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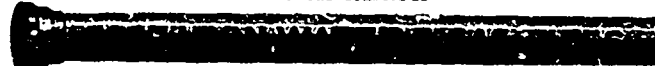
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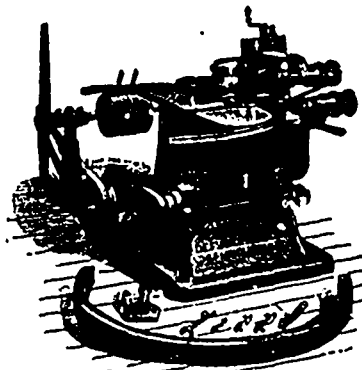
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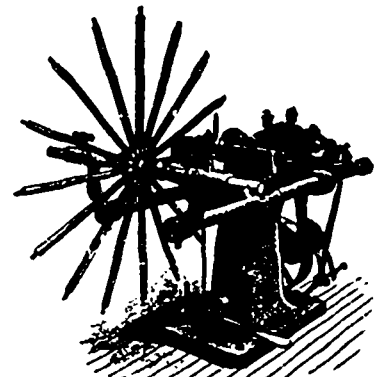
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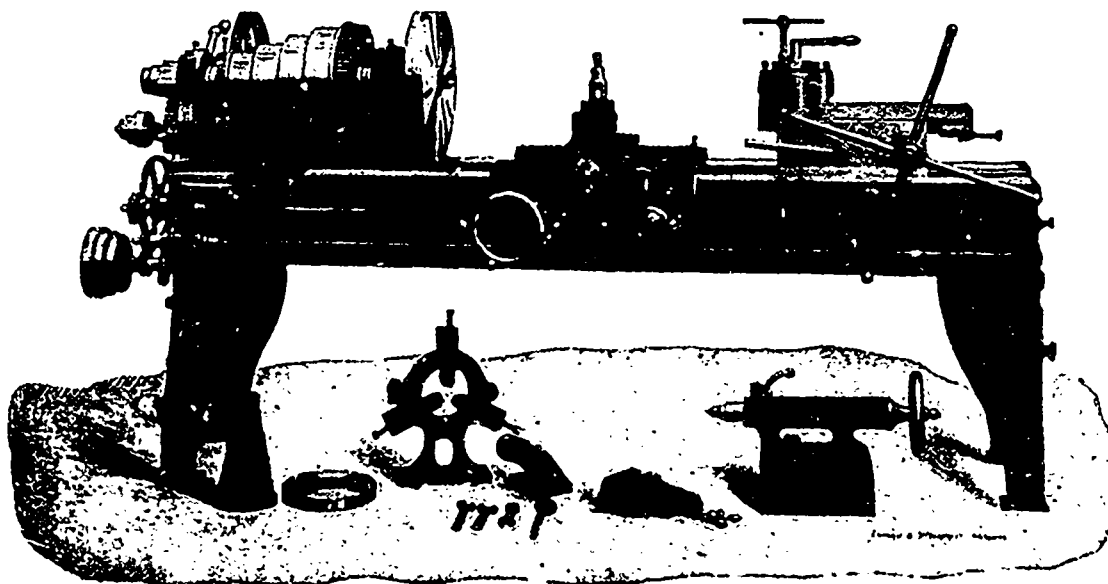
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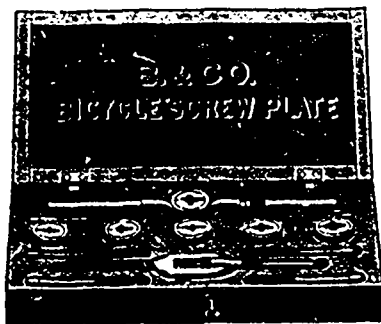
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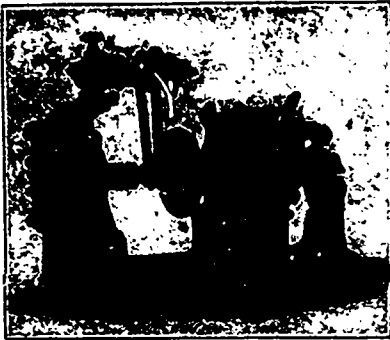
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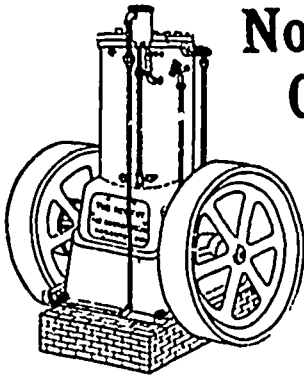
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#### • INTELLIGENT ORGANIZATION.

The National Association of Manufacturers of the United States is of a character somewhat similar to the Canadian Manufacturers' Association in that both were brought into existence and organized for the express purpose of securing by all legitimate means the aid of both public opinion and Governmental policy in favor of the development of home industries and the promotion of home manufacturing enterprises; and also to enable those in all branches of manufacturing enterprises to act in concert, as united bodies, whenever action in behalf of any particular industry, or of the whole body, might be necessary.

The benefits derived from such organizations to the manufacturers connected with and supporting them are to be seen in the work done by them, and while the work accomplished by the Canadian organization has been most gratifying and beneficial, that of the American organization has gone further and accomplished more. This was to have been expected from the fact that in the United States there are many more industrial establishments than in Canada, with more capital invested, a larger home market, and a tariff system that gives greater protection against the encroachments of foreign manufacturers.

With these superior advantages it is not surprising to observe that the American Association is extending its work and perfecting details by which it is placing its members in a position to capture a large part of the foreign trade of other countries.

One feature of the practical work of this Association is worth far more to every member of it than the cost of membership many times over—we refer to the "Confidential Bulletin of Foreign Buyers" which is sent to every member at frequent intervals. These Bulletins represent enquiries which are received by the Association from merchants in all

parts of the world who desire to buy American goods, and constitute one of the most valuable features of the work of the Association, and one that is of great money value to the members. Wide awake American manufacturers do not let these Bulletins be discarded, but they carefully examine every one of them and follow up the opportunities therein indicated, for it is valuable information to know the wants of foreign buyers.

Another important work being done by the American Association is the compilation of a carefully arranged descriptive and classified membership list to serve as a guide to the leading manufacturers in the United States for the use of foreign buyers. This directory, for which the title "American Trade Index," has been chosen, contains an alphabetical list of members, with a brief enumeration of the articles they manufacture; the names of manufacturers grouped according to the articles they manufacture, and the registered telegraphic address of those whose names are contained in the directory.

The Association have established "The International Freight and Transportation Bureau of the National Association of Manufacturers," and are prepared to give the freight cost of transportation from the port of New York to over 150 of the principal cities of the world on all classes of machinery, hardware, and general merchandise; and the Bureau will also undertake to collect C.O.D. accounts, and to have drafts accepted against delivery of documents. The facilities of this Bureau are available only to the members of the Association.

The Association maintains a large warehouse at the city of Caracas, Venezuela, where large quantities of the products of the members are on exhibition, in charge of skilled attendants who act as agents of the exhibition.

All these efforts on the part of American manufacturers to effect sales of their products in different countries of the world are supplemented by the assistance rendered by the United States Consuls, who are especially instructed by their Government to report everything of interest coming under their observation calculated to increase the foreign trade of the United States.

#### WHY NOT CANADIAN TOOL STEEL?

A recent number of The Philadelphia Bulletin, the official organ of the American Iron and Steel Association, in an account of the Dannemora Iron mines, says:—"These mines furnish not only the best ores of Sweden, but of the whole world, and they have become especially renowned on account of the Dannemora Walloon iron. The ore contains fifty per cent. of iron, and from .0025 to .005 per cent. of phosphorous and in this freedom from impurities consists its special value."

The Bulletin gives a short history of the Dannemora mines showing that there was a deed issued as early as the year 1481, and that in 1532 King Gustaf Wasa granted Joachim Piper the right to mine this ore. From 1545 the mining was carried on by this king and others, and the ore was smelted in a furnace at Dannemora. The mining right was afterwards given to different persons, permitting them to mine certain quantities of ore annually for their works.

The drilling in mining this ore was formerly done by hand, but modern appliances are now used and the drills are driven by compressed air. There are eleven steam engines which

together possess 320 horse power, besides four turbines of 136 horse power, about 300 workmen being employed.

The Dannemora mines have been worked for over 300 years and are still yielding ore profitably at a depth of 260 metres. They did not become celebrated through the richness of their ores, and in that respect are not nearly so rich as many less valuable mines, but the excellence of the ore consists in its freedom from phosphorus, the analyses showing only from two and a-half-thousandths to five-thousandths of one per cent. of phosphorus. In other words, the Dannemora ore contains only from one-twentieth to one-tenth the quantity of phosphorus permitted in ores for making Bessemer steel, and its extreme freedom from this impurity gives it its special value in its suitability for making the finest tool steel, the ores available for this purpose being rare and difficult to obtain.

It may, however, surprise our readers to learn that a large deposit of such ore has been found in the Province of Ontario not much more than a hundred miles from Toronto, and within about forty miles of navigation on Lake Ontario, with both of which points it is connected by rail.

Mr. Wm. Molin, a Swedish mining engineer, but now of New York, reports as follows of the Belmont iron mine, into which a railway ten miles in length has recently been constructed to connect with the Central Ontario and the Canadian Pacific Railways.

Mr. Molin says:—"It has been estimated that the Belmont ore bed contains over one million tons of ore within 100 feet of the surface, and the stripping is very light. The ore bed has been thoroughly explored, and of the numerous samples which I have analyzed a fair average shows the ore to contain metallic iron 65.10, phosphorus 0.005, sulphur 0.07, Titanic acid 0.04, Silica 3.83, Lime 2.95, while some samples assayed as high as seventy per cent. metallic iron."

"It will be noticed," says Mr. Molin, "that the Belmont ore equals the best of the famous Swedish Dannemora ore in regard to its low phosphorus contents, contains much less sulphur, and from ten to twenty per cent. more iron. Like the Dannemora ores, the Belmont ore varies a trifle in phosphorus, which element, however, in no instance has been found to exceed the limit allowed in ores for the manufacture of materials for remelting in crucible for the highest grades of crucible tool steels. In the manufacture of crucible tool steels, the highest grades are made by remelting Swedish bars, especially those made from Dannemora ores, the superiority of which iron depends on their freedom from impurities, method of manufacture and the nature of the ores used in their production."

Mr. Molin further says:—"The best way to make such an ore deposit as the Belmont most profitable to the owners, would be to adopt the Swedish method and engage in the manufacture of bars for the crucible steel trade. With such ores as this, there is no reason why America (Canada) should not supply existing needs. Superior steel always fetches a good price, and nobody knows this better than the tool maker who insists on having English steel because it is made from Swedish bar which is the product of the purest magnetic ores."

It appears that the Sheffield tool manufacturers, who use the highest grades, import their crude steel from Sweden, as none of this quality is smelted in England.

There is therefore no reason why Canadian ores, which are of as high grade as Dannemora and the best Swedish ores, should not be converted into crude steel for the Sheffield market in the same way that has been for so many years and is still being successfully done in Sweden.

If it is desirable to use charcoal in the smelting of these ores, Canada possesses abundance of wood suitable for charcoal, and has all the advantages that can be found in Sweden for such manufacture, and with the inducements which both the Canadian and Ontario Governments are offering in the way of bounties for iron and steel made from native ores, there could not be a more favorable time for starting such an enterprise.

The Belmont ore bed appears to be very extensive, and judging by other magnetic iron mines of similar character in the State of New York and others in the State of New Jersey which have produced millions of tons and have been working for a century or more, there seems no doubt that the Belmont mine also contains an immense quantity of ore.

The iron and steel markets not only in America but in England and indeed all Europe, show unprecedented activity with an ever-increasing demand, and the highest grades of steel such as could be produced from the Belmont ore would no doubt find a ready sale for all that could be offered.

#### VIOLENCE VS. THE LAW.

Recent events transpired in the city of London, Canada, wherein the employes of the city street railway and their sympathizers sought to remedy what they considered a grievance by violently interfering with the operation of the cars and the destruction of the company's property, emphasizes the fact that such acts are unlawful and subjects the offenders to legal and severe punishment. The incident also brings up the question as to whether the City Council of London have a right to debar any citizen of Canada from working in that city under any circumstances; and whether in doing so the city is not liable to the railway company for exemplary damages.

A precisely parallel case occurred in Cleveland, Ohio, quite recently, in which Judge Hammond of the United States Circuit Court allowed the injunction asked for by the American Steel and Wire Co. against the strikers who had been patrolling the neighborhood of its works for several weeks. The court says in its decision that the Debs case, as passed upon by the Supreme Court of the United States, settles every suggested defence of the Cleveland wire mill strikers, and that the writ of injunction approved in that case could be adopted almost verbatim in the present one. The portion of the decision which covers the question especially at issue in the proceedings, and a question raised in connection with nearly every strike, is as follows:

The whole fallacy of the defense against this bill and the proof offered to sustain it lies in a convenient misapprehension or a necessary misunderstanding of the character of that force and violence which all agree is not permitted in the conduct of a strike. It seems to be the idea of the defendants that it consists entirely of physical battery and assault, and that if any of these appear in the proof, and they can be justified as they might be on a criminal indictment or in a police court, that ends the objection, and the justified assaults and batteries will not support an injunction.

The truth is that the most potential force or violence may exist without lifting a finger against any man or uttering a word or threat against him. The very plan of campaign

adopted here was a most substantial exhibition of force, by keeping always near the mills large bodies of men massed and controlled by the leaders, so as to be used for obstruction if required. A skillful wire-worker, but a timid man, would be deterred by the mere knowledge of the fact from going to the mill when he desired to go, and had agreed to go, or was already at work, and feared to return to it through the streets where the men were congregated, or, having started would turn back when fearing the trouble that might come of the attempt. Such a force would be violence and within the prohibition of the law, and its exhibition should be enjoined as violating the property rights of the plaintiffs in the streets, their liberty of contracting for substituted labor, and the liberty of the substitutes to go to work if they wished to accept the lowered wages and to pass through the streets to their work.

Elsewhere in the decision Judge Hammond makes very emphatic the point that liberty to work as one pleases and liberty to contract for labor as one chooses, is protected by law. It is this right, he argues, which lies at the foundation of the strikers' own freedom, when they could work and refuse to work on any terms but their own. "In this country this freedom to contract in business is a constitutional freedom, which not even State Legislatures can impair, and certainly not strike organizations."

The action of the London railway strikers was of precisely the same character as those of the coal miners in Illinois, wherein they even went so far as to commit murder to prevent other labor from another state from coming in and taking their places; and the action of the London City Council in preventing labor from Hamilton and other Canadian towns from taking the places of the strikers was in close imitation of the action of the Governor of Illinois, who assumed to do what Judge Hammond says no Legislature can do in saying that negro miners from another state shall not offer their labor for sale in Illinois.

Judge Hammond, says The Iron Trade Review, well answers the claim that the strikers gathered at the American Steel & Wire Co's mills were there only to use entreaty and argument upon men going to the plant to obtain work. "One authenticated instance in this proof," says the court, "where the strikers, after meeting a single 'scab' or group of them, or an organized body of them, had stood aside, or opened up the street, and allowed him or them to pass to the mill without more ado, after the entreaty or argument had failed to convince, would be worth more as a matter of evidence, showing the good faith of the strikers in their assertion that they were on the street only for an opportunity of entreaty and argument, than all the affidavits filed in this case."

Loose talk about "public policy," as a reason for non-interference by courts in such contests, and claims on behalf of strikers of the right to "protect" the works against the coming of other workers, cannot stand against the clear statement of the situation given in Judge Hammond's decision. The intimidation of would-be workers, a manifestly unlawful purpose, is the object of the massing of bodies of strikers about the works they have left; and it is simply saying that courts and police authorities must wink at such unlawful procedures because they are planned and carried out by labor organizations, to ask that no judicial notice be taken of them until actual rioting and bloodshed have resulted.

### A THORN IN THE SIDE.

A thorn that pricks sharply and painfully in the side of our American neighbors is the tariff preference that Canada shows to Great Britain. They grin and bear it, however, with the best Spartan grace they can command, notwithstanding the hurt. For instance, The American Economist quoted approvingly the following from the Troy, N. Y., Times:—

The people of Canada must realize by this time that in spite of political separation the Dominion is dependent upon its big southern neighbor. On the other hand, the United States is wholly independent of Canada. The commercial relations between the two countries are decidedly one-sided. This is unfortunate for the Canadians, but it is a fact, nevertheless, and one to be reckoned with. Any Canadian tariff system which attempts to make the Dominion commercially independent of the States is an injustice to the people of the former country. Canadians are coming to appreciate this, and they are also coming to see that there are other ways and better ways of testifying their loyalty and devotion to the "Mother Country" than giving Englishmen the benefit of a preferential tariff which only results in injuring themselves.

This is very amusing viewed in the light shed upon the question of closer commercial relations between Canada and the United States by Hon. John A. Kasson, one of the American Commissioners to the International Convention now in session in the city of Washington, at the annual dinner of the New York Chamber of Commerce held a few days ago. On that occasion, Mr. Kasson, speaking to the toast "The United States and Canada—Reciprocal trade is reciprocal advancement—Mutual prosperity is mutual blessing," said:—

My direction, however, comes in the toast which pertains to the negotiations now proceeding. It is not a time for figures, familiar as you are with them. I need only say that all South America, to which your attention and the attention of the country has for years been invited as the scene of the development of our commerce, and added to them the nations of Central America, and added to them the Republic of Mexico, and we do not send to them all the amount of exports that we send to our good neighbor, the Dominion of Canada. (Applause). In the last year they reached the splendid amount of \$83,000,000 in the total trade of \$115,000,000. Canada is to-day the fourth nation of the world in the magnitude of the trade between her and the United States of America. The last fiscal year she was the third nation of the world in adding to that splendid balance of trade of which your chairman spoke in his address. Is not this enough to justify the declaration that the commercial relations between the Dominion of Canada and the United States demand your careful attention and consideration?

