as the manufacturers, who are their best customers. The friends of protection talk about it a good deal just before the elections, but opponents of protection talk about it all the time, and every day you will see articles in the newspapers against protection, which we are advocating, and which we believe to be in the best interests of the country. We believe it is in the interests of all parties, and that it ought not to be a political question; that it ought to be raised clear out of politics. We believe that this meeting can do something towards raising it out of politics. We believe in keeping Canada for Canadians.

Other countries look out for themselves; let us look out for Canada. I do not propose to take up the time of this meeting in making lengthy remarks; you know what my views are on this question of protection; we would like to hear from a good many of the gentlemen here to-day. A large number of gentlemen from out of town have come here to-day to express their opinion. Without any further remarks I would leave the meeting in your hands. There will be a resolution brought before you, and we would like everyone to speak to it so that we can get the views of all the manufacturers present."

A number of letters were presented received from different manufacturers approving the object of the meeting and expressing their regrets at inability to attend. Noticeable among these was one from Mr. W. H. Rowley, the secretary-treasurer of the E. B. Eddy Company, of Hull, Que., in which, after affirming the views of the company in favor of continued tariff protection, says:—

Mr. E. B. Eddy, our president, is at present on the Continent, else he would certainly be with you. It is only because other business, if possible more urgent than that under notice, requires attention here prevents Mr. Rowley from attending to give voice to our views, and to show by his presence that the E. B. Eddy Company has a strong conviction, and takes a firm stand on this subject, and that every shareholder in this company feels and takes a personal interest in the matter.

We are, and have been all along, strongly in favor of tariff protection to the manufacturing industries of Canada. Mr. Eddy's views are so well known on this subject that it is hardly necessary, except to give renewed voice and effect thereto at the present juncture, to reiterate our position now.

Perhaps we go further than some of the other manufacturers of Canada in this direction, because we not only believe that it is the duty of the Government to protect Canada by a Customs tariff on imports as against foreigners, but we are strongly in favor of, and have persistently and vigorously for years past urged upon the Government the necessity of further protecting Canada's interest by placing an export duty on saw logs and on pulp wood. On saw logs, when we were the largest manufacturers of sawn lumber in the Dominion, and now when we are the largest users of wood pulp in Canada, we are urging the Government to protect the pulp wood owners and the pulp makers of Canada by imposing an export duty on pulp wood.

Our opinion is that a tariff for the protection of the Canadian interest by an import duty as well as by an export duty is the only means of conserving Canadian trade and preserving the permanency and stability of the manufacturing industries of this country.

This question is one of the utmost importance to every manufacturer, and to every employe of every manufacturer, in the Dominion of Canada, and on these grounds and for these reasons we shall give, and shall ask all our employes to give the heartiest support in the approaching elections to the present Government, because we find them committed to this cause, and determined to pursue this policy.

A letter from Mr. F. H. Clergue, president of the Sault Ste. Marie (Ont.), Pulp and Paper Company, contained the following:—

I regret that it will be impossible for me to be present at your meeting. My associates in the manufactories we have established here are all firm believers in the policy of tariff protection, and I view it as an important reason for its adoption in Canada. If the Canadians, by suitable trade regulations, should compel the process of manufacture of their raw materials to be conducted within their own borders, until those nations requiring these materials should offer some

reciprocal advantage in exchange for them, they will be taking the surest means to build up a nation industrially independent as well as influential abroad.

BUSINESS IS BUSINESS.

The following preamble and resolutions were presented by Mr. Wellington Boulter, of Picton, Ont., seconded by Mr. John McClary, of London, Ont., and after discussion declared carried unanimously:—

MUST MAINTAIN PROTECTION.

Whereas: The enforcement of tariff protection renders Canada largely independent of the depressing effects of the commercial distress of other countries through this being made a slaughter market for their surplus products; and

Whereas: Tariff protection not only encourages the investment of Canadian capital, and the employment of Canadian labor in industrial enterprises, but also attracts foreign capital, and inaugurates industries by inducing those who desire to participate in the benefits of our market to manufacture their products here, giving employment to Canadian labor; and

Whereas: Protection, as exemplified in a tariff adjusted to meet, as nearly as practicable, the conditions prevailing in the different sections of the country, secures to the farmer the home market for his products, and a due proportion of over \$100,000,000 expended in wages annually in Canada, stimulates inter-provincial trade, and cements the provinces into a united and prosperous Dominion; and

Whereas: Tariff protection secures to Canadians their home market, which justly belongs to them, and also encourages in them a feeling of security and national pride, and a commercial and industrial independence highly conducive to the welfare of the whole people; and

Whereas: The principle of tariff protection, discriminating against the foreign and in favor of the home product, has been in successful operation in Canada for eighteen years, during which time, and through which influence millions of dollars have been invested in industrial enterprises giving remunerative employment to many thousands of our people; and

Whereas: A tariff for revenue only has no other object in view than to supply the requirements of the federal treasury, and does not encourage the establishment of home enterprises or the employment of Canadian labor. On the other hand a protective tariff, while providing for the fiscal requirements of the country, always operates in the interest of the wage earner by placing maximum duties upon those foreign products that will most encourage domestic production and rest most lightly upon the mass of Canadian consumers; and

Whereas: Nothing imperils the security of capital or paralyzes the industrial and commercial enterprises of a country more surely than uncertainty and instability in its trade policy; therefore, be it

Resolved, (1) That we hereby place ourselves on record as being opposed to any change being made in the principle of

tariff protection, with the alternative of free trade, or a tariff for revenue only, believing that such a change would be disastrous alike to the agricultural, industrial, mercantile and manufacturing interests of the Dominion.

Resolved, (2) That we hereby declare our belief that the best interests of Canada demand that only men who support tariff protection should be chosen as representatives of the people in the Dominion House of Commons.

In introducing the resolutions Mr. Boulter said:—

I make my bow before many of you for the first time, with a certain amount of timidity and natural modesty, but as one who took his life's work in his hands in 1878, when this National Policy was first brought forward and inaugurated, believing in it with all my heart, I put everything I had into it. The only regret I ever had is that when our Government went interfering with the tariff and were trying to make a tariff that would be better for the farmer, they pleased nobody and hurt themselves. I believe in standing up for what is right for everybody, and when I say this I won't buy a five cent piece of American manufacture, hat, coat, suspenders, or anything else but what is manufactured on Canadian soil. I am interested, as many of you know, of course, as a pioneer in the canned goods trade. I have not been associated as I possibly should have been with the Manufacturers' Association, but I have been for twelve years a member of the Cannery Association, trying my best to create a business that never existed before, and never would have existed under the ruinous policy of Sir Richard Cartwright. Gentlemen, I am pleased to meet you, and I trust sincerely that the best interests of Canada, as enunciated by our president here, will be observed. I don't believe in bringing in politics, but God knows it is almost impossible to keep it out when we worked hard for it. I will support those principles, which I have advocated all the years of my life. I believe that if we associate ourselves together we will succeed. Now, taking the industries of this country, I am heart and soul with you; I have proved it with my life's work. I will do anything that is necessary to look after the interests of the manufacturers, because when our manufacturers are prosperous, our farmers will also be. I am a farmer; my family to-day live on a farm; my children were born and brought up on a farm; I cradled all my grain until 1870 odd, until the first reaper went into that country, and God help poor Glenn, who made it. I wish I could get my hands on him at the present time. (Laughter). I have seventy-five men working in the town of Picton. There is not an idle man there, nor a vacant house. I have not got an American, nor I won't employ an American laborer. I will not buy anything but what is Canadian, because it is my principle to do so as a farmer. I believe in consistency, and I never would bore a hole in a big, double whiffletree while there was a Yankee at one end and a Canadian at the other, and give the Yankee any assistance. I believe any Canadian has brains enough to meet any American on his side, with all due respects to him. I hope and trust, whatever Government may be in power, they will not reverse the policy that is giving Canada prosperity, not only to the farmer, but to the miner and the fisherman, and to all interested, and that they will keep, as they ought to do, Canada for Canadians.

In seconding the resolutions Mr. McClary said:—

We that are manufacturers know the difficulty that we have to meet in this country. We have a small market, and to get a business we have to manufacture, as it were, everything we see. We know that we cannot succeed and carry on large businesses with additional encumbrances. There is no capital invested in this country to the extent of that invested in manufacturing that is producing so little to-day, and anything that is going to encumber us, to make our earning power less, means practically a stoppage. A tariff

for revenue means disaster to our interests. There is only one consolation that we can have, that is something like the farmer whose crops were cut down with frosts—I speak of people living in the cities now—he thanked God he was no worse off than his neighbor. If our factories are closed up the balance of the community suffer with us. The banks suffer. Our factories that would be closed up would be of no more value than the vacant dwelling-houses of our workmen, and we have seen the effect on the other side. Taking our cities and towns under free trade, or under a tariff for revenue (which means free trade), if you are producing an article for which the Government is not getting a revenue, you must change the duty so that at least a portion of that product will be imported, and just as soon as you divide the market and let in foreign goods, so as to collect a revenue on them, your factories had better close up. Men who have not anything to lose, the banks will take their factories; men who have got working capital had better stop and save it until the people get in a better state of mind. There is no policy in this country that is going to build up and maintain our cities like the policy we have, and if it is tampered with it is not going to take a great deal to bring a commercial crisis, as many of us must know. This is comparatively an undeveloped country. It should be taken care of. We have a country to develop, and cities to build up, and if we don't develop it and build up our cities we are going to build up other people's cities. If the manufacturers shut up they will soon find what is the matter; one-half of the population has got to get their support directly or indirectly from the factories. I spent the winter in California. Farm lands in California have been selling in years past for double the price that they would bring in this country in York county. After they adjusted the tariff in that country, farm lands did not bring as much as they bring in Ontario, and the general loaning and banking concerns, some of them with many million dollars capital, have virtually stopped loaning on farm lands. Grapes were selling at six dollars a ton; wine at seven cents a gallon. They are so far from the market that Spain and other countries can deliver these fruits at the leading American markets at half what California can with a long haul. They do not pretend to force their farm lands to sale. If they do there is nobody to buy them. A man says removing protection has removed twenty dollars per acre from the productive value of the land. I beg to second the resolution.

A large number of gentlemen spoke to the resolutions.

Mr. P. W. Ellis, Toronto, followed. He said: It gives me a great deal of pleasure to find such a large and representative gathering, representing the manufacturers of Canada, representing no doubt a large investment of capital, representing the employment, I should say, an army of workmen. And, Mr. President, I feel that there must be considerable interest felt in the country in the coming contest, when so many have gone out of their way, perhaps at considerable inconvenience, to be present here to-day. I can believe, Mr. President, that they must feel their vital interests at stake in some respects, and that they are present here to-day to assist this league in adopting such measures as we hope will, to some extent at least, further the interests of the manufacturing industries of this country. I can agree with you, Mr. President, and I am sure every person present agrees with your remarks in opening this meeting, that the trade question should not be a question of politics. I think, Mr. President, when we consider that upon four different occasions the people of Canada in no hesitating way have said emphatically that they want protection to the Canadian producer, that they want Canada for Canadians, I regret that both parties are not agreed to concede the expressed views of the people of Canada, and that each has not made it its platform—protection to the industries of Canada; and that we might ally ourselves upon both sides of politics and divide upon other questions. Then this meeting to-day would be unnecessary, sir, had they done so. We number among our ranks

many manufacturers who are consistently Reformers in their political leanings, as well as those who are staunch Conservatives. It must appear to you, and it must appear to the people of Canada that there must be something radically wrong when men, who, upon other occasions and under other circumstances, would never think of polling a Conservative ballot, do so under existing circumstances. When an issue of such importance is before the people of Canada men of the highest standing will enunciate views, will assert things as facts which have no foundation whatever. I read only last Saturday a letter in *The Globe* written by the Hon. James Young, of Galt, a retired gentleman, not engaged in the warfare of every-day life, and one who has every opportunity of studying the economic principles of to-day, and one who readily takes up the pen and writes strongly, who attributes the depressed condition of our agricultural community and the low prices of our farms to the policy of the past eighteen years. Gentlemen, is that fair? Is it not in some respects misleading, when we look at the statistical abstract, the blue book issued by the British Government, and find that in 1880 wheat brought there 44s. 1d. per imperial quarter, and when we look in 1890 and find that it brought but 33s. 3d. per imperial quarter, and when we look in 1894 and find that it had dropped to 20s. 3d. per imperial quarter, I ask you gentlemen, in all fairness, can that be attributed to the policy of the Canadian Government? And we must all recognize this principle, that the price of our natural products is fixed by the prices where the products of the world meet at some central point to find a market; and the price at home is, to a large extent, governed by that, the variations being governed by such variations as to quality and the distance of transportation. If we find the products of the farm falling at such a rate, how can we expect to have the value of the farm maintained? I submit it is misleading and does not put it fairly before the people of the country. It is endeavoring to hold the Government responsible for something which the Government has nothing whatever to do with. He also referred to our shipping interests, referring undoubtedly to the wooden shipping. We find our coasting trade and fisheries have decreased enormously under the National Policy. I take up your time for these few minutes to emphasize the fact that it is unfortunate that, in the heat of a campaign, gentlemen will endeavor, as it were, to draw the wool over the eyes of the people. We remember a few years ago that wooden shipping was practically the only shipping there was, and down in St. John at one time might be found a dozen or twenty more ships being built upon the stocks, while wooden ships were in demand; and nearly every citizen in our Maritime Provinces was interested, to some extent, in shipping in that province, many of them holding vessels in shares. These vessels would sail safe in St. John, provisioned and cargoes by Canadian people, to Rio de Janeiro, there they would discharge their cargo and take one to Liverpool; at Liverpool they would discharge that cargo and take another to some other port. The freight received from that went into the pockets of our Canadian people in the Maritime Provinces. Then, again, a difference sprung up, for which I maintain our Government was in no wise responsible; that is, that the British people started to build iron ships of a larger carrying capacity, and worked with less hands. Wooden ships only ranked A1 at Lloyds for so many years; as soon as they dropped from that point insurance rates increased; it is more difficult to obtain cargoes, and cargoes have to be carried at much lower rates; consequently these iron ships displace entirely the carriage in the wooden ships, and our Maritime Provinces shipping, much to the loss of our people there, and, much to our sorrow, for that reason, degenerated in the manner which the Hon. James Young has given evidence about. But, gentlemen, this is not to be attributed to the fiscal policy of this country, nor to the Government that has been in power.

Mr. W. H. Storey, Acton, Ont., said:—Mr. President and Gentlemen,—I am agreeably disappointed with the large attendance at this meeting. I have been very much entertained

indeed by the speeches which have been delivered by the gentlemen who have preceded me; there is no question about what we understand is the object of this meeting, neither do I think there is any question as to where we stand on the question of protection to native industries. I think we are all committed to that. I think the evidence of our appearance here this afternoon is indicative of that. We find very many farmers waking up to the fact that the National Policy is the policy they should advocate, and which they should give their help to. I do not know after all that there has been any year since I have had anything to do with politics that there has been such a mixture, if I may so call it, put before the people, as there is at the present time. Taking the position of the parties who are opposing us, they are not united as to a policy at all; they have nothing straight to go to the people upon, and the intelligent men of the country are seeing that, and are resolved to trust themselves to those they do know rather than to those they do not know. The question ought to be understood, and we ought to have no uncertain sound upon the parties that we are to support. (Applause.)

Mr. John Bertram, Dundas, Ont., said:—Mr. Chairman and Gentlemen,—I did not come here to-day to say anything with regard to the question before the country. My views have always been, even before the question was welded into politics by the late Sir John A. Macdonald, in favor of incidental protection to manufacturers. We are alongside a nation that has a very strong protective policy. We often get inquiries from parties in the United States who happen to see our literature or machinery, or photographs, or illustrations, in some of the periodicals, as to the price of certain machines. We tell them plainly there is no use asking us for prices, as long as they have 45 per cent. tariff against them. Here we have 27 1-2 per cent. tariff in our line against foreign goods. The Americans would like first rate to get our market, but not allow us to get theirs. They would like to have their manufacturers come into Canada, and our manufacturers debarred from going in there. Canada should have no half souled policy with regard to a tariff, and I think there should be no tinkering with the tariff; that it should be stable for a certain number of years; then manufacturers or people investing money will know how to invest it, and that there is going to be some stability in it. The investment of capital in different enterprises wants to be on a stable basis. When we look at the policy of our country—the Conservative policy—it is plain and above board for protection; that is the policy that is before the electors now. On the other side, they have all sorts of opinions; some of them want to make a sliding scale; they want to nip down the duties of the protective tariff bit by bit like the man who wanted to cut off his dog's tail; he cut it off inch by inch, saying the dog would not feel it so bad. But you all know how it would work with our Canadian manufacturers. I am acquainted with a number of manufacturers who are establishing large factories in this country. One of them said to me—he was an American—"I have no decided views with regard to your politics, your protection, or anything of that kind." I said:—"Why did you come over here?" He is a very candid man; says he, "We came over here because we want to manufacture the article without paying the duty. We have a place over there, and we have come here." You will find that all these men that are starting in these places are the strongest protectionists we have. If we are to make any material change in the future in the tariff I would be in favor of making a discriminative tariff with Britain, raising your tariff against the outside world, and making a tariff that would be of advantage to us and to Britain. But, so long as things are as at present, I think we should advocate stability in our tariff, as without it we cannot get the investment of capital. I am glad, Mr. Chairman, to see such a large and representative gathering, and hope that something will be done that will strengthen the hands of the advocates of protection in our members of Parliament.

