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VOL. 44.

TORONTO, FEBRUARY 7, 1902.

No. 3.

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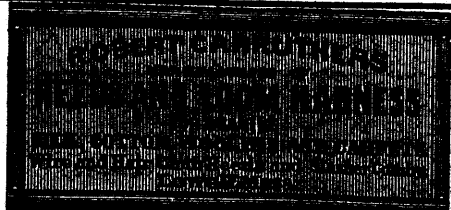
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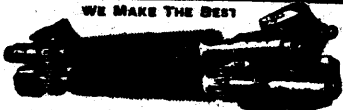
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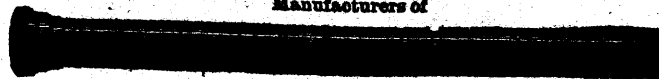
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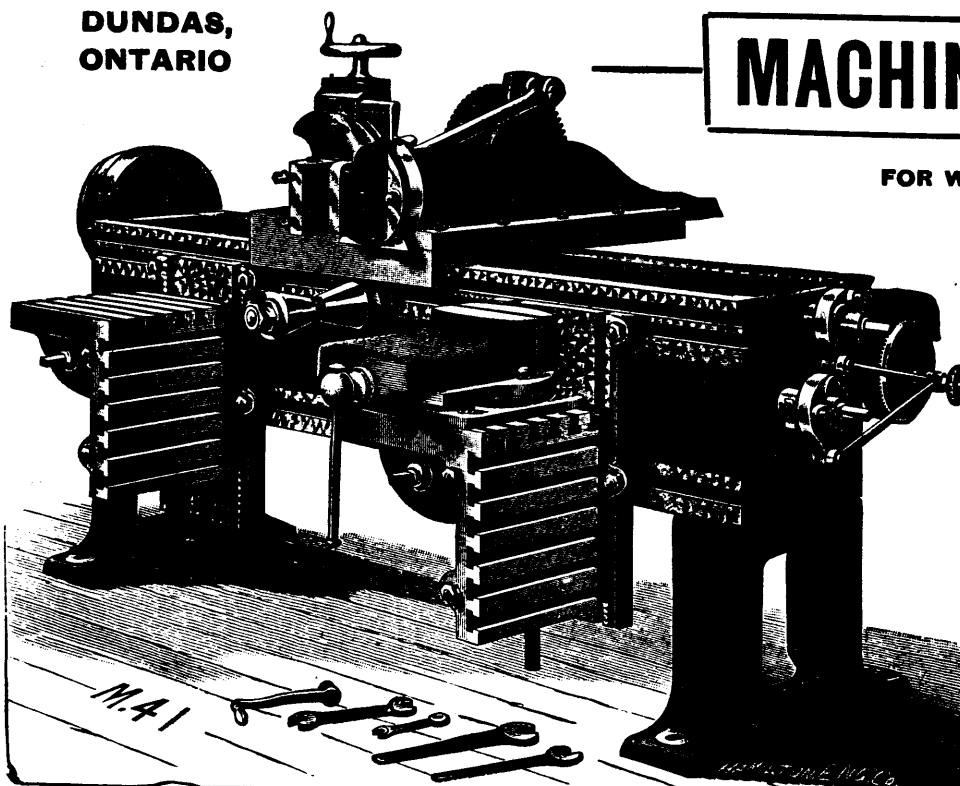
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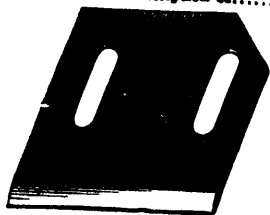
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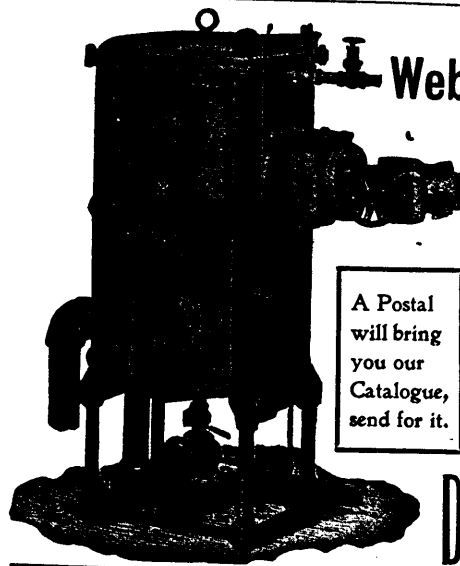
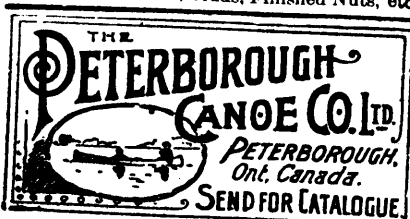


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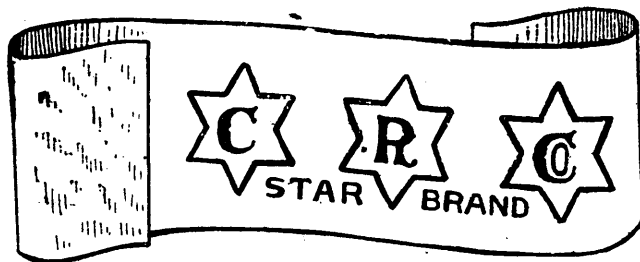
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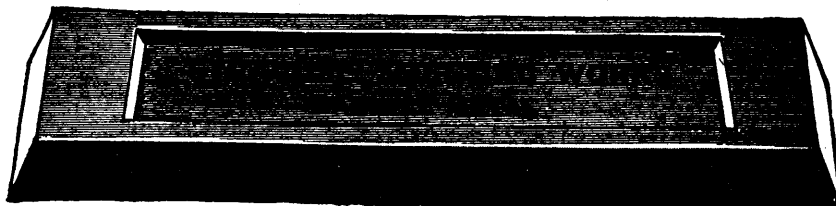
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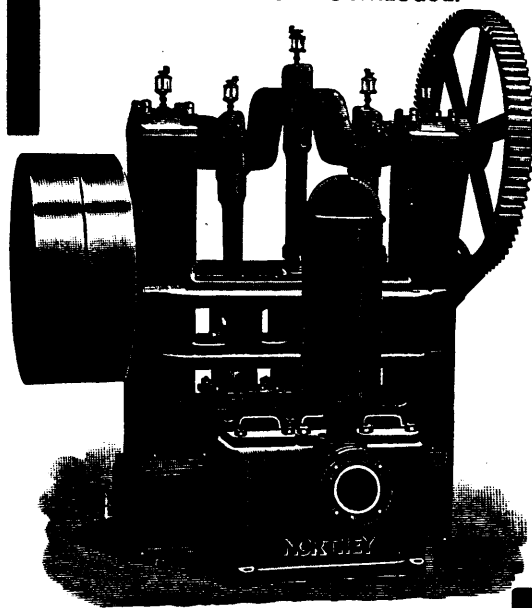
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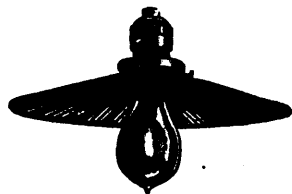
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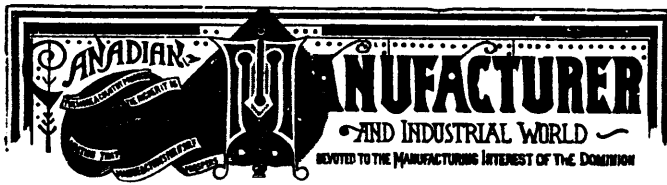
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PUBLISHED ON THE FIRST AND THIRD FRIDAYS OF EACH MONTH

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Cable address: "CANAMAN." Western Union Telegraphic Code used.**MESSRS. DAVISON & CO.,**  
164 Federal Street, - Boston, Mass.  
AGENTS FOR UNITED STATES.

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*J. J. CASSIDEY, - - - Editor and Manager***THE HISTORIAN.**

The historian of the Canadian Manufacturers' Association, in the November issue of Industrial Canada, records the transactions of the Association for the past ten years in just five lines as follows:—

From 1891 down to about a year and a half ago the attention of the Association was given mainly to tariff matters, but as the tariff remains fairly satisfactory, the Association lost considerably in vigor and aggressiveness.

On April 24, 1893, an important and influential deputation from the Canadian Manufacturers' Association waited upon Sir Oliver Mowat, then Premier of Ontario, and Messrs. Hardy, Ross, Bronson and Dryden, members of the Ontario Government, and preferred a request that a bonus be granted on pig iron produced in the province.

It was acknowledged within the Association, and by manufacturers and commercial men generally, that this country could not attain the height of prosperity and industrial independence desired for it unless we had a blast furnace industry which would, to the greatest extent possible, supply the domestic demand for pig iron. The Association had hoped for years that the encouragement which had been bestowed upon the production of pig iron by the Dominion Government, which included a duty of \$4 per ton upon imported and a bonus of \$2 per ton on the home production, would have given us the industry in Ontario, but it had not, and it was evident that this much to be desired event would not be realized unless some additional inducement was offered. There was an awakening at that time to the importance of the subject by many manufacturers, capitalists and others in different parts of Ontario, and the Association deemed it the proper time to move in the matter.

The deputation of the Association, who waited upon the Government, included Messrs. John Bertram, president; R. W. Elliot, chairman of the Tariff Committee; W. K. McNaught, P. W. Ellis, Thomas Cowan and A. E. Kemp, all of whom had been or have since been presidents of the Association; Samuel May and J. P. Murray, vice-presidents, the secretary and many other members.

President Bertram in introducing the subject to the ministers, explained that the deputation had been appointed by authority of the Association to request the Government to offer some inducement toward the manufacture of pig iron. It was admitted that in Ontario existed an abundance of ores

**The Canadian Manufacturer**

**Reaches all the Blast Furnaces, Iron and Steel Works, Rolling Mills, Manufacturers of Iron and Wood-Working Machinery, Steam Engines and Boilers, Pumping and Mining Machinery, Electric Machinery and Appliances, Machinery Dealers and Steam Fitters' Supplies, all Hardware Dealers, Cotton, Woolen, Knitting and Yarn Mills, Pulp and Paper Mills, etc., in Canada.**

of most excellent quality, yet, notwithstanding this, our mineral resources were undeveloped and as unproductive as the illimitable water power running to waste throughout the province. The aid asked would not only ensure the production of pig iron, but the development of other mining resources. The province possessed a series of magnificent waterways which would be utilized for the passage of many large steamers which would yet have to be built. The capabilities of Northern and Western Ontario were practically unlimited for the manufacture of steel rails with which to equip our railroads; of steel plates for shipbuilding purposes, and of steel beams for the construction of large edifices.

The Secretary read the memorial which stated that "the Association observed with very much pleasure the interest that had been awakened, and the efforts that were being made looking to the establishment of an iron furnace industry in Ontario. Many of the members of the Association were workers in iron. They were manufacturers of machines and machinery composed wholly or in part of iron; and whatever relates to the iron question affected them.

"They believed that in all our manufacturing industries it was desirable that, where possible, the raw materials which they consumed should be produced in this country. This applied specially to pig iron. This article was the foundation of an almost endless variety of articles which entered into the everyday uses of the people, or was essential in the production of them.

"It was well to bear in mind that although for many years the Dominion Government had imposed a duty on imported pig iron, and also bestowed a bonus upon such iron as had been made in the country, yet the stimulus had failed to induce capitalists to erect any blast furnaces in Ontario. Since the adoption of that policy sufficient time had elapsed in which to thoroughly investigate the possibilities; and it was well known that such investigation had been made repeatedly; and the conclusion was that if Ontario was ever to have a blast furnace industry, it could only be made to materialize under different circumstances than those which prevailed. They were confronted with the fact that the tariff imposed a duty of \$4 per ton on pig iron; that there was a Dominion bounty of \$2 per ton; that ores, fuel and fluxes were accessible and cheap; that there was a demand for iron, and that, notwithstanding these, they had no blast furnace industry. On the other hand they knew that capital is conservative and timid, and they could not hope to see it invested in blast fur-

naces and steel plants in Canada without a certainty that the circumstances under which it was invested would not be unfavorably changed, at least for a time sufficiently long to give a guarantee of the remuneration to which it was entitled. If, then, a bonus were promised on the production of pig iron, it should be accompanied with a guarantee that it would be continued for a definite term of years. A consensus of opinion showed that if the Ontario Government deemed it wise to aid in the establishment of the industry, the bonus should be \$2 per ton upon the production of pig iron, and that it should be continued for the term of at least ten years."

The Secretary went on to state that, so far as he was aware, no member of the delegation present was interested in any blast furnace industry, but they were all hopeful for the establishment of such, which would provide pig iron for them. Neither were they speaking in behalf of any particular part of the province. They merely asked that if a bonus were granted it should be upon the production, no matter in what part of the province it might take place.

In reply to an enquiry from Hon. Mr. Hardy, the Secretary stated that the Association had reliable information that all the varieties of ore necessary for the manufacture of pig iron for all purposes were to be found in Ontario. There was plenty of suitable wood for making charcoal; and if coke were desired it could easily be obtained from the usual sources. We think, he said, that an inducement of \$2 per ton for ten years would be adequate to establish this industry; and if no iron was produced no bonus would be paid.

Mr. R. W. Elliot observed that this question was considered to be one of the most important that the Association had ever presented to the Government. The deputation did not ask the Government to provide capital for those who might desire to engage in the smelting industry. On the contrary they thought it would be rather unwise to advance any capital by way of bonus to start the manufacture of iron. Before the bonus asked for could be paid the capital would have to be invested and the work done. Taking the term of ten years spoken of in the memorial, he did not think the expenditure on the average would exceed more than \$90,000 to \$100,000 a year. The question was whether this would really prove a loss to the province. From an examination of the trade and navigation returns it would appear that on two or three elementary forms of iron the province was paying to other provinces or to foreign countries over \$2,000,000 a year, and some even estimated the amount at \$2,500,000. Yet all these forms could be made in the province and in such quantity as to enable its manufacturers to compete in foreign markets. When they considered they could go into a country absolutely devoid of aught but mineral resources and find that a population could be prosperously maintained there, which would become a source of strength to the people residing on farm lands, they could begin to realize what the real value of mining development would be. There was in Ontario what was known as "the disputed territory." In that district he felt sure there were ores of all the valuable metals in great abundance; but in the basin of James' Bay coal was also to be found. Some might probably think that by granting aid for the manufacture of iron they were interfering with the National Policy. He could conceive, however, that there might be a National Policy for the Dominion and an Ontario policy for the province. The time had arrived when this question required the serious consideration of the Government, and he hoped they would see their way clear to granting the necessary bonus. The time was opportune, because in the iron-producing countries of Great Britain,

Belgium and the United States low prices prevailed. There was a better chance therefore of attracting to this country where they would be sure to meet encouragement those who had technical skill and experience in iron producing. He saw no reason why, with the encouragement of a bonus, Ontario should not enter upon an era of prosperous iron production.

Mr. Thomas Cowan, of Galt, agreed with the view which had been expressed. The whole province would only too gladly welcome a policy which would tend to the development of Ontario's untold mineral wealth. Canadian manufacturers would be much better pleased if they could get their iron in Ontario instead of having to import it from Great Britain, the United States or elsewhere. It was admitted by all writers on political economy that the production of iron by a nation tended to increase its wealth. He need not point to the great efforts made in Great Britain in the past to develop her mineral resources. That policy enabled her to control the situation and to command the commerce of the world, whilst the sails of her ships whitened every sea. It was generally conceded that the nation which produced the most iron was the most wealthy and most solidly prosperous.

Mr. W. K. McNaught thought it would be very much in the interest of Ontario that a bonus should be given. As had been pointed out, such encouragement to the smelting of iron would not only help the manufacturers, but would give employment to a large amount of unskilled labor. He quite agreed with the idea that instead of furnishing capital to any iron producer, a bonus ought to be given, which should be earned before it was paid. The bonus should be guaranteed for a number of years, otherwise capitalists would be chary of investing their money in blast furnaces.

Sir Oliver Mowat, before the deputation withdrew, said: "We are alive to the importance of developing the iron industry, and it is receiving our very earnest attention."

Those whose memory carries them back to the events of 1893—only nine years ago, will remember that the opinion of manufacturers and business men generally, and the Association in particular, was that an Ontario iron industry should be established, and none were more zealous in advocating and working for such an event than the gentlemen who waited upon Sir Oliver Mowat on the occasion alluded to. There were several cities in Ontario which sought to have blast furnaces, and the fact that the Association memorialized Premier Mowat without advocating the claims of any one place, but were working in the interest of the entire province, is due the success which very soon thereafter eventuated; and the remarks of the speakers, particularly those of Mr. Elliot, were indeed a remarkable prophecy of what was so soon to occur. In 1893 no iron was made in Ontario—in 1901 Ontario was making heavy shipments of steel plates direct via our magnificent waterways to Europe; and we have the assurance that before the expiration of the current year Ontario steel works will be turning out large quantities of as excellent rails as were ever laid in the construction of a railroad. In fact hundreds of tons of these rails will be in use before the ripening of crops next fall. Premier Ross, in his budget speech in the Ontario Legislature on January 22, only a few days ago, verifying the prophecies of Mr. Elliot, and the other speakers of the Association deputation of 1893, said that in 1895 there was not a pound of iron ore raised or smelted in Ontario; in 1896 the first blast furnace was established; in 1900, 90,302 tons, and in 1901, 300,000 tons of iron ore were smelted in three blast furnaces in this province.