Usually to The American Economist the political utterances of Mr. Kasson are as apples of gold, and it is queer to observe our valued contemporary endorsing the idea that "the United States is wholly independent of Canada." Can the United States be independent of a country its export trade with which amounted last year to \$83,000,000? The United States has long been endeavoring to capture a gratifying share of the trade of the American continent from Mexico southward, and has undoubtedly met with some success in that direction, but Mr. Kasson shows that the trade that The American Economist affects to view as inconsequential, and of which its country can afford to be "wholly independent," is worth more to the country than that of all South America, the nations of Central America and the Republic of Mexico combined—that the United States does not send to all these countries the amount of exports that it sends to the Dominion of Canada.

As our contemporary suggests, the commercial relations between Canada and the United States are decidedly one-sided. The liberality of the Canadian tariff makes it possible for the United States to sell to Canada merchandise valued at \$83,000,000 a year, while the illiberality of the United States tariff makes it impossible for Canada to sell to that country more than \$32,000,000 a year.

It is a mistake for our American friends to suppose that the Dominion is dependent upon its big southern neighbor, and it is a mistake to suppose that any Canadian tariff system which attempts to make the Dominion commercially independent of the United States is an injustice to us. A result of these mistaken ideas on the part of our neighbors has been the enactment of laws that is tending to divert our trade from that country. Of course all civilized countries are more or less interdependent in the matter of trade, but when the United States attempts to squeeze Canada the squeezing acts the other way, as is shown by the rapidly increasing trade between Canada and Great Britain, now developing so rapidly under our existing twenty-five per cent. preferential tariff.

#### A LESSON IN ECONOMICS.

At the Columbia Exhibition it was a cause of complaint by the British exhibitors that price cards on exhibits were required to state the price at which the articles would be sold in Chicago. The exhibitors were obliged to add the American duty, which was often from one-third to one-half or more than half the cost at home, and the card would consequently convey a false idea of the price at the place of manufacture. Had a card been allowed stating the cost in Britain and the advance caused by the American tariff, it would have given the visitors a most instructive lesson in the working of the protective system. The buyers of these foreign products would know that they were paying the duty. When they bought American products sold in competition with the taxed imports their outlay would be the same. In the former case they would be paying the duty to the Government, and in the latter they would be paying it in encouragement to the protected makers of the domestic products. In the latter case they would be obliged to make up the revenue by other contributions.—Toronto Globe.

It is a poor rule that will not work both ways. The British exhibitors at the Columbian Exhibition wanted to sell their goods in the United States, and the argument of The Globe is that because a tariff duty was imposed upon them, the market price in Chicago included the cost price in Great Britain plus the duty, and that therefore the American consumer had to pay that duty.

The United States exports large quantities of wheat to Great Britain, upon which no duty is charged, but the American duty on wheat is twenty-five cents per bushel. Now, according to the argument of The Globe the intrinsic value of wheat in the United States is enhanced by the amount of the duty imposed upon it there, yet we find that, qualities being equal, the wheat from free trade Argentina and from the United States commands identically the same price in Great Britain. The cost of production of wheat being approximately the same in free trade Argentina and high tariff United States, is it possible, as The Globe contends, that the American consumer pays twenty-five cents per bushel more for his wheat than the Argentine consumer? And if the consumer pays the duty, and if the highly protected American farmer obtains the benefit of the duty, why does he export his wheat to

Britain where it must be sold as cheaply as the more protected wheat of Argentina?

The Globe argues that when a protective duty is imposed that duty is paid by the consumer. But we find that the United States is a strong rival with Great Britain in the Canadian market for many manufactured products, such as cotton and iron goods, and it is evident that in the fierce commercial struggle even the twenty-five per cent. tariff preference in favor of Great Britain does not prevent the falling off of trade in these lines with the free trade country, and the increase of trade with the highly protected country.

The Globe has frequently asked the question, "Has protection made you rich?" Great Britain became rich under protection, but now, under free trade, she does not hold her own with the United States. Protection has certainly made the United States both rich and powerful.

#### COBDENISM GONE CRAZY.

The Baltimore Sun is a free trade journal after which the Toronto Globe patterns as closely as possible in its daily "Lessons in Economics." A few days ago The Sun said:—

In certain textiles, tools, rails, machinery and other classes of goods we defy competition. If these things were sold as cheaply to domestic consumers as they are to foreigners the tariff wall would be worthless to the protected manufacturers. Still there is progress. Americans are beginning to get goods of many kinds nearly as cheaply as they would if they had free access to the world's markets.

The Globe sometimes makes similar admissions, showing the benefit of protection, but it is not common with the opponents of protection to thus render a just tribute to a sound policy. Assertions such as that of The Sun to the effect that if the goods that are made under protection were sold as cheaply to domestic consumers as they are to foreigners the tariff would be worthless to the protected manufacturers, sound very like some of the sayings of The Globe. They are easy to make but not so easy to controvert for the reason that specifications are not furnished. The American Economist, however, has the following to say in contradiction of The Sun's assertion:—

"It is well known that in the stagnation and depression which followed the flooding of the American market with foreign merchandise under the low tariff and no tariff of the Wilson law some portion of the stocks of domestic manufacturers was marketed abroad at prices below current values at home, and very likely the prices were such as to leave no margin of profit to the producer. There was no other way to realize money on the accumulated over-plus of stocks.

"It is probably this condition which the free-trade writers have in mind when they assert that our manufacturers are now selling more cheaply to foreign than to domestic consumers. But that time is past. With the big home market once more under control, and an immense increase in the demand for their output growing out of this fact, the necessity for sacrificing prices in order to secure outlets in foreign markets has disappeared.

"At the highest figure ever reached by our exports of manufactured products the total represents no more than one-thirtieth the amount of consumption in the home market. It is because of the competition to retain a share in a market which consumes more than \$8,000,000,000 of manufactured

goods every year that prices and profits are kept within reasonable limits. Against this vast trade and patronage the high-water mark of \$288,000,000 of exported manufactures, is a relatively insignificant matter.

"The American consumer is not finding any fault. He is getting his goods cheaper than at any previous period in his experience and is not grumbling at prices. He has no cause to grumble, and he knows it. If the free traders are able to show any cause let them furnish the particulars. They cannot do it."

#### UNREALIZED ANTICIPATIONS.

Alluding to the recent passing away of two eloquent exponents of free trade, whom it mentions as being advocates of a "Lost Cause," the New York Press says:

If not the most eminent, at least the two most evangelistic, if we may so call them, of English and American free traders were Thomas Bayley Potter, founder of the Cobden Club, and David A. Wells. They died almost on the same day, and, although their last survey of the world must have convinced them of at least the temporary eclipse of the cause to which they devoted their lives, it is probable that they not only "died in the faith," but in high hopes of what they would have called an economic resurrection.

Nevertheless, their passing from the stage will direct attention mainly to the fact of the decline of the doctrines which they taught since the days when they began—Mr. Potter's day being many years in advance of that of his American disciple—to teach them. The immediate conversion of the American Government, as evidenced in the Walker Tariff of 1846, led the early Cobdenites to believe that the spread of their doctrine would be ultimately universal and instantaneously progressive. And Mr. Wells's near approach to the success of the adoption of his proposed tariff of 1867 by a Republican Congress must have fostered, reasonably, in him the belief that the time was near at hand for a national conversion to his new beliefs. To-day it is the bitter saying of the First Lord of the British Treasury that "the only two free trade countries are Great Britain and Turkey," while the head of the same Government has characterized its traditional free trade policy as a "laying down of the arms of commercial warfare."

Natural tendencies and mortal needs and desires have in this tremendous reaction merely shown themselves stronger than the strongest individual minds. Undoubtedly many of the great "economists" of the age have belonged to the school which these two men ornamented. They left human nature out of account. They forgot that selfish, striving, strenuous mankind would never accept the basis of the free-trade doctrine—namely, that every country was designed for the creation of certain products which it could most advantageously exchange with other countries. Only the Confederate States of America, content forever to devote themselves to two agricultural industries—cotton and tobacco—could accept unqualifiedly this doctrine. Only in their Constitution was the free trade principle immutably imbedded. Other politics might enact temporary free-trade tariffs or contract temporary free trade treaties. Only the Confederacy made free trade a part of its organic law. The object, of course, was the perpetuation of the cotton and tobacco slaveholding

aristocracy, unvexed by the pretensions of mine and mill owners.

All this would be vigorously contested by the the two gospelers of Cobdenism, whose eloquence death has just stilled. But for the nineteenth century in which they lived history has made up the verdict against free trade. Nor from what we can see at close range of the twentieth century is there a likelihood of its reversal.

#### CANADA A GOOD CUSTOMER.

The first month of the new Canadian Tariff does not appear to have had the depressing effect upon exports from the United States into Canada that was anticipated by some people, says The American Economist. The report of the Department of Trade and Commerce in Canada, covering the month of August, 1898, and comparing with the corresponding months of 1897 and 1896, has just reached the Treasury Bureau of Statistics. The figures which it presents are especially interesting, since they cover the first month of the operations of the new tariff which gives to goods coming into Canada from Great Britain and certain British colonies twenty-five per cent. advantage in tariff rates over those coming from the United States.

It was expected that the imports from Great Britain and her colonies in August, 1898, would be abnormally large because of the fact that importers, knowing that they would obtain better tariff rates in August than in June or July, would wherever practicable hold back their imports until the new rates should go into effect August 1st, while no such condition would apply to goods from the United States. It was presumed, therefore, that whatever might be the final effect upon the relative growth of British or American imports into Canada, those of the month of August would show much greater gains for Great Britain than for the United States. The figures presented in the report in question, however, do not justify this expectation. While the report does not state the total amount of goods from Great Britain imported into Canada during August, it does give a table containing quantities and values of "principal articles of merchandise exported from Great Britain to British North America during the month of August, 1898, compared with August, 1897, and 1896." The total value of these "principal articles" exported from Great Britain to Canada in August, 1898, was 11.4 per cent. in excess of the same class of articles exported to Canada in August, 1897, when the tariff advantage was but 12½ per cent., and is actually less than in August, 1896, when the tariff gave no advantage to articles from Great Britain. On the other hand, the reports of the Bureau of Statistics of the United States Government show that the exports from the United States into Canada in August, 1898, were 12½ per cent. greater than in August, 1897, and more than twenty-five per cent. in excess of those of August, 1896.

Among the imports into Canada of principal articles of manufacture from the United States for the month of August, 1898, under the full operation of the preferential tariff in favor of Great Britain and her colonial possessions, we find heavy increases over the amounts for both August, 1897, and August, 1896. For example, the United States, in spite of the preferential handicap, shows a big gain in sales to Canada of agricultural implements, the amount of which for August,

1898, is more than three times greater than the amounts for the same months in either 1897 or 1896; and there are heavy gains in sales of books and maps, clocks and watches, instruments for scientific purposes, builders' hardware, sewing machines and typewriters, leather, boots and shoes, lumber, etc.

From this showing it is evident that Canada is certain to remain a good customer of the United States in the purchase of a large line of manufactured merchandise which the United States is able to produce either cheaper or else of better quality than any other country in the world. As regards American trade with Canada in articles of this character there is no question of sentiment or of reciprocity involved. The Dominion buys of the United States because she likes the goods and the prices, and can obtain supplies there in a much shorter time than from England. It does not appear that Canada's preferential tariff amounts to so serious a menace to American trade as to call for any heavy sacrifices in order to secure better terms from the Dominion Government.

#### EDITORIAL NOTES.

What free trade is doing for British farmers is shown in the report of an address read at a recent meeting of the Cornwall Chamber of Agriculture as reported in The Agricultural Gazette, the subject being "Two Balance Sheets of British Farming." In his address Mr. Harris gave a comparison of estimated revenue and expenditure during the period of 1872 to 1897, and found himself on many points in agreement with the elaborate calculations of Mr. R. E. Turnbull. He gave the valuation of the produce annually sold from all the farms in the United Kingdom for each of the two periods as follows:—

	1872-7	1892-7
Cattle and calves.....	£41,398,700	£32,457,500
Sheep and lambs.....	30,325,000	24,861,700
Pigs.....	19,882,800	13,035,800
Horses sold.....	3,203,000	3,937,000
Wool.....	12,045,500	4,932,400
Poultry and eggs.....	5,625,000	7,500,000
Dairy produce.....	39,520,000	33,430,000
Grain sold.....	50,885,000	20,185,000
Hay sold.....	10,735,000	7,800,000
Straw sold.....	4,500,000	3,375,000
Potatoes sold or consumed by farm households.....	18,728,000	10,274,000
Hops.....	3,500,000	2,250,000
Flax.....	1,000,000	650,000
Sold from root crops as vegetables also green horsemeat, produce of kitchen gardens, valued at cost, say £5 on larger farms, £2 on small potatoes excluded, value above, fruit and cider.....	6,500,000	7,600,000
Earned by horse labor, less spent in horse labor.....	1,000,000	1,500,000
Extra price of pedigree stock exported..	100,000	500,000
Ground game, less trappers' expenses...	200,000	1,600,000
	<u>249,148,000</u>	<u>175,308,400</u>

Speaking of the recent annual meeting in Philadelphia of more than 300 members of the National Association of Agricultural Implements and Vehicle Manufacturers, The Manufacturer of that city says:

The agricultural implement makers are the members of a growing, triumphant industry. With such areas of farming land and such cheap supplies of iron and steel and no lack of wood the advances lately achieved in this country are not surprising. In August the United States exported \$613,945 worth of farm implements, against only \$295,127 in the same month one year ago, a gain, therefore, of more than 100 per cent. These shipments were made to all parts of the world. We tripled our trade with British North America, tripled it with the Argentine, quadrupled it with the rest of South America and doubled it with the United Kingdom of Great Britain and Ireland. We did not import a dollar's worth of

agricultural implements in August, or during the eight months of the present calendar year.

Our contemporary fails, however, to record the fact that the United States manufacturers of agricultural implements paid the Canadian duty of 20 per cent. upon every dollar's worth of goods sold in this country.

The Christmas Ladies' Home Journal prints the first of a series of page illustrations by W. L. Taylor, picturing some of the most notable people of Longfellow. Minnehaha and Hiawatha are given in the current issue, illustrating Longfellow's famous poem, "Hiawatha." No other illustrator is so well equipped as Mr. Taylor to give form and color to Longfellow's splendid creations. The picture in the December Journal is remarkably interesting and entirely satisfying, and gives assurance that the series will be a really great achievement in illustration.

The Babcock & Wilcox Co., of which Mr. Wm. J. Bonner is Canadian manager, at 202 St. James St., Montreal, have sent us an elegantly bound copy of their last—30th—edition of "Steam." This book contains a great deal of valuable information regarding the general subject of steam generation and the economy of steam plants generally. When one considers the large number of editions of this book which have been issued by the Babcock & Wilcox Co., and also the fact that each edition generally includes two or more issues of from 1,000 to 5,000 copies, it is readily seen that the company are entitled to much credit for their efforts to educate those who may be interested in it, as to the best methods of utilizing that which has always been a blessing to the human race. Some of the most interesting sections into which the book is divided relate to Economy and Safety in Steam Generation; Requirements of a Perfect Steam Boiler; Importance of Providing against Explosions; Causes of Explosions; How to Provide against Explosions; Water-tubes an Element of Safety; The Theory of Steam-making; Circulation of Water in Steam Boilers; A Brief History of Water-tube Boilers; Evolution of the Babcock & Wilcox Boiler and a Description of its Construction, etc. This book is sent free to all applicants.

The Rev. Chas. M. Sheldon's books, now so universally read, make it plain that that writer's hopes of the regeneration of the world lie in getting individuals more and more to do their daily tasks on Christian principles no matter what the sacrifice involved. In the best known of his books, "In His Steps," he clearly looks to the newspaper, carried on upon Christian principles, as largely the hope of the "coming kingdom." In looking about him for a newspaper upon his model, he seems to have hit on The Montreal Witness, to which he has addressed a letter, part of which we quote:—"I have read The Witness with much interest. I cannot say that I know of any other paper in the United States that is conducted on such high Christian principles. I wish I did, for if ever we needed such a paper in our country we need it now."

We are in receipt of number one of volume one of the Official Bulletin of the National Association of Master Plumbers, Gas, Steam and Hot Water Fitters of the Dominion of Canada, which we are informed, is to be published in Toronto every month, and of which Mr. J. Pascoe Bell is editor and manager. The Official Bulletin published by the executive of this association for the recent Quebec Convention proved so successful that it was resolved to continue its issue in the form of the monthly publication here alluded to. A succinct account is given of the growth and development of the Association since its organization in 1896, and of the benefits and advantages to be derived from it; an appeal is made by the president, Mr. William Smith, to all interested in the plumbing and steam and gas fitting trade to connect themselves with it, and the resolutions adopted at the Toronto Convention in 1897 are also given. The publication is bright, newsy, and should be of much value to the craft.

The Montreal Herald of Nov. 26th was an exhibition of newspaper enterprise that reflects great credit upon its publishers, devoted as it was to singing the praises of Montreal, which has in the last twenty years made giant strides in population, wealth and commercial and industrial importance, and of the St. Lawrence route, the great natural highway for the ever increasing products of Western Canada and the Northwestern States. It was with a purpose to direct attention of the people of Canada and of Great Britain to Montreal that this special edition of The Herald was issued. It is beautifully and bountifully illustrated in colors, the covers particularly being suggestive of the theme and descriptive of a great city and its environs. It is, we are told, entirely the product of The Herald's printing department. Of course the publishing of such an elegant souvenir could not have been accomplished without the assistance of the manufacturers, the business and the professional men of Montreal.