Mr. Joseph Simpson, Toronto, said:—I had not intended to take up any of the time of this meeting, as there are others who could address it more intelligently and more to the purpose than I can, but I rise from a sense of duty. I believe the Executive of this league has laid out for itself a line of duty which is in keeping, and consistent with the idea of educating the people; and we want to impress upon this meeting that we want them as auxiliaries; we want their aid and assistance, and their advice as to the best methods of working. A distinguished orator, asked what were the three essential elements of eloquence, responded, "Action, action, action." We want the eloquence of action upon this occasion. We are surrounded by a condition of things, in this approaching political contest, that is an anomaly; that we have to meet. We have wolves in sheep's clothing attacking the National Policy—they who profess to be our friends, opposing this policy. We want to neutralize any action of this kind. The National Policy, I think, to-day is in peril, not from the sentiments of the country, but from the outside issues introduced into this canvass. It should be part of the policy and purpose of this league to bring back the attention of the people to the recognition of this policy, and to go into the highways and byways, into the factories, on to the farms and hustings, and wherever we can disseminate our views, teaching the people that this is of more practical importance than the side issues introduced, and that if they change the fiscal policy of this country it means disaster.

The resolutions were put and declared carried, whereupon the meeting adjourned.

PROTECTION IS CONSTITUTIONAL.

Speaking of the defection of Mr. George Ticknor Curtis from the Democratic party in 1892 because he could not assent to Mr. Cleveland's proposition that protection was unconstitutional, Mr. Swauk's Bulletin says:—

The struggle of 1892 ended in the defeat of the party which contended for protection. Many causes, as has been said, brought about this result. As soon, however, as the country found the enemies of protection in power business began to suffer. Capitalists were slow to invest their money. Manufacturers hesitated to erect new mills. Railroads postponed new construction. Coal and iron-ore mines reduced their output. It soon became evident that the business community dreaded the result of a radical cut in the tariff. Large sums of money were hoarded, and thousands of laborers were thrown out of employment. Partisans of the Administration declared that all the evils of the situation were due to the silver-purchase clause of the Sherman law. The cessation of silver purchases was effected, but the hard times did not disappear. It would now be difficult to find a well informed man, whether goldite, silverite, or bimetalist, who doubts for a moment that the business depression was largely due to the fear of the low-tariff policy of the Democratic party. All over the country people took the alarm. Every election strengthened the hearts of the protectionists. In Pennsylvania old-line Democratic counties were swept into the Republican column, and even the impregnable Democratic fastnesses showed a great falling off in the Democratic vote. State issues were prominent in New Jersey, but the tariff was also a conspicuous figure. The same may be said of New York. Senator Gorman has pointed out the growth of the protective sentiment in Maryland. The elections of 1894 sent to Congress more Republicans from below Mason and Dixon's line than Democrats from above that famous boundary. If Mr. Curtis said that the Democratic party would suffer for declaring protec-

tion unconstitutional it did not take long for the people to verify his prediction.

The country has lived through a great many assaults on the protective system. When they are beaten back at the outset, as was the case with the Wood and Morrison bills, they do not do much harm. The pop-gun bills that were rushed through the House of Representatives to be smothered in the Senate were not productive of any great amount of damage. In 1888 nobody believed that the Mills bill could become a law. But when a party declaring protection unconstitutional captures the Presidency and both houses of Congress one may look out for a panic. When it seeks to carry out its platform business necessarily suffers. Under the sharp teaching of hard times, hundreds and thousands of voters have left the party that had sworn to uproot protection. Men who never studied the history of the Constitution knew that their wages had been lowered or that their chances of earning wages had been lessened. They could not undo the result of their votes, but they could show at the ballot box that their views had undergone a change.

BOILER EXPLOSIONS.

The question of boiler explosions, and the means that are or are not taken to lessen the number of them should receive more attention by our manufacturers than is bestowed upon it. It may be that some explosions are of boilers which have been most carefully and intelligently looked after, and every thing possible within the range of human knowledge done for their safety and preservation; but it is an undeniable fact that a very large proportion of the explosions that occur are the result of carelessness, recklessness and ignorance. If in these latter events none but the careless, reckless and ignorant who are to blame were the only ones to suffer, the public might bear their killing or maiming with considerable equanimity, but it too often and generally happens that innocent lives are sacrificed, and the property of others destroyed.

A recent number of *The Locomotive* contains a summary of the boiler explosions that occurred in the United States during the year 1895, together with the number of persons killed and injured by them; and it is stated that the summary does not pretend to include all the boiler explosions in that country in that year. The total number of explosions were 355, the number of persons killed 374, and the injured were 519. This was at the average of nearly one boiler explosion for each day in the year.

Speaking of the necessity of the enactment of laws regulating the use of steam boilers, particularly in thickly inhabited districts, a feature of which should be to compel the licensing of those having charge of them, and the regular, thorough and intelligent inspection of them by competent inspectors. Power, of New York, an authority in such matters, says:—

One of the first things that advocates of inspection and license for stationery engineers should aim to overcome is the impression on the part of legislators and the public, that the measures which they propose are class legislation in favor of engineers. It is to be expected that some benefits will accrue to engineers from the passage of these bills, but this is not the reason why they should commend themselves to legislators. Is such legislation necessary to the public safety? If it is, the sooner it is adopted the better, and if engineering as a trade

and engineers as a class are incidentally benefited by it so much the better. Legislators do not hesitate to pass laws regulating the practice of law, medicine, surgery, dentistry, pharmacy, etc., and very properly so. But is it not as important that the guests of our large hotels be protected from such slaughters as that at the Central Park Hotel at Hartford and the Gumry at Denver, that the inmates of our large industrial buildings shall be protected from such catastrophes as that at the Journal Building in Detroit, that the passers upon our sidewalks shall be able to feel that the boilers they are walking over are in the care of men who know that they are safe to run and are running safely? An ignorant man in charge of a steam plant can inflict more damage upon the public in ten minutes than a quack doctor can in a lifetime. We make a man show his license before trusting him to pull a tooth, and put our lives unquestioningly into the hands of men who know far less of the straining structures under their charge than the meanest charlatan does of the human frame. If you go to a doctor, or a lawyer, or a dentist, you have not only the assurance of the State that he has undergone a course of training and proven himself on examination to be competent and qualified, but you have the privilege of making your own selection, and deciding for yourself to which of the many available professionals you will entrust your interests. You invoke not only the assurance of the State but the reputation of the man, the testimony of others as to his skill and ability, etc. But so far as exposure to risk from steam plant accidents is concerned nearly every person who lives in a civilized community where steam power is used, necessarily, unquestioningly, and often unknowingly is constantly placing himself within range of possible death or mutilation from this cause. Only a short time since a little girl was killed while on her way to school by flying bricks from an exploding boiler a block or more away. In a large city with steam heating, electric lighting and power elevators so common, almost every business building has one or more boilers often located under the sidewalk. We cannot go to our business, our wives cannot go shopping, or to a place of public entertainment without being, most of the time, within the range of a steam boiler, and with no knowledge as to whether the boiler is fit to run or under the charge of a proper attendant. Every man who registers at a hotel has a right to the assurance that the boilers under him will not go off while he is asleep, and a law which provides him with that assurance is no more class legislation than is the law requiring a license to keep and sell gun powder.

The employers of engineers usually oppose the passage of license and inspection laws on general principles as being in the nature of labor legislation, like eight hour laws, etc. This is an unwarranted assumption. The law is demanded for the public safety and is, as a matter of fact, more in the interest of the manufacturer than the engineer. It will interfere with no employer who is not employing and trusting his life and property and the lives of his employees to a man who is dangerously ignorant, careless or intemperate. If a manufacturer is employing such a man is it not better for his own interest that he be compelled to replace him with a safer one; and by what logic do manufacturers oppose a law which will determine and compel this? Certainly as a class they do not employ unsafe men knowingly. Why then should they fear and oppose a law which will interfere only with those who do, and would by examining and licensing the man in charge of their plant give them the State's assurance for his ability and reliability. No decided stiffening of wages has ever followed upon the passage of one of these laws, but there has been an immediate improvement in the grade of engineers not alone by the weeding out of the incompetents, but by the self-improvement of the class in their efforts to prepare themselves for passing the examination. Intelligence in an engineer has a direct money value to his employer so that the employers as a class are ahead at every point, so far as a license law is concerned, and their best interest lies not in opposing such legislation but in assisting its passage.

CANADA'S FOREIGN TRADE.

The export statement of the Customs Department for the month of March gives the total exports for the month at \$5,027,747, of which \$4,664,107 was the produce of Canada and \$363,640 that of other countries. In the above figures of the produce of Canada is included, a sum of \$15,790 bullion, and in that of other countries one of \$8,431 coin. If these be deducted the exports were \$5,003,526, of which \$4,648,317 was the produce of Canada and \$355,209 that of other countries. The total exports for the nine months ended March 31st last amounted to \$92,044,548, of which \$82,540,665 was the produce of Canada and \$9,503,883 that of other countries. These figures include \$153,567 bullion, the produce of Canada and \$4,321,534 coin, the produce of other countries. Compared with the like period of last year, there is an increase of \$5,821,053 in the value of the exports. Of this increase \$3,014,782 is in the produce of Canada and \$2,806,271 in that of other countries, these being for the most part from the United States. Taking the export and import trade of the country for the period referred to, we have an increase over that of last year of \$11,526,817, the total volume for the past nine months being \$176,196,812, against \$164,669,995 for the same period in 1895. The exports for the nine months exceed the imports by \$7,892,284, while those, the produce of Canada fell short of the total imports by \$1,611,599. At the end of February, the exports of the produce of Canada exceeded the total imports by \$3,294,490, but owing to the imports for the month of March being largely in excess of the exports, the showing in regard to the relation of the exports of Canadian produce to the total imports is less favorable for the nine months as indicated above. The exports of the produce of the mine and of the forest, animals and their produce, manufactures and miscellaneous articles are all in excess of those of last year, while in the produce of the fisheries, and in agricultural products the comparison of the two years is unfavorable to the current year. In the exports of the produce of the mine there is an increase of \$1,142,335, of which \$1,128,029 is in the produce of Canada. In the produce of the forest the increase is \$1,379,976, but that in the produce of Canada is \$1,437,530. In animals and their produce, which furnish over thirty-eight per cent. of the exports of the produce of this country, there is an increase of \$2,341,481, but in the produce of Canada there is an increase of \$2,570,401, the exports of the produce of other countries being only \$823,189, while those of the produce of Canada amount to \$30,870,847. Manufactures show an increase of \$1,053,706, but in the manufactures of Canada there is an expansion of \$1,338,555. In miscellaneous articles the increase is \$164,088, of which \$34,063 is in the produce of Canada. The falling off in the exports of the produce of the fisheries is \$117,711, of which \$48,350 is in the produce of Canada. In agricultural products there is a falling-off of \$2,220,194, but in those the produce of Canada there is a reduction of \$3,366,183, but now that the navigation of the St. Lawrence River is open we may expect that this falling-off will soon disappear, as large cargoes of grain will be carried to the old world. The exports of bullion the produce of Canada continue to be small, those for the nine months only amounting to \$153,567, which is \$79,263 below the amount for the same period last year. The exports of

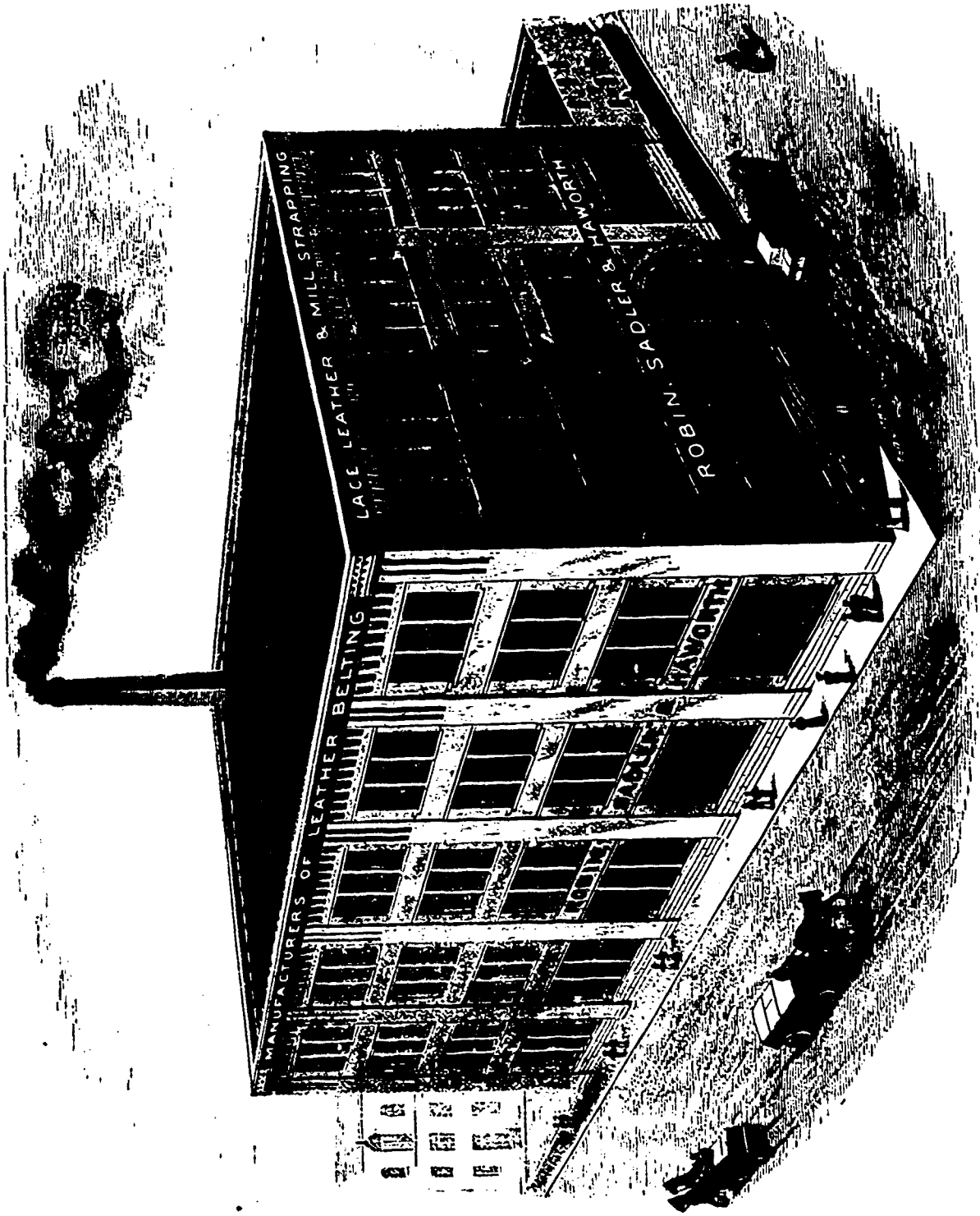
coin are \$2,157,135 in excess of those of last year, the total so far being \$4,321,534. The exports of coin and bullion together which amount to \$4,475,101 exceed the imports of the same by \$211,143.