All intelligent observers are agreed that the last decade of the last century witnessed more important advances in the

arts and sciences than in the previous ninety years; and to Canada, to Ontario and to Toronto, the headquarters of the Association in that decade, events of the utmost importance occurred, included in which were the establishment of the finest electric street railway system in the world; the erection of many important commercial buildings in the construction of which steel beams and girders were for the first time introduced; and the beginning of steel steamship building in two large establishments, from which some of the finest and largest steel vessels for both passenger and freight service on our inland waters were launched. In these most important enterprises, as in many others, members of the Association invested largely of their wealth; but to none of these, not to all of them, does as much importance attach as to the establishment of the pig iron industry. The connection of the Association with that event as herein shown, was of the utmost importance not only to Ontario but to all Canada, the failure to record which, and the other events here alluded to, reflects no credit upon the historian of the Association nor upon those who instigated his forgetfulness.

#### COLD WATER AND MUCH WIND.

There are Canadian protectionists who, not satisfied with the repeated assurance of the government that the British preference will not be repealed, and that the tariff will remain as it is for some time, have resolved to pursue an aggressive policy and insist on an increase of protection for their own benefit. The other day they waited on the government with some claims formulated by the Manufacturers' Association, at Montreal last November. They got a promise that their suggestions would be considered, and are now waiting for the result. Have they considered whether this aggressive course is quite a safe policy for them to pursue? It may be well to remember that the present government came into office as anti-protectionist, the advocate of a revenue tariff; and it may well be questioned whether its members can be said to have received from the electors a mandate to enact a high protectionist tariff. There are still in the party that sustains the government a large number who are not willing to go beyond the limits of the present tariff, in the way of protection. At present things are quiescent, but these people cannot safely be forced to go much further in a position they have hitherto reluctantly travelled. There are two sides to the question raised by the deputation, and both have to be taken into account by the government.—The Monetary Times.

With deep snow covering the ground, and with ice twenty inches thick on the bay, our manufacturers should feel grateful to our esteemed contemporary for the buckets full of cold water it is pouring down their backs—very thankful. No one supposes that the Canadian tariff is like the laws of the Medes and Persians, which cannot be altered. No one supposes that the government is composed of a lot of narrow-minded and spiteful men who are inclined to do a mean act simply because the manufacturers ask them to perform a just one. Are the manufacturers to be denied the right of petition? Suppose they do remember that the present government come into office as anti-protectionist, have they not been in office for these many years, and have they not, during all that time, substantially upheld the tariff bequeathed to them by Hon. Mr. Foster? The manufacturing industries of Canada, with a few exceptions, are in a decidedly flourishing condition, and if those which are not in that condition can show to the government that their sufferings arise from some incongruities of the tariff, should not the necessary relief be afforded? There is no question as between a revenue tariff and a high protection tariff. With the woolen industry particularly it is a matter of life or death. The government does not wish to see the woolen industry die. Cold water and wind are cheap commodities at this season of the year.

#### ASK AND YE SHALL RECEIVE.

An influential deputation from the Canadian Manufacturers' Association had a lengthy interview with the Premier, and the Ministers of Finance and Customs in Ottawa on January 21. The interview was a private one, but the questions presented for consideration might be grouped under the following heads:—Suggested temporary recall of Mr. J. S. Larke, Canadian Commissioner to Australia, in order that he may post himself upon the development in Dominion affairs since he has been absent from the country, and give the manufacturers of Canada the benefit of his experience. Appointment of special trade commissioners to Great Britain. Appointment of Canadian agents at foreign centres, where Canada does business, who should be required to furnish to shippers and exporters of Canadian goods information calculated to facilitate and develop trade. Reciprocal trade on an equitable basis with Australia. Substantial assistance towards direct steamship communication with Australia and South Africa. At present the export of heavy Canadian goods to Australia go by way of New York, resulting in heavy transshipment charges and vexatious delays, which render it difficult to compete with United States exporters. With respect to South Africa it was recognized that the privilege of shipping Canadian merchandise to that country had given an incentive to Canadian exports, but trade would be put on a more permanent and satisfactory basis by the government subsidizing a line. The imposition of a net duty of 30 per cent. upon woolens instead of a duty of 35 per cent., with the tariff preference of one-third off. Equalization of the duty on oatmeal, as compared with that upon oats, by substituting a specific duty of 60 cents per 100 lbs. in the place of the present ad valorem duty of 20 per cent. upon the former. Extension of same encouragement now given to iron and steel industries to new branches of those industries as they come to be established in the country. The readjustment of the tariff in so far as it effects agricultural implements and cottons was also urged. During the discussion the ministers asked numerous questions, and seemed desirous of informing themselves as fully as possible upon the points raised.

#### SHIPMENTS FOR SOUTH AFRICA.

The Dominion Department of Agriculture has been shipping large quantities of Canadian products to South Africa on account of the Imperial War Office. The shipments, now amounting to six or seven shiploads per month, are helping to develop the commerce in agricultural products from Canada. In view of the demand which is likely to arise in South Africa at the close of the war for wheat or flour, oatmeal, beans, pearl barley, cured and canned meats, canned fruits, lumber, timber, and other building materials, all sorts of manufactures of wood, wagons, agricultural machinery and probably pulp and paper, Hon. Mr. Fisher, Minister of Agriculture, sought permission from the Imperial War Office to carry such merchandise as Canadian manufacturers and merchants might want to send to South Africa on steamers chartered for cargo for the War Office. A cablegram has been received from Lord Strathcona, intimating that the War Office has assented to his request. Consequently the Department of Agriculture will be prepared to carry shipments of merchandise from St. John, N.B., and Halifax, N.S., to Cape Town, South Africa. Such shipments should be delivered at shipping ports the last week of each month, beginning in February, and until further notice. The rates of freight will be reasonably low. Those who desire

to make shipments should communicate with the Commissioner of Agriculture and Dairying, Department of Agriculture, Ottawa. The freight charges to Cape Town, including loading on the ships and discharging, will be at the rate of \$5 per ton of forty cubic feet until further notice. The ocean freight must be prepaid to the Department of Agriculture, Ottawa, on or before the date of the sailing of the steamship. The department will not undertake to collect from the consignees any advance freight charges or any other charges. Shippers should consign their goods to the consignees at Cape Town, or to some one who will act as their agent, and the Department of Agriculture will accept no responsibility in regard to the storage or care of the goods after they are delivered from the steamship. Any goods not on a through bill at landing from a railway station in Canada may be billed care of the Dominion Department of Agriculture, at shipping port for export to South Africa. Shippers should insure their goods. The officers of the department will afford assistance in facilitating the loading of the goods, and also the delivery of them to the consignees at Cape Town, but the department does not accept any responsibility in regard thereto, or in regard to the safety or safe carriage of goods.

#### BREWERS AND DISTILLERS.

The very large anti-prohibition delegation which waited upon Premier Ross and the Ontario Government a few days ago reminds us of the fact that a large number of Canadian manufacturers are financially interested in the settlement of the liquor question. Many of the distillers and brewers of Ontario are members of the Canadian Manufacturers' Association, and have been for years, and as such are entitled to whatever assistance the Association can render in preventing any injury to their industries.

One of the cardinal objects of the Association, as laid down in its constitution is "To enable those in all branches of manufacturing enterprise to act in concert as a united body whenever action in behalf of any particular industry or of the whole body is necessary." The iconoclast is abroad in the province, raging like Carrie Nation, to destroy an important industry, and it is to be seen whether the Association will make any effort to protect and defend the interests of members who were present at its "bornin'" and have always been liberal contributors to its financial requirements. Now is the time, these members think, for the Association "to act in concert as a united body."

The financial side of this question was, at the interview alluded to, presented by Mr. James Haverson who went into the argument in some detail. He said the capital invested in distilleries, breweries, malt houses, etc., in Ontario was \$15,500,000; there was invested in the real estate of the retailers \$38,000,000; in stock and fixtures, \$21,000,000; a total of \$74,000,000 directly invested in the business. The amount paid annually by the distillers and brewers to the farmers of Ontario was \$2,382,000; to the transportation companies, \$450,000; in wages by the distillers and brewers, \$1,200,000, and in other outgoings, \$1,012,000, while the retailers paid in wages \$10,500,000, or an annual expenditure of \$15,500,000. There was to-day in bond in this Dominion 14,000,000 gallons of spirits, on which the duty alone would be \$26,500,000. Last year the Province of Ontario received from the liquor trade \$629,000, of which \$250,000 was paid to the various municipalities. All the distilleries of the Dominion were in Ontario; we had the largest number of breweries, and we also had more than one-half the retail trade in all the

Dominion. Besides the trade itself, our banks, loan companies and other financial institutions would be most seriously affected by any prohibitory legislation.

#### ONTARIO.

The salient points in the public accounts of the Province of Ontario, placed on the desk of members of the Legislature a few days ago, are, according to the Globe, as follows:—

That at the close of the year the cash in bank at the credit of the government was \$1,468,492.

That of this sum \$1,292,931.25 is drawing interest, the balance of \$175,561 being current account, with \$220,898 in interest-bearing debentures.

That the province began the year with \$824,398 in the banks, and finished it with \$1,292,931.

That \$39,298.27 was received in interest from the banks on the moneys therein deposited.

That \$142,414.48 was received in interest from the Dominion Government on the provincial funds still in the hands of that government.

That the revenue, although not as large as in some previous years, nevertheless exceeded expectations, and, as will be seen, far more than covered expenditures. It amounted to \$4,466,043.

The government collected from the corporations, namely, banks, life insurance, fire insurance, trust, loan, railway, street railway, express, gas, electric light, telegraph, telephone, natural gas, and sleeping and parlor car companies—\$237,506, a virtually new source of provincial revenue.

From the estates of the rich \$366,581 was collected in the form of death duties.

A large portion of the receipts is immediately returned to the people for such services as these:—

Administration of justice .....	\$416,042
Education .....	782,193
Public institutions maintenance .....	833,163
Agriculture .....	209,858
Hospitals and charities .....	192,280
Colonization roads .....	179,008

The chief feature of the Ontario finance is that, with the exception of the grant to railways, everything is paid for as it arises. Whether it be a canal lock or dam in northern Ontario, or a vast public building, it is paid out of current revenues. This practice has contributed more to economic and prudent administration than perhaps anything else. We pay as we go—that is the secret of successful domestic finance, and the homely Government of Ontario deemed that what was good for the home was good for the province.

In a sentence, Ontario has money invested with the Dominion on which she gets \$142,414, other sums invested in banks and elsewhere on which she got in interest last year \$46,760, and, with the exception of the railway indebtedness, owes no man a dollar. Should not the men who have managed her affairs for thirty years get some credit for this happy state of affairs?

#### ACETYLENE GAS.

Certain United States consular officers in Germany were recently instructed to report on the uses of acetylene gas in that country, and Consul Kehl writes as follows from Stettin:

Acetylene gas is emerging from a crisis which almost retired it as an illuminant. About eight years ago, when this gas was in its infancy, numerous devices for its manufacture sprang into existence; but through ignorance and improper construction, many fatalities resulted. In December, 1896, an awful explosion of acetylene gas occurred in Berlin. The press denounced its uses; the police authorities throughout Germany placed almost prohibitive restrictions upon acetylene generators; the preparing of liquid acetylene was strictly forbidden; insurance companies protected their interests by high rates and special requirements in addition to those prescribed by the police. As a result, only safe and meritorious machinery is now constructed.

The advantages claimed for acetylene gas are many. It is

the nearest approach to sunlight, with a power said to be 15 to 20 times as great as ordinary coal gas, and with six times less heat when used for illuminating purposes.

For the manufacture of gas-producing contrivances and the various acetylene-burning devices, Germany has about 235 factories, the most important being the "Allgemeine Carbid and Acetylen Gesellschaft, Berlin." This concern manufactures everything in the line of acetylene-producing machinery and the different gas-consuming articles.

The imperial testing station for marine lights, situated close to Stettin, has officially tested the lighthouse burner and reflector manufactured by the firm above named. The chief of the station, in a personal interview, expresses himself as follows:

For lighthouses out of reach of electricity, and easily accessible in winter or summer, acetylene would render good services, although it can in no way be compared with electricity in reliability, on account of the many details which must be looked after when burning this gas. I prefer electricity. Most of the French coast lights are electrical, while our lights are all petroleum.

The acetylograph, manufactured by the same concern, is a portable search or signal light, and can be used by day for signaling purposes. This apparatus, carrying its own generator, is mounted on three legs similar to those of a camera.

The hand search light for the hospital or medical corps has a small generator attached to a belt and connected with a reflector by a hose about three feet long.

Successful experiments have been made with acetylene as an aid for photographic light, when making time exposures.

Radenz Castle, at Koschmin, is lighted throughout with this gas. Many other instances can be quoted where acetylene is used for illuminating. In general, it is not believed that it will ever become popular or have great commercial value. The constant care required to prevent accident is an impediment.

Acetylene gas is used on several Swedish steamers for the toplight, the side lanterns, and for search lights. It has recently come into use at several railroad stations, and favorable reports have been made. The gas is furthermore used in carriage and bicycle lamps and hand lanterns in factories, and for small cooking and laundry stoves. It is considered that acetylene would also be adapted for lighting large country estates, churches, hotels, etc.

It is calculated that a factory using fifty lamps at 16 normal candlepower each, burning seven hundred and twenty hours per year, would have the following yearly expenses for lighting:

Using petroleum, refined, at present price..	\$149.97
Using coal gas in common burners.....	291.85
Using electric incandescent lamps.....	236.88
Using acetylene gas.....	125.53

These calculations are based on the average price of gas and electricity and counting calcium carbide at 27 kronor per 100 kilograms.

#### EDITORIAL NOTES.

The Oriental Annual Publishing Co., Seattle, Wash., have sent us a copy of their Oriental Annual, for 1902. It is a well-bound book of 375 pages intended for the use of manufacturers and merchants to whom a classified business directory of the Far East is indispensable. The information and suggestions it contains regarding correspondence, freight, consignments, packing, etc., are valuable. Mention is made of the possibilities of trade in Japan, Formosa, Eastern Siberia, Korea, China, Philippines, Tonkin, Cochin China, Siam, Straits Settlements and Netherlands, India; and the names of reliable mercantile concerns are enumerated, who do business in the chief cities of all the countries alluded to. The book should be of much use to all Canadian manufacturers who desire to do an export trade to those countries.

A few days ago Assessment Commissioner Fleming, addressing the Legislative Committee of the Toronto City Council, stated that he would urge upon the Council that representa-

tions be made to the Legislature to have the law regarding exemptions changed. By the old law, which had gone into effect in 1893, the city had the right to exempt manufacturers from taxes on their plants, tools and machinery, by a two-thirds vote of the Council. Two years ago the law was changed, so that the Legislature had to approve of any exemptions that were made, or these exemptions had to be passed by a two-thirds vote of the electorate entitled to vote on money by-laws. This new law, the commissioner pointed out, would go into effect on December 31. If it was not deliberately passed to hurt Toronto it would certainly have that effect. It would be impossible, he declared, to get two-thirds of the property-holders to support exemption by-laws. Many of these men did not live in Toronto. The new law, he thought, would not only hurt Toronto, but would affect the province. Manufacturers would be induced to settle in Quebec instead of Ontario. He referred to a case where a Toronto firm had been offered \$60,000 to move their plant to a place near Montreal. The commissioner again protested that the law was a gross injustice to Toronto. If it went into effect on December 31 it would mean a loss of \$40,000 to manufacturers. What he wanted was to have the old law continue in force, or to go even further, and make it possible for the city to exempt manufacturers on everything but land. The old law gave the city the right to make exemptions, renewable after ten years. The committee endorsed the commissioner's proposal, and sent it on as a recommendation to Council.

The Montreal Board of Trade, and the Montreal Chambre de Commerce are acting in harmony in an effort to have the City of Montreal made the meeting place of the next Convention of the Chambers of Commerce of the British Empire. Joint delegations were appointed to interview the Dominion Government in the matter.

The great problem of modern statecraft is the finding of new markets. Within the border of the Chinese empire lives one-third of the entire human family, and granting that the individual Chinaman does not have the consuming power of the average white man, still with this enormous population China possesses the greatest undeveloped power of consumption that exists on earth, and its enormous trade that is to be is recognized as the prize of future commerce. China offers a market so tremendous in its possibilities and a trade so rich in its promised rewards that all others fade into insignificance when compared with it. It is not, therefore, surprising that the powers have been striving to bring this last great unexploited market under their control, and that they are jealously watching each other while seeking to enlarge their own spheres of influence.

To those not directly concerned in the navigation of the great lakes the magnitude of lake commerce, surpassing in its growth even the ratio of the unexampled trade development of the United States, tells a story both startling and impressive. The Suez Canal is at present the great artery of trade between Europe and Asia. The volume of tonnage passing through it is enormous, yet the tonnage now passing through the Detroit River in eight months—40,000,000 tons—is four times as great as that passing through the Suez Canal in a whole year. London and Liverpool are two of the largest seaports in the world, but the yearly vessel tonnage of the Detroit River exceeds the combined entrances and clearances of both of them, and is nearly double the entrances and clearances of the port of New York as well, which amounted in the twelve months ending July 1, 1901, to 25,085,321 tons.