# CANADIAN MANUFACTURERS' ASSOCIATION.

<p><b>President:</b> <b>J. F. ELLIS.</b></p> <p><b>First Vice-President:</b> <b>JAMES KENDREY, M.P.</b></p> <p><b>Second Vice-President:</b> <b>P. W. ELLIS.</b></p> <p><b>Treasurer:</b> <b>GEORGE BOOTH.</b></p> <p><b>Chairman Executive Committee:</b> <b>R. W. ELLIOT.</b></p> <p><b>Chairman Tariff Committee:</b> <b>W. K. McNAUGHT.</b></p> <p><i>The Executive Committee meet on the Second Tuesday of each month.</i></p>	<p style="text-align: center;"><b>OFFICES</b> <b>McKinnon Building,</b> <b>TORONTO.</b> <b>Tel. 1274.</b></p> <hr/> <p style="text-align: center;"><b>J. J. CASSIDY, - SECRETARY.</b></p> <hr/> <p><b>THE OBJECTS OF THIS ASSOCIATION ARE:</b></p> <p>To secure by all legitimate means the aid of both Public Opinion and Governmental Policy in favor of the development of home industry and the promotion of Canadian manufacturing enterprises.</p> <p>To enable those in all branches of manufacturing enterprises to act in concert, as a united body, whenever action in behalf of any particular industry, or of the whole body, is necessary.</p> <p>To maintain Canada for Canadians.</p> <p>Any person directly interested in any Canadian manufacturing industry is eligible for membership.</p>	<p style="text-align: center;"><b>CANADIAN INDUSTRIAL LEAGUE.</b> <i>President, . . . . .</i> <b>JAR. KENDRY, M.P.</b></p> <hr/> <p style="text-align: center;"><b>WOOLEN MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . .</i> <b>BENNETT ROHAMOND, M.P.</b></p> <hr/> <p style="text-align: center;"><b>KNIT GOODS MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . .</i> <b>JOHN PENMAN.</b></p> <hr/> <p style="text-align: center;"><b>CARPET MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . .</i> <b>J. P. MURRAY.</b></p> <hr/> <p style="text-align: center;"><b>GLOVE MANUFACTURERS' ASSOCIATION,</b> <i>President, . . . . .</i> <b>A. R. CLARKE.</b></p> <hr/> <p style="text-align: center;"><b>REPRESENTATIVES TO</b> <b>TORONTO INDUSTRIAL EXHIBITION ASSOCIATION.</b></p> <p><b>R. W. ELLIOT.</b>                      <b>GEORGE BOOTH.</b> <b>W. K. McNAUGHT.</b>                <b>A. E. KEMP.</b> <b>J. J. CASSIDY.</b></p>
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## CANADA'S COMMERCIAL AGENTS.

Following is the correct official list of Canada's Commercial Agents in Great Britain, British Possessions and foreign countries.

- J. S. Larke,** Sydney, N.S.W., agent for Australasia.
- G. Eustace Burke,** Kingston, Jamaica, agent for Jamaica.
- Robert Bryson,** St. John, Antigua, agent for Antigua, Montserrat and Dominica.
- S. L. Horsford,** St. Kitts, agent for St. Kitts, Nevis and Virgin Islands.
- Edgar Tripp,** Port of Spain, Trinidad, agent for Trinidad and Tobago.
- C. E. Sontum,** Christiania, Norway, agent for Sweden and Denmark.
- D. M. Ronnie,** Buenos Ayres, Argentine Republic, agent for Argentine Republic and Uruguay.

In addition to their other duties, the undermentioned will answer inquiries relative to trade matters, and their services are available in furthering the interests of Canadian traders.

- J. G. Colmer,** 17 Victoria Street, London, S.W., England.
- Thomas Moffat,** 16 Church Street; Cape Town, South Africa.
- G. H. Mitchell,** 15 Water Street, Liverpool, England.
- H. M. Murray,** 10 St. Enoch Square, Glasgow, Scotland.
- Harrison Watson,** Curator Imperial Institute, London, England.

## STAMPED STEEL CEILINGS WANTED IN ENGLAND.

Consul Halstead writes from Birmingham:

"It is my belief that a sale could be developed here for ornamental stamped steel ceilings and kindred stampings, now used so generally in the United States as a substitute for plaster for ceilings and walls.

"If some American manufacturer of these steel stampings will send me catalogues and approximate prices, I will place them in the hands of an enterprising English architect, who has agreed to seek an opportunity for experimental use. Recently, he was putting in a fine glass front and generally refitting and modernizing a store in an old rat trap of a building, and I suggested to him the advantage there would have been in using stamped steel work for the walls and ceilings.

"I have no doubt but that these steel stampings would meet with the approval of both insurance and fire authorities here."

Here is an opening for Canadian manufacturers of stamped metals.

## TRADE OPENINGS ABROAD.

Consul-General Stowe sends from Cape Town, South Africa, a report from a commercial traveler of over fourteen years' experience in South Africa, Egypt, Persia, India, China and Japan that should be of much interest to Canadian manufacturers. The report reads, in part:

"There is hardly an article manufactured in the United States for which a good demand does not exist in foreign countries, due either to the excellence of the goods or the reasonable cost. Many articles of higher price than those offered by other countries will sell, simply because they come from the United States, on account of the reputation that American exports have won.

"If the sale of manufactured articles abroad has been small compared with the demand, the fault lies with the manufacturers themselves.

"The agents of export houses of the United States traveling in foreign countries sell goods on a commission of from 2 1/2 to 5 per cent. The houses themselves, and, of course, the trav-

elers, are necessarily interested in getting orders for goods which sell in large amounts, or are already well introduced, because they want to gain the commission. They always try to sell staple articles, or such manufactured goods as are already known; and hardly ever take the trouble to increase sales by introducing the goods of a new manufacturer. Commercial travelers take catalogues of many manufacturers, but they first show samples of goods already introduced and are satisfied to get an order for these special lines.

"For each manufacturer a market and demand must be created. He should bring his own goods direct to the market, and, once introduced, the commission house will gladly do the further work of filling orders or taking new ones, because the goods will be wanted by the customers.

"It would be an error to think that the introduction of new goods will mean a decrease of exports of the old ones. The latter would sell in naturally increased quantities, while the new lines will create an independent demand. The competition will be, not with American, but with German, English and other foreign manufacturers.

"The exporter says with reason that he cannot pay his men and have them spend time in introducing the line of each manufacturer who desires it; the manufacturer himself must take the first step, and create the demand.

"The objection of expense can be met by a method which has been adopted with success by Germany, Austria, France, Italy, etc. From ten to twenty manufacturers of different lines combine in sending out a man who understands the business of traveling and selling goods. This man works solely in the interest of the manufacturers, introduces their goods and takes orders. The orders may be filled by the manufacturer's direct, or may be turned over to some of the different export commission houses in America. These arrangements should be made before starting out, in order that the buyers can be informed at once when and how goods will be shipped.

"If twenty of our manufacturers combine thus for, say, one year, the expense to each would be about \$300 to \$400. This amount should cover traveling expenses, the opening of sample rooms in different places in order to display the goods and take orders, the cost of licenses, etc."



### WHY NOT CANADIAN PINE?

The British Timber Trade Journal says:—

"An illustration of the successful competition of American woods in the old-world markets, in place of European products, is afforded by the repeat order for a million feet of decking from a Hamburg shipbuilding firm, received by the Puget Sound mills, to be loaded in November and December next. Three mills—viz. the Tacoma, Port Blakely and Port Gamble Mills—have undertaken to fill the order, no one mill caring to undertake it, not from want of sawing capacity, but because the manufacturer of a million feet of decking of first grade may require the cutting of ten million feet of logs from which to make selections. Hamburg is situated at the threshold of the Baltic, and close to the wood-producing countries of Europe, and it is very significant that it should be considered expedient to send an order for deck planking to the other side of the world, necessitating a sailing voyage of nearly six months from the mills to the discharging port. We have heard that our shipbuilders at home do not look favorably on Oregon pine for decking purposes, but from the fact that the Hamburg shipbuilders' order has been repeated, it would appear to be more appreciated in Germany."

### HIGHER EDUCATION IN SAXONY.

Consul Monaghan sends from Chemnitz, a report upon the "further developing" schools of Saxony. With a population of 3,783,014, the Kingdom has 1,953 of the schools, with 75,358 boys and 1,699 girls in attendance. Besides these, there are thirty-nine higher industrial schools, with 10,660 scholars; 112 industrial technical schools, with 10,119 scholars; forty-four commercial schools, with 4,781 scholars; eleven agricultural schools, with 691 scholars; seven schools of all kinds of work for girls, with 1,569 scholars; and eighteen technical schools for girls, with 2,445 scholars. Saxony's wonderful wealth, continues Mr. Monaghan, her industrial greatness, and the fact that she sends out to other parts of the world millions of dollars worth of all kinds of wares, toys, textiles, tools, and machines, attest the importance of these schools. To explain just what is meant by the term "further developing" the consul adds that the system of common-school education under which boys and girls were given an ordinary training up to their fourteenth year was found inadequate. Compulsory education was established for graduates of the common schools. The hours of attendance are early in the morning or a certain number of afternoon each week. Manufacturers, merchants, etc., are made responsible for the attendance of the boys in their employ, and the latter make a special study of the trade in which they are occupied.

### FENCE WIRE WANTED IN ARGENTINA.

The Argentine Republic, according to a French consular report, offers an important market for iron and steel fence wire. The necessity of fences around the great tracts of land has led the Argentine land holders to seek the class of fencing which can be most quickly and cheaply put up. Practically all ranches which are enclosed are surrounded by either plain or barbed wire fences, more frequently plain. These fences, on well equipped places, are made of five or six strands of wire strung upon posts of "quebracho colorado" wood buried in the earth to a depth of about three feet. As this wood does not rot easily, fences constructed on this plan with a good quality of wire will last almost indefinitely.

Almost all the fence wire introduced into Argentina is from either Germany or Belgium. In 1896, out of an importation of 40,318,571 kilos, the part sent by Germany was 17,612,434 kilos, and by Belgium 12,073,587 kilos. After these countries came England and the United States, while France sent only 14,065 kilos. The United States Treasury figures give the amount of wire exported from this country to Argentina during 1896 as 2,977,000 pounds or 1,353,000 kilos. This figure, while including iron and steel wire of all kinds, was probably made up almost entirely of fence wire.

### IMPORTANT REVISION OF CUSTOMS REGULATIONS.

With the view of simplifying the forms of Canadian customs entry and of facilitating the ascertainment of true values, new oaths and declarations in relation to invoices and entries have been prescribed by order in Council. The old forms of oaths are repealed from January 1, 1899. The new forms may be used between now and that date, but it is imperative that they be used on and after that date. Under the present form of oath required to be made by importers on making entry of goods they have to swear that the invoice presented at the customs exhibits the fair market value of the goods when sold for home consumption in the country whence exported, which is the standard of value for duty purposes in Canada, while in very many cases the invoices are based upon special export prices, and do not represent fair market value. To meet such cases and to make the oath fairer to the importer it has been deemed advisable to make a change in the form.

Under the new form of oath the importer is required to declare that the invoice presented at customs truly represents the transaction, and that the value shown on the entry (not on the invoice), exhibits the fair market value of the goods when sold for home consumption in the country of export. Importers being required to enter their goods at the value as sold in the country of export, it is of course necessary for them to declare that such value is the value which they have placed on the entry form. Amongst other things declaration must be made that "the value for duty of the goods as stated in the bill of entry exhibits the fair market value of the goods at the time and place of their direct exportation to Canada and as when sold at the same time and place in the quantity and condition, for home consumption, in the principal markets of the country whence exported directly to Canada, without any discount or deduction for cash, or on account of any drawbacks or bounty, or on account of any royalty actually payable thereon, or payable thereon when sold for home consumption but not payable when exported, or on account of the exportation thereof, or for any special consideration whatever." The importer is required to confirm the bill of entry in all particulars, such as the entry of goods, entry of goods at preferential tariff rates, or the entry of goods for special purposes, and therefore entitled to be admitted free or at a lower rate of duty than would otherwise be chargeable.

In addition to calling for this new oath, the department has prescribed a new form of certificate to be made by exporters on their invoices. At present all the exporter has to do is to write the words, "certified correct," on the invoice. Under the new regulation he will be required to certify that:—"This invoice is true and correct, and where there is a difference between any of the prices shown therein and the ordinary credit prices at which the same articles are now sold bona fide by the exporter in like quantity and condition at this place for consumption in this country the latter prices are shown on the margin or elsewhere on such invoice," and the certificate must be signed by the exporter, or a partner, official or employe of the exporter having a knowledge of the facts certified to and to be written, printed or stamped on the face or back of the invoice. The certificate of value required to be made by exporters, on their invoices does not apply to goods sold for entry under the preferential tariff until otherwise ordered, nor does it apply to goods not being merchandise, free goods or goods subject to a specific duty. It is intended that this arrangement shall come into operation on January 1, 1899. It would be well for business men to take cognizance of this and draw the matter to the attention of the foreign merchants from whom they purchase, so as to insure compliance with the regulations.

Under the present arrangement two declarations are necessary when an entry is made by any person other than the importer. When it is made by the agent of the importer the agent is required to make a declaration that the invoice represents the real value of the goods. In addition to that the

owner must also make a similar declaration. The double declaration is now done away with, upon the ground that the act of the agent binds the importer, and that if the importer does not make the entry personally there is no necessity for requiring him to make the declaration. An order in Council has been passed providing that the written declaration prescribed in section 46 of the customs act, to be signed by the owner, importer or consignee of goods and distinctly referring to the invoice shall be dispensed with. An oath is prescribed to be taken by the consignee in Canada, or his agent or attorney, where the goods have been exported to Canada on consignment. A special form of declaration is prescribed for small importations of goods not exceeding \$25 in dutiable value. This must be written, printed or stamped and signed on invoices or pro forma invoices. Oaths are provided, to be taken by the importer or agent on the entry of goods at a lower rate of duty or free for manufacturing purposes, upon entering goods without the production of a duly certified invoice, and upon entering goods for export, warehouse or in bond.

A declaration is prescribed to be made by the foreign owner or exporter of goods shipped to Canada on consignment before the collector or the Mayor or other chief municipal officer at the place in the United Kingdom or other place in her Majesty's possessions abroad, whence the goods are shipped, or before a notary public, and at any other place before any British or other consul, accredited by any established Government, and resident in the country whence the goods are exported to Canada. The person taking this oath must affirm among other things:—"If prior to their shipment to Canada the goods have not been sold to any person or firm or corporation in Canada, that the invoice contains a just and faithful valuation of such goods at their fair market value when sold for home consumption in the principal markets of the country whence the same are exported directly to Canada; that such fair market value is the price at which the goods are freely offered for sale in like quantity and condition by me or by dealers therein to purchasers in said markets in the ordinary course of trade at the usual credit, without any discount or deduction for cash, or on account of any drawback or bounty, or on account of any royalty actually payable thereon, or payable thereon when sold for home consumption, but not payable when exported, or on account of the exportation thereof, or any special consideration whatever."

#### DRAWBACK OF DUTY PAID ON SPIRITS.

An amendment has been made to the regulations governing drawback of duty paid on spirits used in the manufacture of goods which are subsequently exported, as follows:—"On pharmaceutical preparations made by a person licensed under the Department of Inland Revenue, and where duty paid Canadian spirits have been used in their manufacture, under the supervision of an officer of excise, the refund may be based upon the spirits contained in such articles as determined by an analysis of a sample or samples thereof by the Department of Inland Revenue. This provision shall only apply to such preparations made prior to the date hereof."

#### CANADIAN TOBACCO.

The Department of Inland Revenue has, consequent upon the tremendous quantity of tobacco which has been harvested in the Counties of Kent and Essex this year, quite a considerable problem with which to grapple. Apart altogether from the quantity of tobacco grown in the Province of Quebec, in itself very large, it is estimated that the product of the past season in the two Western Ontario counties will amount to about 8,000,000 pounds. The Customs duty upon raw leaf tobacco is 10 cents per pound, and when it has been manufactured, an Inland Revenue tax of 25 cents per pound additional is imposed, or 35 cents altogether. When the manufacturer has got rid of the useless stems he has really paid 39 cents per pound to the Government for his tobacco. On the home-grown tobacco the Inland Revenue tax is but 5 cents

per pound, when manufactured. Thus, for every pound of Canadian leaf tobacco that takes the place of the American, the loss to the country is equal to, at the very least, 30 cents per pound. Of course it has still to be seen how far the Canadian product will supersede the American, but if there be any material displacement, the department will then have to consider to what extent the decreased revenue, which is bound to result, shall be made up.

#### TRADE OPENINGS IN DENMARK.

Denmark is pre-eminently an agricultural country; industries are, generally speaking, but little developed, and by proper and energetic efforts a good share of this valuable trade could be secured by the United States. Leather, and boots and shoes were imported to the value of \$1,700,000; tobacco, \$1,750,000; paper, \$720,000; tiles and brick, \$760,000; India rubber goods, \$480,000; lumber, \$4,800,000; but in all these items, our share is insignificant.

#### NEW AUSTRIAN PATENT LAW.

On January 1st next there will be enforced in Austria a new patent law, the main provisions of which will be of vast commercial importance to inventors. The law, as it now stands, compels a patentee to "work" his invention in Austria within one year from the date of the grant of the Austrian patent, and in many cases it has been impossible to comply with this requirement, consequently the patent rights in that country of many valuable inventions have been lost. According to the new law, a patentee will have three years' time given to him from the date of his patent in which to get his first machine to work, or to otherwise put his invention into practical use in that country.