The imports during March amounted to \$9,570,196 of which \$6,528,899 were dutiable, \$2,723,014 free and \$318,283 coin and bullion. This brought up the total imports for the nine months to \$41,152,264, of which \$50,972,796 were dutiable, \$28,915,510 were free, and \$4,263,958 were coin and bullion, also free. On 31st March of last year the total imports for the nine months were \$78,446,500, of which \$42,979,130 were dutiable, \$31,014,535 free and \$4,452,835 coin and bullion. We have, therefore, this year an increase of \$5,705,764 in the total imports. In dutiable articles there is an increase of \$7,993,666, while in free goods there is a falling-off of \$2,099,025, and in coin and bullion \$188,877. The amount of duty collected in March was \$1,899,802, which brought up the total for the nine months to \$15,463,213 as against \$13,278,855 at the end of March, 1895, being an increase of \$2,184,357. The average rate of duty for the nine months of this year was 30.34 per cent., against 30.89 per cent. for the corresponding period of last year, an average reduction of 0.55 per cent. It will be noted that while there is this year a large increase in the imports there is a decrease in those of free goods, the proportionate falling off being 5.21 per cent. Of the total imports for March woollens furnish nearly one-fifth of the whole of the month's importations amounting to \$1,142,505. Those of iron and steel and their manufactures amounted to \$699,999. Cottons were \$582,428 and bituminous coal \$534,473. The importations for the month of these four items amounted to \$2,951,405. The articles which contributed largely to the revenue in addition to these were as follows: Manufactures of silk \$266,260, sugar \$249,690, fancy goods and embroideries \$205,110, hats, caps, bonnets, etc., \$177,584, seeds and roots \$126,823, bread-stuffs \$106,550, and bicycles \$102,286. The large amount under the last-named heading will indicate the rapid development of this new branch of business in this country. The leading items under the list of free goods were: Anthracite coal \$306,968, tin and zinc \$232,171, articles for the use of the army and navy \$153,210, raw cotton \$151,546, tobacco leaf \$131,699, fur skins, not dressed, \$128,827, hides and skins \$123,725, chemicals, etc., \$122,203, tea \$118,897, and settlers' effects \$101,529. The increase in the last mentioned is a favorite feature indicating that the immigrants for the month were of a more than usually desirable class.

EDITORIAL NOTES.

Wm. Mason & Sons, of Ottawa, says: "As regards the advisability of the Dominion Government imposing an export duty on spruce logs, we may say that in our opinion there should be a good substantial export duty placed on all unmanufactured products of the forests, such as pulp wood, saw logs, timber, etc., where they are taken from this country for the purpose of manufacturing them in direct opposition to industries established or capable of being established in Canada."

That the purchasing power of the country has been vastly increased is evident from the fact that while our population



Montreal Factory, 511-513 615 William Street.

THE LARGEST AND THE BEST EQUIPPED FACTORY FOR THE MANUFACTURE OF LEATHER BELTING
IN CANADA.

has increased from 4,324,810 in 1881 to 4,833,239 in 1891, a gain of $11\frac{1}{2}$ per cent.; our power of consumption increased during the same period from \$401,287,672 to \$588,800,820 or over 45 per cent. That such a magnificent result could be brought about by a policy which free traders assert is slowly but surely impoverishing the country is contrary to the facts of the case and common sense.

The political campaign in Canada, which is now in full swing, is not without interest to American paper manufacturers. If the Liberals are successful, it is more than probable that there will be a revision of the Canadian tariff on lines that will allow American paper to enter the Dominion on more favorable terms than those which now prevail. If the Conservatives are successful, there will be no lowering of the tariff, and moreover, it is probable that pulp wood coming into the United States from Canada will be subjected to an export duty. It appears to have been the desire of the Government to impose such a duty, during the recent session of Parliament, but the Liberals were strong enough to prevent action on the matter.—The Paper Mill.

The opening session of regular annual meeting of the Canadian Electrical Association will be held in the Council Chamber of the Board of Trade, Toronto, on Wednesday, June 17th, the business programme to include the president's address, reports of secretary-treasurer and of committees, presentation of papers and discussion thereon, etc. The business of the second day will include selection of time and place, of next meeting and election of officers. Mr. C. P. Dwight, Toronto, will read a paper on "Ocean Cables"; Mr. George Black, Hamilton, a paper "Acetylene Gas," with demonstrations; Mr. James Milne, Toronto, "Meters," with consideration and discussion of the Government Electric Light and Inspection Act. "Power Transmission by Polyphase E. M. F's" by Mr. Geo. White-Fraser, Toronto, "Operating Engines without a Natural Supply of Condensing Water," by Mr. E. J. Phillip, Toronto, and "The outlook for the Electric Railway" by Mr. F. C. Armstrong, Toronto. The social features of the occasion will be exceedingly pleasant and entertaining.

LITERARY NOTES.

Outing for June is a bicycle number, filled with breezy stories of the wheel in many lands. The dainty frontispiece "Outing's Midsummer Night's Dream," hints of wonderful possibilities for the wheel. "A Friend in Need," is a cycling story by Caroline Shelley. "A Fin de Cycle Incident," is a complete story by Edna C. Jackson. A very interesting feature of "Military Cycling Thro' the Dakotas," is an experiment made to test the value of the sterculia nut, which conquers fatigue, hunger and thirst in a marvellous manner. The nut is a product of Western Africa, and in appearance and flavor it resembles our horse-chestnut. One other valuable feature of an excellent number embraces descriptions of cycling routes, with correct maps of the North American coast.

The forty-third volume of the Methodist Magazine and Review for June, 1896, concludes with an excellent number. Prof. Bell, of Victoria University, contributes an admirable article on "Home Life in Germany," and the editor one on "The Triumphs of the Cross," each with twelve cuts. Rev. Douglas B. Hemmeon, contributes a striking story of Nova Scotia life, "John Salzburg and the Dunmore Parsonage." Prof. Badgley's article on "The Brotherhood of Mankind," is a worthy treatment of a noble theme.

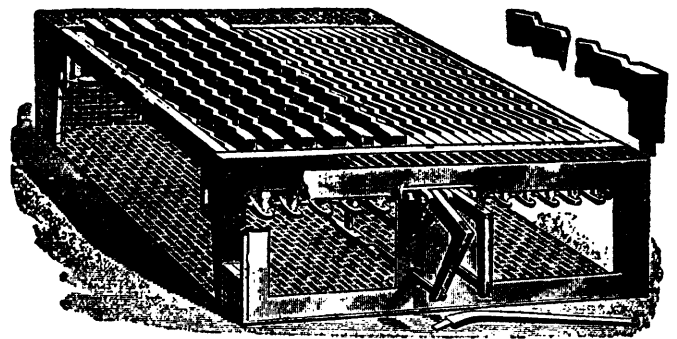
An article on "England and the Soudan," by the Rev. Dr. Schauffler, is a fine tribute by an American writer to the beneficence of England's rule. A map and article are devoted to the Alaskan Boundary Dispute, of much more importance to Canada than the Venezuela question. Revs. Dr. Burwash, Dr. Rose, A. M. Phillips, and other contributors make it an excellent number.

An article of great interest in Scribner's for June is Henry Norman's picture of the condition of affairs in the Balkan Peninsula, where a half-dozen little Principalities are the buffer between the great powers of Europe. The crisis brought about by the Armenian question is of course intimately related to affairs in the Balkans, and Mr. Norman's Article is a clear presentation of the exact situation of the whole Eastern question. The second and concluding paper by Mrs. Isobel Strong, giving reminiscences of Robert Louis Stevenson in his Home Life, is devoted to the last year of his life. Hamilton Busbey concludes his account of "The Evolution of the Trotting Horse," and Lieutenant Harry C. Hale, of the U.S. Army, has a spirited account of hunting in the Rocky Mountains, particularly after the Rocky Mountain sheep or big horn.

The June Ladies' Home Journal is exceptionally interesting and attractive. The front cover, in harmony with the sentiment of the month of roses, is a painting by M. Albert Aublet, a celebrated French artist. M. Woolf, contributes a page of his waifs, investing the children of the poor with humorous and pathetic interest. Richard Burton writes in affectionate admiration of "Mrs. Stowe at Eighty-five," telling of the venerable authoress' home, and how she passes the remaining days of her busy, eventful life. Dr. Cyrus Edson tells "When and How to Bathe," and Alden W. Quimby contributes a most interesting article on the sun—"The Orb that Lights the World." A capital story—"Reginald Blake: Financier and Cad"—by Jerome K. Jerome, the concluding chapters of Miss Magruder's serial, "The Violet," and a paper by Miss Lilian Bell on "Woman's Right's in Love." Among the other features are one of Mrs. Whitney's admirable letters to girls, articles on summer gowns and millinery, suggestions for luncheons and parties. The Curtis Publishing Company, Philadelphia; one dollar per year; ten cents per copy.

THE VOLCANIC PATENT SHAKING GRATE

MANUFACTURED BY THE GURNEY FOUNDRY CO., Ltd., Toronto.



TORONTO SOAP COMPANY.

THE GURNEY FOUNDRY CO., LTD., Toronto. June 3, 1895.
Gentlemen,—We have had a set of the Improved Volcanic Shaking Grate for three weeks under one boiler and is working splendid. With my practical experience of over twenty years, it is as follows:

1st. Its small fire place. It takes less fuel to cover furnace and the large amount of heat derived from it. The economy which its large area admits. The air is taken in from one end to the other of the grate without any breaking in the air space, which, I find, adds greatly to the fire keeping even over the entire surface. The grate works splendid when shaking and no coal goes in the ash pit. There is another saving. I see there is very little smoke comes out of the stack. Over 75 per cent. of smoke is consumed in the furnace. This is due to plenty of air passing through the grates, which forms a combustion. This also is a big saving on fuel. Our old furnace was $4\frac{1}{2} \times 2\frac{1}{2}$. Yours is $3 \times \frac{1}{2}$. I find that I have over three feet more air space in yours than in the old. I could only boil one kettle and keep my water feeding in boiler with the old furnace and I had to fire heavy then. I now boil the kettle, run re-melter and engine, and keep my feed water going at the same time, with half labor in firing. I am satisfied that we are saving over twenty-five to thirty per cent. There is no grate in the market to-day to equal it for economy. I have run four days without cleaning tubes and find there is no more soot in tubes than in one day's run with old furnace.

I remain, yours respectfully,
J. McCLAY, Mech. Engineer.

W. A. BRADSHAW & Co., Proprietors.

THE GURNEY FOUNDRY CO., Ltd., TORONTO.

CAPTAINS OF INDUSTRY.

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

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

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

C. E. Burnstead's shingle mill near Owen Sound was destroyed by fire a few days ago. Loss about \$1,500.

The Edward Hmes Co.'s planing mill at Pembroke, Ont., has been destroyed by fire. Loss about \$20,000.

The buildings and machinery in connection with Smith's brick yard at Stratford, Ont., were destroyed by fire a few days ago.

The report is current in Prescott, Ont., that the C.P.R. will build a two million bushel elevator at that point.

The new Sherbrooke (Que.), yarn mills are in operation. The plant consists of one set forty-eight mch yarn making machinery, a 416 spindle mule, twistors, rules, etc., with dye house attached.

The Lang Tanning Co., Berlin, are arranging changes in their works that will double their capacity.

The Imperial Lumber Co.'s mill at Warren, Ont., was destroyed by fire a few days ago. Loss about \$50,000.

The Palo Alto Gold Mining Co., Victoria, B.C., is being incorporated with a capital stock of \$1,000,000.

The Allison Ranch Hydraulic Mining Co., New Westminster, B.C., is being incorporated with a capital of \$250,000 to do a general mining business.

The Rambler and Caribou Consolidated Gold and Silver Mining Co., Spokane, Wash., with a capital stock of \$1,000,000, has been registered in British Columbia.

Duclos & Payan's tannery, at St. Hyacinthe, Que., was destroyed by fire on May 27th.

The Commander Mining and Smelting Co., Spokane, Wash., capital \$500,000, has been registered in British Columbia.

Hogan Bros., Fort William, Ont., will build a planing mill.

Mr. Geo. Godda, Eganville, Ont., is building a saw and shingle mill.

E. Leonard & Sons, London, Ont., are putting in a new 125 h.p. plant in a saw mill at Dorchester, N. B.

A. T. Ball, Ottorville, Ont., will build a butter factory.

Scofield Woolen mills, Oshawa, Ont., are putting in another set of cards.

The Rathbun Co.'s flour mill, elevator and docks at Deseronto, Ont., were destroyed by fire May 25th. Loss about \$250,000.

Sarnia, Ont., is to have an electric railway.

Eby's saw and planing mill at Floradale, Ont., was destroyed by fire May 25th. Loss about \$5,000.

It is estimated that the Le Roi Mine (Ross land, B. C.) has \$250,000 worth of ore on the dump.

The St. Mary Mining Co., Spokane, Wash., with a capital stock of \$500,000 has been registered in British Columbia.

The Lily May Mining and Smelting Co. Spokane, Wash., with a capital stock of \$500,000, has been registered in British Columbia.

The Royal Electric Co'y

MONTREAL, QUE.

Western Office.... TORONTO, ONT.

S.K.C. Two-Phase Alternators

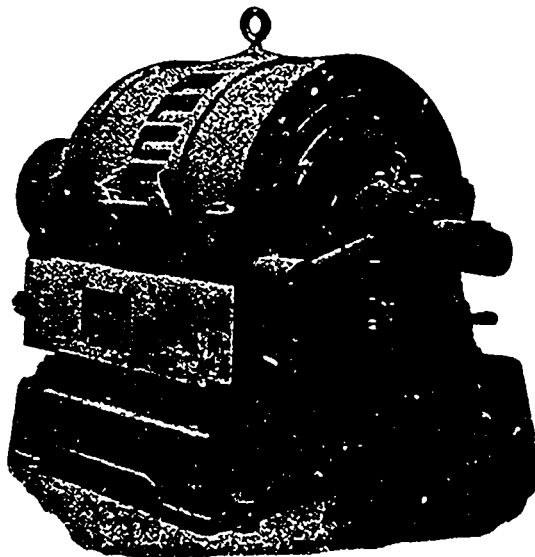
Incandescent Light, Arc Light and Power from same Dynamo and Circuit.

Highest Efficiency

Best Regulation

Slow Speed

Least Attention



S.K.C. 50 Kilowatt Two-Phase Generator

No Collector

No Moving Wire

No Exposed Parts

No Compounding

Blue Seal cherry phosphate, manufactured by Messrs. McKey & Co., Boston, Mass., is a concentrated extract, one gallon of which will make over forty-two gallons of syrup, or enough for about 450 dozen half-pint bottles. It is of delicate flavor, and guaranteed to be prepared from perfectly healthful materials. It is very clear and high colored, and does not leave the slightest sediment. American bottlers are using it in very large quantities, and its sale is continually increasing, which indicates that it pleases both the retailers and the consumers.

The Oil Well and Supply Company, Port Huron, Ont., have sent in their new illustrated catalogue and price list, having reference to the different lines of supplies manufactured and handled by them. These articles include every modern style of tools, machinery, etc., for boring, equipping and operating oil, salt, gas, water and other wells, and for prospecting for minerals, etc., with capacity to bore wells as deep as 4,000 feet. It is interesting to know that this concern are prepared to supply this class of machinery that heretofore was usually imported from the United States.

A thriving industry in Kingston, quite unknown to many in the city, is a foundry for the manufacture of coffee mills. It is owned and operated by Messrs. Carnage & Bryant, and known as the Co-operative Foundry. The foundry is situated near Davis & Sons' shipyard. Carnage & Bryant are the only manufacturers of coffee mills in Canada, and turn out excellent work. The foundry turns out green-bone cutters and shoemakers' iron shapes, as well as the coffee mills. With their present facilities Carnage & Bryant turn out thirty mills each week, and place

them on the market for about one-half the cost of American mills. Each mill weighs about 107 pounds.—King-ton News.

Connolly Bros' dredge "International" was launched yesterday afternoon at the government dry dock. She is the third and largest dredge built by the Connollys and is constructed on their own design. Her length is 114 feet, width 36 feet, hold 10½ feet. The work of construction was begun on April 18, 1895, and the cost of the vessel was \$70,000. Her engines are very powerful and were built by the locomotive works of this city, as was also the boiler and the greater portion of the machinery. The boiler is said to be the best ever built in this country. The dredge is the largest on the continent and is intended for digging in the waters, being capable of dredging in water fifty feet in depth. Her dipper has a capacity of five cubic yards.—Montreal Witness.

The Ontario Rolling Mills Company has all the plans prepared for putting in a new steel plant costing about \$30,000. About 150 additional men will be employed, and the new plant will turn out twenty-five or thirty tons of steel per day. Mr. Whitehead, manager of the company, when spoken to on the subject, corroborated the report and said that the plans are all prepared, but the company will not begin operations until after the elections. The enterprise depends on the return of the Conservative government to power and the consequent knowledge that the National Policy will not be tampered with. "Unless that is the case we will not take the risk of establishing the new branch industry," said Mr. Whitehead.—Hamilton Spectator.

The Economic Gas Company, Montreal, has been incorporated with a capital stock of \$100,000 to manufacture gas and to construct gas plants.

W. A. Johnson's flour mill and electric light plant at Dresden, Ont., were destroyed by fire May 30th, and Mr. North's carriage works adjacent to the mill were badly damaged.