Hon. F. R. Latchford, Commissioner of Public Works, has introduced a bill in the Ontario Legislature providing for the construction, equipment and operation of the Temiskaming and Northern Ontario Railway as a Government enterprise. The terms of the bill provide for the appointment of a commission of from three to five men to construct and operate the railway, which will run from North Bay to a point at or near Lake Temiskaming, a distance of between 90 and 100 miles. The location of the line, plans of all works, tariffs of rates, etc., must be approved by the Lieutenant-Governor in Council. The railway may make reciprocal running arrangements with other railway companies. The cost is to be borne by setting apart adjacent ungranted lands in tiers of townships, not to exceed 20,000 acres per mile, on which the debentures shall be a charge. The railway shall be constructed and equipped with Canadian material as far as possible. No person shall be employed in contravention of the Alien Labor Act, and the current rate of wages in the district for similar work shall be paid.

Mr. Justice Burbidge, at Ottawa, has decided a very important point in the Exchequer Court, namely, that the Crown is not liable to pay interest upon moneys in its hands belonging to the subject unless some statute directs it to be paid or there is some contract between the Crown and the subject that interest should be paid by the former. In the case of the Algoma Central Railway Co. v. the King, the suppliants sought to recover interest on the sum of \$3,500 paid under protest be them as duty upon a ship built in the United States and tendered to be registered in Canada. In *Ross v. the King* the suppliants, Ross & Mackenzie, sought to recover interest on money (\$53,212.54) for duties on steel rails imported for the Montreal Street Railway, which duties were afterwards refunded. The claim for interest in both cases was dismissed.

The managers of the Toronto Industrial Exhibition have, very wisely we think, decided that the Fair this year shall be opened a little later than usual, and be kept open a little longer. It will be opened on Saturday, August 30 and closed September 13, just two weeks later, the formal opening to occur on Labor Day, September 1. We learn that all the preliminary work possible to be done at this time is being done, and that as soon as the wintry weather has passed the construction of the new buildings, and the rejuvenation of the old will be pushed with great energy. The forthcoming Fair will be an undoubted success, and we hope that every manufacturer who has anything worth showing will exhibit it on that occasion.

Architect Lennox is offering prizes for designs for a Coat of Arms and Crest emblematic of the name of Toronto's big new hotel, the King Edward VII, now rapidly nearing completion. Coming to the matter of awarding prizes for designs, we suggest to Architect Lennox that he might obtain pointers by consulting with the Committee of the Canadian Manufacturers' Association having the management of Industrial Canada in charge, who recently, after extensive advertising, awarded a prize of \$50 to a New York artist for the design now seen on the cover of the official organ. It is quite evident the Committee considered that no artist in Canada was equal to the requirement.

A committee of the Canadian Manufacturers' Association waited upon the Dominion Ministers a few days ago to urge the subsidizing of a regular line of steamers between an

Atlantic Canadian port and South Africa and Australia. The selection of a terminal port in Australia was advocated on the ground that it does not pay to haul heavy goods over the C.P.R. to Vancouver, B.C.

If it be true, as stated in a press telegram, that Britain is to impose countervailing duties against bounty-fed sugar, the cane sugar industry of the West Indies will jump to the front once more. It was the bounty system which drove the sugar dealers of Jamaica and the other islands almost to ruin.

The imports of sugar into Canada in 1901 were valued as follows:—

Grade.	British Guiana and British West Indies.	All Countries.
Above No. 16 D.S. ....	\$26,168	\$1,068,412
Not above No. 16 D.S. ....	430,750	6,824,882
Molasses 40 per cent. ....	514,466	1,065,490
	\$971,384	\$8,958,784

The value of the imports from the British possessions alluded to amounted to only about 10 per cent. of the entire.

We have been shown a letter from the office of Lord Strathcona, High Commissioner for Canada in London, addressed to The Manufacturers' List Co., Toronto, publishers of the Manufacturers' List Buyers' Guide of Canada, in which Mr. J. G. Colmer, the Secretary, says:—"I am directed by the High Commissioner to acknowledge receipt of your letter of 13th ultimo. His Lordship is glad to observe that you are complying with the suggestions he made in a former communication, and adds that it would give him much pleasure to hear of your Buyers' Guide receiving the widest circulation possible both in Canada and Great Britain; and that he has found the copies with which his office has been supplied of much value in dealing with the large correspondence received regarding commercial matters." There is no other book published in which is so exhaustively given the names of Canadian manufacturers and the different articles made by them as the Buyers' Guide, alluded to by Lord Strathcona. THE CANADIAN MANUFACTURER finds it of great value in replying to the many enquiries received from both at home and abroad regarding Canadian products and Canadian producers.

Assistant Secretary of the Treasury Spalding, acting on the suggestion of the State Department, has directed that official flags in future should not be displayed by United States customs officers stationed in Canada. Some time last summer a Canadian customs flag was forcibly removed by Americans from a building occupied by Canadian officials at Skagway, Alaska, and that incident initiated a correspondence which resulted in an agreement between the United States and Canada that neither should display its flag in territory of the other.

The lecture delivered on Wednesday evening last by Warren S. Johnson, Esq., Am. Soc. M.E., in Engineer's Hall, Toronto, was exceedingly interesting and instructive. It was arranged for by A. M. Wickens, Esq., Chairman of the Educational Committee of the Toronto Section of the Canadian Association of Stationary Engineers; and in this connection we again direct the attention of manufacturers and steam users generally to the splendid educational work being done by the C.A.S.E. There are but few first-class steam using concerns in Ontario whose engineers are not members of this Association of which Mr. Wickens is one of the moving spirits.

## CAPTAINS OF INDUSTRY.

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

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

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

Orillia, Ont., is now lighted by power from Ragged Rapids on the Severn River, nineteen miles distant. Two years ago a contract for the installation of the plant was given to the Electrical Maintenance & Construction Co., of Toronto. The cost of the plant will be about \$125,000. The town will be supplied with 750 h.p. from two turbines and generators. The plant is owned and will be operated by the municipality.

Rat Portage, Ont., wants power to take over the electric light system and the Citizens' Telephone & Electric Co., also power to issue \$20,000 debentures to improve the waterworks system.

The machine shop of the McLean Mfg. Co., Charlottetown, P.E.I., was destroyed by fire January 24.

The citizens of Glace Bay, N.S., have passed a resolution authorizing the expenditure of \$150,000 for the installation of a water system for the town.

The Canada Paint Co., Montreal, is considering a proposal to establish a factory for the manufacture of white and red lead and litharge from lead mined in British Columbia. One thousand tons of lead are imported, chiefly from Germany, some of it is manufactured from lead ore mined in British Columbia. It is understood that the establishment of the factory depends upon the government extending sufficient protection to the promoters.

The Dominion Government has approved an issue of \$20,000,000 capital stock

of the Canadian Pacific Railway Co. The proceeds are to be applied to improvements enabling the company to handle the immense increase of traffic on its lines, especially in the Northwest. The money will be spent as follows:—New rolling stock and locomotives, \$9,000,000; double tracking, \$6,000,000; new plants and shops, chiefly at Montreal, \$1,500,000; new elevators and improvement on terminals, \$3,000,000; miscellaneous improvements, \$500,000.

The Gulline horse collar factory, Granby, Que., was destroyed by fire January 26. Loss about \$70,000.

The total number of vessels remaining on the register books of the Dominion on December 31, 1900, including old and new vessels, sailing vessels, steamers and barges, was 6,735, measuring 659,534 tons register tonnage, being an increase of 37 vessels and a decrease of 19,818 tons register, as compared with 1899. The number of steamers on the registry books on the same date was 2,101, with a gross tonnage of 293,096 tons. Assuming the average value to be \$30 per ton, the value of the registered tonnage of Canada, on December 31 last, would be \$19,786,020. The number of new vessels built and registered in the Dominion of Canada during the last year was 297, measuring 22,329 tons register tonnage. Estimating the value of the new tonnage at \$45 per ton, it gives a total value of \$1,004,805 for new vessels.

The Dominion Coal Co., Sydney, N.S., ship Canadian bituminous coal to Scandinavian and Russian markets, also to Italy and the Mediterranean. Their product is spoken very highly of by the railway engineers of both Russia and Denmark. The company has several steamers of its own in the trade, and when necessary other vessels will be added.

Mr. C. E. Sontum, Canadian commercial agent for Norway and Sweden, says that the lumber industry there is seriously crippled through low water. The pulp factories all over Europe are compelled to reduce their output from the same cause. The opening is a good one for Canadian pulp and lumber, and will no doubt be taken advantage of.

Mr. J. F. McLaughlin, Toronto, has been on a visit to Quebec representing a flour mill company which is being organized. A mill will be built of the capacity of 1,000 barrels and from three to five hundred barrels of cereal products a day either at Quebec or Point Lévis.

Mr. Harvey Graham of the Nova Scotia Steel & Coal Co., New Glasgow, N.S., has had an interview with the Quebec Harbor Commissioners, to try to obtain a site for the storage of 100,000 tons or more of coal. Also wharfage accommodation for the steamers bringing coal to Quebec. The company intends, if the request is granted, to make Quebec the point of trans-shipment for their coal throughout the West, for which purpose they are prepared to erect rapid discharging labor-saving machinery.

The Edwin Sharewell Lumber Co., Chicago, Ill., has purchased nearly all of the high grade white pine lumber held over in Ottawa aggregating over 7,000,000 feet, the price paid being \$150,000.

The Polson Iron & Shipbuilding Co., Toronto, is building what is said to be the largest dipper dredge in the world for contractor Paupore of Montreal, at a cost of about \$62,000. The dipper will be capable of reaching down to the depth of 50 feet and scooping up 13 tons of material. It will have a capacity of 60 loads an hour, which for a day's work of 10 hours means 15,600,000 pounds.

The Central Milling Co., Peterborough, Ont., expects to have their new mill in

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Makers, Stone-  
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THE JAMES COOPER MFG. CO. LIMITED

299 St. James St., Montreal

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Pneumatic  
Augers,  
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Boring Machine,  
Flue Cutters,  
Rollers and  
Welders,  
Air Lift Pumps,  
Jacks,  
Paint Spreaders,  
Belt Nippers.



running order in a few days. The Auburn Power Co. will supply the electric power.

The Bruce Mines & Algoma Railway Co., which have constructed their line from Bruce Mines to Rock Lake, 15 miles, have applied to the Government for a cash subsidy of \$3,000 per mile for an extension for a further 15 miles into the copper region thereabouts.

Silicate brick is the name of a product new to this country, which will shortly be manufactured on a large scale in Montreal. The process for making these bricks, as now carried on by over 50 firms in Germany, is very simple. Sand and lime are the materials used. They are moulded into bricks under a pressure of 150 tons, and placed on steel cars and driven into large resorts containing 10,000 bricks, which are then closed and live steam is introduced giving a pressure of 120 pounds to the square inch. After remaining in this receptacle for 10 hours the bricks become solid as stone, and are then turned out to cool when they are fit for building purposes. As the materials are easily obtained the manufacture of these bricks may be carried on in Montreal, and will doubtless prove a most important industry in the near future.

The Hastings Shingle Mill Co. will erect another mill near Vancouver, B.C., at a cost of about \$50,000.

The J. A. Gowdey Reed & Harness Mfg. Co., Providence, R.I., manufacturers

of loom reeds for silk, cotton, wool and linen weaving; reeds for carpet and for wire weaving, and of metal reeds generally, announce to Canadian textile manufacturers their desire to supply their wants in these lines. This is an old concern, having been established in 1834—nearly seventy years ago, and have always held an enviable position in the textile trade of the United States.

The Sturtevant steam trap is especially designed for use with the Sturtevant heaters, although equally fitted for operation with steam heaters or radiators of any construction. The body of the trap contains a pot, which, as the water flows from the inlet upon the left into the space around the pot, rises and closes the connection between the interior and exterior. The water accumulates in this space and gradually overflows into the pot until its buoyancy is overcome and it sinks to the bottom. By this action free passage for water is afforded from the pot up through the vertical hollow extension of the cover and thence through the cored passage in the cover to the outer air. The pressure of the steam upon the surface of the water causes this discharge to be rapid, and it continues until the levity of the pot becomes sufficient to cause it to rise and prevent the passage of water by the seating of the extension against the cone screwed into the bottom of the pot. Both extension and cone are of brass, and are ground to a fit, insuring a tight joint when in contact. The periodic delivery continues as long as there is water to

discharge or sufficient steam pressure to cause the trap to act. When starting up, the valve at the top should be opened to allow a free discharge of air, water and steam from the heater. As soon as clear, and steam begins to be blown out, this valve should be closed and the trap allowed to act as already described. As some of the core sand from the heater sections often works into the trap when it is first set up, it is best to open it several times during the first week and give it a thorough cleaning. This is readily done by loosening up the bolts that hold the cover down, when cover and pot can be readily removed. These traps are specially constructed to act at different pressures.

The Dominion Department of Agriculture, is making arrangements to ship another consignment of 500 tons of flour to South Africa in response to an order from the British war office.

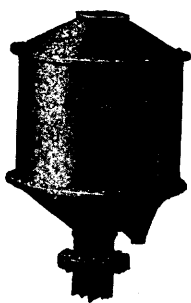
The Lake Superior Timber Co., Windsor, Ont., has been incorporated with a capital of \$50,000, to manufacture pulpwood, etc. The provisional directors include C. M. Swift, Clarence Carpenter and W. C. McMillan, all of Detroit, Mich.

The dry dock at Collingwood, Ont., will be 530 feet in length by 78 feet in width, and will be completed by the spring of 1903. To accommodate steamers of the largest class the harbor has been dredged to a uniform depth of over twenty feet. The Collingwood Shipbuilding Co. will launch a passenger and

## The Good Points

ABOUT

### Burt Exhaust ...Heads...



Are soon discovered.

The Baldwin Locomotive Works, Philadelphia, lately sent us their fourth order for exhaust heads, making seven purchased within two months.

Burt Exhaust Heads save repairs, save fuel, prevent spattering of roofs and walls by exhaust steam. Their wide adoption by prominent firms at home and abroad stamps them absolutely best.

Catalogue will be sent on request.

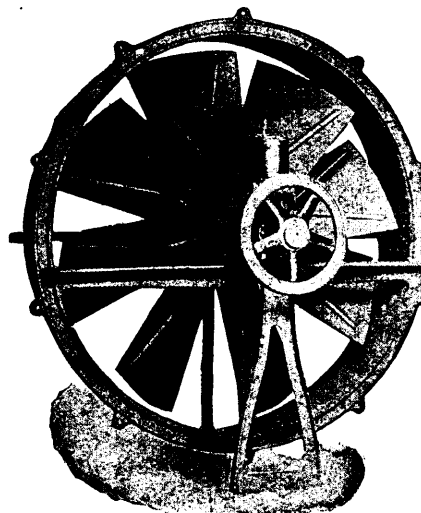
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LARGEST MFRS. OF OIL FILTERS IN THE WORLD

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Steam-Pulley-Electric  
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Buffalo Disc Wheel, with Double Vertical Engine.

## BUFFALO FORGE COMPANY

BUFFALO, N.Y.

E. A. WALLBERG, - 410 Temple Building, Toronto.

Merchants Bank Building, - Montreal

freight steamer of 3,200 tons capacity in April. The great 7,000 ton freighter for Mr. Clergue, of Sault Ste. Marie, Ont., will also be launched early in the spring.

The Toronto Industrial Exhibition will erect new buildings as follows:—Art Gallery, \$10,000; Manufacturers' Buildings, \$106,000; Dairy Buildings, \$14,000. The Main Building will be remodeled and fitted up for the exhibit of vehicles, bicycles, etc.

The Blenheim Ont. News of November 7, 1901, after noting the objection to the payment of various accounts, in its report of the town council meeting says:—"A pleasant change was the prompt manner in which the Goldie & McCulloch Co's account of \$2,829.50 for boiler, engine and fittings was passed, amid words of highest commendation by all the members for the manner in which the firm had carried out their contract. On motion it was decided to tender them a vote of thanks for the manner in which they had done their work."

Messrs. H. W. Nelson & Co., Toronto,

have been incorporated with a capital of \$50,000, to manufacture brooms, whisks, brushes, etc. The provisional directors include Joseph Kilgour and S. G. Wharin, both of Toronto; and H. W. Darling, Schenectady, N.Y.

The Peterborough Peat Co., Peterborough, Ont., has been incorporated with a capital of \$150,000. The provisional directors include R. R. Hall, F. J. Jameson and F. J. Bell, all of Peterborough.

The Eastman Machine Co., Toronto, has been incorporated with a capital of \$30,000, to manufacture the Eastman cloth cutting machine. The provisional directors include G. P. Eastman and F. H. Hurlburt, both of Toronto; and W. A. Mills, Montreal.

Messrs. W. R. Johnston & Co., Toronto, have been incorporated with a capital of \$750,000, to manufacture clothing, etc. The provisional directors include W. R. Johnston, J. C. Black and Alfred Johnston, all of Toronto.

The Central Ontario Power Co., Peterborough, Ont., of which Mr. J. A. Culverwell is managing director, will open a branch office in Toronto.

The Canadian Canoe Co., Peterborough, Ont., appreciating the fact that in the coming season there will be a greater demand than ever for canoes, skiffs and boats, for cruising, racing, fishing, rowing, sailing, etc., are letting our readers know that they are prepared for furnishing all such craft, equipped with oars, paddles, sails, etc., as heretofore. First come, first served; and those who wish their boats built to order should make their wishes known in time.

The Cockshutt Plough Co., Brantford, Ont., will increase their capital stock from \$250,000 to \$750,000, and about double the capacity of their works. New buildings will have to be erected and the number of men employed will be very largely increased.