#### MINING MACHINERY IN HOLLAND.

Up to the present time the Netherlands has imported all the coal needed in the country and for the navy from Great Britain, Germany, Belgium and France. It is now reported that large coal deposits have been discovered in the neighborhood of Lanacken, Province of Limburg, which are claimed to be extremely rich in a good quality of bituminous coal. Industries, especially iron and steel industries, are but little developed in Holland, and large quantities of all kinds of machinery are yearly imported, chiefly from Germany and Belgium. Our manufacturers should avail themselves of the opportunity now offered and try to gain a footing in the Dutch market.

#### AGRICULTURAL IMPLEMENTS IN ASIATIC TURKEY.

The demand for agricultural implements in Asiatic Turkey is increasing, especially in the districts of Beyrouth and Saloni. Most of these implements are imported from Great Britain, Germany and Austria. Scythes and sickles, for which there is a great demand, are almost entirely of Austrian origin, whilst plows, harrows and grain cleaning machines are imported from Great Britain and Germany. Threshing machines, mowers and reapers are seldom to be found, although some of them were recently introduced. The importation of scythes amounted in 1898 to 220 cases, each containing 100 pieces in sizes of 7, 7½, 8 and 9 hand, at an average price of \$14.40 per case f.o.b. Trieste. General terms are six months' credit, although quite a number of import merchants pay cash after receipt of the goods, for which payment, as a general rule, a discount of from 3 to 5 per cent. is allowed. Besides these agricultural implements there is a steady and growing demand in Asiatic Turkey for water pipes and tubes (chiefly from Belgium and Germany), cutlery, files and rasps, saws (Germany and England), locks and builders' hardware (Germany). A special demand exists for enameled kitchen utensils and stoves and ranges. Stoves are chiefly of German or French origin. There is no doubt that many Canadian-made goods would find a ready market in Asiatic Turkey if properly introduced.

### BRITISH VS. AMERICAN TRADE WITH CANADA.

The Dominion Department of Trade and Commerce has compiled from the British Board of Trade returns a statement showing the export of goods from the United Kingdom to the Dominion of Canada for the month of October. Taking the four months ended October 31, 1898, during which the full preference of twenty-five per cent. has been in force, the importations of British goods appear to have slightly increased on the bulk of the list, as compared with the corresponding periods of 1896 and 1897. For instance, exports to Canada of spirits have increased from \$193,103 and \$230,951 for the four months of 1896 and 1897 respectively to \$265,076 in 1898. Wool from \$7,659 and \$92,388 has fallen to \$47,225. Grey cotton remains at about \$13,000; bleached increased from \$167,267 and \$136,183 to \$184,966; printed from \$167,267 and \$136,183 to \$184,966; dyed cottons from \$347,964 and \$381,463 to \$520,786; linen manufactures from \$200,632 and \$201,751 to \$286,441, worsted goods from \$919,503 and \$1,052,325 to \$1,094,658, carpets from \$165,285 and \$190,583 to \$293,284.

In the exportation of iron and steel and manufactures thereof there has, however, been a falling off rather than an increase, notwithstanding the operation of the full preference of twenty-five per cent., while from the United States our imports have noticeably increased. For instance, we received from Britain during the first four months of the past fiscal year but \$17,617 worth, and during the corresponding period of the present year \$18,014, as against \$79,509 during the four months of 1896. During the latter period also, railroad iron and steel from the United Kingdom exported to Canada was valued at \$605,577, during the four months of 1897 the export was \$124,061, and during the four months ending October 31st only \$50,306.

These and similar decreases more than offset the general tendency to increased export in the lines of goods above mentioned.

The statement is made unofficially in explanation of this, showing that the disposition to avail of the benefits of the preferential cut is offset by a tendency on the part of Canadian importers to await the outcome of the present reciprocity negotiations at Washington before transferring orders from the United States to British houses. As for the failure of the preferential tariff to encourage the importation of British as against United States iron and steel, it is candidly enough admitted that even with the twenty-five per cent. advantage, it would be impossible for British manufacturers to compete with the Americans in Canadian markets.

### MINING MACHINERY IN SIBERIA.

The great Siberian Railway being now completed as far as Irkutsk, on the Baikal Sea, and thus means of communication having greatly improved, the importation of mining and other industrial machinery will no doubt rapidly increase. Numerous coal, iron and gold deposits have been discovered in the construction of this great railway, and the Russian government does all in its power to develop the rich resources of this vast territory. Only recently the Minister of Finances decided that all mining machinery and appliances necessary in the working of the gold deposits should enter Siberia duty free. Three leading Siberian gold mining companies, whose headquarters are at St. Petersburg, have already ordered American machinery, and our manufacturers would do well to pay their fullest attention to this market. Only a few weeks ago a new Russian mining company was formed at Irkutsk, on the Baikal Sea, with a capital of 1,000,000 rubles.

### A NEW AUSTRALIAN LINE.

A new move has just been taken in the Australian steamship war by the American and Australian Steamship Line, of which Norton & Son, New York, are the general agents, in the establishment of a sailing vessel service to supplement their steamer line. The first sailing will be by the British iron bark, Doon, 859 tons register, from New York for Syd-

ney, N.S.W., about January 15th. Another vessel will leave for Melbourne about the same time.

The establishment of this new service indicates that the war is becoming more bitter. It is understood that its object is to provide for cheap freight, for the delivery of which there is no urgent need of speed. At present there are four sailing vessel lines from New York to Australia and New Zealand. It was the organization of the American and Australian Line in competition with those which brought on the war. The "regular" lines at once organized an independent steamer service known as the United States and Australian Steamship Line. Since then the competition has been exceedingly severe, and rates have declined more than fifty per cent.

### TO PUSH GERMAN TRADE.

The establishment of a German Commercial Museum at Berlin is projected. The Minister of Commerce and the Secretary of State at the Imperial Office have been requested by the President of the Industrial Union to found such a museum in order to push and support German export trade in its victorious career in every direction. As designed, the museum is to obtain productions from foreign States, besides productions of German art and German industry which are already being exported.

According to the President's report, the year 1897 was generally favorable for German export trade, and the Frankfurt Export Pattern Stores had plenty of visitors. It was again possible to obtain good results for a large number of the exhibitors, and to introduce new customers to them. A new German catalogue has been issued, large numbers of which were sent out. These catalogues are greatly in demand as books of reference for finding the addresses of German manufacturers. In consequence of the participation of several hundred first-class manufacturers in all parts of Germany the stores are well fitted out, and the President is also continuously endeavoring to augment the copiousness of the store, and to cause orders to be given to the manufacturers by direct offers to European export firms, etc.

### CANADIAN HAY.

Replying to enquiries from the Maritime Provinces relative to the market in Great Britain for hay, the Canadian High Commissioner's office in London has sent reports to the Department of Trade and Commerce which indicate that in Liverpool at present there is a large quantity of Canadian hay, meeting with a slow sale at about \$12.15 per ton of 2,240 pounds. This is said to be owing to the abundant hay crop in England. It is anticipated that the demand will increase as the season advances. The present price in Glasgow is given by a leading firm at \$14.60, but they express "doubts as to whether hay grown in the Maritime Provinces would be of equal quality with that grown in the West."

### REDUCED POSTAL RATES.

The reduced postal rates to come into effect on Christmas Day will apply to letters passing between Canada and the United Kingdom, British India, Newfoundland, and the following African protectorates:—British East Africa, Uganda, Zanzibar, British Central Africa, the Niger coast protectorate and the Niger Co.'s territory. The postage on these letters will be reduced from five cents to two cents per half ounce.

### A FLOURISHING ASSOCIATION.

American Trade publishes a list of recent additions to the membership of the National Association of Manufacturers, which includes the names of 110 manufacturing concerns who do business in the following States:—Mississippi, Pennsylvania, New York, Minnesota, Michigan, Massachusetts, Ohio, Delaware, Illinois, New Jersey, Wisconsin, Maryland, and North Carolina. The membership of this Association runs up into the thousands, although it has not yet celebrated the fourth anniversary of its organization. We are informed that every state and territory of the Union is represented in its membership.

## AUSTRALASIAN SHIPPING LINES.

The action of English steamship interests in entering the trade between the United States and Australasia in competition with the New York combination of shipowners has stirred up British shippers in a decided fashion, in which matter Canadian manufacturers are much interested. American Trade discussing it, quoting British views, says.—

"Complaint is now made that the Tyser Line, the aggressive factor in this competition, has been carrying freight from New York to Australia at lower rates than they charge from English ports. Marshal Halstead, United States Consul in Birmingham, England, has sent to the Department of State clippings from Birmingham papers bearing upon this subject. One of the most interesting of these is a communication explaining and justifying the position of the Tyser Line, as follows:

"For years the carrying of goods between America and Australia was done by American sailing vessels; there were no steamers in the service. These sailers were and are still in the hands of a group of New York merchants. It was often asked why there were no steamer service from New York to Australia, but these New York 'broker merchants' ignored the question and stuck fast to their sailers, which, loaded at a rate of something like 30s. (\$7.29) per ton, were to them a source of considerable income. Early in the present year, a London firm of shipowners decided (all honor to them) to put a steamer on the berth at New York for Australia and New Zealand, at rates which would secure them plenty of cargo. This action so annoyed the New York shipowners that they at once reduced their sailing rate very considerably and chartered a steamer to fight the one sent from England.

"The rupture continued for some months; then the London firm joined hands with two other firms of shipowners and so formed a 'ring'; and here, I think, is the cause of Messrs. Tyser & Co's present action. They (Tyser & Co.) are not in this newly-formed 'ring,' and being, I presume, desirous of getting a share of the traffic from America to the colonies, have taken the present (by no means new) method of extending their business, which may result in their ultimately being also admitted into the 'ring.' I think it not unreasonable to say that all business men do at all times use extraordinary means to gain their ends, and knowing, as I do, some little about American competition and the ways of ship brokers, I cannot look upon Messrs. Tyser's action as unpatriotic, and I am sure they will be most unwilling to continue quoting rates which to them are a considerable loss. For a time American goods will have an advantage, but I sincerely hope it will shortly end, or the rates of freight from London will have to be reduced on such lines which we find the greatest difficulty in selling against our American brethren.

"The introduction of steamers from New York by an English line gave English merchants a chance of selling American goods which they did not before possess, and only

those who have suffered through the tactics of the American ship brokers can fully appreciate the additional facilities afforded thereby. It is quite true that there is a growing preference in Australia for American fencing wire; but that is on the score of cheapness, and, as English wire has for years been prohibitive, there will be no loss to this country. Wire nails, like fencing wire, have been purchased in Germany; therefore, if freights are equal, it is only a question of choice, viz., will merchants send their orders for these lines to America or Germany.

"Messrs. Tyser & Co. naturally decline to carry goods at 10s. (\$2.43) per ton weight on a through bill of lading from London via New York to Australia; but they are quite willing, I take it, to accept cargo (either English or American) in New York at the exceptionally low rates quoted. Such being the case, let the English manufacturers who are anxious to put fencing wire, wire nails, etc., in the hands of their colonial customers sink 5s. per ton in their price, and contract with one of the Liverpool-American shipping lines at an equivalent freight, and take advantage of the opportunity offered by Messrs. Tyser & Co. The Americans have often availed themselves of similar opportunities, and sent wire via London to Australia cheaper than direct from New York."

Consul Halstead adds the following comment. "I understand that these New York combination export and ship-owning houses have their selling agencies so well established in Australia and New Zealand, that no individual American manufacturer or merchant desiring to sell goods in those countries can do so profitably without both selling through them and shipping goods on the sailing ships owned by them. The American manufacturer has been compelled to submit. Not only to the slow time of the sailing ships, but to very high freight rates and big commissions on goods sold. It can be readily seen that to get business and perhaps ultimately to get into the combination itself, the Tyser concern must give very low rates. If American manufacturers and legitimate merchants interested in Australian and New Zealand trade would organize now, and perfect their selling arrangements in those countries, they might take advantage of the present freight fight and complete a scheme of independence by making permanent arrangements with the Tyser or some other steamship line, guaranteeing the freight carriers a reasonable profit and securing for themselves reasonable freight rates in the future.

## BRING FLOWERS, SWEET FLOWERS.

At a meeting of the Executive Committee of the Canadian Manufacturers' Association held on May 5th, last, the following resolution was passed:

Whereas, the ranks of the industrial classes are recruited largely from the pupils of our public schools; and

Whereas, the Toronto Horticultural Society, by offering prizes for competition among ... scholars, and educating them

# Transfer Ornaments, AMERICAN MADE.

TRADE MARKS, DECORATIONS, NAME PLATES, ETC.

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

Sketches submitted free of charge. Being home makers can deliver promptly. Write us.

**THE MEYERCORD CO., Inc.,** MAIN OFFICE—  
CHAMBER OF COMMERCE, - CHICAGO.

NEW YORK OFFICE—305 St. James Building.  
ST. LOUIS OFFICE—221 Holland Building.

Largest Makers in the World Guaranteed Decalcomania Transfers.

in the knowledge of cultivating plants and flowers, is calculated to encourage an industrial spirit, providing additional means of profitable employment, and of rendering the homes of our artisans cheerful and attractive by means of their beauty and refining influences:

Resolved, that the Canadian Manufacturers' Association, in appreciation of this good work, and desiring to assist in it to some extent, donate to the Society a silver and a bronze medal, to be added to its prize list in any manner that the Toronto Horticultural Society may direct.

A copy of this resolution was duly forwarded to the Horticultural Society, and acknowledged. As our readers are aware, at the Chrysanthemum Show recently held in the Horticultural Pavilion in this city, under the auspices of the Horticultural Society, prizes were awarded to the school children for their exhibits of flowers and plants, and these are to be delivered to those to whom they were awarded at a meeting of the Society to be held in St. George's Hall, Elgin street, on Tuesday evening, December 6. Among these prizes are the medals presented by the Canadian Manufacturers' Association, the silver medal having been won by Miss Ella Willcox, of Dewson Street School, and the bronze medal by Master William Cheney, of Givens Street School.

#### WHERE CARE AND NEATNESS TELL.

During the last summer a British merchant returned from a commercial tour to South Africa, and offered to The (British) Ironmonger some opinions regarding American files in the South African markets. This correspondence has brought forth many opinions from both sides, the consensus of which is, that while the American files may be either lighter or heavier than certain comparable styles of British manufacture, American files do, undoubtedly, satisfy the buyers.

Another point which may be safely considered and applying to an equal or greater extent to a very large line of American manufactured articles is the superior packing. One of the British firms being approached on the subject, expressed himself as being prepared to accept "large orders" at the American prices. When pressed, however, to say whether he would be prepared to put his files up in the American style, that is, with boxes and cases free, he declined to entertain the business.

One of the voices raised in South Africa, which by the way was a merchant who it seemed would have preferred to place his orders in English markets, said the way American hardware, and he includes shelf hardware as well as files, are boxed and labeled greatly reduces the labor in handling them and increases the attractiveness of the store shelves.

Another important opinion is expressed by a local English merchant, who points out that if an assortment is ordered from an American file manufacturer, at least ninety per cent. of the order may be expected next day from his stock in England, but the delivery of an order placed with the English manufacturer is postponed and arrives in odd lots at various times.

While this argument is based particularly upon files and barely touches the wide range of hardware, it is very useful in pointing out that the American products are admittedly favored on account of the superior packing, and if manufacturers would follow the oft repeated advice that has been given them, from consular and other sources, to plainly illustrate and fully describe the methods of packing, that it would result in their securing still greater favor in foreign markets, and in the South American and European markets it would very likely conduce to an increased business if the much admired and convenient English labels were translated into the current languages.

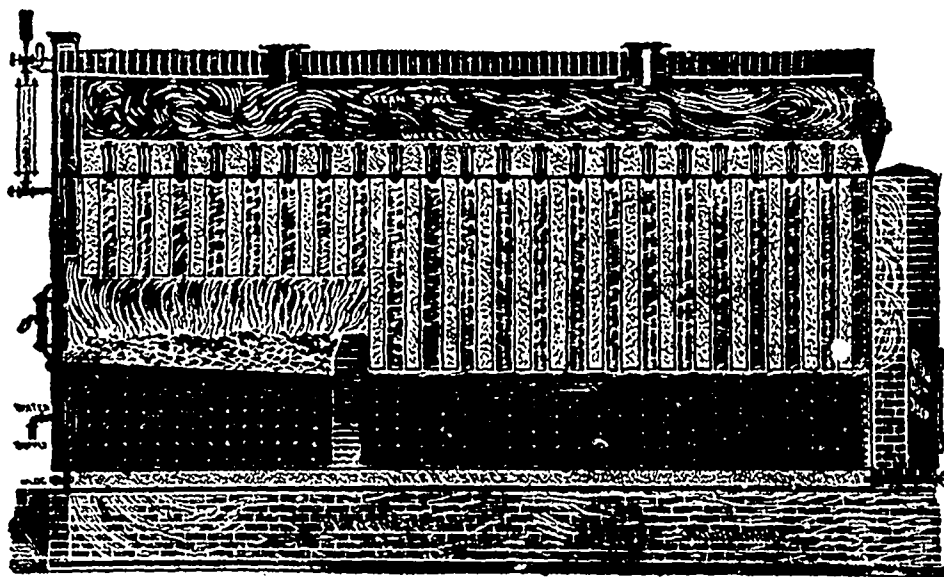
## E. A. WALLBERG, C.E.,

Bell Telephone Building, - MONTREAL, QUE.

HEAD CANADIAN OFFICE FOR

# KINGSLEY WATER TUBE BOILERS

Manufactured in Montreal,  
Ottawa and Toronto.