Mr. Geo. Johnston, the Dominion statistician has collected and embodied in the Year Book of Canada, the following statistics relative to the electrical progress in the Dominion:—The amount of capital invested in electric telegraphs and cables in Canada is \$7,000,000; in electric railways the paid up capital is rather more than \$13,000,000; in electric light works, \$4,113,771; in electrical appliances, \$1,389,365; or in round figures about \$27,000,000. In 1881 there were found only two hands with electric works outside of those connected with telegraphy, while in 1891 there were 1,190, hands not including those connected with the electric cars. The employees in 1894 connected with the electric cars numbered 2,614; passengers carried 57,000,000; miles run during 1894 by the electric railways, 15,500,000; miles of track for Canadian electric railways, 368 or 73 miles to each million of the people. The number of motor cars in Canada are calculated as 658, trailers, 341, snow sweepers, 39; and motors, 891. The steam railways in Canada in 1894 carried 14,500,000 passengers, which, contrasted with 57,000,000 carried by the electric railways, shows that four times as many passengers were carried by electricity as by steam, and that, on an average, every person in Canada has been carried 11 times in the year by electricity.

MICA BOILER and STEAM PIPE COVERING

WHAT IS THOUGHT OF IT!

PENETANQUISHRENE, March 12th, 1896.

To whom this may concern.

This is to certify that we have used some of the Mica Pipe Covering on one of our main pipes in the tannery during the present winter and must say that it has given the very best satisfaction, there is no heat that escapes from the outside covering, it hardly being warm, in consequence there is very little condensation in the pipes. We can cheerfully recommend it to any parties wanting pipe coverings.

Yours truly,
(Sgd.) BREITHAUPT BROS. & HALL.

PETROLIA, April 22, 1896.

MESSRS. THE MICA BOILER COVERING CO., Toronto, Ont.

GENTLEMEN:—In regard to the Mica Pipe Covering on which you have asked us to report, we would say that we placed this covering on the steam pipes in our block of stores and offices last winter and at once noticed the largely increased heating capacity of our plant and a great saving in fuel. The covering was put on by our own men without any difficulty whatever.

Yours faithfully,
(Sgd.) VANTUYL & FAIRBANK.

TORONTO, December 5, 1895.

THE MICA BOILER COVERING CO., City.

GENTLEMEN:—We have tested the Mica Covering which you put on the boiler of the Dredge "Atlantic" in September last and find that it has effected a saving of about one-half ton of coal per day, or about twenty-five per cent. We believe it is the most durable covering for marine boilers in

the market, and will stand the wear and tear incidental to such boilers. We consider it a valuable improvement over the cement coverings owing to the convenience of removal and replacing same, for inspection or repairs to boiler.

Yours truly,
TORONTO DREDGING & CONTRACTING CO.
(Sgd.) F. DOTY.

THE TORONTO FERRY COMPANY, (LIMITED),

North of Scotland Chambers,
18 King Street West.

TORONTO, December 12, 1895.

THE MICA BOILER COVERING COMPANY, Toronto.

GENTLEMEN:—I have much pleasure in certifying that the Mica Boiler Covering placed by your company on the boiler of our steamer "Thistle" has proved satisfactory in every respect and has fully proved every claim you made for it. I find that since it has been put on, the consumption of coal has been reduced no less than twenty per cent. My chief engineer's report of the Mica Covering is very favorable, not only for its extraordinary coal saving qualities but also on account of the ease with which any part of it can be removed and replaced without injury. After the season's work I find the covering in perfect condition, and from the flexible nature of it and its inability to crack or crumble I anticipate a very long life for it.

All the steam pipes at our Electric Power Station at Hanlan's Point are covered with the Mica Covering and my engineer there also reports it as a first-class piece of work. From my experience of the above covering during the past season, I have no hesitancy in pronouncing it to be the best that has come under my notice.

Yours truly,
W. A. ESSON, Manager.

Full Particulars, Reports of Trials, Prices, Testimonials, etc., from

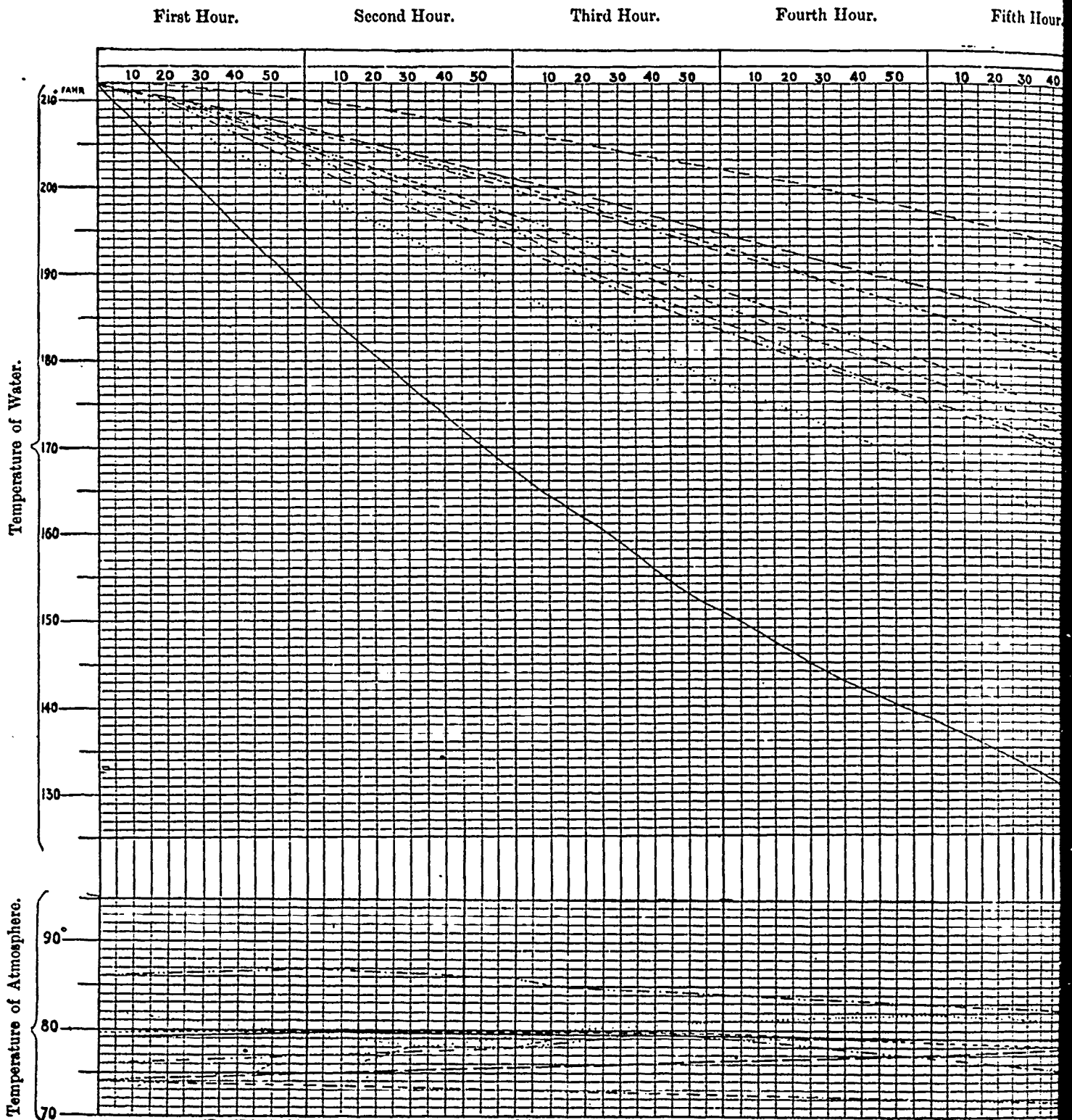
The Mica Boiler Covering Company (Ltd)

9 JORDAN STREET, TORONTO.

Canadian Pacific Rail

(Mechanical Department).

DIAGRAM OF EXPERIMENTS WITH BOILER



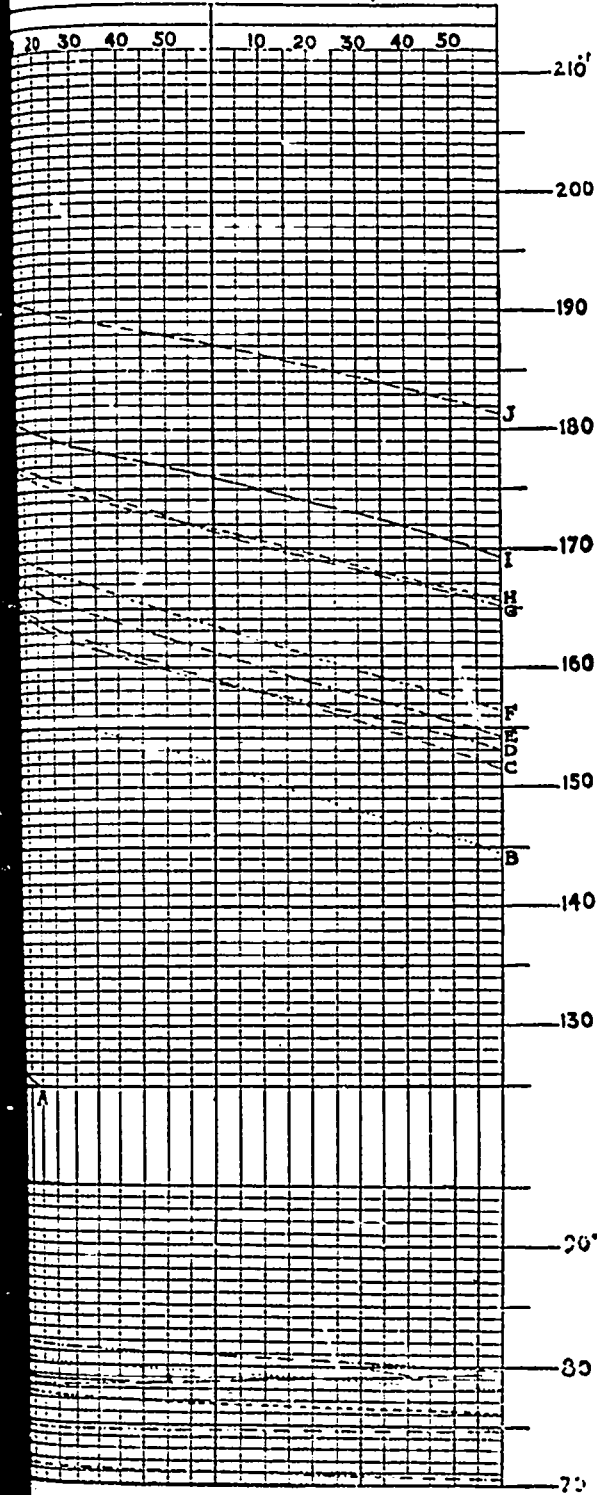
REPRODUCTION OF CHART
SHOWING TESTS OF BOILER COVERINGS MADE BY CANADIAN PACIFIC RAIL

COVERINGS.

Sixth Hour.

Seventh Hour.

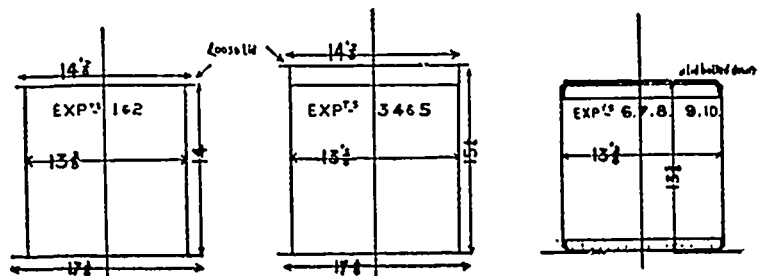
R. Robinson
Mech. Supr.



The order in which the experiments were made, and the materials tested were as follows:—

- First Experiment.** Tank uncovered.....
- Second Experiment.** Tank with air space of $\frac{1}{8}$ in. next tank, wood lagging $\frac{1}{2}$ in. thick, and outer coat of Russian iron..... **H**
- Third Experiment.** Tank same as in second experiment, but with Asbestos woven cloth $\frac{3}{8}$ in. thick, inserted in the $\frac{1}{8}$ in. space, and placed next tank..... **I**
- Fourth Experiment.** Tank covered with Plastic Asbestos Compound, and outer coat Russian Iron Composition $1\frac{1}{2}$ in. thick.....
- Fifth Experiment.** Tank covered with Sectional Magnesia Blocks, and outer coat Russian Iron Composition $1\frac{1}{2}$ in. thick..... **G**
- Sixth Experiment.** Tank covered with Patent Mineral Composition, and outer coat Russian Iron Composition $1\frac{1}{2}$ in. thick..... **C**
- Seventh Experiment.** Tank covered with Plastic Asbestos, taken off C. P. R. Boilers, and outer coat Russian Iron Composition $1\frac{1}{2}$ in. thick..... **B**
- Eighth Experiment.** Tank with air space of $1\frac{1}{2}$ in. next tank, air-tight iron coat 1-16 in. full thick and outer coat Russian Iron Composition $1\frac{1}{2}$ in. thick..... **E**
- Ninth Experiment.** Tank covered with Patent Mineral Composition, Composition $1\frac{1}{2}$ in. thick..... **F**
- Tenth Experiment.** Tank covered with Mica Boiler Covering, Composition $1\frac{1}{2}$ in. thick..... **J**

WATER BOILED IN TANK SHOWN IN SKETCH AND COVERED AS DESCRIBED ON SIDES AND LID.



Mount Forest, Ont., will establish a water-works system.

The King Milling Company's, flour and oatmeal, meal mills and Jas. S. Loughhead & Co's. hub and spoke works at Sarnia were destroyed by fire May 17th. Loss on former about \$30,000, and on the latter \$40,000.

The Roche Perceé Coal Co., Winnipeg, Man., is being incorporated with a capital of \$50,000 to manufacture coke, brick tiles, etc.

The Wm. Kennedy & Sons Co., Owen Sound, Ont., has been incorporated with a capital stock of \$95,000 to carry on the foundry and machine business now done by Wm. Kennedy & Sons.

The Robert Mitchell Co., Montreal, has been incorporated with a capital stock of \$200,000 to manufacture brass fittings, electric fittings wiring, etc.

Stratford, Ont., will build three new bridges.

The Wehrle Brush Manufacturing Company, Toronto, is being incorporated with a capital stock of \$20,000 to manufacture brushes, pails, woodenware, etc. The works of this concern are at 134 Bay Street, Toronto.

A waterworks system is talked of for St. Mary's, Ont.

The Hobbs Hardware Co., London Ont., is preparing to make bicycles for next year's market.

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Communicate with

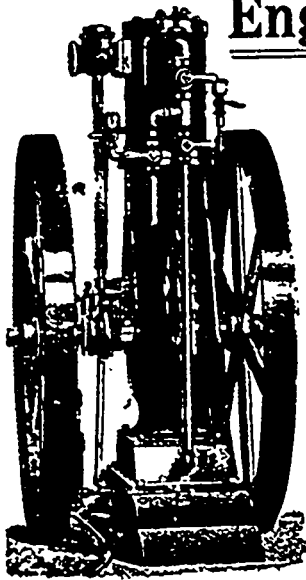
JAMES MORE, Town Clerk
DUNDAS, ONT.

Liberal Inducements—Good Location
Desirable Buildings

METAL STAMPS

BRASS SIGN MNFRS, ETC.
PATTERSON & HEWARD
40 WELLINGTON ST. WEST, TORONTO

THE ELECTRICAL GAS OR GASOLINE...
Engine



WRITE FOR PRICES AND TESTIMONIALS

J. R. BAIRD

WOODSTOCK, - - - ONTARIO

FOR SALE

Two Shaker Willow Dusters
SIZE NO. 2.

Forty-three inch working surface.
Made in 1892, but in use less than one month. Address,

Canada Colored Cotton Mills Co.,
Cornwall, Ont.

H. W. KARCH
HESPELER, ONT.

IRON FOUNDER and MACHINIST

MANUFACTURER OF

WOOLEN . . . MACHINERY

FULLING MILLS;
CLOTH WASHERS,
WOOL & WASTE DUSTERS
DRUM SPOOL WINDERS,
REELS,
Spooling & Doubling Machines,
Ring Twisters, Card Creels,
Rag Dusters,
Dead Spindle Spooler
(For Warp or Dresser Spools),
Patent Double-Acting Gigs,
Dyeing Machines.

Firstbrook Bros.

Dovetail and Packing Boxes
Top-Pins, Side Blocks and Cross Arms, Wood Printers, Etc.
Cigar Boxes, Shipping Cases,
TORONTO, - - - ONTARIO.
Write for Prices

WRITE TO THE

PATON MANUFACTURING COMPANY
OF SHERBROOKE, QUE.,

— FOR —

WORSTED KNITTING

— AND —

FINGERING YARN.

Montreal Office:—409 Board of Trade Building.

Toronto Office:—33 Melinda Street.

ALGOMA IRON WORKS

SAULT STE. MARIE, ONT.

Engineers Founders

AND

Machinists

PULP AND PAPER MILL

AND

MINING MACHINERY

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This space is one inch high. It may be used for advertising purposes at the rate of 50 cents per issue.

JORDAN CHAMBERS 17, JORDAN ST.
W. J. KRAMER
DESIGNER & ENGRAVER ON WOOD
TORONTO, ONT.