The Hudson Bay Co., Winnipeg, Man., will erect a new flour mill at Fort Vermillion, on Peace River.

**CAMEL BRAND** ..... **BELTING**  
**BALATA** . . . . .  
**RUBBER** . . . . .  
 Linen Fire Hose,  
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**GOLD WATER PAINT**  
 WEATHER PROOF, FIRE PROOF  
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**MILL SUPPLIES**  
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 PAINT, PAINT OILS, ETC.

**W. A. FLEMING & CO.**  
 Montreal and St. John, N.B.

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 STAR."

**Portland Cement**

"BEAVER"  
 BRAND

MANUFACTURED BY

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Capacity of Works—500,000 Barrels per Year.

THE RATHBUN COMPANY,  
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SALES  
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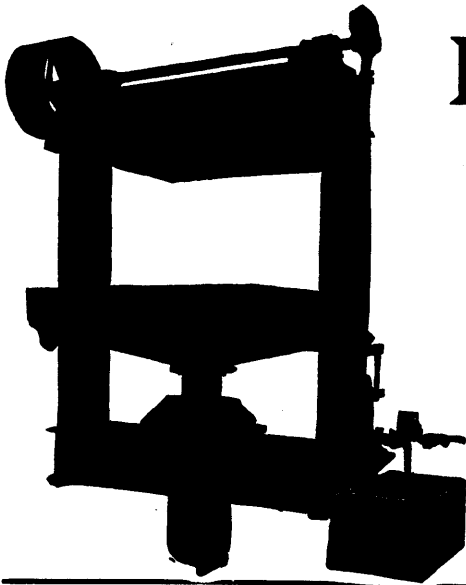
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**PRESSING VENEERS**

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**BALING, Etc.**

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CATALOGUE  
AND PRICES

## William R. Perrin & Company

TORONTO, - CANADA

The citizens of Brockville, Ont., have voted favorably on a by-law to raise \$50 000 for improvements to the gas-electric light plant of that city.

The Deering Harvester Co., Chicago, Ill., is negotiating with the town council of Brockville, Ont., for the erection of a mammoth branch of their business in Canada. They propose erecting three large buildings with power-house upon a site covering twenty-five acres. They guarantee to employ one thousand men at the start.

The Mica Boiler Covering Co., Montreal, inform us that they have already secured a suitable site for a new factory in the United States, and will, within the next few months, be manufacturing in it mica boiler covering to supply their customers in that country. The location of this factory will be announced later.

Mr. Southworth, of the Ontario Bureau of Forestry, is in receipt of a letter from an American manufacturing company, asking for the names of Ontario manufacturers of soft wood charcoal. The firm is desirous of purchasing quantities of the material to be used in the manufacture of explosives.

Messrs. Selby & Youlden, Kingston, Ont., proprietors of the Kingston foundry, will enlarge their works. They are manufacturers of steel pressed car wheels, roller bearing railway, section, hand and

push cars, track laying cars, marine engines and boilers, capstans, steering gears, etc.

The London, England, branch of the Mica Boiler Covering Co., Montreal, have succeeded in getting their mica covering introduced on several British battleships, and have recently received intimation from the French Admiralty of their intention to use it on one of their cruisers. Some of the principal railways in England, including the London Northwestern, are using mica covering on the boilers and cylinders of their locomotives with the most satisfactory results.

One of the most beautiful office calendars that has come to us this year is that sent us by the Reese-Hammond Fire Brick Co., Bolivar, Pa. The attraction consists in an art bas-relief of Love's Dream, painted by W. J. Martens. This company have also sent us a copy of the first of their series of Indian calendars, the one before us being of Fool Bull, Medicine Man of the Sioux Indians, whose strong face was seen at the Pan-American Exposition. The Reese-Hammond Co. are manufacturers of high grade refractories, clay products, etc., whose works have capacity to turn out a hundred million brick per year.

The Canadian General Electric Co. has closed a large preliminary contract for equipment for the new plant of the

Canadian Niagara Power Co., at Niagara Falls, Ont. While no details are given out, it is understood that these contracts look to the installation of three of the largest generators ever built in Canada, ensuring a large amount of power on the Canadian side.

The Canadian Niagara Power Co., Niagara Falls, Ont., has awarded the contract for the construction of the big wheel pit and the intake canal in the Queen Victoria Niagara Falls Park, to Lawson & Reilly, St. Catharines, Ont. The contract involves the expenditure of over half a million dollars. The company expects to be able to transmit power to Toronto by October 1 next.

The Ontario Wind Engine & Pump Co., Toronto, are in receipt of information from Central India of the acceptance of a tender made by them for a large windmill outfit for one of the native princes. This is for pumping water in the hill districts, and it is another proof that Canadian goods are finding their way to all parts of the world.

The Shelby Steel Tube Co., Shelby, Ohio, have equipped their plant with Burt exhaust heads, manufactured by the Burt Mfg. Co., Akron, Ohio, who also make the Cross oil filter, which is now saving waste oil for manufacturers in 28 different countries.

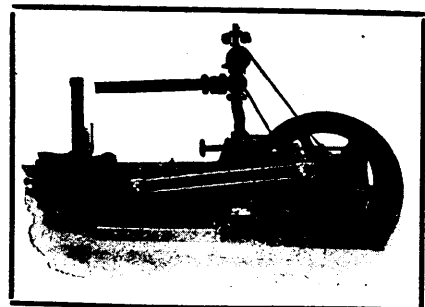
**BOILER, RAILWAY and MACHINE SHOPS CONTEMPLATING THE USE OF**

## PNEUMATIC TOOLS

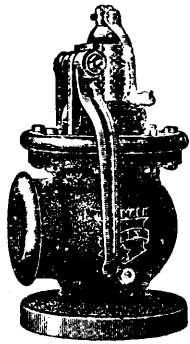
WILL DO WELL TO COMMUNICATE WITH US BEFORE  
INSTALLING PLANT

SEND FOR OUR CATALOGUE OF **AIR COMPRESSORS** ALL STYLES AND SIZES

**CANADIAN RAND DRILL CO.** Montreal and Sherbrooke



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## CROSBY STEAM APPLIANCES EXCEL

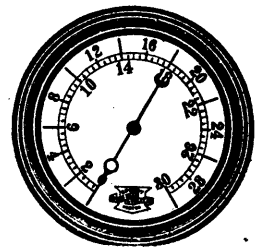
Steam Engine Indicators.  
Recording Gages.  
Revolution Counters.  
Pressure and Vacuum Gages.  
Lubricators, etc.



Stationary and Marine Valves.  
Water Relief Valves.  
Blow-off Valves.  
Globe and Angle Valves  
Single Bell Chime Whistles.  
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**CROSBY STEAM GAGE and VALVE CO.**  
BOSTON, NEW YORK, CHICAGO, LONDON

A TRUTHFUL GAGE  
IS THE  
ONLY GOOD GAGE



Mr. J. E. Varley, representing New York capitalists, has made a proposition to the City Council of St. Catharines, Ont., for the vacant bicycle works to be used as a knitting factory. The promoters ask the use of the factory for a number of years, during which time they will install several thousand dollars worth of machinery and pay out \$20,000 per year in wages.

Berlin, Ont., asks confirmation of the by-law granting a bonus of \$25,000 to the Ontario Sugar Co.

A large copper smelting plant of 800 tons capacity, will soon be erected in the vicinity of Bruce Mines, about twenty miles east of Sault Ste. Marie, Ont., to employ 800 men and pay out annually not less than \$500,000 in wages. The chief promoter is John J. Case, superintendent of the Lake Superior Smelting Co's works at Houghton, Mich. The

copper industry in Ontario is yet in its infancy, and so far has been handicapped by the absence of any smelting plant. A few days ago two carloads of concentrates were shipped from the Rock Lake mine, where the concentrating mill has just been completed, to Dollar Bay, Michigan, to be smelted. The railway from Bruce Mines to the Rock Lake mine will be completed in a few days, as rails are now being laid within sight of the mill.

The Goldie & McCulloch Co., Galt, Ont., has received the contract for the engine and boiler for the new factory of Messrs. Shurly & Dietrich at Tilsonburg, Ont., where will be made farmers tools.

The trustees of the Separate school at Port Arthur, Ont., will erect a new school, which will be a two-storey brick structure, with eight rooms, and will cost about \$10,000.

The Huron County Packing & Cold Storage Co., Clinton, Ont., will open an extensive plant, which will include a pork factory, capable of handling 1,500 hogs per week.

The works of the James Smart Mfg. Co., Brockville, Ont., were damaged by fire January 29 to the extent of about \$2,000.

The iron bedstead and spring factory of Messrs. George Gale & Sons, Waterville, Que., was destroyed by fire January 30. Loss about \$100,000.

The Robb Engineering Co., Amherst, N.S., has shipped two 80 h.p. boilers to E. H. Heaps & Co., for their sawmill at Vancouver, B.C.

The Dominion Bridge Co., Montreal, has been awarded the contract for the construction of the bridge to be built at New Westminster, the contract price being \$411,000.

# PULLEYS FOR FACTORIES



The SUCCESSFUL manufacturer to-day is not governed altogether by price. 5 per cent or 10 per cent difference in discount does not induce him to try "Something just as good." What he buys is what he KNOWS to be the best, and what he knows other people consider the best, and he is right.

### THE DODGE STANDARD WOOD SPLIT PULLEY . . .

undoubtedly stands pre-eminently at the head in the wood pulley line. Its enormous sale is the best proof of this. The extensive works of the makers is an instructive place to visit, and Canadian manufacturers when visiting Toronto are cordially invited to go through. We have an abundance of good literature on the subject of Improved Power Transmission Machinery which we mail for the asking.

**DODGE MANUFACTURING COMPANY**  
ENGINEERS, FOUNDERS  
MACHINISTS **TORONTO**

It is reported that the Canadian Pacific Railway Co., will centralize the building of their cars and that all shops will be transferred to the immense workshops to be erected at Hochelaga.

The business men of Toronto will be naturally interested in Ald. Spence's proposal to bring power from Niagara Falls. Power has been carried a much longer distance in the United States with very little loss. A want of cheap power is one of the difficulties under which Toronto has always labored. Coal must be bought for factories, for the electric lights, for the street cars, and for every other purpose for which power is required. In these days of electricity an immense use is made of water powers, and a city which has not one in the neighborhood is somewhat handicapped. If Toronto can be placed in the same advantageous position as Buffalo, there will be reason for general congratulation.—The Globe.

The sawmill operated by G. S. Mayes at Carleton, N.B., was destroyed by fire January 26.

The Canadian Pacific Railway is having placed on the first floor of the Windsor Street offices one of the most costly steel vaults ever erected in Montreal. The exterior door alone weighs three tons, and has 22 locking bolts of 22 inch diameter, and also with a triple time lock. The second, or inside door has 30 locking bolts. The interior, which measures 12 feet 6 inches by 9 feet 3

inches, is composed of five layers of crown steel, the whole resting inside of a fireproof brick casement and columns, so that in the event of the destruction of the building, the steel vault would remain intact upon its columns. The vault is from the drawings of Mr. J. M. Mossman, the celebrated American safe expert.

It is officially stated that any increase or decrease in the duties now being levied under the Australian Federal tariff will not be charged or refunded to importers in the event of amendments, as was originally intended and announced. All amendments to the tariff rates will take effect immediately upon their passage, and the Government will at once notify collectors of customs to charge the altered duty according to the amendment from that date. This means that practically the entire schedule is subject to change without notice, and manufacturers should therefore govern themselves accordingly. On the other hand, it should be noted that in general the changes thus far made have been in the direction of lowering the duties imposed in the original bill rather than of raising them, and the effect of the changes will therefore be favorable to exporters. It is impossible at present to give anything approaching a complete summary of the changes thus far made in the tariff, which is now being debated item by item in the Federal Parliament.

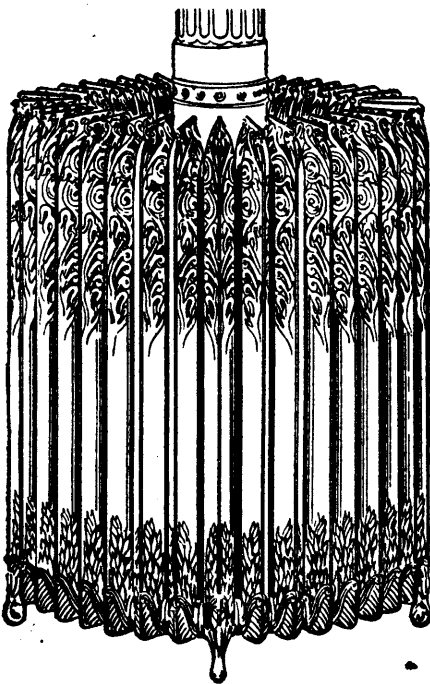
Official returns regarding the imports

of all the British colonies in South Africa indicate most clearly that, however active the Boer military forces may be, trade is steadily being resumed, and both public and private enterprises are once more being taken up. The total imports into these important markets for the year just closed cannot yet be stated with accuracy, but it will not fall short of \$150,000,000.

Manufacturers requiring paint for special purposes, such as quick drying paint (but good) dipping paint, odd color, or such will find The Zanzibar Paint Co., Toronto, Ont., well equipped to supply their needs as they cater specially to this class of trade. They would be pleased to submit test, samples and prices if furnished with particulars.

At the recent annual meeting of the Tanners' Section of the Toronto Board of Trade the part which tanners took in connection with the war in South Africa was commented upon by Secretary Bickell, who remarked that "thousands of sides of our leather were made into saddles and other military accoutrements, as well as a considerable quantity of boots, leggings, etc., and, as far as we can learn, proved entirely satisfactory. We should feel proud that we can manufacture leather and that we have connected with our trade men who can build military accoutrements that will pass the strict examination of the military authorities at Southampton. Instances have been cited in which shoes made in Canada have seen a full year's service in South

# Radiatorology



That's our specialty—Radiatorology. It's a science—How to build a radiator that's easy to handle for the contractor and is a comfort-giver and a saver of money for the home-builder.

## The "Safford"

is all this. It's no new thing, but is recommended by a world of people who have used it.

Write to us for a Catalogue or other information.

**THE DOMINION RADIATOR CO., LIMITED**

Head Office—Dufferin Street,

TORONTO, CAN.

# THE BEST PIPE THREADING and CUTTING-OFF MACHINES

Are Made by the **ARMSTRONG MFG. CO., BRIDGEPORT, CONN.**

Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES** and Water, Gas and Steam Fitters' Tools.

Send for Catalogue 27. Factory: **BRIDGEPORT, CONN.** New York Office: **139 CENTRE STREET.**

Africa and returned in fair condition. Similar reports have been made by different officers regarding saddles and other military equipment of Canadian manufacture which gave universal satisfaction to the troops."

Mr. Charles Chamberlain has recently returned back to Winnipeg, Man., from New York, where he had completed arrangements with the capitalists to start immediately the carrying out of the great enterprise of erecting immense pulp and paper mills, and developing water-power to the extent of 100,000 h.p. on the Winnipeg River, 65 miles from that city. The mills, Mr. Chamberlain says, are to be in operation within two years, and the intention is declared of transmitting power to Winnipeg next fall.

The Joseph Dixon Crucible Co., Jersey City, N.J., gives interesting information concerning the protective painting of the Union Railroad Bridge, which crosses the Monongahela River at Pittsburg, Pa. The associate engineers were Messrs. Emil Swensson, Designer and Engineer of Construction, and Wm. H. Smith, Chief Engineer, Carnegie Steel Co. The total weight of this bridge is 5,135 tons, and it has a total length of 2,328 feet. Designed for carrying molten metal from the Carrie Furnace to the steel mill, and raw materials to the furnaces, this notable steel structure is subjected to heat from the molten metal, sulphur fumes from locomotives and river steamers, also from the adjoining furnaces and steel mills. No other steel bridge in all the world is exposed to so many and severe

destructive agencies. The best metal preservative was necessary, and the eminent engineers selected for its protection Dixon's Silica-Graphite Paint, as manufactured by the Joseph Dixon Crucible Co.

The work of double tracking the entire system of the Grand Trunk Railway will be pushed forward now that Mr. Hays has returned to the management. General Superintendent McGuigan, who is a worker himself, gives much of his time to this part of the work and already has with considerable vigor prosecuted the work of filling up grades, especially in the western portion of the system. Of the 335 miles between Chicago and Port Huron, 161 miles are double tracked; 78 miles between Durand and Battle Creek, 50 miles between Chicago and Sedley, Ind., and 81 miles between Port Huron and Durand. The principal portion of the system from Port Huron to Montreal is about completed so that the entire system will soon be finished. The cost of elevating the rails on the system, with other improvements, will amount to about \$10,000,000.