*For Steam, Power  
and Hot Water  
Installations...*

*The Most Economical Boiler,  
and the Cheapest, when  
based on Evaporat-  
ing Capacity.*

Can be installed in any Basement,  
requiring only 6½ feet in height.

**GUARANTEED:** A Saving in Fuel of 30 per cent. over Return Tubular Boilers.  
A Saving in Fuel of 50 per cent. over any Cast Iron Heater.

...Catalogue Free.

## CAPTAINS OF INDUSTRY.

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

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

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

The Wilson-Lytle-Badgerow Company, recently incorporated with a capital stock of \$600,000 to absorb the several large vinegar works now being operated in Ontario, and of which Mr. William Wilson, of Toronto, as president, will proceed immediately to the erection of a large new factory building in Toronto, the cost of which, with the equipment, will cost about \$150,000.

A few days ago the Mayor of Toronto received an interesting communication from a window-glass blower, of Ransart, Belgium, in which the writer offered to bring to Canada a number of most skilled glass-blowers, and start a window-glass works sufficient to supply the Canadian demand, provided capitalists here would become interested in the project. The men would take stock in the concern, and guarantee a minimum of 6 per cent. profit. He points out that there is not a window-glass factory in Canada, and that if one were established to meet the demands of the Canadian market it would give regular employment to thousands of skilled workmen.

A few days ago, while drilling a well for water on William Bothune's farm near Hamilton, Ont., a fine flow of natural gas was struck at a depth of 212 feet.

The J. H. Bishop Company, skin, rug and fur goods manufacturers of Wyandotte, Mich., have leased a suitable factory at Sandwich, Ont., and will open up a branch factory with Mr. J. H. Bishop, jr., as manager. Mr. Bishop is quoted as saying that most of the raw materials used in their business are imported from China, and that the United States tariff on these goods amounts

to twenty per cent. of their value. In Canada there is no duty imposed; and as Canada presents a fair field, it is likely that a good business will be built up.

About a year ago Mr. Lever, manager of the Sunlight Soap Company, of Port Sunlight, England, paid a visit to Canada with a view to selecting a site for a factory which the company proposed to establish in this country. He visited Toronto, Hamilton and Montreal, looking for an eligible site, and was interviewed by the municipal authorities in all these cities. The factory is to be established in Montreal, where the company have purchased five acres of land upon which they will erect their factory. This will be the only factory the company will have in Canada.

Mr. George Brush, of the Eagle Foundry, Montreal, has purchased the Dominion patent for the Yeakley Vacuum Hammer, as will be seen by reference to his card in another column, and is prepared to receive and execute order for the same in the following sizes:—50, 150, 300 and 500 pound heads. This hammer was fully described and illustrated in these pages on April 15th last.

The Welland Vale Manufacturing Co. of St. Catharines, Ont., have increased their factory buildings and are making a change in their lighting plant. They have, heretofore, operated a direct current two-wire system, but have decided to keep pace with the times and put in that which would be the latest and most improved in the line of electric generating plant, and for this purpose are installing a 600 light alternating current

two-phase S.K.C. plant, which will operate on the three-wire system, giving them a much cheaper distribution, as well as the benefit of having an inductor type dynamo, which, they are satisfied, possesses a great many advantages over those of the old type. They are only following in the lines of the Penman Manufacturing Co., of Paris, Ont., and the Cockshutt Plow Co., of Brantford, Ont., who have recently replaced their direct current incandescent plant by inductor type machinery.

Mr. John Robinson, Town Clerk of Niagara Falls, Ont., announces as follows:—

The amount of power developed at Niagara Falls, Ontario, is being misrepresented in the statement that 50,000 horse power is now developed and available for use, and that there is no demand therefor. The facts are as follows:—By an arrangement with the Niagara Falls Park and River railway two dynamos of 500 h.p. each are placed in position and driven by a water-wheel in said railway's wheel-pit. That these two dynamos are capable of furnishing 750 electrical h.p. at the distance of 1½ to 2 miles, where it is being utilized. Of the said amount, 250 h.p. or more has already been contracted for by the Niagara Falls Electric Light and Power Company, and 200 by the Carborundum Company, and 100 by the Carmolite monastery, so there is actually a very small amount, if any, now for sale. These facts can be verified by any disinterested competent electrical engineer.

Mr. A. E. Payne, E.E., who has been associated with the Royal Electric Co., for the past four years, will in the future represent the Packard Electric Co., of St. Catharines, Ont., and Mr. R. E. T. Pringle, of Montreal. His many friends throughout the country will be pleased to learn that Mr. Payne will be able to offer them the standard apparatus and lamps of the Packard Company as well as the very large line of supplies handled and kept in stock by Mr. Pringle.

The Kent Mills Company, Chatham Ont., are now the proprietors of the flour mill formerly run by Stevens & Campbell, at that place. They have built large additions to the mill, and have introduced the newest system for bolting, and also new machinery for supplying the mill with fuel. The mill turns out about 500 barrels per day.

It is reported that Messrs. A Hayward & Son, of Liverpool, Eng., will be interested in a large pork-packing establishment that it is proposed to erect at London, Ont.

# INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

## PISTON INLET Air Compressors

STRAIGHT LINE  
 DUPLEX and  
 COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

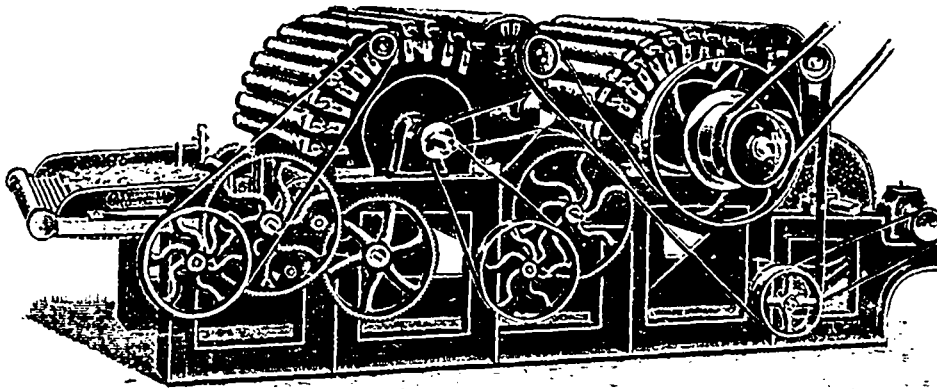
JAMES COOPER MANUF'G CO., Limited, - 299 St. James St., Montreal.

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

# P. & C. GARNETT, Limited

CLECHHEATON, YORKS, ENG.

TELEGRAMS, - GARNETT, CLECHHEATON.



THESE Machines have a world-wide reputation. They are made in various widths up to 60 inches on the wire, and with one, two, or three swifts. They can be clothed as fine as 24 rows per inch so as effectually to open the finest threads.

Waste Opener or Garnett Machine, for Opening Hard Twisted Woolen and Worsted Waste.



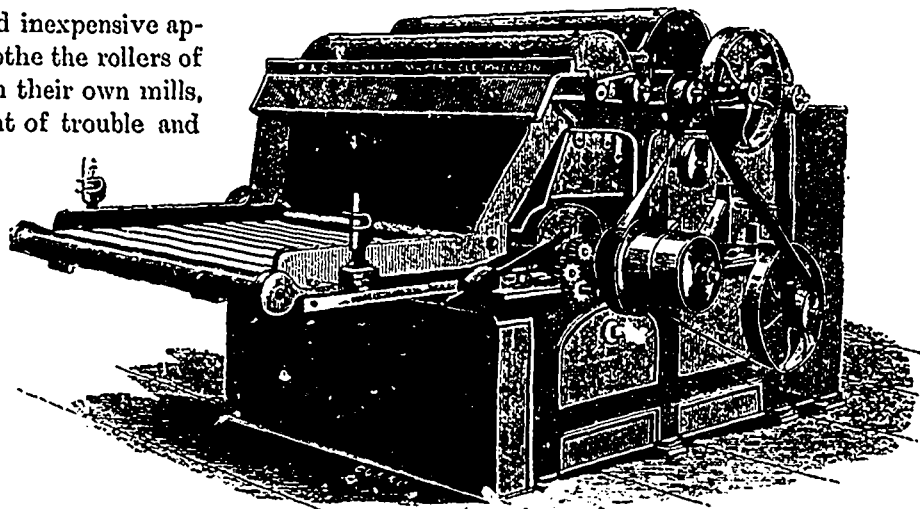
Garnett Wire.

Garnett Wire, or Metallic Card, made with any form of tooth, in Swedish Charcoal Iron or Cast Steel, with points hardened by electricity.

This Wire is used for covering iron rollers, breasts of woolen cards, lathers in of cotton cards, comber doffers, etc.

## Patent Garnett Clothing Apparatus

BY means of this simple and inexpensive apparatus parties can re-clothe the rollers of their waste-opening machines in their own mills, and so save an immense amount of trouble and expense in sending their rollers away to be done.

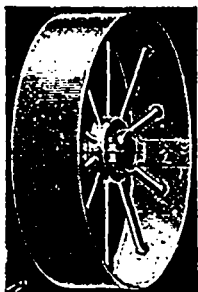


Improved Wool Cleaning or Burring Machine.

Capable of cleaning 1,500 pounds of wool per day. The very best and most economical machine made for the purpose.

## WROUGHT IRON PULLEYS

Light, True and Unbreakable.



CAST IRON PULLEYS

*Iron and Steel Shafting, Couplings,  
Flummer Blocks, W. I. Collars,  
Hangers, Wall Boxes, etc.*

Among the largest producers of coal oil products in the Dominion is the Bushnell Co., whose works are situated on the St. Clair River, about one mile from Sarnia, Ont.

The firm of F. E. Atteaux & Co., dyestuff and chemical manufacturers, Toronto, have moved from 221 Front St. E. to 53 Colborne St., where larger and more commodious premises have been obtained. This move was caused by the rapid increase of their Canadian business.

That the outcome of the Quebec conference is regarded in commercial circles with not a little interest is shown, as it was predicted that it would be, in two industries,—cotton goods and iron and steel. Arguing from the fact that the imports of cotton goods to Canada from Great Britain for the first three months of this year were 20 per cent. in excess of the corresponding period of 1897, Textile America says that "the results of the preferential tariff in favor of the mother country are clearly visible." The same paper adds that since, during this period the preference was only one-eighth, the effects of the tariff will be "more severely felt during the current six months, the full reduction of one fourth having come into force July 1st last." In silk goods, which we are now manufacturing in this country in large quantities, it is suggested that some favors should also be secured at Quebec. The Metal Worker, speaking for one rapidly growing branch of the iron and steel trades, states respecting tin plate that "Canada, from its close proximity, will be the readiest and most natural field in which to market the surplus stocks." It appears that the Welsh makers are becoming some-

what aroused as to the prospect of their losing the Canadian market. The American market they have lost already and the home industry is gaining such strength here that it can only be a question of a little time when our tin plate manufacturers will turn their attention to the export trade, and Canada will naturally be looked to first. There are other great branches of the iron and steel and machinery trades now anxious for larger markets, which must not be forgotten by the commissioners while they are at work with the American-Canadian treaty.—The Manufacturer.

The Eclipse Office Furniture Co., Ottawa, will erect a new three storey brick factory, 135x43 feet, with basement, to cost about \$12,000.

An important question is to come up at the next meeting of the Hull Electric Company, of the city of Hull, opposite Ottawa, in Quebec province. A project is on foot to alter the cars now in use so that they can be run at a speed of forty miles an hour. By doing this less cars will, it is calculated, be required, and therefore less men will be employed.

At a recent meeting of the Orillia, Ont., Town Council, Mr. R. J. Parke, Toronto, was appointed to prepare specifications for the proposed Ragged Rapids water power scheme.

The I. Matheson Co., New Glasgow, N.S., report a busy season among the recent shipments from their establishment being the following:—The Chicoutimi Pulp Co., Chicoutimi, Que., one triplex power pump for 1,500 lbs. working pressure, to be used in connection with their hydraulic presses for extracting the water and moisture from the

finished pulp; the city of Charlottetown, P. E.I., thirty tons of castings, used in connection with the sewerage system at present being installed there; the town of Westville, N.S., hydrants to be used in connection with the waterworks system; the Golden Group Mining Co., Montague, N.S., stamp mill for crushing quartz at their mine at Montague; the Nova Scotia Steel Co., set of haulage gear with engine and four boilers for use at their iron mine at Wabanna, Newfoundland. The company have also secured a contract from the Dominion Government for four bell buoys trinity pattern; two automatic whistling buoys; one bell buoy, United States pattern; two conical buoys; two cage buoys, and two can buoys.

**A REMARKABLE IRON MINE.**

A St John's, N.F., correspondent who has just paid a visit to the new iron mine at Belle Isle, Conception bay, describes the deposit as the most extraordinary of the kind in the world. There is no gaping shaft, no tall chimney, no puffing of steam engines or clanking of machinery. About two hundred men were at work on the surface of the ground, scattered over a considerable area, some with pickaxes, shovels and barrows, putting the ore into wagons; others drilling, by steam or hand, holes into the bed of the ore which were to be charged with dynamite.

Instead of a mine it is an open quarry of red hematite iron ore, which is detached from its bed far more easily than stone in a quarry. The ore lies in a horizontal stratum, three miles in length, and more than a quarter of a mile in breadth, and is about five feet in thickness. This bed is covered on the surface by about two feet of rock. This

# 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**

**No Collector**

**No Moving Wire**

**No Exposed Parts**

**No Compounding**

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



is just stripped off, and sections of the ore laid bare. Then, by blasting, masses of the ore are detached, and long terraces are formed, rising in shelves above each other, and in these the men go to work with crow-bars, pickaxes, wedges and shovels. At certain intervals along these terraces the steam drill is at work, or the sledge hammer or jumper, making holes, which, when charged with dynamite, are exploded by electricity.

On penetrating this first stratum of ore a bed of rock is reached, some three or four feet thick, similar to the surface rock. When this rock stratum is pierced, another bed of iron ore is reached, of about the same thickness as the first. For anything yet known there may be a third iron ore stratum underneath this bed.

#### THE GENERAL ENGINEERING COMPANY.

The General Engineering Co., Toronto, have equipped some very large installations recently with their Improved Jones Underfeed Stokers, among which might be mentioned the Canadian Colored Cotton Mills Co., Cornwall, 1,250 h.p.; Laurentide Pulp Co., Grandmere, Que., 1,000 h.p.; Maritime Sulphite Fibre Co., 1,500 h.p.; Toronto Ry. Co., 5,000 h.p.

This company are now placing on the market underfeed furnaces for private houses, schools, churches, etc., and are also prepared to equip existing first-class furnaces with their underfeed device. From the phenomenal success which has attended the "Improved Jones" on steam boilers, the success of underfeed as applied to other furnaces is assured.

From a large number of experiments made it is a very easy matter to cut the fuel bills in two and to give far better satisfaction with its system than ever could be hoped for with the ordinary method of firing.

No doubt the General Engineering Co. will be glad to furnish prospective buyers all information required.

#### THE STURTEVANT MOTORS AND GENERATORS.

The B. F. Sturtevant Co., Boston, Mass., have favored us with their Bulletin F., which relates to the motors and generators manufactured by them. Regarding their multipolar medium speed motor, they say:

"The magnet frame of the Multi-Polar Machine is of cast steel, and the shaping of the pole pieces and proportioning of magnetic field and armature is such as to insure absolutely sparkless operation under all changes of load, from no load to 25 per cent. overload. The temperature rise after a full-load

run of ten hours will not exceed 90° Fahr. The bearings, which are ring oiling, are built upon the ball-and-socket principle. The series winding of the field coils is of flat copper ribbon, the shunt winding is of wire. Both windings are placed on the pole, entirely independent of each other, and either may be readily removed. Both shunt and series winding have free circulation of air upon both sides.

"The armature of the Multi-Polar Machine is of the barrel-wound type. The cast-iron flange, bolted to the armature spider at each end of the core, forms a support as well as a cylindrical receptacle for the projecting ends of the coils. The flange extension also protects the windings from any oil that may be thrown from the bearings. The surface of the interior of the armature is perfectly smooth, offering no opportunity for the collection of oil or dust. Ventilation is effected by the use of specially constructed vanes, forming air ducts between the laminas of the core. These convert the armature into a blower, and create a strong draft through the windings."

#### NEW POSTAL REGULATIONS.

The Canadian Post-office Department has been advised that the Postal Union convention concluded at Washington in June, 1897, comes into force on January 1st next, and

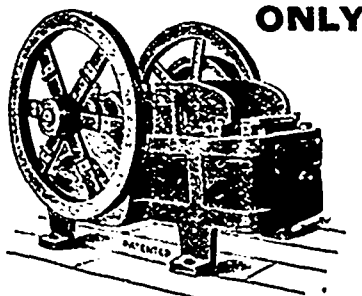
#### THE TORONTO PATENT AGENCY, (LIMITED) . . .

TORONTO, CAN.  
Head Office, 79, 80, 81 Confederation Life Building.  
CAPITAL, \$25,000.00.

Patents obtained. Patents sold on commission. Provincial rights sold. Most actual sales. Best results. Quickest work. Honest Treatment. Oldest company. Reliable references. All patent business promptly attended to. Valuation and prospects of any patent furnished on application.

## Pipe and Boiler Coverings, Engine Packings, LUBRICATING OILS, GREASES, AND BOILER COMPOUND, COTTON WASTE, ETC.

EUREKA MINERAL WOOL and ASBESTOS CO., 136 Bay Street, - Toronto.



ROLL JAW CRUSHER.