Babbitt Metal.
BRASS, BRONZE, PHOSPHOR BRONZE, ALUMINUM BRONZE, COPPER, ZINC and ALUMINUM CASTINGS TO ORDER. Large or Small.
Write for Prices... **DEAN BROS., 184 Richmond St. West, Toronto**

Paxton, Tate & Co., Port Perry, Ont., have recently been running night and day.

The Brown & Sharpe Mfg. Co., Providence, R.I., have sent us a pamphlet having reference to the method by which one of their large new factory buildings, an extension of their main works, was constructed. The new building includes a remarkably fine and well-equipped machine shop, and the illustrations in the pamphlet show the novel method adopted for the distribution of power. The total floor space of the works of the company is now equivalent to five and three-quarter acres.

Inquiries among importers of wood pulp suggest that in the development of this trade Canadians will do well to pay greater attention to methods of shipment. The quality of the Canadian mechanical wood pulp is spoken of as, generally speaking, superior to Scandinavian makes, and consumers are not unwilling to pay higher prices for it than for other grades, but the condition in which it arrives here is distinctly bad. Ground pulp, with 50 per cent. of moisture, instead of being packed in canvas, as is Scandinavian pulp, comes in loose bundles without any covering at all, and so arrives in a thoroughly dirty state. It gathers all the coal dust and dirt that comes near it on rail, steamship and wagons. The chemical pulp should also come in bales, and not in awkward rolls as now. This is probably one reason why Canadian pulp is handicapped by higher steamship freights. The industry has a great future before it if care be only taken in such matters as these. Canada certainly should have no difficulty, seeing her lumber wealth and water power, in standing well in British markets. London, (Eng.) Canadian Gazette.

The Nova Scotia Steel Co. is rapidly developing its valuable hematite mine on Bell Island, Newfoundland, and expect to make large shipments during the coming season. They are obtaining splendid results from the use of the ore at Ferrona and the Nova Scotia steel works, and have received an offer from a prominent New York firm for all their surplus yield in 1896. We also understand that they have been approached by an English firm, who, owing to the present inflation of trade in the Old Country and the enormous expansion of the steel industry, find it difficult to obtain adequate supplies. —Mining Review.

A lot of flour has been sold by Ogilvie & Co., to go to Suva, in the Fiji Islands. This is probably the first shipment of Canadian flour that has been sent to that distant part of the world. It goes forward via Vancouver and the Australian steamers. Some time ago the Lake of the Woods Milling Company sent a trial shipment of their flour to Australia, and now they report a shipment to that country of 2,000 sacks.

Mr. H. M. Whitney, president of the Dominion Coal Co., was in Ottawa a few days ago and had an interview with Sir Charles Tupper. One of the objects of the visit was to discuss the advisability of applying for a similar charter for the manufacture of fuel gas in Canada to the one now under consideration by the State of Massachusetts.

It is estimated that 75,000 cords of spruce pulp wood or about 1,000 canal boat loads will be taken out of Canada this season through the Chambly and Champlain canals and delivered at Ticonderoga and mills on the Hudson.

The Dominion Cold Storage Co. will erect a \$50,000 building in Toronto and put in a plant costing \$100,000.

James R. Hoey's saw mill at Hardingville, N.B., was destroyed by fire a few days ago. Loss about \$5,000.

N. Dymont's flour mill at Barrie, Ont., operated by J. Stewart, was destroyed by fire April 20th.

London, Meaford and Welland, Ont., will extend their present waterworks.

Mundell's furniture factory, Elora, Ont., was destroyed by lightning May 25th. Loss about \$12,000.

Kemptville, Ont., will give a \$5,000 bonus to establish a grist mill there.

Jasper Martin's shingle mill at Hillsdale, Ont., has been destroyed by fire. Loss about \$3,000.

Capt. D. A. Saunders' mill at Norwood, N.S., was recently destroyed by fire. Loss about \$4,500.

Nemoix Pineau's saw mill at Acadieville, N.B., was destroyed by fire May 24th.

The Lake of the Woods Milling Co., Winnipeg, Man., recently received orders from Sydney, Australia, for five cars Manitoba flour.

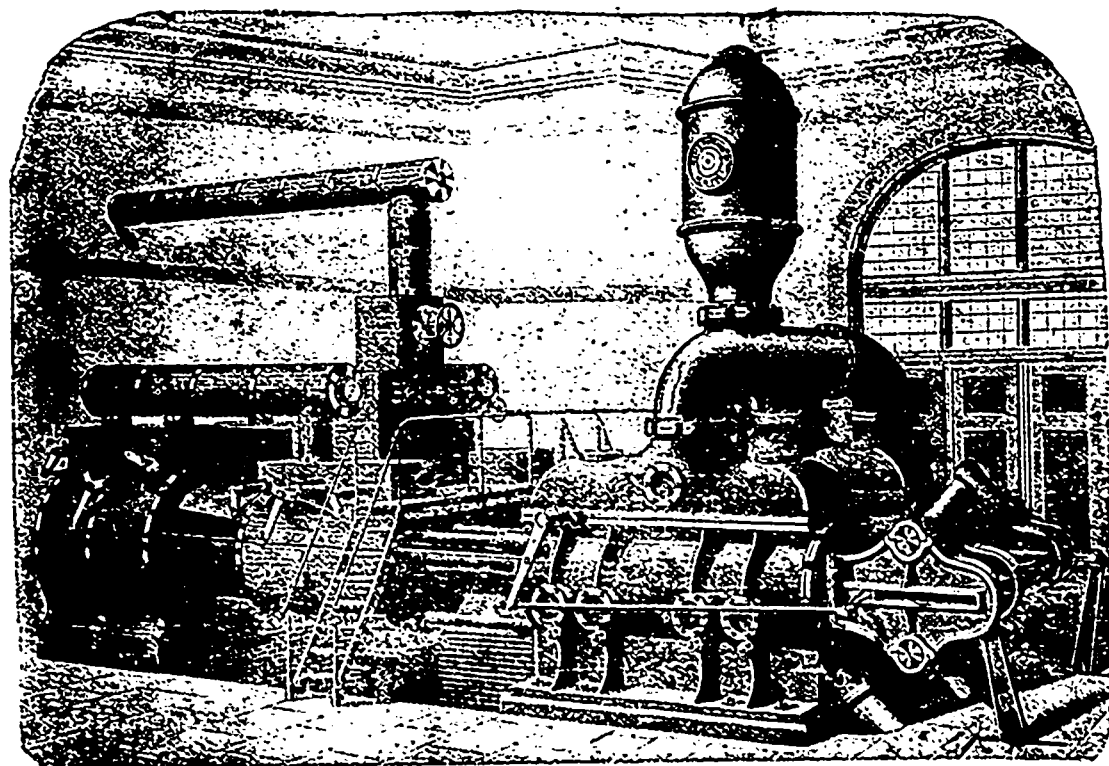
The Toronto Whip Company, Toronto, has been incorporated with a capital stock of \$24,000 to manufacture whips and other light wares.

The Drury Nickel Mining and Manufacturing Company, Worthington, Ont., is being incorporated with a capital stock of \$1,000,000.

JOHN McDOUGALL

CALEDONIAN IRON WORKS,

MONTREAL, QUEBEC



General Agents
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THE FAMOUS

Worthington

Pumps

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Condensers

AND

Water Works

Supplies

WORTHINGTON PUMPS ARE UNEQUALLED FOR EFFICIENCY AND ECONOMY

The McEachren Heating and Ventilating Co., Galt, Ont., have an order for a dry kiln outfit from Nova Scotia being the fourth order from that province since March 1st.

The Wm. Hamilton Manufacturing Co., Peterborough, Ont., recently shipped two steam loggers to British Columbia.

The Kingsville-Pelee Gas and Oil Co., have struck another gushing oil well on Pelee Island which is expected to yield more than 25 barrels a day.

Galt, Ont., is advertising for tenders for the construction of a trunk sewer.

The citizens of Westmeath, Ont., will raise the sum of \$1,000 to assist Tucker & Hodges in rebuilding their mill recently burned.

P. C. Heuser, Collingwood, Ont., has bought a planing mill at Thornbury and purpose adding considerable machinery.

The Lake of the Woods Milling Co., will ship 2,000 bags of flour to Sydney, Australia, by the next outgoing steamer.

McCulloch & Co.'s woollen mills at Rapid City, Man., were destroyed by fire May 22nd.

The steamer Warrimoo which sailed from Vancouver, B.C., for Australia on May 30th carried 800 tons Manitoba wheat, 150 tons flour besides machinery, lumber, etc.

The Van Anda Copper and Gold Co., of Seattle, and the Templar Gold Mining Co., of Spokane have been incorporated, the former with a capital of \$5,000,000 the latter with a capital of \$500,000 to develop mines in British Columbia.

Henry Wilbert's sawmill near Dashwood, Ont., recently burned, will be rebuilt.

The Sturgeon Falls Pulp Company will put on a gang of fifty men to erect the new mill at that place. The company expect to get out about 10,000 cords of pulp wood before the snow flies. The amount to be expended by the company this season is estimated at about \$75,000.—Almonte Gazette.

The Annapolis Manufacturing Co., Lequille, N.S., is being incorporated with a capital stock of \$16,000 to carry on the business of lumbering, milling, etc.

Jasperson & Co.'s flour mill at Kingsville, Ont., was destroyed by fire May 28th. Loss about \$22,000.

The saw mill at Aylmer, Ont., owned by Archibald Lindsay and leased to R. H. Klock & Co., of Klocks Mills, Ont., was destroyed by fire May 29th. Loss about \$20,000.

The town of Woodstock, N.B., has voted \$10,000 to build a sewerage system.

Work is about beginning on the Newfoundland railway. It is intended to complete the line to Port au Basque, a distance of 130 miles this summer, and 2,500 men will be employed. The line from St. John's to Port au Basque will measure 550 miles, and cost about \$8,000,000.

R. H. Young, Turtle Lake, Ont., is rebuilding his saw mill.

The Vancouver Marine Railway Co., Vancouver, B.C., is being incorporated with a capital stock of \$500,000.

It is reported that the C.P.R. Ry. Co. will build a 2,000,000 bushel elevator at Prescott, Ont.

Buse's sawmill at Hastings, B.C., was recently destroyed by fire. Loss about \$12,000.

The towns of Porth and Lanark, Ont., are to be connected by an electric road.

Over thirty miles of electric railroad will be built on Montreal Island this summer.

The Gault Manufacturing Co., New York have opened an office at room 1403 Monacnock Block, Chicago, in charge of Mr. E. Webster well known in engineering circles and expert in steam appliances.

The Imperial Electric Light Company, Montreal, has been incorporated.

The Cape Sable Packing Company, Clarke's Harbor, has been incorporated.

Work has been commenced on a freight and passenger electric railway at Cornwall, Ont.

The Victor Gold Saving Machinery Co., Vancouver, B.C., is being incorporated with a capital stock of \$59,000.

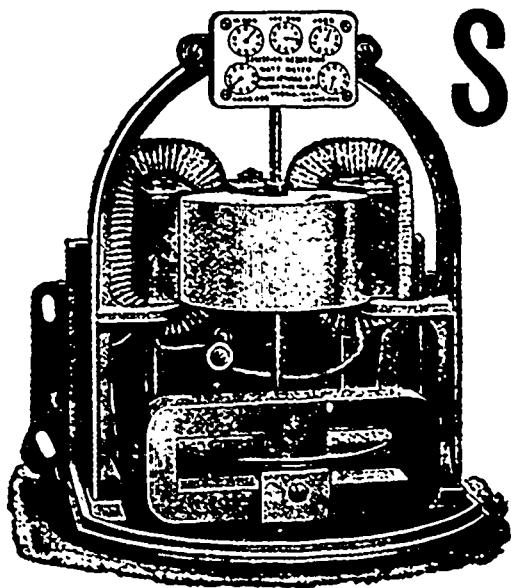
The Bunker Hill and Blackwood Mining Co., Vancouver, B.C., is being incorporated with a capital stock of \$500,000.

The Port Hope Preserving and Canning Co., Port Hope, Ont., is being incorporated with a capital of \$20,000.

Hamilton, Ont., will spend \$85,000 to establish sewage disposal works.

The Montreal Construction Co., Montreal, is being incorporated with capital of \$500,000 to construct railroads, bridges, etc.

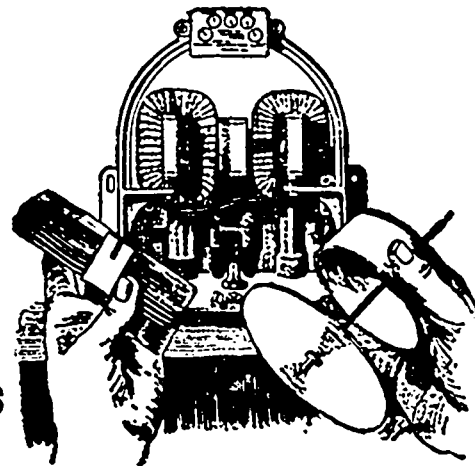
The Nova Scotia Steel Co., will probably develop what is believed to be a valuable coal area near Port Hood, N.S. Two good seams of coal have already been exposed and favorably reported upon. If this mine should be opened the company could obtain their supplies of fuel by barge within five or six hours' tow of their works.



SCHEEFER METERS

Accurate from 4 C.P.
Lamp to full load.

No Commutator
No Brushes
No Contact Points



Manufactured by **DIAMOND ELECTRIC CO., PEORIA, ILL.**

WE ARE SOLE AGENTS FOR CANADA

We are now manufacturing all our **TRANSFORMERS**

We guarantee Efficiency, Regulation and Insulation

Incandescent Lamps from 5 C.P. to 500 C.P., 3 to 4 Watts per C.P.

The PACKARD ELECTRIC CO., LTD. ST. CATHARINES, ONTARIO.

AGENT FOR MONTREAL, R. E. T. PRINGLE, IMPERIAL BUILDING.

The COAST LINE to MACKINAC

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DETROIT
PETOSKEY
CHICAGO**

2 New Steel Passenger Steamers

The Greatest Perfection yet attained in Boat Construction—Luxurious Equipment, Artistic Furnishing, Decoration and Efficient Service, insuring the highest degree of

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Send for Illustrated Pamphlet. Address

A. A. SCHANTZ, G. P. A., DETROIT, MICH.

The Detroit and Cleveland Steam Nav. Co.

The Montreal Litho. Co., Montreal, is being incorporated.

Carlton, N.B., and Moncton, N.B., will extend their waterworks.

Rossland, B.C., is to have a system of waterworks.

Springhill, N.S., contemplates the construction of waterworks.

London, B.C., and St. Lambert, Que., are to have waterworks.

The Shipway Ash and Garbage Box Co., Toronto, is being incorporated with a capital stock of \$20,000.

The Lanark County Electric Railway Co., Perth, Ont., is being incorporated with a capital stock of \$100,000.

McCulloch & Co.'s woollen yarn and cloth mills at Rapid City, Man., were destroyed by fire on May 22nd.

The Windsor Salt Co., Windsor, Ont., is being incorporated with a capital of \$200,000.

Reproductions Made for Eight Cents per Square Inch



Half Tones Made Direct from Photos

The Pictou, N. S., Charcoal Iron Company have started their puddling furnaces, a steam hammer and a train of rolls. The company has nearly 1,000 tons of pig iron on hand, and it is expected that the bar iron made from this charcoal pig will take the place of imported Swedish blooms. Several sample cars of the new product has been sold to the rolling mills in Montreal and St. John.

MACHINERY AND SUPPLIES WANTED.

If any subscriber to THE CANADIAN MANUFACTURER who may desire to purchase any machinery or supplies whatever, and so inform us, we will publish the fact in a conspicuous manner, and will make no charge therefor. Those wants will be stated similar to the following:—

WANTED.

AN Experienced Machinery Moulder desires partner, who must be a first-class Machinist with \$700 or \$800 capital, to conduct a prosperous foundry. Address R. J. BLACKWELL, Prop. Wingham, Ont.

YOUNG Man (27), total abstainer, speaks and writes French language fluently. Five years manager in General Store, desires situation as clerk, time-keeper, bookkeeper, or to represent manufacturer in Province of Quebec. Knows ground well. Highest references. Address E. JAMES, care Canadian Manufacturer.

SITUATION as foreman or leading dyer by a Scotsman. 25 years' practice. Dress goods, tweeds, flannels, hosiery, ribbons, laces and garments. Dyeing and cleaning the latter preferred. Address SCOT, care of The Canadian Manufacturer.

RICH DISCOVERIES OF GOLD

At Cripple Creek, Colo., and elsewhere, are being made daily, and the production for 1896 will be the largest ever known, estimated at Two Hundred Million Dollars. Cripple Creek alone is producing over One Million Dollars a month, and steadily increasing. Mining Stocks are advancing in price more rapidly than any other Stocks, and many pay dividends of 35 to 50 per cent. They offer the best opportunity to make a large profit on a small investment.