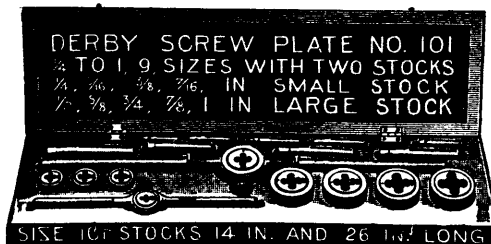
The Cleveland Sawmill & Lumber Co. which was organized 30 years ago and has continually operated a sawmill at Cleveland to the first of the year, has moved its manufacturing and distributing point from Cleveland to Sarnia, Ont. During the years that the company has operated in Cleveland, it has cut from its lands in Michigan and manufactured in its Cleveland mill upwards of 1,000,000,000 feet of white pine and Norway

timber. All of the land on which it had timber that could be brought to Cleveland have been cut over, but it still has in Canada upwards of 300,000,000 feet of standing white pine timber. Several years ago the Canadian Government retaliated for the duty imposed by the United States on lumber, by putting an export clause on logs, prohibiting their being taken from the Dominion. This necessitated the erection of an immense plant by the Cleveland Sawmill & Lumber Co., at Sarnia, Ont., opposite Port Huron, for the manufacturing of its Canadian timber, and in the future its shipments will be from that point, although the main office will be continued at Cleveland as formerly. Following the same plan as that of Pack, Woody & Co., and Gilchrist & Co., who, upon the cutting of their timber lands, disposed of their Cleveland yards, the Cleveland Sawmill & Lumber Co. has sold its entire stock of lumber in this city to Ralph Gray. During all the years of its business in Cleveland, the company has averaged in its employ about 250 men and 400 to 500 men in the woods. It is now employing in Canada an equal number, almost all of whom are native Canadians, and Canada is the gainer to that extent.—Cleveland, O., Plaindealer.

The Robb Engineering Co., Amhurst, N.S., have shipped four 80 h.p. boilers to E. H. Heaps & Co., for their saw mill at Vancouver, B.C.

Iron ore mining on Texada Island and the west coast of Vancouver Island has assumed larger proportions during 1901

The universal satisfaction given by our **DERBY and REECE SCREW PLATES**, cutting from 1/16 to 1/2 inch, including all the machine screw sizes, has created a demand for a plate made on the same principle, to cut bolts to 1 inch in diameter. To meet this demand we have brought out these sizes.



BICYCLE SCREW PLATES, REECE SCREW PLATES, DERBY SCREW PLATES, BLACKSMITH'S STOCKS AND DIES, BLACKSMITH'S IMPROVED SCREW PLATES, HAND TAPS, MACHINE TAPS, PIPE TAPS, EVERY KIND OF TAPS AND DIES.



**BUTTERFIELD & CO., - Rock Island, Que.**

**RICE LEWIS & SON, LIMITED, Hardware and Metal**

**MACHINIST TOOLS, PIPE FITTINGS, COMPLETE STOCK OF STOCKS AND DIES. PIPE VICES.**

**STILLSON AND TRIMO WRENCHES. STEAM PIPE.**

**CORNER KING AND VICTORIA STREETS, - - - TORONTO.**

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# THE GEE ELECTRICAL ENGINEERING CO.

11. COLBORNE STREET, TORONTO.

LIMITED

WE have a Factory equipped with the very latest and best machines for the building of

## Dynamos, Motors,

AND ALL ELECTRICAL APPLIANCES

We have every facility for repairing. We guarantee all our work. We keep a large staff of competent electricians and wiremen, and are in a position to do Electrical Work of every description. We wire Residences, Business Houses, Factories, etc. We have on hand a large stock of

ESTIMATES AND PLANS SUBMITTED.

Electrical Fittings, Arc Lamps, Telephone Bells, Etc.

than for any previous year. The Swaney Syndicate which has been working since 1899 to obtain control of the immense deposits of magnetite on these coasts, has, since January, 1901, commenced work in earnest at Sarita River, Sechart and Copper Island, near the entrance to Barclay Sound, on the west coast of Vancouver Island, as well as at the old iron mines on the west coast of Texada I-land. From the latter regular shipments have been made for some months to Irondale Furnace, near Port Townsend in Washington, and tramways, etc., are in course of erection at the Sarita River to enable the operators to ship from there at an early date. All of these deposits of iron ore, as well as some quite extensive ones on the Gordon River, which empties into

San Juan Harbor on the west coast of Vancouver Island, are high-grade magnetite, carrying over 60 per cent. metallic iron, and quite low contents in silica, sulphur and phosphorus, with no titanium, consequently there is no reason why the Pacific coast should not eventually successfully compete with the Atlantic as an iron and steel producer.

The Firstbrook Box Co., Toronto, will erect a sawmill near Penetanguishene, Ont.

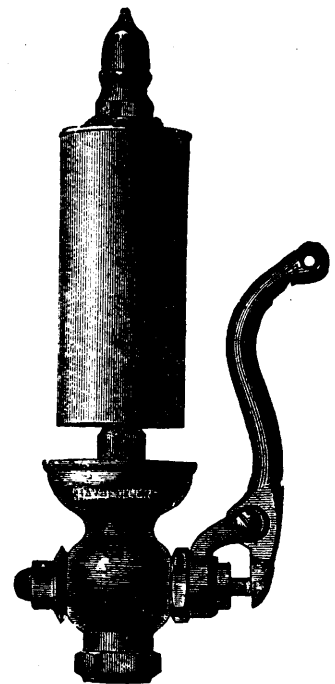
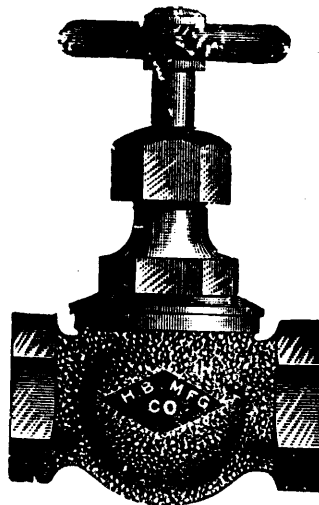
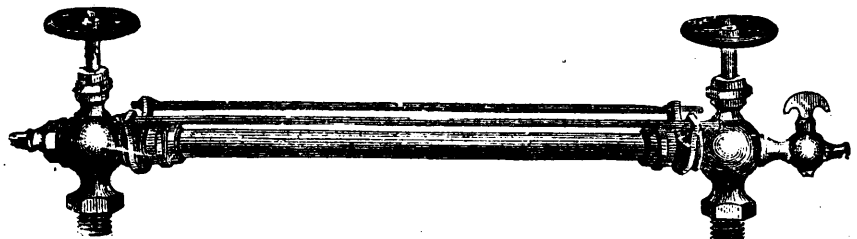
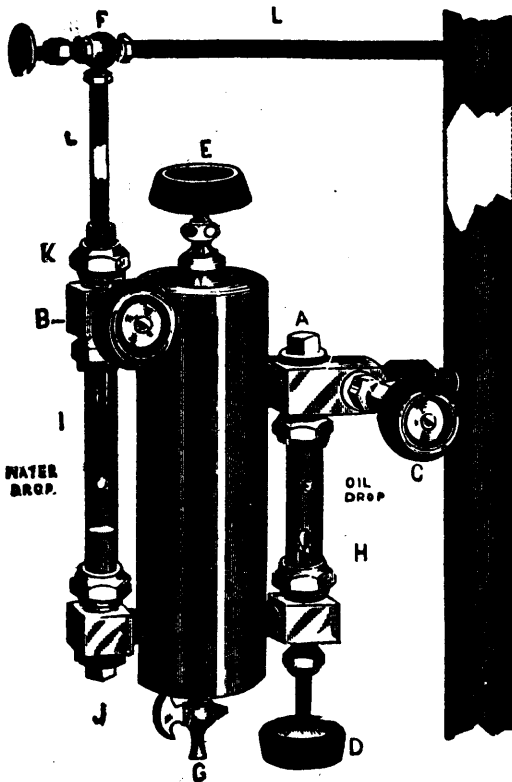
The Hotel Cecil, Ottawa, was destroyed by fire January 25. Loss about \$60,000.

The Dominion Coal Co. will erect a \$75,000 storage plant in Quebec if suitable arrangements can be made with the commissioners.

Mr. F. H. Clergue, has announced that the Algoma Steel Works, Sault Ste. Marie, Ont., will commence turning out steel rails this month. The capacity of the mill is 1,000 rails per day, and the material for the production of 50,000 tons are now in stock. The company has a contract to supply the Dominion Government with 25,000 tons of rails.

The Dominion Iron & Steel Co. propose manufacturing sulphuric acids on a large scale at Sydney, N.S. The raw materials, pyrites, will be brought from Labrador.

The farmers of Wolesley, N. W. T., held a meeting, and at it was decided that they should erect an elevator with a capacity of 35,000 bushels at that place.



WRITE FOR PRICES TO

The **HAMILTON BRASS MFG. CO. Limited**  
HAMILTON, - ONTARIO

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



Messrs. Pullybank Bros., St. Mary's, Ont., will establish a sash and door factory at Wiarton, Ont.

Contracts have been entered into between the Standard Chemical Co., Toronto and R. A. Pope, Cookshire, Que., for the establishment by the former of a chemical pulp factory to be erected at Cookshire. The town has granted a bonus to the company.

The pulp output of Nova Scotia has risen from 2,000 tons in 1890 to 35,000 tons in 1900. The Maritime Provinces have ports open all winter and consequently can ship the year round. In Queens County 18,000 cords of pulp wood are consumed per year. The price paid for the wood averages \$3.50 per cord. The pulp is shipped to Halifax for exportation to Great Britain.

The Delfosse Co., Montreal, has been incorporated with a capital of \$25,000 to manufacture fixtures of copper or other metals, etc. The provisional directors include E. Delfosse, P. Ross and C. Blackley, all of Montreal.

The Montreal Cigar Co., Montreal, has been incorporated with a capital of \$15,000 to manufacture cigars. The provincial directors include A. Garipey, T. Tremblay, H. Scheefer, all of Montreal.

The Canada Paper Co., Montreal, are about to increase their capital to \$1,000,000. The company owns three mills whose annual production is 13,000 tons. The St. Francis mill, which was destroyed by fire, will be rebuilt on a greatly enlarged scale, and it is to meet this expense that the increase of capital is sought.

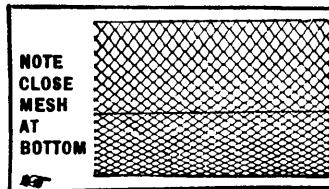
The Brandon Machine Works Co., Brandon, Man., has removed its plant to new premises on Rosser Avenue.

W. Robertson, Elva, Man., who was charged with running a condemned engine, was found guilty and heavily fined.

The Royal Crown Co., Winnipeg, Man., has been incorporated with a capital of \$300,000 to take over the business of The Royal Soap Co., of that city.

Messrs. Henderson & Downer, proprietors of the Lethbridge House, will erect a new hotel at Maple Creek, N. W. T.

The Winnipeg Machinery Co., Winnipeg, Man., has been incorporated with a capital of \$40,000.



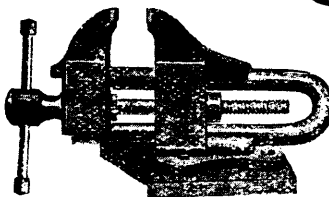
NOTE  
CLOSE  
MESH  
AT  
BOTTOM

**Page Acme Poultry Netting**

is close meshed at bottom and does not require rail or board support at edges, having strong straight wire (No. 12 gauge) at top, bottom and in centre, cannot sag and is easy to erect. The "Page Acme" netting is of neat appearance, very durable and cheap. We also make farm and ornamental fence, gates, nails and staples. The name of Page is your guarantee of quality.  
The Page Wire Fence Co., Limited, Walkerville, Ont. 5

WARR'S PATENT

**Steel Yoke Vises**



The weakness of all vises, made entirely of cast iron, is their tendency to break at the point where the strain is greatest, viz.: the junction of the front jaw with the slide or yoke.

This difficulty is completely overcome in WARE'S VISE, in which the yoke or slide is made of one piece of cold rolled wrought steel shafting cast into the front jaw.

This method of construction produces a vise that is practically unbreakable, of great strength and solidity; easy running, by virtue of the highly polished surface of the steel yoke; efficient and convenient in every particular.

The slide being narrow affords plenty of space on either side for the handling of long work perpendicularly, which cannot be done with other vises. Prices and all particulars on application. SOLE MAKERS:—

**The JAMES SMART MFG. CO., Limited**  
BROCKVILLE, ONTARIO, CANADA.

**"SCIOTO" FIRE BRICKS**

are the best. WHY NOT USE THEM?

More extensively imported into Canada than any others made in the United States. One million now sold for Spring delivery to Ontario. Special inducements. Write to-day.

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One of the oldest firms in the States

Established 1834.

Incorporated 1900.

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Manufacturers of

**LOOM REEDS FOR SILK, COTTON, WOOL AND LINEN WEAVING,**

Metal Reeds a Specialty.

Reeds for Carpet Weaving.

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40 CLIFFORD STREET, PROVIDENCE, R.I.

**TRADE WITH RUSSIA**

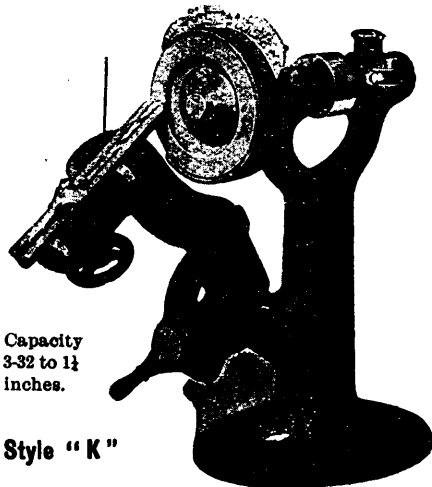
Firms desirous of getting into communication with Russian buyers or merchants; or who wish to buy Russian products on the best possible terms; or who are willing to appoint agents for the sale of their goods in Russia, are invited to send particulars of their requirements for insertion in

**The Anglo-Russian Trade Messenger,**

10 Bolshaya Dvorianskaya Street, Moscow, Russia.

THE ANGLO-RUSSIAN TRADE MESSENGER is the sole commercial paper published in Russia, devoted to the interests of the Anglo-Russian trade. It circulates amongst the best firms all over Russia and Siberia.

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Capacity 3-32 to 1 1/2 inches.

Style "K"

**The "NEW YANKEE"**

**Drill Grinder**

SAVES 50 PER CENT. OF TIME IN ADJUSTMENTS

COMPLETELY  
SELF-  
CONTAINED

OUR machines require no wrench, measuring instruments or gauge saws. We have entirely done away with them. Any amount of clearance desired can be obtained instantly. Drills can be ground to do more and better work. Send for Catalogue showing 10 styles, and full explanation of machines grinding from No. 60 to 5 inches.

**JOHN LUMSDEN & CO., 375 St. James St. MONTREAL**

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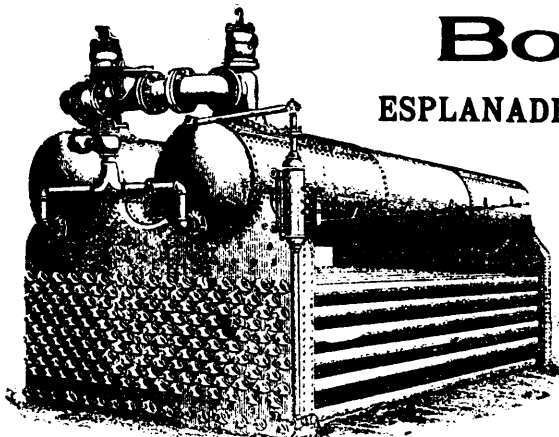
The Pontiac Power Co., Ottawa, has been incorporated with a capital of \$100,000, to construct works for production of light, heat and power. The provisional directors include Louis Simpson, C. J. Brooke and T. T. Simpson all of Ottawa.

The Standard Lumber Co., Winnipegosis, Man., has applied for incorporation with a capital of \$125,000, to manufacture lumber, etc. The provisional directors will include Peter McArthur, Westbourne, Man., G. O. Bellamy, Winnipegosis, Man., and J. G. Harvey, Dauphin, Man.

The Sunlight Gas Co., Montreal, has applied for incorporation with a capital of \$50,000, to acquire business now carried on by Sunlight Gas Co., and to manufacture all kinds of appliances relating to the production of acetylene gas. The applicants include Edward Dumaresq, W. A. Hodgson and I. C. McRae, all of Montreal.

# The Canadian Heine Safety Boiler Co.

JOHN J. MAIN,  
MANAGER.



ESPLANADE (Opp. Sherbourne St.)

TORONTO

HIGH-CLASS

## Water Tube Steam Boilers..

FOR ALL PRESSURES  
DUTIES AND FUEL

From 75 to 600 H.P. Each

**REFERENCES :**

**N.B.—We do not make small Boilers**

The Toronto Electric Light Co., Limited; The T. Eaton Co., Limited; The Massey-Harris Co., Limited; The Gutta Percha Rubber & Mfg. Co.; The Wilson Publishing Co., Limited; Sunlight Soap Co., Dominion Radiator Co., Central Prison, Foresters' Temple, Toronto City Hall, Canada Biscuit Co., Confederation Life Co. (all of Toronto, where Boilers may be seen working), also Orillia Asylum, Orillia, Ont., and LaPresse Publishing Co., Montreal.