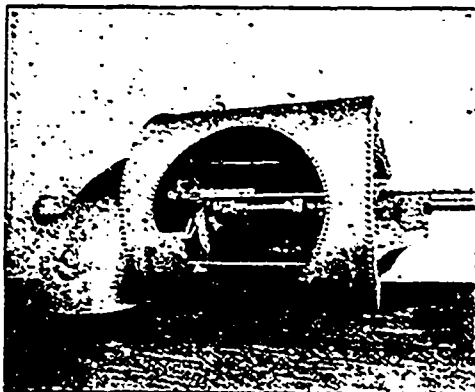
ONLY

# FINE CRUSHER

BREAKS LARGE, or when set close,  
Reduces to GRAVEL and SAND.

FOR ORES.

STURTEVANT MILL CO., BOSTON, MASS.



33-inch Crocker Wheel in Horizontal Setting, for  
Shipton Electric Light and Power Co.,  
Danville, Que.

## THE CROCKER PATENT TURBINE

We make a Specialty of Supplying

COMPLETE  
WATER POWER  
PLANTS

Designed to meet the working conditions in each instance, and to yield the highest efficiency obtainable thereunder. Every detail constructed in a thorough and substantial manner, and the whole equipment installed on the site by our own workmen, especially skilled in this class of work.

If you are interested in water power in any way, we should take pleasure in supplying you with information regarding our work in the above line.

Catalogue Free on Request. Correspondence Invited.

The JENCKES MACHINE CO., 42 LANSDOWNE STREET  
SHERBROOKE, QUE.

under it the following changes are made in the postal regulations in force between Canada and other countries of the Universal Postal union:—

1. Engravings or advertisements may be printed on the front or address side of post-cards, whether official or private, provided they do not interfere with a perfectly distinct and sufficient address. Post cards may also be addressed by means of a small adhesive label, and the sender may, if he wishes, write, print, or stamp his name and address on the front.

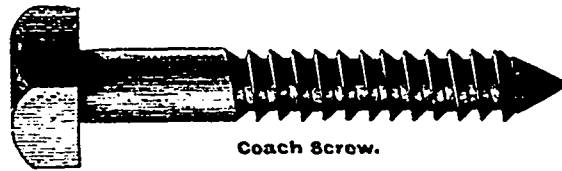
2. Articles of glass, liquid, oils, fatty substances, dry powders, whether coloring or not, and live bees, are admitted as samples, provided they are put up in such a way as to prevent the possibility of injury to the mails, or to persons handling the same. Glass should be packed solidly in boxes not liable to break. Liquids, oils, and substances easily liquefiable, must be enclosed in glass bottles, hermetically closed, and each bottle must be placed inside a wooden box filled with sawdust, cotton, or spongy material, sufficient to absorb the liquid in case the bottle should be broken. The wooden box must again be enclosed in a case of metal or wood, with a screw top, or else in one of strong and thick leather. If, however, the bottles are enclosed in perforated blocks not less than one-tenth of an inch thick in the thinnest part, and furnished with a sufficiency of absorbing material, it is not necessary that a second case should be used. Fatty substances, ointments, soft soaps, resins, etc., must be first enclosed in suitable inner cover (box, linen or parchment bag), and then be placed in a second box of wood, metal, or strong and thick leather. Dry powders must be placed in cardboard

boxes enclosed in a linen or parchment bag. Live bees must be enclosed in boxes, which admit of examination, but prevent all danger.

3. Specimens of natural history, such as dried or preserved animals or plants, geological specimens, etc., which are not sent for commercial purposes, are admitted to sample post.

4. Facsimile copies of manuscript or typewriting may be posted, addressed to Postal Union countries, at the printed matter rate of one cent per two ounces, provided not less than twenty perfectly identical copies are handed in at the post office (not simply dropped into a receiver) at one time.

5. Articles sent at the printed matter rate may bear certain words in writing as fol-



Coach Screw.

**WE**

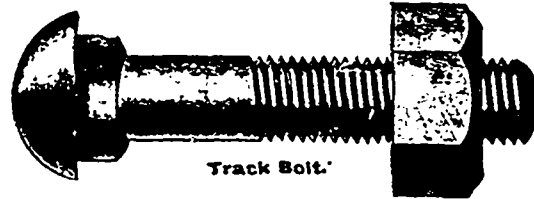
**MANUFACTURE**

*Track Bolts and Nuts,  
Bridge and Roof Rods,  
Wrot and Cast Washers,  
Railroad and Contractors' Supplies,  
Carriage, Machine, Plow and Special Bolts,  
Bridge and Boiler Rivets, Drop Forgings of all Kinds.*

**The Swansea Forging Co.**

Limited,

Send for  
Illustrated  
Catalogue.



Track Bolt.

**SWANSEA**

Near  
Toronto.

# Why Should You Use Norton Emery Wheels ?



**BECAUSE**

They Contain Nothing but Cutting Properties.  
Are Free from Dust or Odor.  
Fast Cutting and Durable.  
Porous and Open.  
Will Work Equally Well Wet or Dry.

**THEY COME IN ALL SIZES AND GRADES**

And if you tell us just what kind of use they will be put to you will be furnished with just the right kind of wheel for that use.

## **Nova Scotia Steel Company's Shafting**

A large assortment of sizes at LOW PRICES.

**DODGE WOOD SPLIT PULLEYS. BEARDMORE BELTING**

**...Fairbanks Standard Scales Always Our Leader...**

**The Fairbanks Company, - 749 Craig St., MONTREAL.**

lows:—Any printed matter—the name, business, and residence of sender. Visiting cards—Title and address of sender, and congratulations, thanks, etc., no exceeding five words. Printers' proofs—The necessary corrections, and the manuscript from which printed. Printed matter, other than proof—Corrections of errors, erasures, and under-scoring of certain words. Price lists circulars, etc.—Insertion or correction of figures. Notices respecting visits of commercial travellers—Name of traveller, and date and place of visit. Notices respecting sailing of vessels—Dates of sailing. Cards of invitation and notices of meeting—Name of person invited, date, place, and object of meeting. Books, papers, photographs, Christmas cards—Dedication to person for whom intended. Cuttings from journals—Title, date, and number of journal from which they are taken.

6. Commercial papers, samples, and printed matter may be enclosed in one package up to the aggregate weight of four pounds six ounces, provided that the weight of each class of matter does not exceed that which

might be allowed if it were despatched separately. It is further provided that if a package contains commercial papers there must be a minimum prepayment of five cents, and if it contains samples, without commercial papers, of two cents.

7. The sender of a letter in one country, or the postmaster of the office at which the letter was mailed, may request a postmaster in another country to whose office the letter was directed, to change the post office address of the letter, and it will then be the duty of the postmaster receiving such a request to change the post-office address accordingly and reforward the letter. No application, however, for a change in the name of the person to whom the letter is addressed can be acted on by a postmaster without special instructions from the Post-office Department of his own country.

8. Letters for other articles mailed on a vessel at sea may be prepaid by means of postage stamps of the country whose flag the ship carries, but letters mailed on a vessel in port must be prepaid by stamps of the country to which the port belongs.

9. Postage stamps issued in any country for a special and particular purpose of temporary validity only, cannot be used for the prepayment of international correspondence.

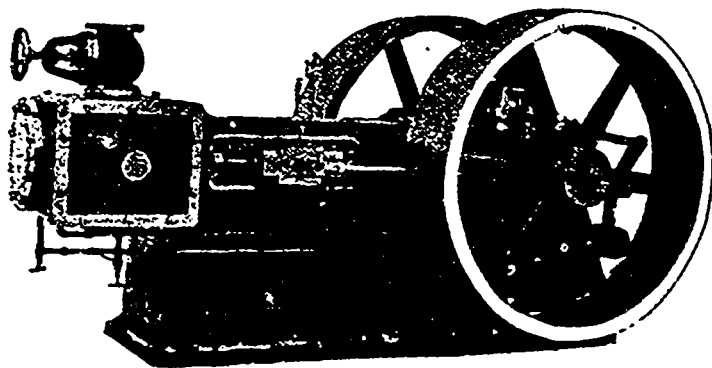
**CORUNDUM IN ONTARIO.**

Following is a summary of the paper on "Corundum in Ontario," read by Mr. Archibald Blue, director of the Ontario Bureau of Mines, at the meeting of the American Institute of Mining Engineers held in Buffalo, N.Y., October 20th:—

Just 100 years ago, in a paper read before the Royal Society of London, and published in its transactions, Rt. Hon. Charles Greville established and named the mineral species Corundum, and we have it on the authority of Prof. Judd that in an appendix to Greville's paper the Count de Bournon correctly defined the crystallographic characters of the species. The names of its gem stone varieties, sapphire, ruby, topaz, emerald and amethyst, had been in use from a much earlier time.

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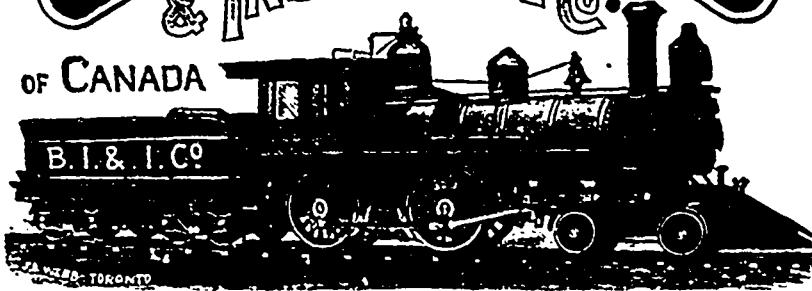
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the crystalline limestone which is interbedded with the schists and gneisses carries a blue corundum mixed with magnetite, which is the emery of commerce. The corundum occurs in smaller quantities as a constituent of granite and gneiss in Silesia, Auvergne, and elsewhere in Europe; in a compact felspar rock in Piedmont; in dolomite with tourmaline at St. Gothard; and in crystalline limestone along with numerous other minerals in Orange county, New York, and Sussex county, New Jersey. In Burmah, which became a British province in 1886, ruby mines have been worked for a very long

period. There the country rock is chiefly gneiss, with bands of crystalline limestone of varying thickness and many miles in length. The explorations of Barrington Brown appear to have satisfactorily established that in Burmah the only rock in which rubies are found in place is crystalline limestone. Among other minerals found in the corundiferous limestone are pyrrhotite, hematite, apatite, graphite and spinel. In Ceylon, in the peninsula of India, and in China, there are numerous occurrences of corundum in crystalline schists, and in almost every case the mineral is of the gem variety. As far as

known to the writer, there are no workable deposits in Asia for use in the arts, saving the emery of Asia Minor.

In the United States corundum is confined almost wholly to the region of the Appalachian mountains, along a belt extending from New Jersey to Alabama. In the form of emery it is found at Chester, Mass., in a chlorite belt about twenty feet wide that lies between formations of hornblende schist and talc, and that traverses the mountains about four miles. This is the only productive emery mine in the United States. North Carolina has furnished nearly all the corun-



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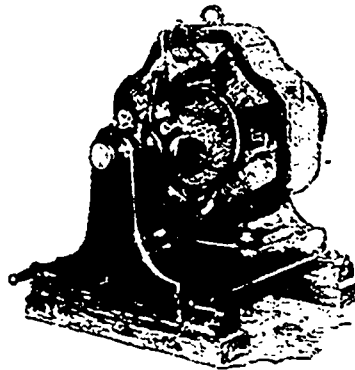
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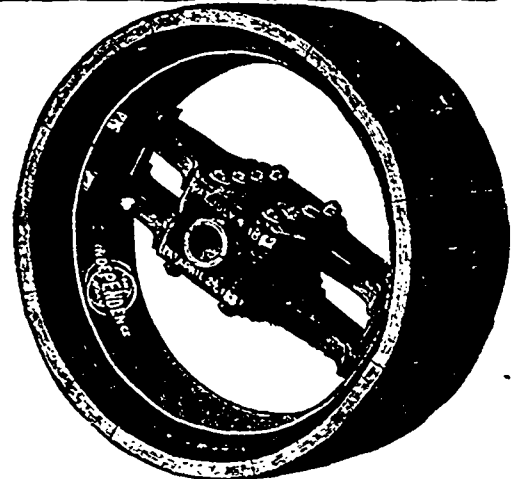
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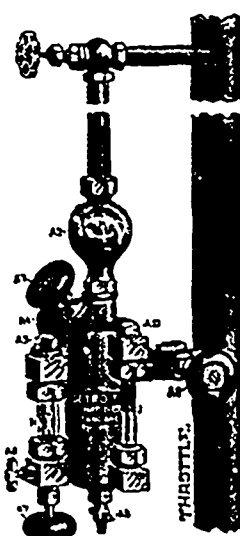
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dum of commerce for the United States, but the statistics of the mines and works have never been published. For abrasive use it is very important that the corundum should be free from particles of rock or mineral softer than itself; and for an ore of aluminium it should be free from all impurities, to make extraction practicable by present methods.

Corundum was first discovered in Ontario by the late Sterry Hunt about fifty-one years ago, in crystalline limestone, on the second lot of the ninth range of the township of Burgess, in the County of Lanark. In the rock specimens collected by Dr. Hunt were afterwards discovered a great number of crystalline grains of a transparent mineral, varying in color from a light rose-red to a deep sapphire blue, which he identified as corundum, and from their colors referable to the varieties known as oriental ruby and sapphire. He deemed it probable that further examinations might develop larger and more valuable specimens of these rare and costly gems. No subsequent attention appears to have been given to this locality, and the mineral was practically rediscovered there a year ago by Prof. Miller, of the Kingston School of Mining.

The largest known deposit of corundum in

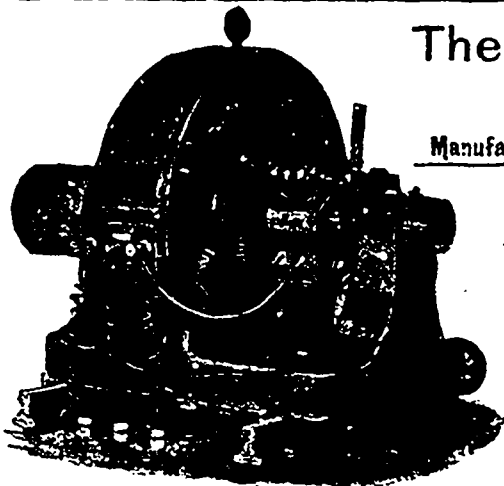
the province was discovered twenty-two years ago on the farm of Henry Robillard, in the township of Raglan, Renfrew county, but at the time it was believed by the discoverers to be apatite or phosphate of lime, and twenty years elapsed before the mineral was correctly identified. Twenty years ago Prof. Coleman, now of the School of Practical Science at Toronto, picked up some boulders of nepheline syenite in the vicinity of Cobourg on the shore of Lake Ontario, which held corundum. A fortnight ago the writer showed Dr. Coleman specimens of nepheline syenite rich in corundum taken from a large deposit in the township of Dunganon, and he at once pronounced them to be identical with his own. Twelve years ago, in 1886, Nesbitt T. Armstrong, a farmer and mill owner in Carlow, discovered mineral on lot 14 in the 14th concession of that township, but did not know its name, and did not suspect it possessed any value. Some crystals labelled "pyroxene from south part of Carlow" came into the possession of Mr. W. F. Perrier, of the Geological Survey at Ottawa, and in 1896 he found upon examining them that they were corundum. He took steps at once to ascertain the precise locality from whence they came. In October, 1896, guided by Armstrong, he found the corundum in place

upon the lot on which Armstrong's discovery was made ten years before. Then for the first time the fact was established on the best authority that the mineral had been found to exist in Canada in any quantity, and that it was valuable as an abrasive material on account of its great hardness.

During the last two seasons, Prof. W. G. Miller, of the Kingston School of Mining, has been employed by the Ontario Government to make a special report on the field. Last year he traced the corundum-bearing rocks from Carlow, through Raglan and Lyndoch, to the shores of Clear Lake, near the eastern line of Sebastopol, a length of about thirty miles. This year Prof. Miller has proven the syenite band to run continuously through a length of about seventy-five miles, from the township of Glamorgan, in Hurlburton, to the township of Sebastopol, in Renfrew, besides tracing it to a considerably greater width over the region exposed last year. Corundum was found at a number of places in the western part of the belt, and a large and apparently rich deposit in a ridge of nepheline syenite near the middle of it in the township of Dunganon. The total area of the band is about 300 square miles, and as it lies in a Free Grant district, it is safe to say that the Crown holds for disposal the minerals in at least ninety per cent. of the whole tract. Corundum has also been found in the township of Methuen, in Peterborough county.

The last week of September, Mr. Blue said, he had spent with Prof. Miller in going over the more northerly band from its eastern end to the village of Bancroft, on the Hastings road, on the line between Dunganon and Faraday. Only a few of the principal properties were visited, including the Block location in Brudenell, the Robillard location in Raglan, the Armstrong location in Carlow, and a recent discovery in Dunganon, not far from the York River. All these are large, easy of access, and favorably situated for mining.

Makers of aluminium assert that because of the presence of iron and other impurities, corundum is unsuited for the production of that metal. But, Mr. Blue contended, it is safer to keep an open mind of problems of



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this nature. The processes of manufacture have already been so much improved that the price of aluminium has been reduced within forty years from its weight in gold to thirty cents per pound or less, and one ought not therefore to assume that it is impossible to find a method of producing pure corundum at low cost, if not a process to make aluminium out of an impure ore. It will certainly add greatly to the value of the corundum deposits of Ontario if they can be used in producing aluminium as well as the material for abrasives. None of the discoveries made in Ontario encourage the hope that the gem varieties are to be found, though it is not impossible that further search for these in the crystalline limestones may be rewarded with success.