JOHN I. TALLMAN & CO., 45 Broadway, New York, are financial agents for the Prudential Gold Mining Co., and others in the famous Cripple Creek district. They will send you free, interesting particulars of the Mining Companies they represent, also their book on speculation in Stocks, Grain and Cotton, containing many new and important features.

Send for these books at once if you are interested in any form of speculation or investments. They may prove profitable to you.



**Boilers, Engines
Roller Mill
Saw Mill } Machinery**

The John Abell Engine and Machine Works Co., Ltd.

TORONTO, CANADA.

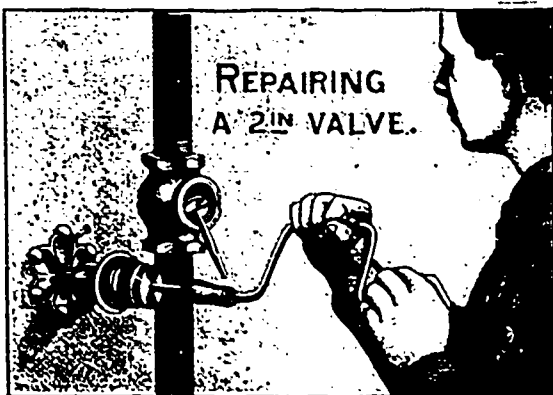
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Split Maple Handles
Duck Bill Cant Hooks
Cast Steel Skidding Tongue
Duck and Round Bill Peaveys.
Car Load or Dozen Lots



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BALL VALVES For all Purposes

Special Blow-off Valves

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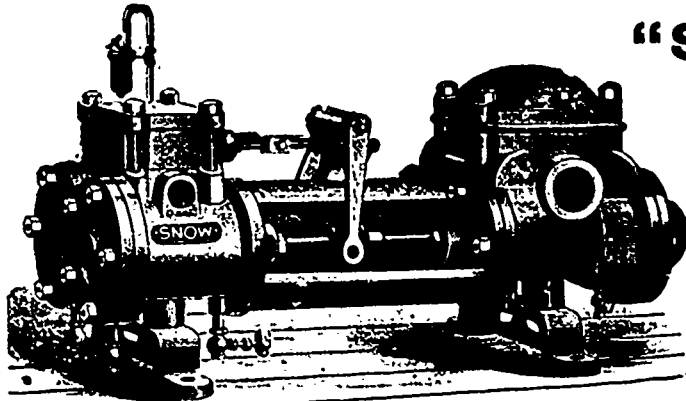
Port Huron, Mich.

and

Petrolia, - Canada

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"SNOW"
DUPLIX
STEAM
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EVERY SERVICE

*Iron Tools, Wood-
Working
Machinery*

STEAM ENGINES, BOILERS OF EVERY TYPE, SAW
MILL MACHINERY, ETC.

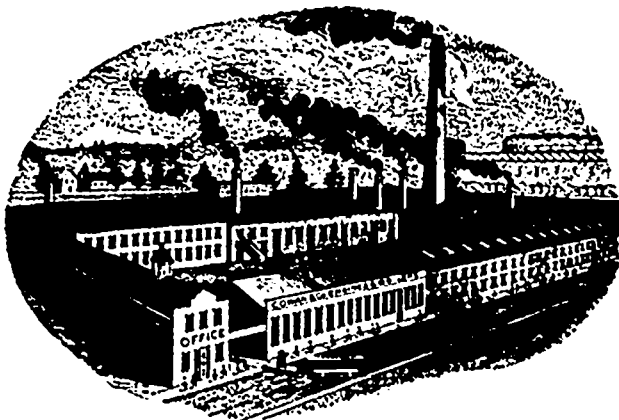
CANADA MACHINERY AGENCY, **W. H. NOLAN, Manager**
321 St. James Street, Montreal

COWAN & CO., GALT, ONTARIO

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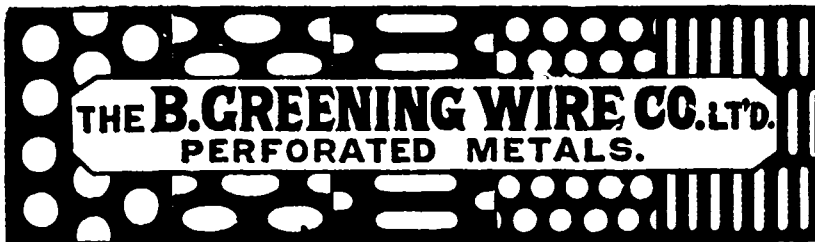
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Corliss and
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Patent
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Rebuilt Wood Tools which we offer at low prices and most favorable terms. .
Engines and Boilers **WRITE FOR** Terms, Prices and Catalogue.



HAMILTON, - CANADA

CATALOGUE AND PRICES ON APPLICATION.....

Advertise in The Canadian Manufacturer

The Northey Mfg. Co., Toronto, have recently put in one of their compound duplex pumps in the T. Eaton departmental store, this city. The pump has a capacity of 2,000,-000 gallons.

The Mica Boiler Covering Co., Toronto, have covered the steam pipes in the new Simpson building and in the new Dental College, Toronto.

Belleville, Ont., will probably soon be lighted by electricity produced at Trenton, Ont.

Arnprior, Campbellton, Cardinal, Cardwell, Creemore, Deseronto, Grimsby, Paisley, Petrolia, Perth, Simcoe, Smith's Falls, Thessalon, Thorold and Wallaceburg, all of Ont., are to inaugurate waterworks systems.

The Epps, Dodds & Company, St. George, N.B., is being incorporated with a capital of \$15,000 to quarry granite.

The Auburn Milling Co.'s flour and oatmeal mill at Peterborough, Ont., operated by Messrs. Meldrum & McAllister, was destroyed by fire April 14th. Loss about \$150,000. C. Wynn & Co.'s saw mill was destroyed at the same time.

Patterson & Corbin, St. Catharines, Ont., have received an order for four motor cars for the Hamilton Radial Railway Co.

The mill at Katrine, Ont., the property of the Katrine Lumber Co., Hamilton Ont., was recently destroyed by fire. Loss about \$40,000.

The municipality of Assiniboia, Man., offers a bonus of \$5,000 to any one who will build a seventy-five barrel grist mill at that place.

The Greenwood City Water and Power Company, Greenwood, B.C., is being incorporated with a capital stock of \$50,000 to construct waterworks and supply power.

The Penberthy Injector Co., Detroit, Mich., manufacturers of the world-renowned Penberthy automatic injector, writes us that on May 12th they completed the one hundred thousandth Penberthy injector manufactured at their Detroit factory. They had anticipated this quantity about the first of July, but the demand for the article has been so heavy since January 1st that their factory has been rushed to its fullest capacity and their output has been much larger than anticipated. In honor of this event the company intend giving their employees a holiday and excursion a little later in the summer.

George White Fraser

C.E., D.T.S., A.Am. Inst. Elec., Eng.

**CONSULTING
ELECTRICAL ENGINEER**

Electric Railways and Electric Light
Construction Superintended.

**18 IMPERIAL LOAN BUILDING
TORONTO**

F. H. MASON, F.C.S., Consulting Chemist and Metallurgist
Analytical Chemist and Assayer, may be consulted on all matters pertaining to Chemical Technology and Metallurgy. Analyses of Alloys, Metals and Pigments. Mineral Water, Waters for economic and boiler purposes, and all kinds of chemical products and by-products. Assays of all kinds of ores. The treatment of refractory gold ores and concentrates a specialty. Laboratory, Queen's Building,
HOLLIS STREET, HALIFAX, N.S.

Wm. KENNEDY & SONS, OWEN SOUND, ONT.

MANUFACTURERS OF
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WATER WHEELS, Electric Water Wheel Regulators,

**Machine-dressed Heavy Gearing,
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.... PROPELLER WHEELS AND MARINE REPAIRS A SPECIALTY....

TURBINE AND CASCADE WATER WHEEL

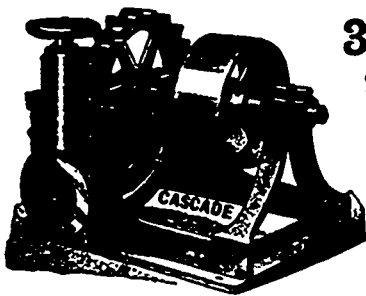
Adapted to all Heads from

3 Feet to 2000 Feet.

Our experience of 33 YEARS building Water Wheels enables us to suit every requirement of Water Power Plants. We guarantee satisfaction.

Send for a Pamphlet of either Wheel and write full particulars.

JAMES LEFFEL & CO.
SPRINGFIELD, OHIO, U. S. A.

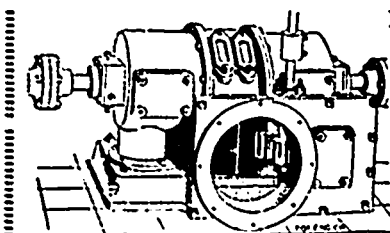


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One Type of Horizontal.

Built in 17 Standard Sizes and 27 Special Sizes, making a range of 44 different wheels in vertical and horizontal cases.

We solicit correspondence from those interested in developing or improving water power.

.... ADDRESS....

J. C. WILSON & CO., Glenora, Ont.

EXPERIMENTS WITH BOILER COVERING.

On pages 478 and 479 will be found a reproduction of a diagram of experiments with boiler coverings made by the Canadian Pacific Railway Co. to test the values of various compounds as non-conductors of heat.

The whole question of the insulation of steam heat and the consequent economy of power and coal has been greatly neglected in this country, and a careful examination of the chart referred to and consideration of the results obtained and their significance will be of great interest and value to engineers and steam users. In England and the United States increasing attention has been given to the whole question, and elaborate and voluminous reports of scientific trials of numerous non-conductors have lately been published. Various methods of testing these coverings have been adopted, the most general being the measurement of condensed steam in the form of water which has occurred in a given time under the competing coverings. In the case of the C.P.R. trials, however, it will be seen that water at 212 degrees was used, the relative value of the coverings as non-conductors being determined by the number of degrees of heat which escaped through the different substances and the consequent cooling of the water in a given time. A reference to the chart shows that ten experiments were made. It will not be necessary, however, to refer to all of them as the results of some were so unimportant, as in experiments four, six and nine, as to render them of little interest or value. It is only necessary to say that the trials were made under as nearly similar conditions as possible, as will be seen by the diagram of the atmospheric temperatures during the tests. The readings were taken from thermometers passed through the coverings and down into the body of the water.

The chart shows the loss of heat in the uncovered tank up to the fifth hour only and to make a fair comparison the others should be taken for same time. The temperature at beginning of each test was 212 degrees, and the following table shows the temperature at end of fifth hour, the loss in five hours, and the loss in the fifth hour:—

	Loss in 5 hours.		Temp. at end of 5th hour.
	Degrees.	Degrees.	Degrees.
Baro tank.....	84	128	11
Asbestos compound.....	53	159	9
Magnesia blocks	33½	178½	7
Wood lagging and air space.	33½	178½	7
Asbestos and wood.....	30	181	6
Mica.....	20	192	5

The mean temperature of the surrounding atmosphere during the fifth hour may be taken as having been seventy-eight degrees.

The fairest comparison of the merits of the coverings is made by considering the loss of heat in one hour per degree of difference of temperature between the tank and its surrounding atmosphere.

The following table shows this worked out:—

	Mean temp. during 5th hour.		Difference between tank and atmosphere.		Loss in 5th hour.	
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
Baro tank.....	133½	55½	11	.198		
Asbestos comp.....	163½	85½	9	.105		
Magnesia blocks....	181½	103½	7	.0674		
Wood lagging and air space.....	181½	103½	7	.0674		
Asbestos and wood..	185	107	6	.056		
Mica.....	194½	116½	5	.0428		

The following table shows the value of the coverings as compared with the baro tank.

Amount of heat which escapes from the baro tank was:—

- 1.88 times greater than through the asbestos compound.
- 2.92 times greater than through the magnesia blocks.
- 2.92 times greater than through the wood lagging and air space.
- 3.53 times greater than through the asbestos and wood.
- 4.62 times greater than through the mica.

Mica shows by far the best results as a non-conductor of heat and saved:—

245 per cent. as much heat as the asbestos compound.

157 per cent. as much heat as the magnesia blocks.

157 per cent. as much heat as the wood lagging and air space.

130 per cent. as much heat as the asbestos and wood.

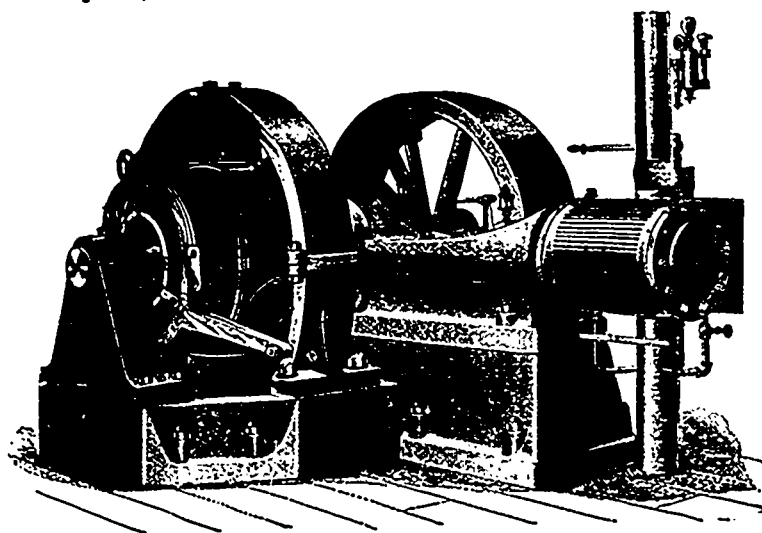
The extraordinary differences here shown will doubtless be a matter of considerable surprise, but it is impossible to doubt the accuracy of the figures and some other explanation must be sought.

It will be seen that asbestos cement which

ROBB-ARMSTRONG ENGINES.

Simple, Tandem and Cross Compound.

Correct Design



Superior Workmanship

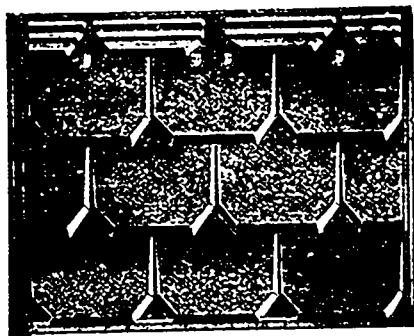
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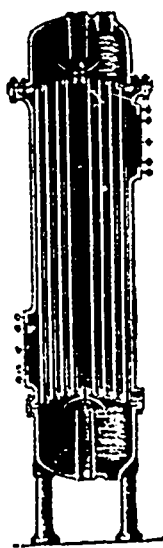
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Fine Gloves and Mitts
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- Ripans Tabules cure headache.
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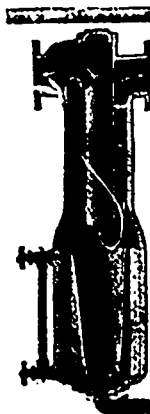
Heats Feedwater to nearly the boiling point by exhaust steam.

ECONOMICAL, EFFICIENT, DURABLE
AND SIMPLE.

All Sizes—50 to 5,000 h.p.

Stratton Separators

Separates entrained water from steam and ensures delivery of DRY STEAM to Engine. Doing away with that fruitful cause of accidents—
WATER IN THE CYLINDER.



is in very general use, particularly on marine boilers showed infinitely the worst results. There seems no room for doubt that this is largely attributable to the fact that it is a solid composition and lacks one of the most vital requirements of successful non-conductivity, i.e. "diffused air." That the air must be diffused or separated into minute cells is strikingly illustrated in experiments two and three. In the first, wood and air space of $\frac{1}{2}$ inch next to the tank, as used on locomotive boilers, the loss per degrees of difference of temperature was .0674 degrees, when the same air space was filled or packed with asbestos fibre the loss dropped to .056 degrees. In the case of mica the air theory appears to have been carried to the farthest possible extent, the whole covering forming a veritable air cushion, each leaf or film of mica being separated from the next by minute corrugations, the whole mat presenting the appearance of a porous flexible quilt. The value of this ingenious arrangement was amply proved in the experiments in question when the loss per degree in difference of temperature was only .0428 degrees. That this is one of the most important qualities of a covering has long been recognised and a large number of patents have been granted for devices intended to obtain it. But in nearly every instance it has been at the expense of the material. Hair felt, which is so largely used in low pressure work, is almost useless under high temperatures, crumbling and cracking and in some cases igniting, although of itself it encompasses a large portion of the desired air. In other compositions which are extremely light and porous, vibration or concussion disintegrates them in a comparatively short time so that

the difficulty of finding a substance which would resist all of these dangers has been great. It seems therefore that the great difference in the values of the coverings tested by the C.P.R. is due largely to the manner in which the valuable properties of diffused air as a non-conductor have been utilized. The differences shown between the best of the coverings in this trial are the more remarkable when it is remembered that the nearer the limit is reached, the greater the difficulty of showing substantial differences of value becomes.