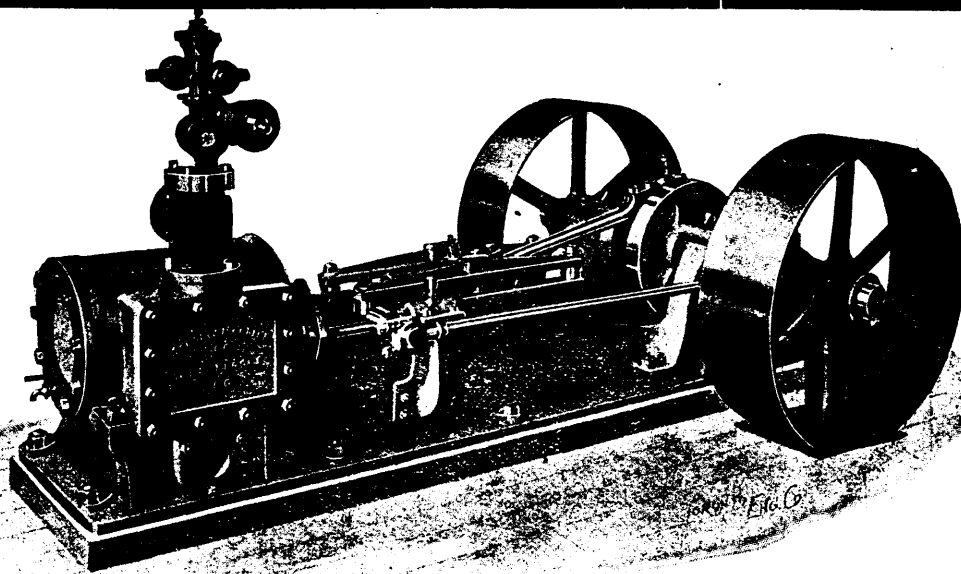
The Canadian Pacific Railway Co. will construct a steel bridge at the Kootney crossing, five miles west of Nelson, B.C., at a cost of about \$75,000.

The Velvet Mines Co., Rossland, B.C., will build an electric railway between Rossland and Red Mountain Railroad, a distance of thirty miles.

A new coal hoist will be built in connection with the International Railway at Sydney, N.S.

The Ohio Fire Brick Co., Oak Hill, Ohio, manufacturers of high grade fire brick of all shapes, have sent us their 1902 calendar, on which is a very beautiful photo engraving of a figure called "Purity."

The Munro Bros'. Wire Works, New Glasgow, N.S., whose works were established in 1890, state that their business has increased very rapidly in the twelve years. The company manufacture wire fences and wire mattresses. This was continued three years when they commenced the manufacture of bank and office fittings. The most improved automatic power machinery has been installed for making upholstered mattresses.



This is a plain heavy engine, made to run every day and all day, requires no skilled attendance, has no hidden away glands, etc., all parts being easily accessible for examination or adjustment, and is just the engine for a Saw Mill, Stamp Mill, or other purpose where reliability is required. Some recent orders are Toronto Paper Co., Metis Lumber Co., Eastern Townships Brick Co., East Broughton Asbestos Co., Granby Consolidated M. & S. Co., B.C. Copper Co., Sullivan Group Mines, etc., etc. Fitted with Meyer Adjustable cut off when desired.

Prices and Circulars on request

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28 Lansdowne Street,

SHERBROOKE, QUE.

**BRANCH OFFICES**

81 York St., Toronto.  
Halifax, N.S.

18 Victoria Sq., Montreal.  
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# COAL JAS. H. MILNES & CO. COKE

WHOLESALE DEALERS IN  
**Best Grades of STEAM COALS.**  
**Best Grades of BLACKSMITHS' COALS.**  
**Best Grades of FOUNDRY COKES.**

Shipments made direct from Mines to any point in Canada. Write for quotations.

Head Office: 78 QUEEN ST. EAST TORONTO. Docks: Esplanade, Foot of Yonge

The Galt Carpet Co., Galt Ont., has been incorporated with a capital of \$40,000, to manufacture carpets, rugs, etc. The provisional directors include H. H. Burrows, and F. A. Cull, both of Guelph, Ont., and P. F. Fitch, St. Thomas, Ont. Amherst, N.S., will put in a sewerage system at a cost of about \$50,000.

Messrs. J. A. Humphrey & Son, woolen manufacturers, Humphrey's Station, N.B., will open a branch of their business at Moncton, N.B. Machinery is now being installed for the manufacture of yarns and leggins.

The Wire & Cable Co., has ordered a 300 h.p. compound engine for its new factory in Montreal.

The John Abell Engine & Machine Co., Toronto, has been incorporated with a capital of \$1,000,000, to manufacture engines, boilers, agricultural implements, etc. The provisional directors include H. P. Dwight, W. D. Matthews and W. R. Brock all of Toronto, and E. L. Goold, Brantford, Ont.

The Robert Elder Carriage Works, Toronto, has been incorporated with a capital of \$20,000, to manufacture carriages, wagons, etc. The provisional directors include Norman Elder and James Miller both of Toronto.

The Underfeed Stoker Co., Toronto, manufacturers of the Jones underfeed stoker, have sent us a very handsome calendar for 1902. There is a page for each month, different views being given

of some of the many places where their underfeed stoker is in use. The calendar is printed in two colors on coated paper, which adds very much to its appearance. The company inform us that an illustrated catalogue will be sent on application.

The McQuay Tanning Co., Owen Sound, Ont., has been incorporated with a capital of \$50,000, to carry on a tanning business, etc. The provisional directors include George McQuay, Elias Lemon and W. S. Middlebro', all of Owen Sound.

The Sault Ste. Marie Bridge Co., Sault Ste. Marie, Ont. has received a license to erect a bridge across the St. Mary River.

The new plant of the B. F. Sturtevant Co., Boston, Mass., is progressing rapidly. Space will be provided for the foundry, pattern and pattern storage building and power plant, which will take 700x500 feet. The machine shop will be 500x120 feet. The office will be a separate building of large dimensions.

The American Steam Gauge & Valve Mfg. Co., Boston, Mass., report their business for 1901 as being largely in excess of the previous year, and the outlook for 1902 is more than at the same time last year. Notwithstanding when they moved into their new factory two years ago they doubled their capacity they are now contemplating additions to their plant. The demand for their gauges and valves has greatly increased. The company inform us they will shortly

send out a handsome new calendar to their customers and the trade.

The west end station of the Light, Heat & Power Co., Montreal, was destroyed by fire January 16. Loss about \$75,000.

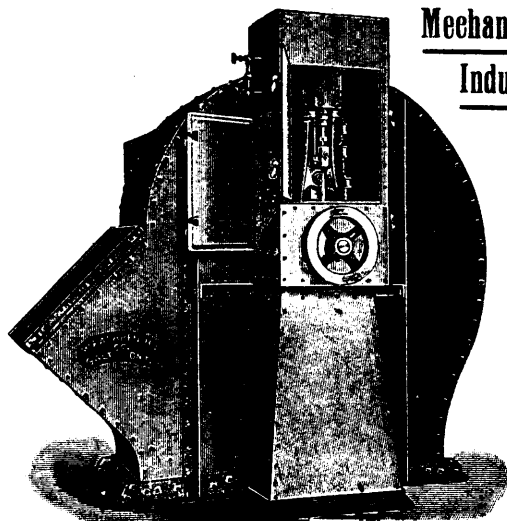
The Empire Paper Box Co., Montreal, was damaged by fire January 16, to the extent of about \$5,000.

The Boake Mfg. Co., Toronto, has been incorporated with a capital of \$60,000 to manufacture lumber, etc. The provisional directors include F. W. Boake, F. K. Ebbitt and F. C. Boake all of Toronto.

Messrs. R. H. Buchanan & Co., Montreal, have sent us a very useful twelve inch desk ruler, which the editor finds of great convenience on his desk. The company handle the Rossendale "M.A.Y." solid woven belting, which, they claim, has double the strength of leather. They also handle tools of all kinds, Sturtevant blowers, Rider hot air engines, wind mills, tanks, hose and pumps and pumping machinery of every kind.

The Bourne-Fuller Co., Cleveland, Ohio, manufacturers of iron, steel and pig iron, have sent us another calendar for 1902. A view of their works is shown, and they announce that they carry for immediate shipment a large stock of bar iron, bar steel, bands, hoops, plates, black and galvanized sheets, iron pipe, beams, angles, tees, rivets, etc. Monthly stock list mailed on request.

Messrs. A. B. Jardine & Co., Hespeler, Ont., will enlarge their factory.



Bottom Angular Up Discharge Right Hand Fan.

## Mechanical Induced DRAFT FANS

Installed in connection with a Boiler Plant, will prevent smoke, will give greater fuel economy and increased boiler capacity, besides which the initial cost is far less than that of a chimney.

Mechanical Draft may be applied to old boilers to increase draft at a minimum initial outlay.

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**McEACHREN HEATING and VENTILATING CO.**  
**GALT, ONT., CANADA**

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IN THEIR NEW FACTORY . . .

32, 34, 36, 38 and 40  
 DUNDAS STREET

THE . . .

**Electrical Construction Co.**  
 OF LONDON, Limited

Beg to call the attention of their patrons to their removal to a more commodious and up-to-date factory, where, with improved facilities, they can guarantee even better attention and satisfaction than ever before.

Don't buy before getting their prices, when purchasing Dynamos, Motors, Fixtures or Supplies.

Quotations Supplied  
 on Application.

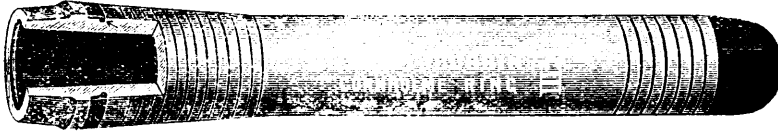
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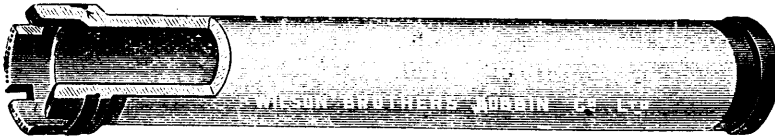
**WILSON BROS. BOBBIN CO., LIMITED** (1900)

LARGEST MAKERS IN THE WORLD

45 GOLD MEDALS AND DIPLOMAS



**BOBBIN AND SHUTTLE MANUFACTURERS**



Address, - CORNHOLME MILLS, TODMORDEN

TELEGRAMS:  
"WILSON'S, CORNHOLME,"  
ABC and AI Codes.

BRANCH WORKS—LIVERPOOL AND ST. HELENS  
Office and Showrooms—14 Market Place, Manchester.

**Schoellkopf, Hartford & Hanna Co.,**

BUFFALO, N.Y.

**Aniline Colors, Dyestuffs, Chemicals**

Manufacturers of

NEW YORK, BOSTON, PHILADELPHIA, PROVIDENCE, CHICAGO,  
MILWAUKEE, CINCINNATI, KANSAS CITY, NEENAH, WATERTOWN.

**DIXON'S** DOES **TWO THINGS**

**SOLID Belt Dressing.** AND DOES THEM THOROUGHLY

STOPS THE BELT FROM SLIPPING.

PLEASES THE MAN WHO USES IT.

NOTHING EQUALS IT...

SAMPLE SENT FREE. SEND FOR ONE.

**JOSEPH DIXON CRUCIBLE CO.,** JERSEY CITY, N.J. U.S.A.

**Toronto Elevator Co.**

**MILLWRIGHTS AND ELEVATOR SPECIALISTS**

Estimates Given and Losses Adjusted

OUT-OF-TOWN WORK PROMPTLY ATTENDED TO.

PHONE **JOHN H. SHALES,** 1535  
Manager

AGENTS FOR....  
Miller Bros. & Toms, Elevators  
Leitch & Turnbull Co. Limited, Elevators.  
Greening's Wire Ropes.

74 ADELAIDE ST. WEST  
TORONTO

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

AS TO CRUCIBLES.

Mr. John A. Walker, of the Joseph Dixon Crucible Co., writing about crucibles in Graphite, says:—

Zimbabwe in Mashonaland, which is in Central South Africa, has ruins which show an almost modern acquaintance with the arts. Hinting at even prehistoric times evidence of abundant supplies of gold are reported—and later abundant gold in Arabia and gold in Phoenicia and Tyre was well known. Recent discoveries point at Zimbabwe, South Africa, as the place of its origin.

Iron smelting furnaces are unearthed, a crude blow pipe was found and also the remains of a bellows; and discovered among other relics was unearthed an ingot mould with patterns of Phoenician fancy gold ornaments, showing they worked for the Phoenician market, and what most interests Graphite is that crucibles were found there and specimens brought away. The excavators found that the gold was crushed and separated by a water process, then put in clay crucibles well closed up and left for a long time in the furnace. Thus we find a connection between Dixon business and the most ancient times—bible days—when Tyre was in its wealth and glory, and even back of that, in prehistoric

**The Bourne-Fuller Co.**

Iron, Steel,  
PIG IRON.

Cleveland, - Ohio.



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**MAILING LISTS.**

Reliable Lists furnished of possible buyers in

**GREAT BRITAIN, THE COLONIES AND FOREIGN COUNTRIES**

taken from our own Directories (of which there are over 100) many of them being official. These lists comprise nearly every trade, are thoroughly up-to-date, many of them can only be obtained from us or our publications.

Publishers for over a century of "The Post Office London Directory."

HIGHEST AWARD, GOLD MEDAL, PARIS, 1900.

For further particulars, charges, etc., apply,

**Kelly's Directories, Ltd., London, Eng.**

(ESTABLISHED 1799).

Dominion Branch—71 Victoria St., Toronto, Ont.  
W. P. DENT, - Manager.

Branches in Great Britain—Liverpool, Manchester, Birmingham, Glasgow, Leeds, Sheffield, Nottingham; also at Paris, Hamburg, New York, Bombay, Calcutta, Cape Town, Melbourne, Sydney, Dunedin, Buenos Ayres, etc.

# SHEET METAL FOR BUILDINGS

Fire Proof  
Lightning Proof  
Weather Proof

NEAT  
AND  
DURABLE

WE MANUFACTURE

**Metal Shingles, Siding, Cellings,  
Standing Seam Roofing for Flat Roofs,  
Cornices, Ventilators, Finials, Etc.**

Manufacturers desiring inexpensive building plants should use Metal Roofs and Sides. They are warm and neat and answer every requirement.

Ask for Catalogue.

**THE METAL SHINGLE & SIDING CO., Limited, - PRESTON, ONT.**

times. Thus a crucible was ever connected with the advance of civilization, and never more so than in the twentieth century, six or eight thousand years after the early prehistoric workers originated them. To-day the Dixon crucible is the chosen vessel in which is melted the brass, copper, bronze, aluminum, steel and the precious metals, all of which make modern civilization possible.

## THE STEAMER MONTREAL.

Another floating palace was added to the fleet of the Richelieu & Ontario Navigation Co. when the steamer Montreal was launched at the shipyard of the Bertram Engine Works Co.,

Toronto, on Monday last. The new boat is worthy of her name, and worthy to sail as a companion vessel to the Kingston and the Toronto, which were built by the same company. The Montreal is 340 feet in length and of the same general design as the Kingston and the Toronto.

The engines include a three-cylinder, three-crank inclined triple expansion engine, the diameter of the cylinders being 32 inch, 53 inch, and 88 inch respectively, with a stroke of six feet six inches. The high-pressure cylinder is in the middle and its crosshead works the air pump. The engine is estimated at 3,000 h.p. The paddle-wheels are 25 feet in diameter, and have 11 feathering curved steel buckets each. This form of engine was

introduced three years ago by the Bertram Co. in the steamer Toronto, and gave great satisfaction. There are six Scotch type boilers, each 11 feet in diameter and 12 feet long, with two Morison corrugated furnaces, 42 inches diameter, fitted with the Howden down draught system. The working pressure of steam will be 185 pounds. The electric light plant will furnish current for 1,200 16 c.p. lamps, and the pumps will supply running water to every stateroom. There will also be steam steering gear, steam winches forward and aft, steam windless, and steam heat in the cabins.

The ship will have 260 staterooms, and the decoration of the first-class saloons will be of unusual beauty, the central

# LATHE, PLANER and SHAPER TOOLS

THE CHAMPION TOOL HOLDER, saves its cost in thirty days time.

THE WESTERN DIAMOND POINT TOOL.

THE CHAMPION CUTTING OFF TOOL.

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**Zanzibar Crucible Black**  
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Extraordinary High Fire Test.  
Elastic and Durable.

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CANADA.

features being two large allegorical paintings by Challoner. It is a subject for pride to Canadians that this will be the most luxurious and perfect vessel on the inland waters of America, superior even to the most of the vessels of the Fall River line, second in size only to the Priscilla, but excelling her in splendor of decoration and in engine power.

The launching was followed by a banquet at which Mr. Wainwright, vice-president of the Richelieu & Ontario Navigation Co., responding to a toast to that company, said that they came to a Toronto ship building concern to build their steamers because they believed they could get them built better here than anywhere

else. He pointed out that if the new steamer proved to be the success he was sure it would, there would soon be another similar ship on the stocks.