In view of the extent and apparent richness of the corundum fields in the province, the Government has taken steps aimed at developing the deposits, and establishing a home industry. Regulations have been drawn up under which the mineral rights in lands lying within the two corundiferous belts have been withdrawn from sale or lease, and hereafter the mineral and mining

rights in such lands can be acquired only under the leasehold system, the rental for the first year being 60 cents, and for subsequent years 15 cents per acre. Instead of allowing speculators to take up and hold lands with a view to sell out their interests to miners and capitalists at a large profit, it is proposed that the advantage of acquiring lands upon the lowest terms shall go to the miner and manufacturer direct; and in the case of parties who will undertake to conduct mining and treating operations on the largest and completest scale, and who can furnish satisfactory assurance that they possess the requisite capital for the proposed operations—including separation of the ore from its gangue, milling for abrasive uses, manufacture of abrasive goods, and the production of aluminium—the Government may concede a preference in the selection of mineral lands

**ELECTRICITY IN PAPER.**

"During its manufacture," says Le Papier (Paris), "paper is often charged with electricity by the friction of its passage over the drying cylinders and other parts of the machine—an inconvenience which makes

itself felt when the paper is used. Efforts have been made, without much success, either to extract, to prevent, for to neutralize this electric charge, by putting the roller in electric contact with the ground and by placing near the paper, at the moment when it leaves the machine, a metal point that attracts the charge. H. J. Rogers and V. M. Morday have discovered, as the result of a series of experiments, that the lack of success of these processes must be attributed in general to the inefficiency of the means employed, and especially to the fact that the paper is charged with electricity, not only on the surfaces, but also internally.

"The discharge of the electricity on the surfaces is ineffective because, after this discharge, the interior charge is eliminated slowly, and because the surface of the paper is thus subjected anew to electric influence. The inventors, having thus taken account of the causes of the ill-success of their predecessors, have reached a satisfactory result by using very large discharge points disposed in such manner as to act during a sufficient time to remove the electricity not only from the surfaces, but also from the interior."

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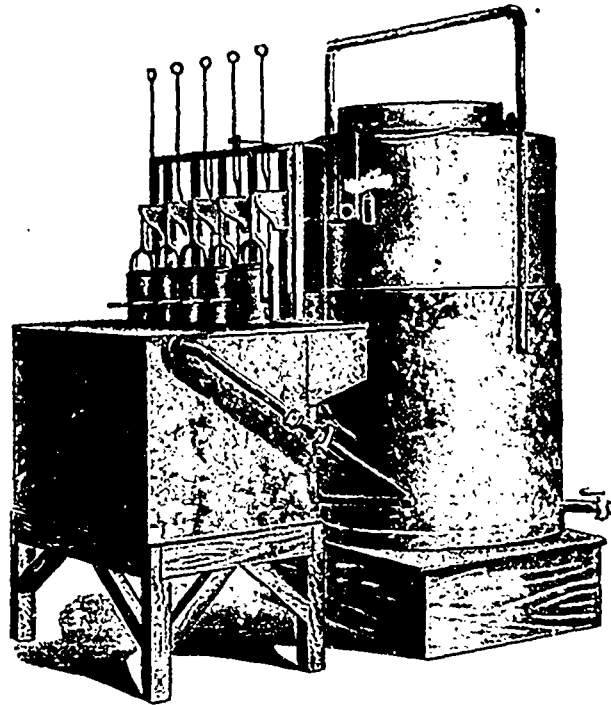
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THE CANADIAN RAND DRILL CO. have moved their General Sales Office, controlling Canadian Territory, to 18 Victoria Square, Montreal, in order to facilitate their business, which has been rapidly increasing during the last two years. They have established an office at 88 York St., Toronto, one in Halifax, one in Rat Portage in charge of Mr. George J. Ross, and one in Rossland in charge of Mr. Mendenhall. They are as usual manufacturing largely along the lines of duplex construction which they have advocated from the first. A duplex compressor costs a little more in the first place than a straight line machine, but the difference in economy of the two offsets the difference in price. Their Toronto office has lately contracted with the Canadian Copper Co., the largest nickel producers of Canada, for a very large mining plant. The Canadian Gold Fields of Marmora, they have also just equipped with a large Corliass Compressor.

Through the Halifax office the Intercolonial Coal Mining Co., of Westville, are also installing one of their high class machines for pumping. Duplex construction permits of an economical arrangement of cylinders in proper ratio to the steam pressure at hand, and to the air pressure required.

The Rat Portage office last year installed from start to finish a large plant at the Sultana mine, a large plant at the Foley mine, and also a large plant at the Mikado. They are now putting in machinery at the Cameron Islands mine, and also a large plant for the Boulder Gold Mining Co., which is controlled by Mr. Leclair and other American capitalists.

The Rossland branch has rather the advantage of the others in that it has a large warehouse at its back and is able to fill orders from stock. They have lately contracted with the Knob Hill mine for a large power plant and two mining plants, the object being for the second mining plant being supplied with power from the one Compressor located at Knob Hill.

**THE GREAT BOSTON FAIR.**

The Twentieth Triennial Exhibition of the Massachusetts Charitable Mechanics' Association was opened with the usual ceremonies at the Mechanics' Building in Boston on Monday, October 10th. The "Mechanics' Fair," as it is popularly called, is an exhibition intended to show the progress of mechanical, electrical and engineering arts. It is not a local affair, but is patronized by manufacturing and industrial establishments of every state in the union, and is visited by persons from every section of the United States and many from abroad. This fair is of such importance that we have secured the services of Mr. J. D. Morrison, Jr., of Boston, to give us some of the more interesting particulars concerning it, and this he is doing as will be seen by the following descriptions from him.

Boston, Mass., Nov. 28, 1898.

THE CANADIAN MANUFACTURER,  
Toronto, Canada.

Agreeably to your request I send you some items regarding the exhibits at the Mechanics' Fair now in progress in this city.

I could not in an entire volume of THE CANADIAN MANUFACTURER give a detailed description of the many exhibits which cover acres of floor space. I have singled out those whose names are familiar to the manufacturer in Canada and have told briefly what they have to show.

**NORTON EMERY WHEEL CO.**

From an artistic standpoint the exhibit of the Norton Emery Wheel Company of Worcester, Mass., is one of the best in the great building. Mr. George C. Montague is in charge of the exhibit, and Mr. George N. Jeppson is responsible for the excellent arrangement of same. The Company have purchased 625 feet of floor space and every foot has been utilized. The entrance, a grand arch, is made entirely of emery wheels. The pillars supporting the arch are fourteen feet high. The wheels in these pillars have a value of over \$2,000. On the arch which caps the pillars appears the name of the firm in letters of solid emery. Inside is a full line of grinding machinery with a Walker grinder and a 1 1/2 inch Standard grinder in operation. In a fourteen-foot show case are arranged samples of the new India oil stone, emery wheels and emery bricks. President, M.P. Higgins; Treasurer, George I. Alden; Secretary, Charles L. Allen, and Superintendent Jeppson have visited, the fair at various times since the opening.

**JENKINS' STEAM VALVES.**

The exhibit of Jenkins Bros., of 17 Pearl Street, Boston, is on the main floor near the central staircase that leads to the machinery exhibits in the basement, and is in charge of Mr. C. J. Jackson. Their space, 12-2x17, is filled with a complete line of steam valves and steam packing. The firms metal goods are still turned out at Bridgeport, Conn., but the sheet packing and mechanical rubber goods are now manufactured at a new factory at Elizabeth, N.J. The Boston house continues to handle Canadian trade. Mr. Jackson showed me a clever idea which the firm has recently purchased. It is a magnetic socket for an incandescent globe or lamp. They are useful in machine shops as they can be placed to have the light shine on the work and will stick tenaciously to latho, planer or drill. Mr. J. D. Stiles, manager of the Boston house, has visited the Fair frequently since the opening.

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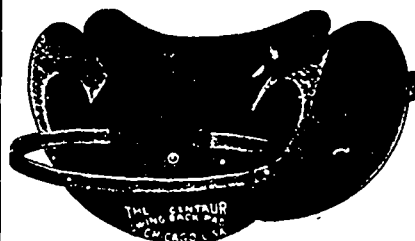
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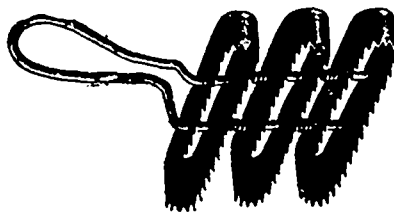
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W. Thomas will be at the fair from time to time and Mr. William B. Mason, Superintendent and Vice-President, will come in from the factory at Milton, Mass. Mr. William A. McLeod, Treasurer of the company, called Saturday. The product of the Mason Regulator Company is exported all over the world. Rice Lewis & Son are their agents in Toronto.

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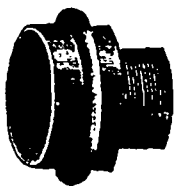
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## THE AMERICAN MOTOR CO.

The American Motor Company, of 32 Broadway, New York, show five motor engines of 2, 1½, 3, 4 and 6 horse power respectively. They are all running. Their motors are specially constructed for horseless carriages and launches. A unique feature of this exhibit is a portable boat motor (3 horse power) which may be clamped to the stern of any boat. Mr. E. T. Kimball, who has the exhibit in charge, has entertained President A. T. Otto and Superintendent A. Fischer of the company at the fair since its opening.

## CHASE TURBINE MFG. CO.

The shingle and lath-making machinery in operation at the Chase Turbine Manufacturing Company's exhibit attracts the curious. Mr. G. E. Dexter is in charge, Mr. H. M. Giffin being obliged to return to the plant at Orange, Mass., to attend to accumulated work. The running machinery consists of an automatic shingle and heading machine, a rotary bed planer, a grooving machine for making slide box covers, a machine for making thumbholes in such covers, a hand-feed shingle machine and a re-saw machine for use in box factories. The company also displays a bolter and lath machine, a 24-inch turbine wheel, a 30-inch fan blower and various sawmill appliances.

## CONTRACTORS PLANT CO.

In the basement of Grand Hall is to be seen an exhibit of special interest to contractors, in the shape of a Portable Gravity Concrete Mixer, shown by the Contractors Plant Company, 85 Water St., Boston. This machine is a radical departure, in as much as it is portable, weighing but 400 lbs, thus requiring no derrick tackle or rolls to move it about, that being done by three men. No

**Reduce Your Fuel Bills**  
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The First and Only Successful Underfeed Stoker.

No Underfeed Stoker is successful without infringing our Patents, and the public are warned against importing or using infringing devices.

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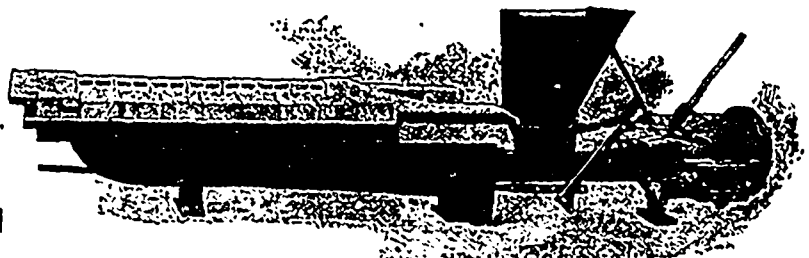
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Guaranteed Increased Economy, from 15 to 50% | Guaranteed Increased Boiler Capacity from 40 to 100%.



Montreal—A. TREVETHICK, - Box 1123.

power nor skilled labor is required to operate, that being done by gravity. There are no moving parts, thus avoiding any unexpected breakdowns. I am given to understand that concrete mixed through this machine has passed the inspection of the city of Boston, the Metropolitan Park Commission of Massachusetts, and the United States Government, War Department. Mr. W. P. Sargent represents the Company there, under the direction of Mr. Fred. G. Webber, manager.

THE EXHIBIT OF THE CANADIAN PACIFIC RAILWAY.

In a very happy manner this company's exhibit illustrates the scenes and resources found on the journey from Boston to Japan over its road, by means of pictures, legends and exhibits of specimens of grain, grasses and minerals collected from nearly all the leading mines in Canada between the Atlantic and Pacific.

The company have in attendance Sporting, Land and Mining Agents who know the country and its resources, and are ready to impart information.

One of the legends that meets the eye as one approaches this exhibit is this "Canadian Pacific Railway, Boston to Japan," an idea well carried out in picture and product. We see the minerals of Quebec, Northern Ontario and British Columbia, and a most instructive collection it is. The oil paintings and other pictures are very good—two of them are unique. One is a lion and an eagle, made of straw, each holding a national flag, one crossing the other and below is the legend "These two can run sky and earth and sea, by Jingo." The other picture is a composition of plaster and grain which gives

**Yeakley**

**Vacuum**

**Hammer.**

Having purchased the Dominion Patents of the above, the subscriber is prepared to receive and execute orders for the same in the following sizes, namely:—

Fifty (50), One hundred and Fifty (150), Three Hundred (300), and Five hundred (500) pound heads, at prices comparing favorably with those of other power or steam hammers. Address

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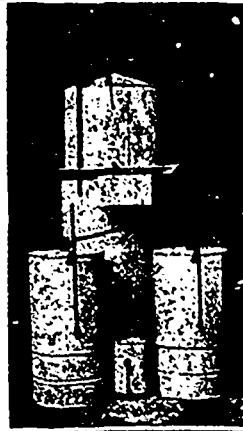
**MONTREAL.**

a rare idea of the agricultural abundance of Canada.

THE GEORGE T. MCLAUTHLIN CO.

The George T. McLaughlin Company, of 120 Fulton Street, Boston, show two electric elevator machines, one of 2,000 and one of 4,000 pounds hoisting capacity, a belt eleva-

tor machine of 3,000 pounds capacity, a friction whip hoist of 1,500 pounds lifting capacity at 150 feet per minute, and a small belt elevating machine of 500 pounds lifting capacity. The electric lifting machines are new on the market and have many new features. Mr. Martin B. McLaughlin, who courteously conducted me about, showed me



The "SAFETY" ACETYLENE GAS MACHINE

THE MOST SIMPLE AND THE SAFEST MACHINE MADE.

It does what other machines cannot do. It generates Gas Cool. It washes and purifies the Gas twice. Automatically removes the Ash from the Carbide. Leaves the Ash perfectly dry and thoroughly exhausted.

EVERY MACHINE GUARANTEED.

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Proprietors and Sole Manufacturers for the Dominion of the celebrated CLIFF-WARDLAW GENERATORS.

The London Machine Tool Co., LONDON, ONT.

MANUFACTURERS GENERAL MACHINERY....

Having recently sold our patterns and plant to the A. R. Williams Co., of Toronto, retaining only such machines as are useful in our business, we beg to say that we are rapidly putting in New Machinery, from new and improved designs, and are now in a position to receive orders for all Standard Tools for Metal Working in all branches. It will be our aim, by personal supervision of the product of works, with expert men of large experience at the head of each department, to turn out nothing but first-class work at moderate prices. And as we intend to deal directly with the manufacturers, they will be enabled to get their machinery at first cost.

As we shall not be able to personally visit each manufacturer, it is for this purpose that we publish this advertisement. This is our agent who is going about to solicit a share of your patronage. We are thankful for the patronage extended to us in the past, and hope that we may secure an extension of the favors for the future.

All correspondence relating to the following Tools will be promptly answered, viz:

- LATHES—Engine, Gap, Break, Turret, Fox, Spinning, Etc.
- PLANERS—Standard, Grank, Plate, Etc.
- DRILLS—Standard, Sensitive, Multiple, Radial, Etc.
- MILLING MACHINES—Lincoln, Plain, Universal, Etc.
- SHAPING MACHINES—Whitworth, G. & E., Rack-Driven, Etc.
- HAMMERS—Steam, Sandage Drop, Stiles Drop.
- BULL-DOZERS for all purposes.
- PUNCHES AND SHEARS for Plate, Angles, Channels, Gauges, Etc.

And we would call special attention to our PRESSES for Cutting, Stamping, Drawing Wiring, Riveting, Etc. We shall also esteem it a pleasure to give quotations on Special and General Machinery in our line.

LONDON MACHINE TOOL CO.

ALEX. GARTSHORE, President. J. G. ALLAN, Sec.-Treas. JAS. THOMSON, Vice-Pres. and Gen. Mngt.

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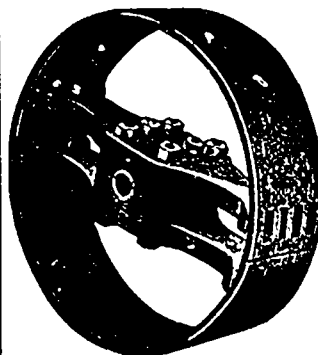
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**WATER WORKS SUPPLIES**

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**BENT WOOD SPLIT PULLEYS,**

(REID'S PATENT).

*The Strongest, Lightest and Best Belt Surface in the World*

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

EVERY PULLEY GUARANTEED.

The Reid Bros. Manufacturing Co., of Toronto, 257 King St. West, Toronto.

a new automatic shutter-closing device for use in factories and other large buildings. The movement of a single lever closes the shutters of a hundred windows or more. Mr. McLauthlin also showed me the company's new automatic sliding door. The door is held open by a weight attached to it by a fusible link. In case of fire this link parts and the door closes. The link is placed where the first heat must reach it. Mr. William G. Strong of the building's work department has already visited the exhibit, and Mr. M. S. McLauthlin of the mechanical department is expected daily.