The rapid increase in the use of high pressure steam has an important bearing on the whole question of loss by radiation and the utilization of the best means of minimizing it, one of primo importance. That this loss is much larger than the majority of steam users realize is certain, otherwise uncovered boilers or steam pipes would be unheard of and the rapid replacing of inferior coverings by the best that could be obtained would be accomplished as soon as possible in all our factories and shops. The following table will give some idea of what the loss of power has been found to be from uncovered steam pipes with the steam at 75 lb. gauge pressure.

2 in. pipe..	1 h.p. lost for every 132 ft. long.
4 " ..	1 " " " " 75 "
6 " ..	1 " " " " 46 "
8 " ..	1 " " " " 40 "
12 " ..	1 " " " " 26 "

About 90 per cent. of this waste is easily prevented by a proper covering of the pipes.

When it is considered that this loss occurs at the comparatively low pressure of 75 lbs.,

it is apparent that with steam at 130 lbs. and 140 lbs. and higher, the loss becomes very serious and the necessity for preventing as much of it as possible is a matter of urgent importance.

The accompanying diagram very clearly demonstrates what can be done in this direction by the use of various compositions, as it clearly shows the qualities and capabilities of each. It is possible that the question might arise as to whether the great differences between these substances would still be found had the trials of the C.P.R. Co. been made with higher temperatures than 212 degrees.

It appears however from published reports of trials made some months ago by the engineers of the Boiler Inspection and Insurance Co. of Canada, that these differences did exist, that company subsequently issued a special circular on the whole matter as one of particular interest to steam users. It is stated further that the Grand Trunk Railway Co. have lately concluded a series of trials on a large scale and under high steam pressure of a number of boiler coverings including the best of those tested by the C.P.R. and the Boiler Inspection Co., the difference between them being even more marked. As no data however is as yet available of these trials, it is impossible to speak of them with accuracy. It is encouraging to notice the increasing attention the whole subject is receiving, and in view of the imperative necessity for observing the strictest economy in power and coal and the prevention of all unnecessary waste, it is to be hoped that our manufacturers will not be slow to avail themselves of every improvement and device calculated to achieve that object.

Kay Electric Manufacturing Co.

255 James St. N., Hamilton, Ont.

Makers of.....

ELECTRIC MOTORS

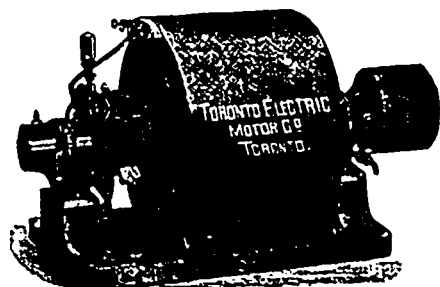
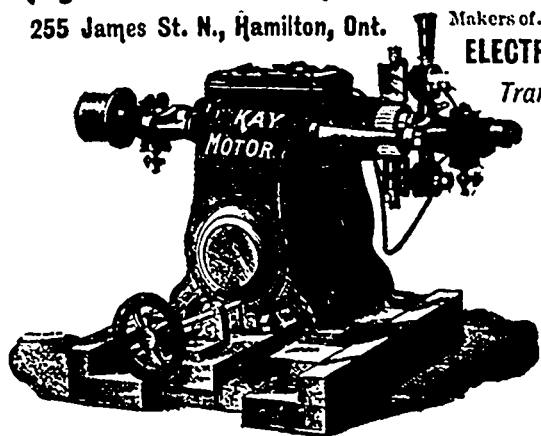
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OUR NEW 4-Pole Motor

In sizes down to 6 h.p. and speed down to 125 revolutions per minute.

At this speed it is especially adapted for direct connection. We have over 300 motors running in Toronto.

Our Sales in Toronto for the past three years exceed the combined sales of all others.

TORONTO ELECTRIC MOTOR CO.

105, 107, 109 Adelaide Street West, Toronto, Ont.

VALVES AND PIPE FITTINGS

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RICE LEWIS & SON

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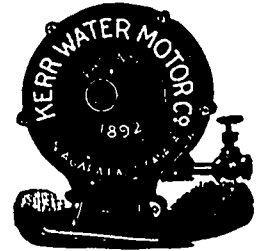
Agents for the Maritime Provinces.

The Goubert Manufacturing Co.'s exhibit at the recent electrical exhibition in New York consisted of models of the Goubert feed water heater and Stratton separator. This company, it is said, had the distinction of having a Stratton separator on every engine in the exposition generating plant and the only feed water heater used there.

It is said that there will be considerable business for Canadian vessels this season in the carriage of iron ore for the smelting works at Hamilton. A good deal of ore from Hamilton is to come out from Wellers Bay, as much as 300 tons a day, it is believed. The smelting works are also going to bring down ore from Port Arthur, and the steamers Sir Leonard Tilley and Myles and the schooner Merritt are understood to be chartered for the season from Port Arthur to Hamilton, with ore. Indeed rumor has it that Mr. R. O. Mackay, of Hamilton, who recently purchased the Tilley and Merritt, did so to put them in the ore trade. This will make things better for the boats running on Lake Ontario, as with the vessels engaged in the ore trade and those that have gone to Lake Erie for lumber away, there will be more work for the boats carrying coal between American ports and Toronto.

**KERR
WATER MOTORS**

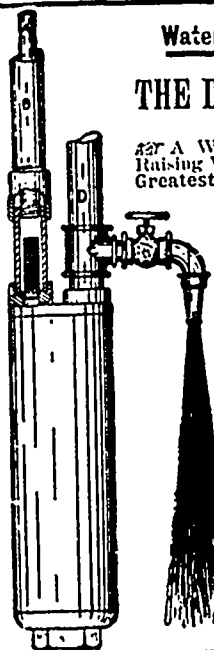
1/8 TO 20 HORSE POWER.



Noiseless Running; Requires No Attention, operated with water at a pressure of 30 pounds and upwards.

RELIABLE intending purchasers can have our Motors on trial by writing us, stating water pressure available, power required and class of work to be done. Our Motors are sold on their merits. Our prices are low. Write us. Enquiries solicited and cheerfully answered.

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**Water for Country Use
THE DOMESTIC PUMP**

A Wonderful Invention for Raising Water. The Windmill's Greatest Rival.

Used with our New Water Supply System for Country Homes, Hotels, Summer Resorts, also for Irrigation, Railroad Tanks, Stock Yards and Factories. THIS SYSTEM Supplies the Conveniences, Comforts and Luxuries of the City for every Country Home.

General Agents wanted for every State. Send for Descriptive Circular.

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Makers of **WOOL STOCK, SHODDIES, Etc.**
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THE PERFECTION DUST COLLECTOR.

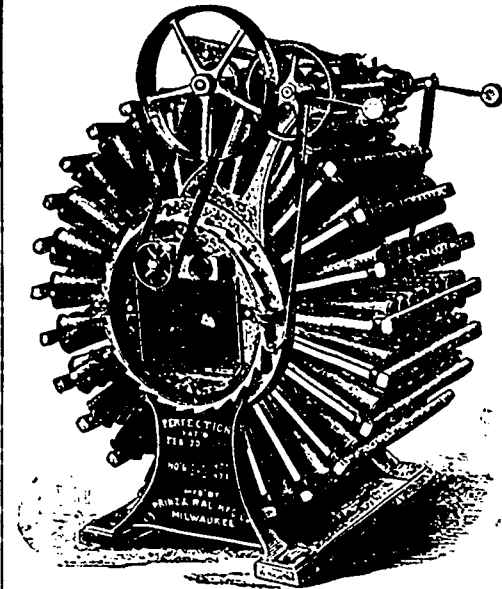
The accompanying illustration is of the Perfection dust collector, manufactured in Canada only by Messrs. W. & J. G. Greey, Toronto. Mr. Prinz, who is the inventor of the machine, is one of the pioneer inventors of dust collectors, being one of the inventors of the Prinz dust collector, formerly manufactured by the Milwaukee Dust Collector Manufacturing Co., and later by the George T. Smith Middlings Purifier Co., and which was at one time probably the most favored machine used by millers. There have been more than 10,000 of these machines put in successful operation.

It has proved to Mr. Prinz through long experience with dust collectors, that good woolen cloth, of a suitable thickness, is the best cloth for catching dust. It is necessary to clean the cloth at short intervals of all its adhering dust, and in order to do this it is necessary to have a perfect disconnection from the air entering the collector for the part which is cleaned. In order to avoid dusting of the cloth when cleaned, it is also necessary to have a reversed air current in connection with the repeated knocking. This is one of the strongest points in favor of the Perfection dust collector in that it does absolutely separate the dust, and all the dust, from the air, and allows only pure air to escape into the mill.

Mr. Prinz has been experimenting for years, striving to combine all these elements in a dust collector, which is simple, durable, economical and accessible. In order to insure perfect work at all times, the framework of the Perfection dust collector is constructed of iron, so that the shrinking and swelling of the wood is entirely overcome. As can be seen from the illustration, the knockers for the cleaning apparatus are on top, therefore their own weight will give the required jar to the cloth or cross bars without the use of springs. The machine does not need very much space, and in most places can be set on top of purifiers; the fan of the purifier blowing straight into the dust collector makes a very short connection and avoids crooks or bends in spouts. The air is blown into the centre of a large drum and then expanded outwardly through the openings and discharged through the bags on a large surface. The work of the dust collector is done easily and no moving air is felt anywhere around it.

The arrangement to fasten the bag is very convenient; on the small end of the bag is an iron ring fastened to the cloth, leaving

an opening for the air to enter. This end of the bag is put into the opening of the drum, and the other end, which is shut by a seven-eighths inch wooden plate, is stretched with a bolt to the cross bar on the outside. After the bag is in place it is not possible for any leakage around it. This arrangement makes it very easy for the operator to replace any or all of the tubes without disturbing or tearing any cloth. The workmanship and material are of the very best.



It can easily be seen that a machine as above described will last for a life time, as everything moving is of iron, and moving at a very slow motion prevents wear.

A few facts worth knowing concerning this machine is that no long sticks are needed to clean the cloths as it is cleaned automatically. It will clean the cloth perfectly

at every revolution. It will not let dust pass through the cloth at the time it is being cleaned. It is perfectly dustless. It is manufactured with a back draft to assist the cleaning of the cloth. It is constructed to admit the air at either end or at both ends at the same time. It is made to discharge the dust collected from either end, and as it is discharged from the upper part of the machine it

FRICION BOARD FRICION BOARD FRICION BOARD

Manufactured by **DOMINION LEATHER BOARD CO., MONTREAL**

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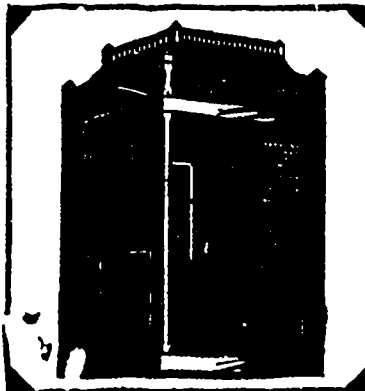
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CANADIAN PATENTS.

The following patents have been issued from the Canadian Patent Office, from March 2nd. to March 12th, 1896.

Information regarding any of these patents may be had on application as follows:—
Fetherstonhaugh & Co., Bank of Commerce Building, Toronto.

Ridout & Maybee, 103 Bay Street, Toronto.

C. H. Riches, Canada Life Building, Toronto.

A. Harvey, Central Chambers, Ottawa.

Copies of any American patents can be procured from either of these attorneys for the sum of twenty-five cents each.

- 51,482 Dampor device for mechanical musical instruments, Dr. Adolf Richter, Rudolstadt, Germany.
- 51,483 Tune disc, Dr. Adolf Richter, Rudolstadt, Germany.
- 51,484 Device for vibrating tongues of music boxes, Dr. Adolf Richter, Rudolstadt, Germany.
- 51,485 Mechanical musical instrument, Dr. Adolf Richter, Rudolstadt, Germany.
- 51,486 Machine for tapping mains, Mathew C. Walker, Des Moines, Iowa.
- 51,487 Retail box or package, The Drummond Tobacco Co. St. Louis, Mo.
- 51,488 Suction device for paper making machines, The Vacuum Wet Machine Co., St. Johnsbury, Vt.
- 51,489 Device for placing tips on billiard cues, Samuel P. Davis, Danielson, Ct.
- 51,490 Screw propeller, Alfred W. Case, Highland Park, Ct.
- 51,491 Preparation of cosmetic cream, Frederick T. James, New York, N.Y.
- 51,492 Rifle, Edwin J. Cashmore, Toronto, Ont.
- 51,493 Fire kindler, Henry S. Wright, Madrid Springs, New York.
- 51,494 Calendar for pencils etc., George W. Johnson, Toronto, Ont.
- 51,495 Water closet, Edwin Plant, Montreal.
- 51,496 Brushes for taking off the electric current, Otto Hering, Berlin.
- 51,497 Electric railway system, The Electro Magnetic Traction Co., Washington, D.C.
- 51,498 Cigarotto machine, John R. Williams, East Orange, N.J.
- 51,499 Self-loading street sweeper, Andrew J. Reynolds, Worcester, Mass.
- 51,500 Type distribution machine, The Cox Setting Machine Co., Chicago, Ill.
- 51,501 Pocket book, Lewis Cano and Harry Guggenheimer, New York, N.Y.
- 51,502 Toy pistol, Walter E. Everitt, Buffalo, N.Y.
- 51,503 Wind mill pumping machine, John W. Whitman, Howard, Ont.
- 51,504 Sash fastener, George Monzies, Owen Sound, Ont.
- 51,505 Automatic vehicle, Charles E. Duryea, Peoria, Ill.
- 51,506 Contrivance for rinsing the cavities of the nose and throat, Alphons Rapp, Weiler, Bavaria, Germany.
- 51,507 Sole laying machine, Erastus E. Winkley, Lynn, Mass.
- 51,508 Can opener, Abraham C. Scarr, Hamilton, Ont.
- 51,509 Convertible table and kit case, William E. Baxter, Frankfort, Ky.
- 51,510 Holding stand, William E. Baxter, Frankfort, Ky.
- 51,511 Car brake, George I. Root and John Kerr, Ottawa, Ont.
- 51,512 Railway spike puller, Frederick I. Graves and Henry S. Knight, Whatoly, Mass.
- 51,513 Apparatus for feeding animals, Hein Warner, Hamburg, Germany.
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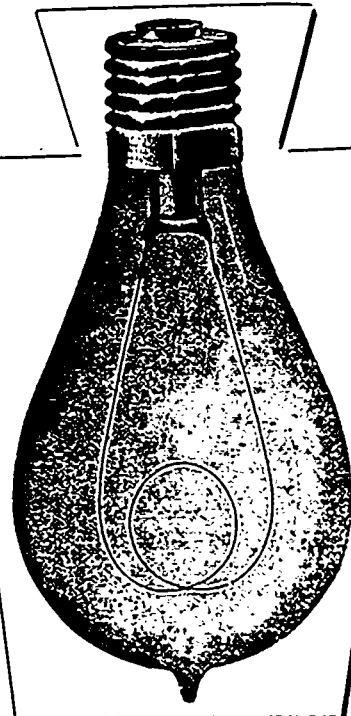
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51,516 Tandem attachment for bicycles, Max. Jacobson, New York, N. Y.	51,527 Horseshoe, George L. Reynolds, Auburn, N. Y.	51,540 Venetian blind, Leonard Gunn, 4 Southampton Row, London, W.C., England.
51,517 Soap holder, Leo Frank, New York, N. Y.	51,528 Horseshoe, John P. Buengers, Racine, Wis.	51,541 Self-acting water closet attachment, John F. Goodwin, and George E. Morrison, Sarnia, Ont.
51,518 Ball cock, Thomas W. Ryan, Concord Junction, and James H. Walsh, Boston, Mass.	51,529 Kettle, Eugene Danforth, Montreal.	51,542 Medicinal compound, Mario C. Pentasta Sebastien, Lorette, Quebec.
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51,520 Desk and seat for schools, James J. Baskerville, Duluth, Minn.	51,531 Steam engine, John V. Rice, Jr., Edgewater Park, N. J.	51,544 Machine for making staves, John O. Stovrik, Christiansund, Norway.
51,521 Shoe, Alexander M. Bollinger, Williamsport, Penn.	51,532 Steam engine, John V. Rice, Jr., Edgewater Park, N. J.	51,545 Machine for making loops on binding wires, Edward Lemyer dit Gaucher, Maskinong, Que.
51,522 Air brake pump etc, Niels A. Christensen, Milwaukee, Wis.	51,533 Bicycle rack, Henry Westphal, Chicago, Ill.	51,546 Storage battery, Alex. Schanschieff, Upper Norwood, Surrey, England.
51,523 Plough, Herbert W. Fleury, Aurora, Ont.	51,534 Head for cultivators, Joseph N. Clouse, St. Louis, Mo.	51,547 Gold separating apparatus, James F. Gwin, Moscow, Idaho.
51,524 Couch bed, Charles Driver, Boston, Mass.	51,535 Running gear for vehicles, Odele Wilson, St. Louis, Mo.	51,549 Regulator for alternate currents, The Canadian General Electric Co., Toronto, Ont.
51,525 Device for catching horn flies, Walter Bristow, Hawkesville, Fred Everett and Howard Walker, Iroquois, Ont.	51,536 Wheel tire, The Gould Bicycle Company, Brantford, Ont.	51,550 Electric motor, The Canadian General Electric Co. Toronto.
	51,537 Shoe brush, Francis Burdett, Hamilton, Ont.	
	51,538 Grate, Henry O. Hayes, Elmira, N. Y.	