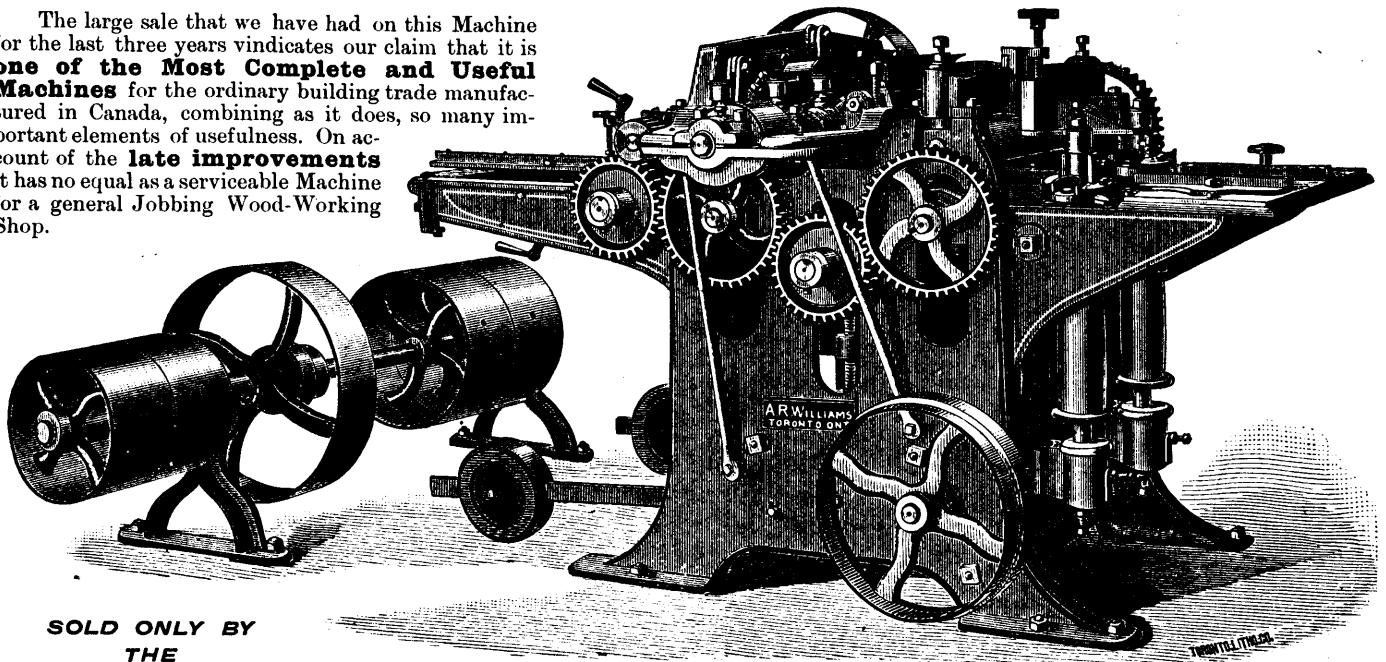
### IMPORTANT TO CANADIAN EXPORTERS.

THE CANADIAN MANUFACTURER is in frequent requests for information regarding the shipment of goods to over-sea countries, and as we have before us a circular that covers the ground very fully, we condense from it. It is from Messrs. Pitt & Scott, 39 Broadway, New York, who also maintain offices in London, Liverpool, Paris and Hamburg, and who

have close connection in commercial centres throughout the world; and they are foreign freight brokers and express carriers to all parts of the world. Previous to the first of each month they issue a sheet in which is shown the names of the mail and freight steamers sailing from the port of New York for that month, which includes the day and date of sailing the name of the steamer, the line to which it belongs, and the port of destination; and it also gives similar information regarding the sailings of steamers from Boston and Philadelphia. This information is of the greatest possible value to those who desire it. In their circulars Messrs. Pitt & Scott give some informa-

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The large sale that we have had on this Machine for the last three years vindicates our claim that it is **one of the Most Complete and Useful Machines** for the ordinary building trade manufactured in Canada, combining as it does, so many important elements of usefulness. On account of the **late improvements** it has no equal as a serviceable Machine for a general Jobbing Wood-Working Shop.



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tion with which many shippers are not acquainted, but a knowledge of which is important when desiring to make shipments, which we condense as follows:—

They handle large freight shipments to all foreign ports or interior points at lowest current freight rate obtainable.

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They undertake the collection of shippers' invoices, C.O.D., anywhere abroad.

They quote special low rates for extra heavy shipments, car load lots, etc., to all parts of Europe, India, Australia, South Africa, China, Japan, South America, the West Indies, Cuba, etc.

They will place the services of their various agents in all parts of the world at the disposal of shippers, and will, through them, undertake any commissions entrusted to their care.

They quote low rates by weight (irrespective of measurement) by their express service to all parts abroad.

For further information enquire of Pitt & Scott, 39 Broadway, New York.

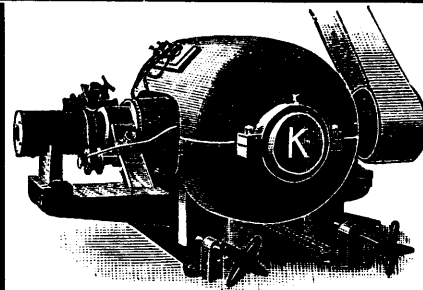
**BUFFALO TANDEM COMPOUND ENGINE.**

The cut herewith presented gives a general idea of the Horizontal Tandem Compound Engine manufactured in the engine department of the Buffalo Forge Co's Works. A short description may here suffice to render clear some of the features of this machine.

A heavy cast iron sub-base furnishes a solid support to which to bolt the engine bed, and at the same time raises the engine sufficiently for the fly wheels to clear the floor or foundation. In the case of dynamo direct connection to this sub-base may also provide a bed for the generator, and in addition carry the out-board bearing. The high pressure cylinder is placed in front, bolted at one end to the head cast to the frame. The other end is bolted to a yoke or connection between the cylinders, which also carries the overhung low pressure cylinder. The foot of this yoke rests upon a pedestal extension of the sub-base with a feather or expansion joint connecting the two. The three movable cylinder heads are so fastened to their respective cylinders as to make feasible their easy detachment with the pistons and rod, if occasion requires. This, with the ready accessibility of all stuffing boxes, is a distinct merit of the Buffalo tandem compound engine. The pistons are single castings cored thin, giving maximum strength with minimum weight, and causing but little wear on the bottom of the cylinders.

The crank shaft and connecting rod are of forged steel, the latter of which is fastened to the crank-pin by means of a strap and wedge. The wedge is completely enclosed by the strap and box and is securely held by two adjusting lock bolts.

The high pressure valve is of the piston type, while the low pressure end is fitted with a balanced "D" slide valve with a pressure plate. The former valve is under the control of the shaft governor, while the low pressure valve may also be

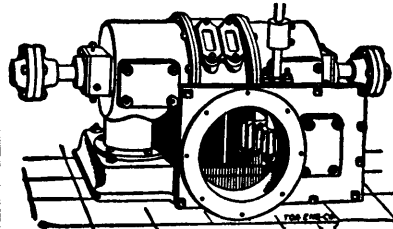


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Horizontal Type.

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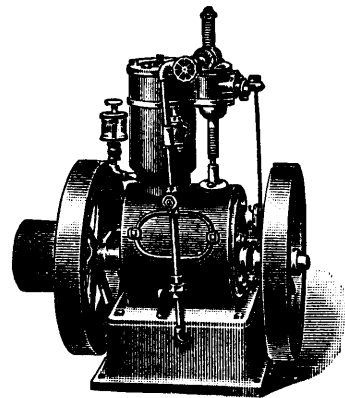
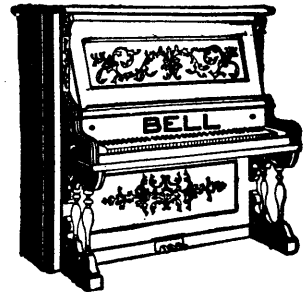
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# FOUNDRY EQUIPMENT

# CRANES

**E. A. WALLBERG, C.E.**

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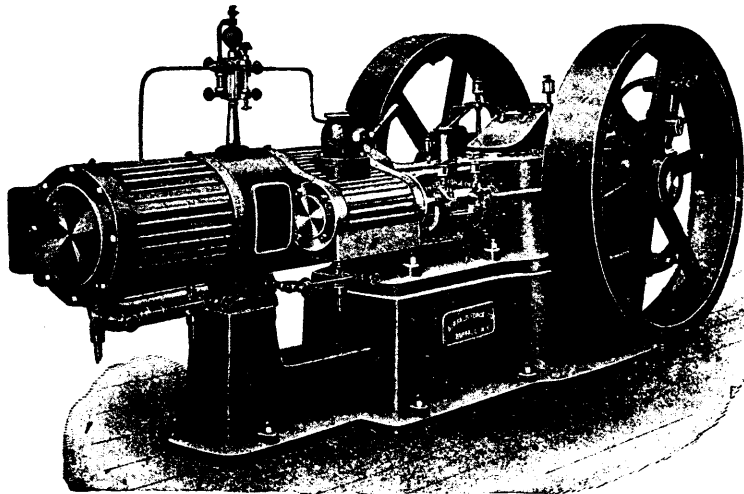
Merchants Bank Building, **MONTREAL**

driven by the swinging eccentric, or, according to an alternative construction, by a fixed eccentric, so arranged as to permit alteration of the cut-off at all times. This arrangement is effected by means of bolting the eccentric sheave in such a manner as to permit change of throw and angular advance, and hence cut-off at pleasure. The fly-wheel gover-

This engine is enclosed to run in oil, and a positive means of lubrication is thereby furnished for the main bearings, crank-pin, wrist-pin and crosshead slides. An ample supply of oil for the wrist-pin is insured in the Buffalo engine by a cup on the pin, which is filled continuously with oil thrown back from the crank discs, and communicates with the rub-

perfectly oil-tight construction, and being easily removable, afford ready accessibility to the various moving parts. A large sight feed lubricator takes care of the cylinders and valve chests. The very best babbitt metal is used throughout this engine at all bearing surfaces, and adequate means are provided for adjustment and taking up of wear.

This tandem compound engine, combining as it does close regulation and efficient lubrication, presents many valuable points, adapting it for lighting and general power service. The direct connected unit with tandem compound engines is especially advantageous. The efforts made of late to attain greater economy in the use of steam has resulted in a rapidly increasing demand for compound engines, and the machine we here illustrate and describe is a product of this demand.



### CANADIAN MADE STEEL.

The Dominion Steel Co., Sydney, N.S., have turned out their first steel billets last week. Mr. David Baker, general superintendent of the company stated that the first billet of steel was without a flaw and every roll since has been equally as good. The mill is working as steadily as if it had been operated for years. Mr. Baker said he had never seen finer steel blooms in all his experience in the best plants in the United States.

A pork-packing factory will be erected at Echo Bay, Ont., by A. Terrier & Co.

nor for the high pressure side is of the most sensitive type. It is provided with three means of adjustment, so that it may be accurately set to control the engine at any given speed; in addition grease or oil cups are provided on every pin. Indeed, one of the most prominent features of the engine is its thorough system of lubrication.

bing surface. Pockets or receptacles located within the bed near the crank discs are kept filled with oil while the engine is in motion, and feed the necessary amount of lubricant to the main bearings. Provision is made for returning the oil to the crank-pit after it has been supplied to the various rubbing surfaces. A light polished hood and two side plates give a

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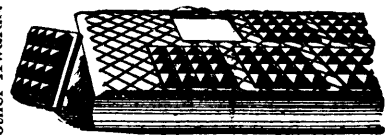
**NAPHTHALINE** (CRUDE, PRESSED, CRYSTAL, SUBLIMED, MARBLES.) **CYANIDES.** PRUSSIAN BLUE.

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**Chemicals.** Sulphate of Copper. Chlorates of Potash and Soda. Calcium Carbide. Acetate of Soda. Wood Naptha. Acetone, Bichromates.  
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### THE PATENT INTERCHANGEABLE RUBBER TREAD

14 Gold Medals & other Awards.



Slip-Non-Slip. Durable. Unwearable.

For Public Institutions, Warehouses, Offices, etc. The Treads consist of a metallic keeper, fitted with pieces of rubber (specially prepared), which form the wearing surface, and can be renewed when worn, by anyone in a few minutes.

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For Colliery and Mining Use.

**WIRE ROPE** of every Description and for all purposes.

**HAMILTON, ONT.**  
and **MONTREAL, QUE.**

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A municipal electric light plant may be installed by the corporation of Selkirk, Man.

The sewerage system of Guelph, Ont. will be improved at a cost of about \$52,000.

The Burt Mfg. Co., Akron, Ohio, are busy with foreign shipments of their exhaust heads and the Cross oil filter. Manaos, Brazil, was the southern extreme of their last month's shipments, while six large oil filters were sent to Finland. Other important foreign shipments went to London, England, and Vienna, Austria.

## .. TO MANUFACTURERS ..

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References kindly permitted to the Editor of this journal. Address as above.

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AS DESCRIBED IN

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— ALSO —

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AND

### SAFETY VALVE

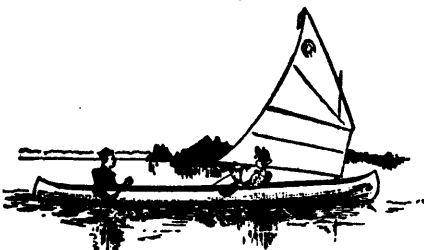
AS DESCRIBED IN

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ABOUT 2,000 NOW IN USE.

### The CANADIAN CANOE Co., Limited

PETERBOROUGH, ONT.



Manufacturers of...

**CANOE AND SKIFFS.** Best Quality. Lowest Prices  
Send for Catalogue J.

## OPPORTUNITIES.

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

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

652. A London importer has asked to be referred to Canadian makers of turned wood boxes and other similar wood goods, also spindles, broom handles, etc. To parties who could fill large orders promptly, considerable business might result.

653. Enquiry is made for Canadian exporters of furniture in knock-down condition, chairs seats, backs and legs; also broom handles, brush heads, sashes, flooring, boxes, etc.

654. A well-known firm in the provision trade in London desire to participate in the Canadian bacon trade, and would be prepared to act as agents for a large exporter, or would finance a factory, co-operative or otherwise.

655. A correspondent in Ontario asks to be referred to importers of hardwood blocks of various kinds, maple, beech, birch, oak, etc.

656. A company manufacturing pumps and pumping machinery is prepared to appoint a reliable Canadian firm as its resident agent.

657. A manufacturing company in a position to take considerable supplies of veneer, impervious to moisture, would like to hear from Canadian houses which can furnish the material.

658. A West of England firm asks responsible Canadian agent to take up sales of stationery novelties, gums, glues, glass, etc.

659. A London broker able to furnish good references and claiming good connection is prepared to act as selling agent for a Canadian firm of canned goods packers wishing to push export trade.

660. A company located in Delft, Holland, who produce gelatines and prime bone glues, seek a reliable Canadian resident agent.

661. A Scotch firm desires names of Canadian shippers of canned vegetables, etc.

662. A correspondent has requested to be furnished with the names of some important dry goods houses in the principal cities of Canada.

663. A firm of manufacturers of cigarette papers have made enquiry respecting the possibility of extending the market for their goods in Canada.

664. An Adelaide, (South Australia) agency are desirous of representing Canadian exporters of cured bacon and hams, canned salmon and lobster, hardware, tobacco, etc.

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## Wood Working Machinery

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Canadian Merchants and Manufacturers desiring the names of possible Buyers of their goods in

**Great Britain, Europe,  
Australia, New Zealand,  
South Africa, West Indies,  
South America.**

In fact any and every country can obtain same in Kelly's "Merchants, Manufacturers and Shippers Directory of the World," the standard export medium, the 16th edition of which is about to be issued.

In addition to the Classified Trade Lists of the Importers and Exporters, Merchants and Manufacturers of the United Kingdom and all principal trading centres of the World, it gives the Customs Tariffs for every country and all classes of goods. The work contains nearly 4,000 pages, and gives more information than any other work published the world over.

**A few Extracts from Letters received from British Consuls, Etc.**

"I am constantly receiving letters of enquiry for information that in most cases could be obtained in your Directory."—British Consulate, Uruguay.

"The only book consulted is Kelly's Directory."—From British Consular Return, Riga.

"Many of these inquiries would have been rendered superfluous by a reference to Kelly's Directory."—Report from British Consul, Genoa.

"The Directory has been of the greatest service to me in my former Consular posts, and will, I believe, be doubly useful here."—B. C. Chicago.

"We beg to express our appreciation of the thorough and exhaustive character of the Directory, which covers exactly the fields we desire to reach."—Messrs. H. M. Anthony Co., New York.

**Highest Award, Gold Medal, Paris, 1900.**

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is unrivalled as a  
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ON H. M. GOVERNMENT'S LISTS.

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SOUND,  
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Veneers of Ash, Birch, Bass  
and Elm, all thicknesses  
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also Crating Material*



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

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MARGARET CARLYLE, Parliament Buildings, Toronto.

O. A. ROCQUE, Orleans, Ont.

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

JOHN DRYDEN, Minister of Agriculture.

# MARKETS.

This Department of THE CANADIAN MANUFACTURER is devoted to the interests of the Hardware Trade.

THE CANADIAN MANUFACTURER is distributed to the Wholesale and Retail dealers in Hardware, to manufacturers of Agricultural Implements, of Iron and Wood-working Machinery, of Electrical Appliances, of Steam Engines and Boilers, to Engineers and Foundrymen, and to Dealers in Machinery and Steam Fitters' Supplies throughout Canada. There are more than 10,000 manufacturing concerns in Canada which use Steam as a Motive Power. We reach them all. Every recipient of this paper is a buyer of Hardware of one kind or another; and Advertisers will do well to bear this in mind.

Following are reports and observations relating to the markets of Canada and elsewhere, having reference to Hardware, Metals, Paints, Oils and such specialties as are usually handled by jobbers and dealers in such goods. Following these items will be found current market quotations on such goods, and the trade are requested to suggest to the publishers any improvements by which it is believed the quotations may be rendered as correct and valuable as possible.

TORONTO, February 7, 1902.

There has been some interruption in wholesale business here during the past week, owing to the heavy snowstorm. Travellers found difficulty in getting about the country and orders are not as large as they would have been with a continuance of favorable weather. There has, however, been a good deal of business booked for the spring, and the prospects for immediate business in several lines are bright. Retailers look for a good demand for goods the coming season and disposed to provide for a large turnover, judging by the orders already received by wholesalers. The result of stock-taking by retailers has shown a more satisfactory condition of affairs than usual. The demand for more expensive goods, and the disposition of shippers to make cash purchases have contributed largely to a better condition of affairs in business.