**THE W. J. YOUNG SHOE MACHINERY EXHIBIT.**

At the W. J. Young shoe machinery exhibit I saw Mr. T. J. Leahy. This exhibit attracts considerable attention, for all the machines are worked by expert operatives, and the work they turn out surprises, to put

it mildly, the uninitiated. Mr. Young shows a counter moulder, capacity 4,000 pairs daily, a single counter roller, capacity 5,000 to 8,000 pairs daily, a twin counter moulder, capacity 5,000 pairs daily, a counter skiving machine, a Watson counter skiver, Young's end skiver, a new machine with the enormous capacity of 8,000 pairs daily, Young's heel compressing machine, Young's automatic heel compressor, new, capacity 10,000 pairs daily, a beam die press, Common Sense splitting machine, 30-inch heavy roller, and a complete assortment of men's, women's and children's lasts, and forms for beating-out machines. Mr. W. J. Young comes from his establishment at Lynn, Mass., frequently to visit his exhibit.

**THE LOMBARD WATER-WHEEL GOVERNOR.**  
The Lombard Water-Wheel Governor Company, Boston, Mass., (Roxbury District),

show their governor in types A and B, the latter in action. They also display the water wheels of the American Impulse-Wheel Company of New York City. Motors No. 1 (6 in. diam.), No. 2 (12 in. diam.), and Motor No. 3 (18 in. diameter), are on exhibition. Allan V. Garratt, Chief Engineer, who has the exhibit in hand reports a steadily increasing demand for the Lombard Company's products in Sweden, Japan and other foreign countries. Henry A. Clark, Treasurer and General Manager, visited the exhibit Saturday evening. Superintendent Nathaniel Lombard visits the fair frequently.

**THE CONNELLY-CRITCHLOW CO.**

A display that must appeal to the gas consumer is that of the Connelly-Critchlow Co., who have a regulator for either natural or artificial gas. The chief advantage lies in the fact that there is absolutely no friction. It is so designed that valve areas are of the full capacity of meter. In connection with this exhibit is that of the Kenwood Co's Perfection Still, manufactured at Titusville, Pa., a most efficient apparatus for purifying water for common use. Both of these productions are shown in operation in charge of Mr. F. S. Martin, superintendent of the Connelly Critchlow Co. The selling agent is G. H. Stedman, 89 State St., Boston.

**THE WHITTIER MACHINE CO.**

The Whittier Machine Co. show a very attractive and interesting exhibit in electric elevators, magnetic control, which does away with all shipper ropes. The larger one shown by them has a lifting capacity of 2,700 lbs. They also display a working model of an automatic house elevator, controlled at will by simply pressing a button. This firm does not confine itself to electric elevators only, but also manufacture hydraulic, steam or belt. Mr. H. M. Drew has this exhibit in charge and to his courtesy is the above information due. The officers of the company are: Chas. W. Whittier, Pres.; H. P. King, Treas.; with offices at 53 State St., Boston. Works, corner First and Granite Sts., South Boston.

**MANN'S BONE CUTTER.**

Mann's Automatic Feeding Bone Cutter, Feed Trays and Clover Cutter has an es-

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**By Daylight**

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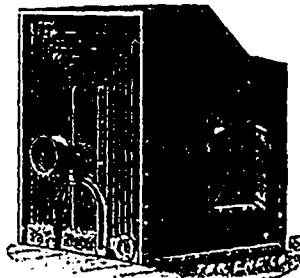
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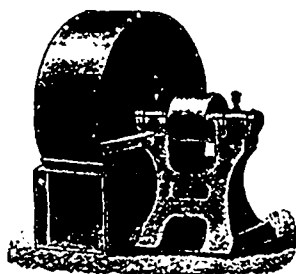
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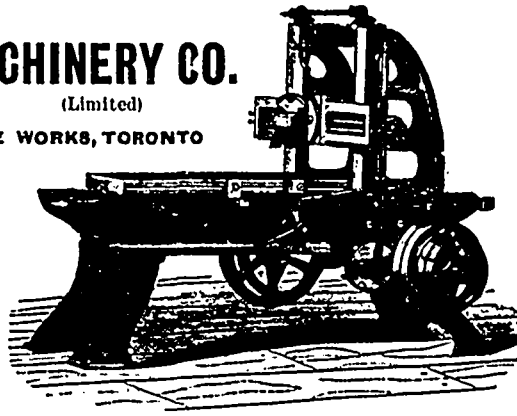
# A. R. WILLIAMS MACHINERY CO.

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Head Office, - SOMO MACHINE WORKS, TORONTO

Manufacturers of and Dealers in

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Wood-working Machinery,  
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and Supplies.



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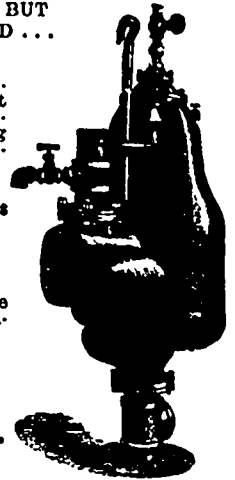
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The handiest sim-  
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steam pump for gene-  
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Muddy or Critty Liquids  
Handled without  
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Descriptive Catalogue  
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**PULSOMETER  
Steam Pump Co.**  
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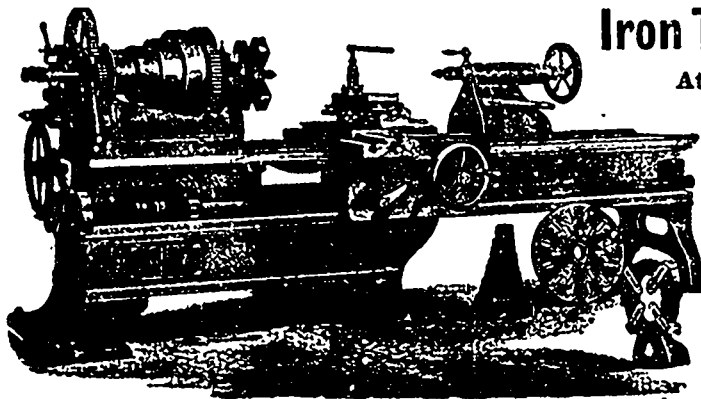
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# Heating and Ventilating

APPLICABLE TO ALL CLASSES OF BUILDINGS

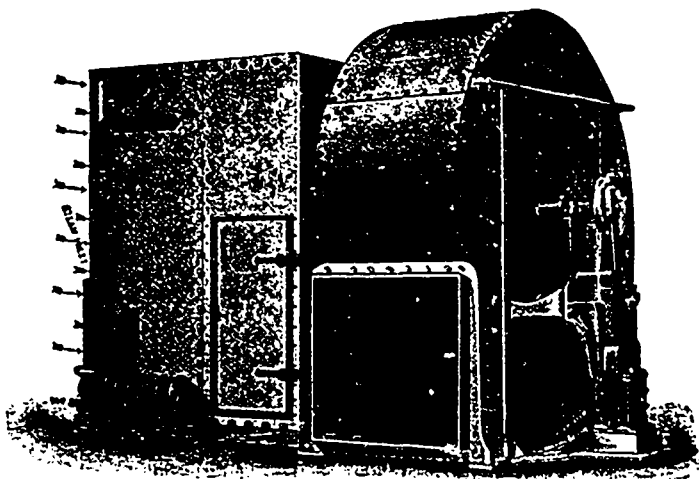
Has had a THOROUGH TEST in the Dominion  
AND THE  
Northern Portion of the United States.

Over 300 Plants in Successful Operation in  
this Cold Climate.

Send for Catalogue No. 84, Describing this System  
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Buildings Heated and Ventilated.

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The Sturtevant Steam Heating and Drying Apparatus

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This Apparatus is unexcelled for Lum-  
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Pottery, Glue, Soap, Cloth and  
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Material and Workmanship  
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When requiring or specifying Valves, insist on getting an article that will not need continual attention and frequent repairs.

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LIMITED.  
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pecial interest for those engaged in the production and raising of poultry. An automatic swinging feed tray is something that holds one's attention, and the great advantage which is attributed to it can easily be seen and understood. I am informed by Mr. W. H. Maissini, manager of this exhibit, that Mr. Mann holds several medals for his productions, one being awarded him at the World's Fair and several others at exhibits in different parts of the country. F. W. Mann's Bone Cutter and Grits are two great egg makers and hens here to lay. Office at Milford, Mass.

THE A. T. STEARNS LUMBER CO.

In the lower hall one cannot help being attracted by the exhibit of the A. T. Stearns Lumber Co., Mr. A. T. Stearns, founder and president, with main office and mills at Neponset, Mass. This exhibit consists of a huge tank, built of Florida Gulf Cypress, the dimensions being 18 feet diameter, 10 feet stays, and capable of holding over 17,000 gallons. The specialty of this company is the wood of which this tank is built. It is unexcelled for stability and fine finish, adapted alike to outside and inside work. To Mr. A. B. Stearns, having charge of this exhibit, I am indebted for the above information most courteously given. Mr. Mosely, one of the members of the firm, is at present at Apalachicola, Florida, looking after their great cypress interests there.

THE JOHN A. WHITE CO.

The exhibit of the John A. White Co., of Dover, N.H., manufacturers of Standard Wood-working Machinery, occupies spaces No. 152 (29x23 ft.) and No. 144 (23x18 ft.) in basement of grand hall. A number of the latest machines built by this company represent their extensive line. Several are in operation. Although the John A. White Company were awarded medals at the Boston Mechanics' Fair in 1892 and 1895, and a medal at the World's Fair, Chicago, 1893, their present exhibit is the finest they have ever made. The machines are attracting much well-merited attention. H. B. Tilton represents the firm at the fair. Mr. J. C. Sawyer, Agent, and Mr. A. L. Lovejoy, Boston Agent, have both visited the Fair

and have commented favorably on the exhibit.

Yours truly,  
J. D. MORRISON, JR.

THE JONES & MOORE ELECTRIC CO.

The Jones & Moore Electric Co., Toronto, manufacturers and contractors of electric light and power installations, etc., inform us that they have their new type of motors so near perfection that they are prepared to give any kind of a guarantee as to their efficiency, power and mechanical construction. Among their recent Toronto sales are the following:

The T. Eaton Co.; Scott & Co.; Fensom Elevator Works; T. R. Vin Lolson; J. McIver; C. Schmidt & Co.; C. Roach; Mail

## Hamilton Acetylene Gas Machine.

SIMPLE, ECONOMICAL, DURABLE AND SAFE.

Adapted for Private Houses, Offices, Stores, Churches, or any building where a clear, bright and steady light is required.

300 in Use in the Dominion of Canada.  
Address Communications to

### Hamilton Acetylene Gas Machine Co., Limited,

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ACETYLENE GAS.



The Acme of Perfection in Lighting.

At the Minimum of Cost.

Suitable for any place where Artificial Light is required. Dwellings, Stores, Churches, Factories, Hotels, Street Lighting, etc.

Write for Catalogue.

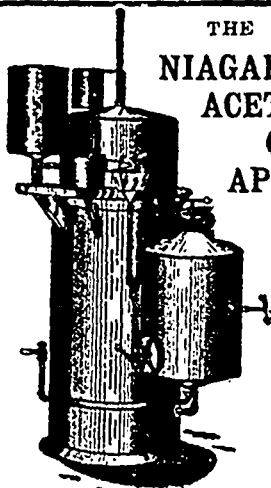
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### Acetylene Lighting Co.

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## THE NIAGARA FALLS ACETYLENE GAS APPARATUS



Patented in Canada, United States and Great Britain.

This is the only machine perfectly automatic in its action, requiring little or no attention. Machines made in 10 Sizes costing \$15 and upwards.

### Acetylene Gas the Coming Light.

CHEAPER THAN ELECTRIC LIGHT  
COAL GAS OR COAL OIL

For Private Dwellings, Business Houses  
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NIAGARA FALLS ACETYLENE GAS MACHINE CO.  
NIAGARA FALLS, ONT. LIMITED.

Job Printing Co.; Atkinson Bros.; The McKenzie Snyder Co.; Risk Dental Co.; W. H. Dano; W. Woodcroft; G. A. White; I. Swift; Kinnear Co.; The Times Printing Co.; Davidson & Co.; W. H. Hopkins; C. H. Dunning; G. Ratcliffe; Bishopric Mfg. Co.; and to the Canada Permanent Loan & Savings Co.; and the Minerva Manufacturing Co., they have supplied two motors each.

They have just installed a complete incandescent lighting plant of 250 light capacity, with marble switch board and meters, also motors for the Toronto Glass Works, Toronto, and they are also installing a lighting plant for Short Bros., of London, Ont.

E. Boisseau & Co., Toronto, recently placed an order with the company for 700 incandescent lights, one 20 h.p. motor and a seven station telephone system.

The company have also sent motors to the following concerns in various parts of the Dominion:

N. Masurette & Co.; Elliott, Marr & Co.; and J. Gasvey, all of London, Ont.; E. F. Mason, Henry & Co., Connall & Co., of Peterborough, Ont.; and W. C. Smith & Co., Cannington, Ont.

They have also received orders from British Columbia, Halifax, N.S.; Rat Portage, and Ottawa, Ont.

Ryrie Bros., Toronto, have had installed a thirteen station telephone system by the company, and R. J. Lovell & Co., Toronto, have had placed in their premises an intercommunicating telephone system.

The Reeves Pulley Co., Toronto, have placed an order for a large dynamo with the same company.

The lighting plant of the Stouffville Electric Light Co., of Stouffville, Ont., which was installed about five years ago, suffered

**As Auditor, or Chief Book-keeper and Office Manager.**

Expert Accountant and Bookkeeper, good credit man and correspondent, possessing executive ability and tact, systematic, with modern ideas and methods, twelve years' practical business experience, desires engagement. Capable, in every respect, of assuming entire management of accounting department, collections, etc. References as to ability, integrity, etc., unexceptionable. Address.

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**HALF TONES**  
OR ANY CLASS OF ENGRAVING FOR ADVERTISING PURPOSES, CATALOGUES, MAGAZINES, &c.  
**J. L. JONES ENG. CO.**  
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Adelaide St. W. TORONTO.

**SPORTSMEN**  
NOTE  
**The ABBEY IMPROVED CHILLED SHOT**  
NEWCASTLE-ON-TYNE, ENGLAND.  
Is made by a NEW PROCESS, and is highly spoken of by sporting papers and sportsmen.  
Kills at greater distance than soft shot.  
Send to your Gunmaker for Samples.

damage a short time ago by the armature bands breaking and wrecking the machine. In replacing this dynamo they installed an S.K.C. inductor type machine and will, at least, do away with the possibility of having another wrecked armature, or a burn out, or troubles from brushes and commutators. The plant, as remodelled, is strictly up-to-date.

**A. C. NEFF**  
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Audits and Investigations a Specialty.

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Member Can. Soc. C.E.  
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CONSTRUCTING  
Railways, Lighting, Power Transmissions,  
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**Electrical Contractor.**  
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SPECIALTY:—Electric Wiring, by skilled men.  
All work done according to latest methods, at lowest possible prices. Complete Isolated Plants.

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**RAILWAY, TRAMWAY, and**  
**Contractors' Supplies**  
METALS and SCRAP IRON  
Bought and Sold.

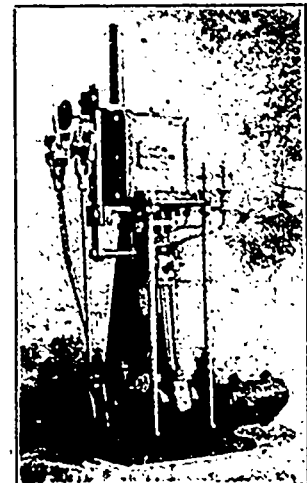
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Agents for  
**ENGLISH, COLONIAL AND GERMAN**  
**MANUFACTURERS OF**  
**WOOLENS, HOSIERY, SHIRTS, ETC.**  
Rec. Cable Address "STRICK," Toronto.  
Correspondence Invited.

**Smith Wool-Stock Co.**  
219 FRONT ST. E., TORONTO.  
Makers of  
**WOOL STOCK,**  
**SHODDIES, Etc.**

**LEITCH & TURNBULL,** Canada Elevator Works,  
Queen and Peter Sts.,  
HAMILTON, ONT. Patent Safety Hydraulic,  
Hand and Power ELEVATORS.  
.....Telephone Connection.

**TORONTO MACHINE SCREW CO.**  
Manufacturers of  
Hexagon AND Square Head Cap Screws.  
Steel and Iron Set Screws.  
Hanger and Planer Bolts, Studs, etc.  
Send for Price List and Discouints.  
109 1/2 Adelaide St. W., - TORONTO.

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**DUNNVILLE, ONT.** Makers of  
**YACHT ENGINES, 1 H.P. to 50 H.P.**  
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**Stationary Engines and Boilers**



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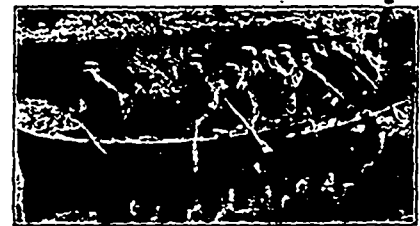
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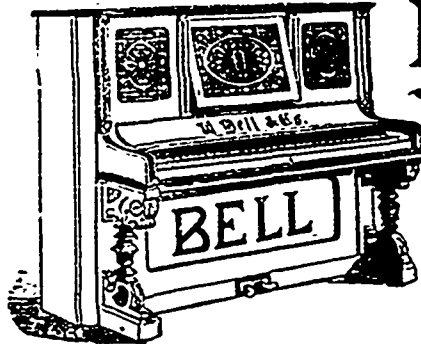
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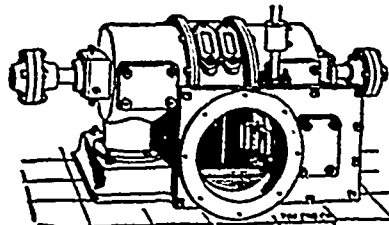
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