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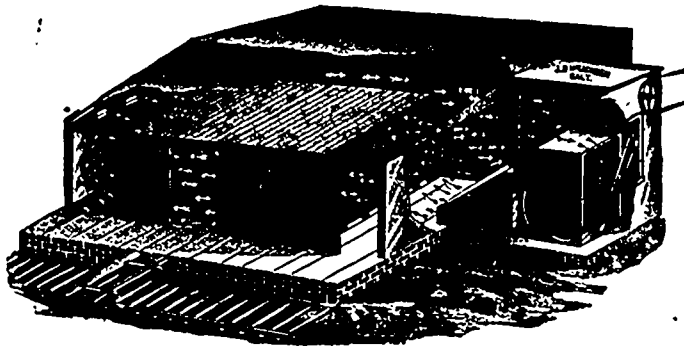
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51,551 Electric regulator, The Canadian General Electric Co., Toronto, Ont.	51,558 Telephone signalling circuit, The Bell Telephone Co. of Canada, Montreal.	51,566 Electric lighting system and dynamo for cars, The National Electric Lighting Co. New York, N.Y.
51,552 Electric meter, The Canadian General Electric Co. Toronto, Ont.	51,559 Annunciator circuit, for telephone switchboards, The Bell Telephone Co. of Canada, Montreal.	51,567 Means for generating electricity from a car-wheel axle, The National Car Lighting Co. New York, N.Y.
51,553 Electric lamp, Samuel Sealey Allin, 25 Garlic Hill, Canon Street, London, Eng.	51,560 Key opened sheet metal can, William Pratt, Montreal.	51,568 Electric switch, James L. Wesson, Boston, Mass.
51,554 Shirt collar band, Morison Kyle, Rat Portage, Ont.	51,561 Can, William Pratt, Montreal.	51,569 Stave making machine, John W. Lahey and Thomas G. Lahey, South Brisbane, Queensland, Australia.
51,555 Electric soldering iron, Frederick H. Date, John Heffron, John Scudder, and Benjamin H. Scranton, Detroit, Mich.	51,562 Electric heater, The Consolidated Car Heating Co, Albany, N. Y.	51,570 Telephonic communication, Solomon Borditschowsky dit Apostoloff et Moise Froudenberg, Paris, Franco.
51,556 Process of manufacturing saccharine, Constantin Fahlberg, Salbko, Westershusen, Prussia.	51,563 Power gearing and current controlling apparatus for electric cars, Elmer A. Sperry, Cleveland, Ohio.	51,571 Electric shuttle, The Weaver Jacquard and Electric Shuttle Co., Norwalk, Ct.
51,557 Telephone switchboard, The Bell Telephone Co. of Canada, Montreal.	51,564 Type writing telegraph, Adolf Merrel and Artur Duffek, Prague, Bohemia, Austria.	51,572 Mop, William R. Popplowell and Christian Newcome, Portland, Oregon.
	51,565 Can filler, Charles W. Shedd, Grand Rapids, Mich.	

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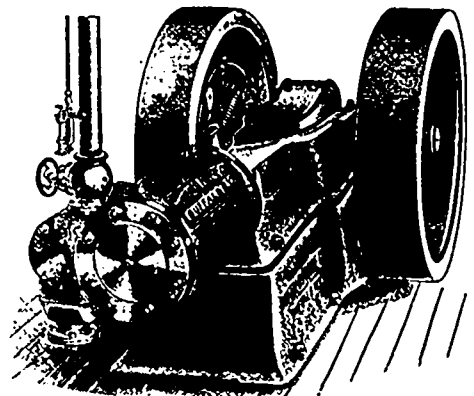
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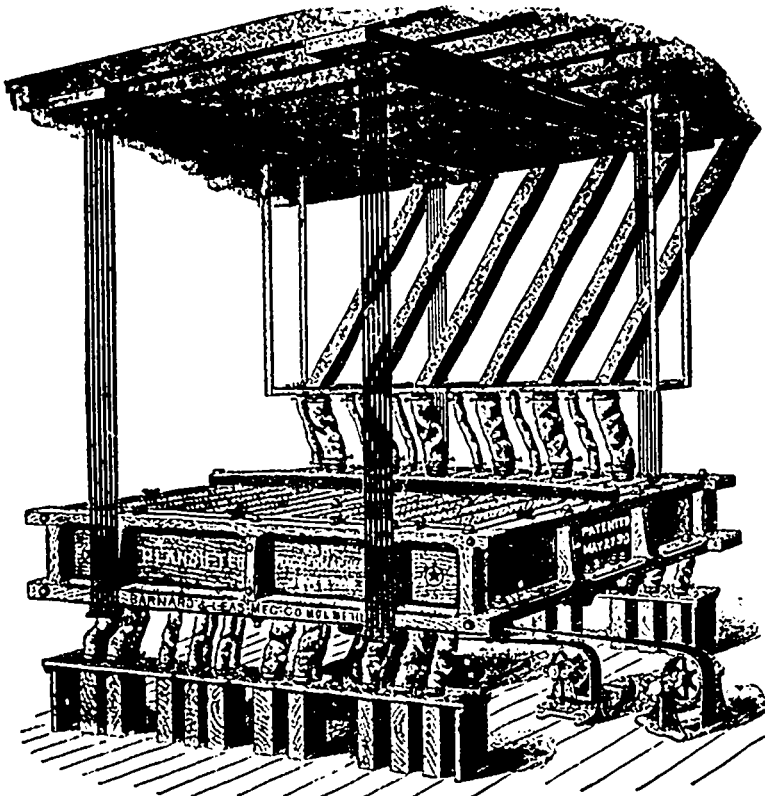
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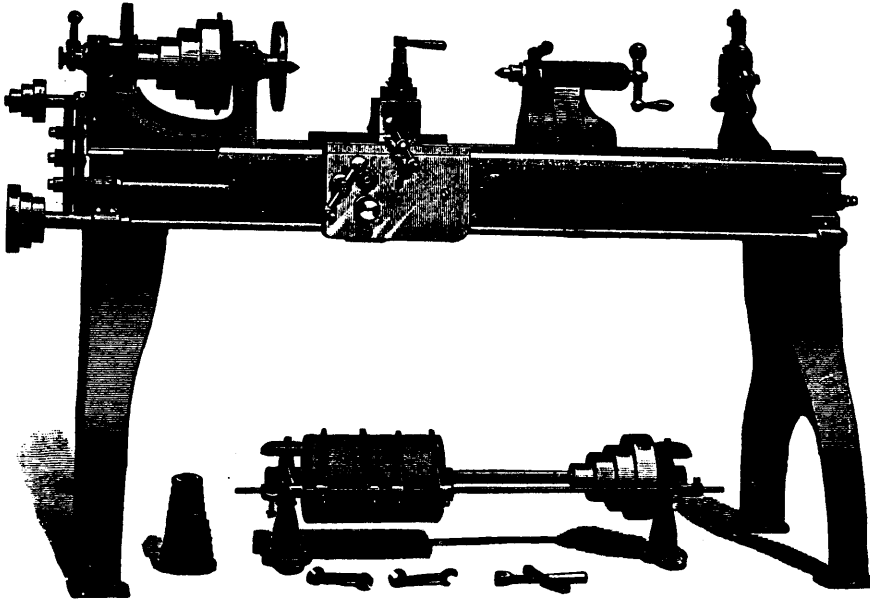
51,598 Electric arc lamp, Malone Wheless, Washington, D.C.

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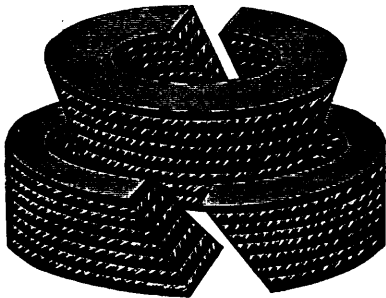
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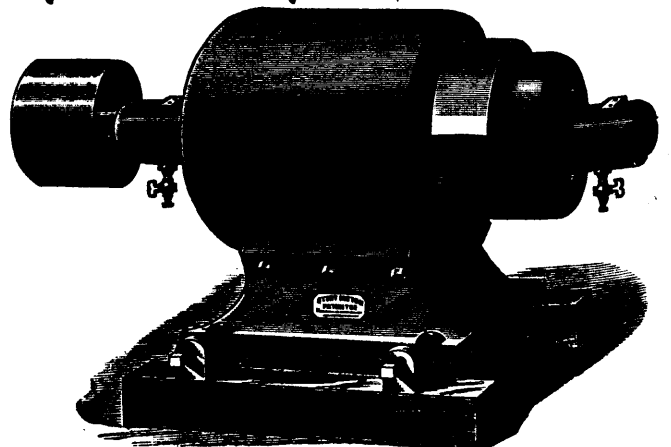
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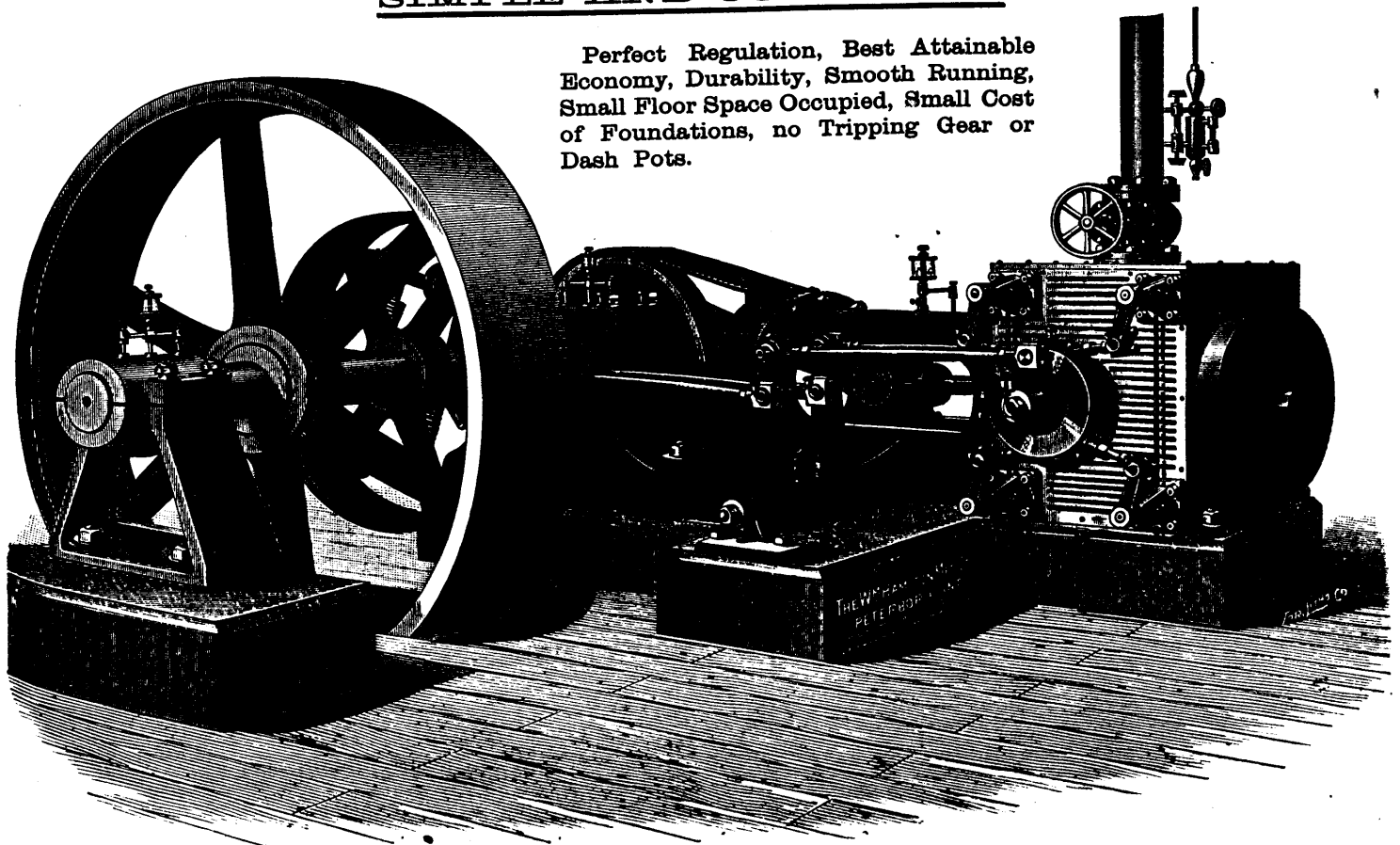
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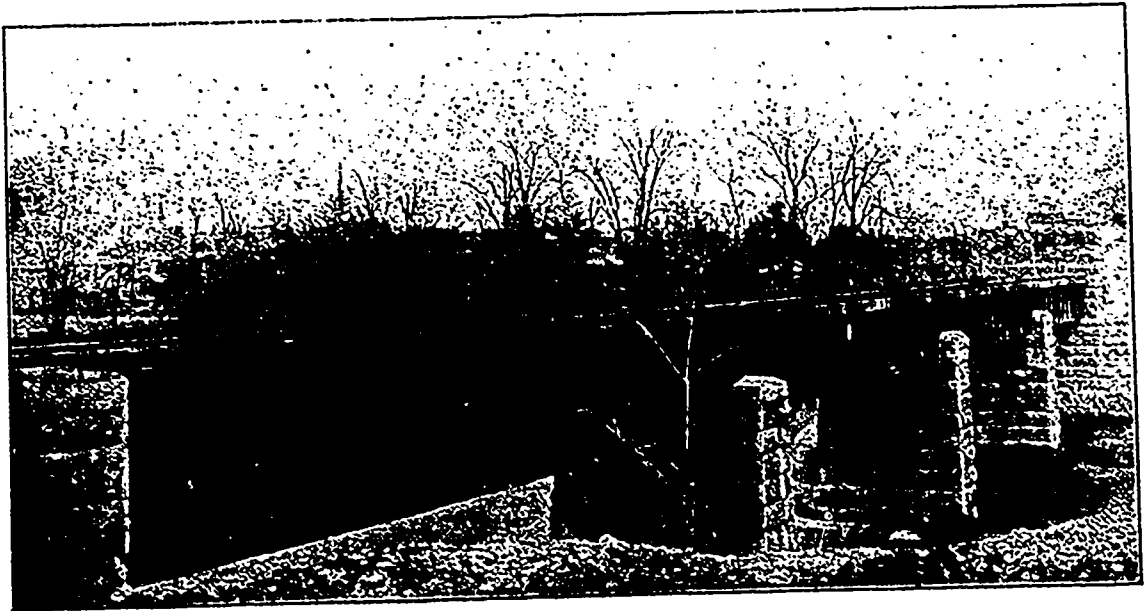
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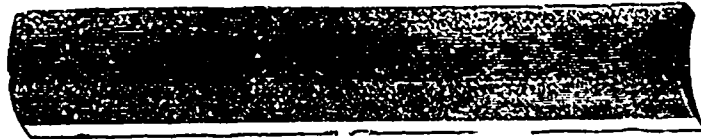
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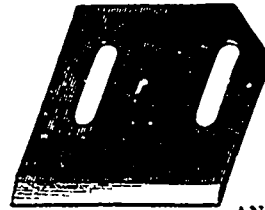


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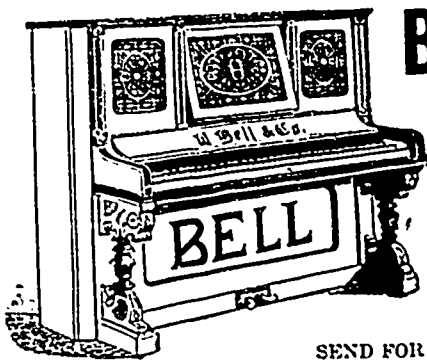
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