At Hamilton, Ottawa and other Ontario points the week has shown considerable activity, notwithstanding the unfavorable weather conditions. Orders for all lines compare favorably with the corresponding week a year ago, and wholesale firms are already making shipments of spring goods. Values of staple goods are being well maintained and there is a marked tendency to advance quotations on certain lines.

The Canadian Bank statement shows a

healthy condition of affairs. The increase on stock speculation is shown by call loans of \$37,651,941, compared with \$33,981,478, last year and "elsewhere than in Canada" of \$45,263,961, against \$27,234,789. Current loans amount to over \$300,000,000, which is also a big gain, while deposits in the banks are away ahead.

In the local speculative market there was a slight decline in Canadian Pacific Railway, owing to the announcement of a \$20,000,000 contemplated increase in the capital. It was the large increase that took holders by surprise and a good deal of stock was shown on the market. It is not likely that the entire amount of new stock authorized will be issued this year. The common stock of the road now is \$65,000,000.

Mr. Shields, general manager of the Dominion Coal Co., says the company has been successful in opening new markets, both in the Old Country and the new. Coal has been shipped to Italy, Norway and Sweden and other European countries. A good deal of coal has been shipped to Cuba and it is expected that this will be a very good market in the future. The new shaft of Cape Breton mines will be the most extensive coal shaft in America, if not in the world. The present output is 1,000 tons a day, but it is expected that this will be doubled during the next season.

There is a report from London, England, that 30 steel manufacturers have entered the ring against the American Steel Trust

## GALVANIZING

We are prepared to attend to all orders Promptly and Economically.

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LIMITED.

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**Fire Cement.**

FOR  
LINING AND REPAIRING  
STOVES, FURNACES, RETORTS

And all work where  
great heat is required.

**BALE & CO., Newgate St., LONDON, ENG.**

GAS PURIFICATION and GENERAL  
IRON MERCHANTS

**WORTH & MARTIN,**

**Electrical and Mechanical**

**Contractors**

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SWITCHES and SWITCHBOARDS

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PHONE, MAIN 3494.

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and a fierce fight is impending. The combined capital is said to be \$100,000,000. It is said the English steel trade is about to make a move which will shatter American ideas. When the scheme is matured it will compose the cream of the iron works of the country. It will have possession of European mines and a sufficient fleet of steamers to bring the ore to England. The combination will have the command of sufficient coal mines together with modernized iron works, to handle the trade to such an advantage as to resist the threatened America invasion.

The metal markets are all in a healthy condition. In Boston copper shares are strong, and in New York there was inside buying of amalgamated copper.

**BRITISH PIG IRON MARKETS.**—Messrs. Wm. Jacks & Co., 49 Leadenhall street, London, E.C., England, under date of January 17, 1902, quote as follows: Since writing you last our market has been steady with prices about 1/ per ton all round higher.

To-day's quotations are as follows:—No. 1 Gartsherrie, 66/3-f.o.b. Glasgow, including dues; No. 3 Gartsherrie 55/6-f.o.b. Glasgow, including dues; Nos. 1, 2 and 3, Cumberland Hematite 63/-per ton, f.o.b. Liverpool; and to special analysis, 69/6-per ton, f.o.b. Liverpool; refined D.T.N. Hematite, in small pigs, 82/6-per ton, f.o.b. Liverpool.

**BUFFALO PIG IRON MARKET.**—Office of Rogers, Brown & Co., Buffalo, N.Y., January 14, 1902.

Scarcely a day passes that does not accentuate the absolute rigidity of the market situation. There is now no possibility of being able to select favorite brands of iron, either coke or charcoal. Diligent searching fails to secure the small lots of special brands or grades needed to balance mixtures. Inquiries are many and urgent.

This condition at present applies only to shipments prior to July 1st, though iron is estimated in short supply for delivery during the third quarter.

**FOREIGN FREIGHT CONTRACTORS.**—Messrs. Alfred H. Post & Co., Produce Exchange, New York City, have been appointed forwarding agents of the Canadian Manufacturers' Association. This arrangement is intended to facilitate the export business of members of the Association.

**EMERY STONE IN GREECE AND TURKEY.**—The Island of Naxos, embraced in the Greek Archipelago, is situated about 100 miles southeast of the Piræus. Its inhabitants are supported almost entirely by working the emery mines, of which there are two. The Greek Government is the owner and proprietor of these mines, but they are worked exclusively by the natives of the island. The Government has entire charge of the sale of the ore and buys the crude product from the Naxos miners at 2½ francs (48 cents) per cwt. of 112 pounds. The ore is transported to the neighboring



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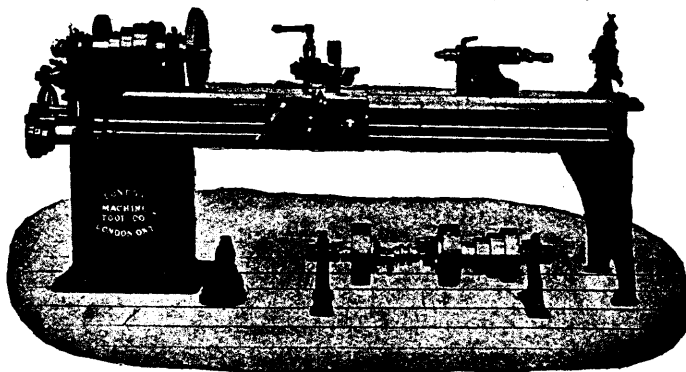
## ENGLISH CARD CLOTHING

## D. K. McLAREN

Head Office and Factory, - MONTREAL.

Western Trade, - TORONTO STOCK DEPOT, 88 Bay Street.

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PRESSES.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

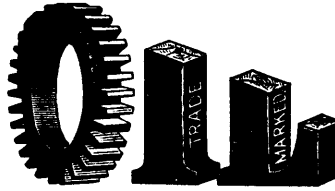
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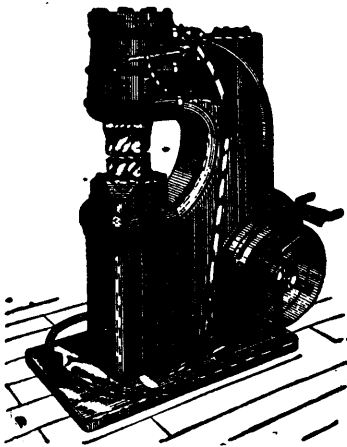
### BARE and INSULATED ELECTRIC WIRE

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INCANDESCENT AND FLEXIBLE CORDS,

### RAILWAY FEEDER and TROLLEY WIRE

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Nothing to Break, no Steam to Leak, no  
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ST. CATHARINES, - CANADA

Island of Syra at Government expense, and is there sold on the wharf at 106½ francs (\$20.55) per French ton of 1,000 kilograms (2,204.6 pounds). Two years ago, an American company attempted to secure a monopoly of the industry and made an offer to the Greek Government to buy 7,000 tons per year for ten years at 106½ francs (\$20.55) per ton, but for some reason the arrangement fell through. The total annual consumption of Naxos emery is from 5,000 to 6,500 tons. Or this, the United States takes 1,500 to 2,000 tons, and Europe from 4,000 to 5,000 tons. The Naxos mines have never been leased.

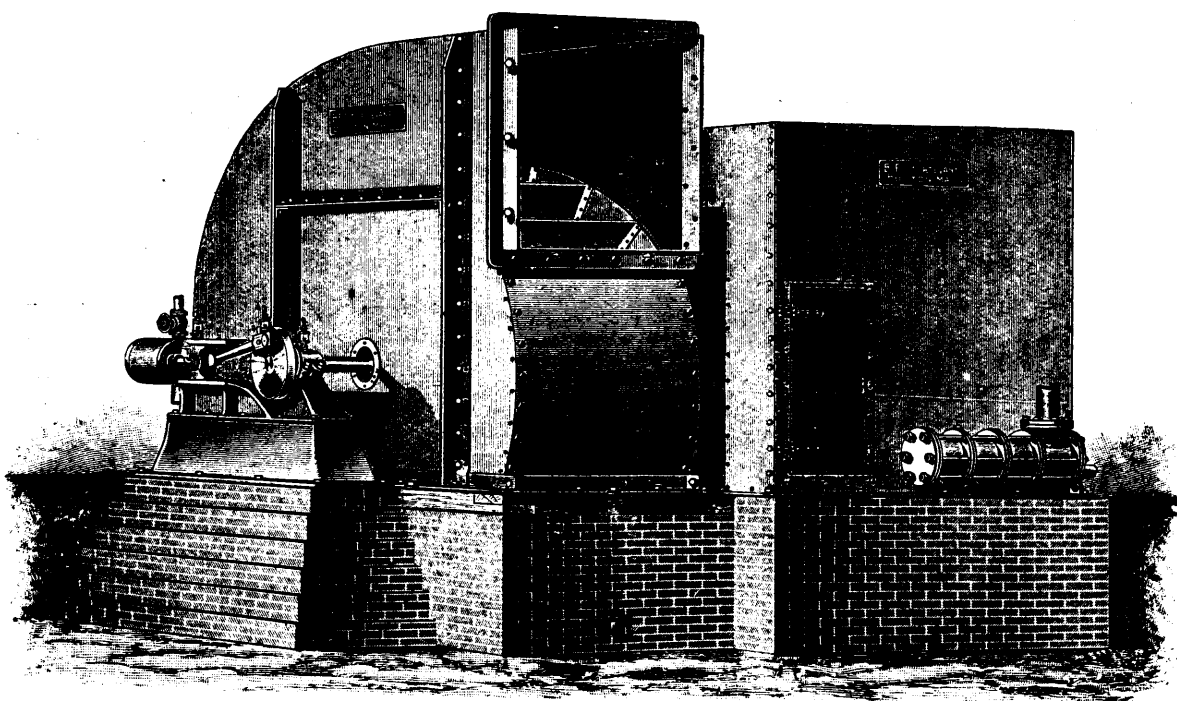
Turkey has many emery mines scattered along the coast of the Mediterranean and near-by islands. Those of importance in the neighborhood of Smyrna are at Baltizik, Azizieh, Cosbounar, and Kuluk. Some of the Turkish mines are the property of the Turkish Government, but many of them are owned and operated by local companies and by single individuals. The total annual exports of Smyrna emery stone range from 17,000 to 20,000 tons of which 10,000 tons go to America and the balance to Europe. The corundum found in the Turkish emery stone varies from 40 to 57 per cent. with the exception of Kuluk stone, which is said to contain about 37 per cent. Corundum in the Naxos stone is reputed to run as high as 60 per cent. The prices of Smyrna stone vary with the quality from \$14 to \$20 per ton f.o.b. Smyrna. I am creditably informed that no emery can be produced f.o.b. Smyrna for less than \$12.50. The Kuluk stone is shipped from the port of Kuluk, and is brought down from the neighboring mountains by camels. This stone is quoted f.o.b. Kuluk at \$10 to \$12 per ton. Turkish stone is not "treated" after leaving the mine, except by hand picking; it is never washed or crushed.

HINTS FOR EXPORT TO CHILE.—Exporters of wares to Chile should pay very close attention to the customs requirements of that country. These regulations require that every package of wares imported into Chile shall have clearly marked thereon its weight (a statement in writing is not sufficient), and the weight thus given must under no circumstances be more than 10 per cent. less than that ascertained by weighing at the time of entry. If the weight is found to have been correctly given, the wares are passed through the custom-house with great promptness—otherwise there is apt to be much delay and inconvenience. If the weight is found to have been incorrectly stated, or if the contents of the package differ from the statements made in the customs declaration, the wares are subject to confiscation. The importer's declaration is based upon the invoice and the bill of lading. If the statements in these papers are incorrect, the customs declaration must also be incorrect; consequently, exporters can not be too careful in preparing such documents.

THE CANADIAN MANUFACTURER has an enquiry for addresses of makers of machines for making tin foil.

# The Sturtevant System OF HEATING AND VENTILATION

by a Forced Circulation of Warm Air  
is applicable to all classes of buildings



## The Sturtevant System is Superior to Direct Heating

### Because

The apparatus is centralized and under one man's control  
There is no steam piping scattered around the building  
Consequently no danger of freezing or of damage from leaky joints, valves, or aircocks  
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### FOR SALE.

One 25-light Reliance Arc Dynamo, in first-class condition.

One 60-light Royal type Transformer, 1040 Volts to 110.  
Newly Re-wound.

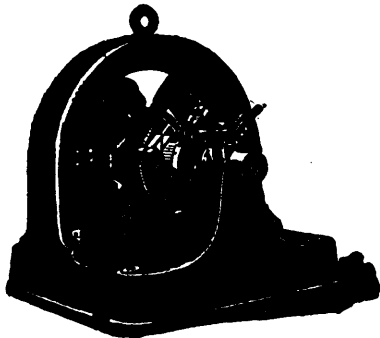
Three 10-light Shellenberger Watt Meters.

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THE ABOVE WILL BE SOLD CHEAP

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MODERATE and SLOW SPEED OF HIGH EFFICIENCY.  
EITHER BELTED OR FOR DIRECT CONNECTION.

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### ELECTRIC LIGHT AND POWER APPARATUS

GASOLINE ENGINES

For Launches, Horseless Carriages, etc

CORRESPONDENCE SOLICITED.

**IMPENDING PLATINUM FAMINE.**—An incident worthy of the attention of all electrical engineering firms was a recent debate in the German Reichstag on a bill drafted with the object of obtaining a legal prohibition of the use of platinum where it can be replaced without serious inconvenience by some other metal, as, for instance, in photography, where it is utilized for so-called platinum prints; and to limit its consumption to cases where its employment is essential. This debate struck a note of warning regarding an imminent danger, the full import of which appears not to be fully realized even among those who ought to be most concerned; but the restriction of the use of platinum in one country alone is hardly a practical measure for averting the dreaded consequences of a platinum famine. The problem is one of those that are eminently fitted for an international agreement, and should be carefully investigated by a commission composed of experts from all civilized countries. There is good reason, it appears, for anticipating a scarcity of platinum, and the writer above quoted continues as follows: Excepting, perhaps, iron, tin, copper and lead, there is no metal that plays a more important part in modern industries at present than platinum, although its extensive employment is of very recent origin. Thus in the great chemical manufacturing process there are operations in which it is practically indispensable, as, for instance, that of purifying sulphuric acid, for which platinum retorts are used, each of which frequently represents a value of £2,000 or more; or various operations on which the accuracy of chemical analysis depends. Equally, or rather even more, important is the use of platinum in electrical engineering processes, or in the manufacture of electrical apparatus, and in the enormous number of incandescent lamps this metal has, as well as our readers are aware, a very important function. It is, in fact, the only metal known around which glass can be fused. If we add to this that it withstands abnormally high temperatures, and that no acids, excepting aqua regia, will attack it, it is easily comprehended that unless a substitute combining these qualities be discovered the exhaustion of its supply would have a serious effect upon more than one industry.—Kuhlow.

**AMERICAN PIG IRON.**—The American Iron & Steel Association has received from the manufacturers complete statistics of the production of all kinds of pig iron in the United States in 1901; also complete statistics of the stocks of pig iron which were on hand and for sale on December 31, 1901.

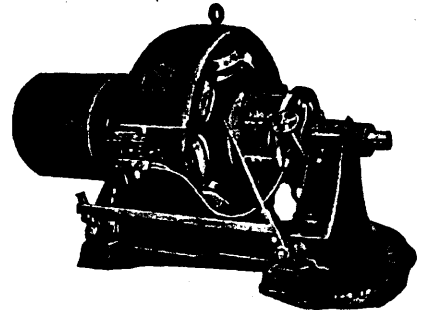
The total production of pig iron in 1901 was 15,878,354 gross tons, against 13,789,242 tons in 1900, 13,620,703 tons in 1899, 11,773,934 tons in 1898, and 9,652,680 tons in 1897.

The total increase in 1901 over 1900 was 2,089,112 tons. This is a larger increase than the boom year 1899 showed over the year 1898.

The production of Bessemer pig iron in

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

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

1901 was 9,596,793 tons, against 7,943,452 tons in 1900.

The production of basic pig iron in 1901 was 1,448,850 tons, against 1,072,376 tons in 1900.

The production of spiegeleisen and ferromanganese in 1901 was 291,461 tons, against 255,977 tons in 1900.

The production of charcoal pig iron in 1901 was 360,147 tons, against 339,874 tons in 1900. The production of mixed charcoal and coke pig iron in 1901 was 23,294 tons, against 44,608 tons in 1900.

Our statistics of stocks of unsold pig iron do not include pig iron made by the owners of rolling mills or steel works for their own use, but only pig iron made for sale and which has not been sold. The stocks of pig iron which were unsold in the hands of manufacturers or which were under their control at the close of 1901, and were not intended for their own consumption, amounted to only 70,647 tons, against 442,370 tons at the close of 1900 and 372,560 tons on June 30, 1901.

The American Pig Iron Storage Warrant Co. held in its yards on December 31, 1901, 3,000 gross tons of pig iron, of which 2,400 tons were coke and 600 tons were charcoal iron. None of this iron was controlled by the makers. Adding this 3,000 tons to the 70,647 tons of unsold stocks above mentioned we have 73,647 tons of pig iron which were on the market at the close of 1901.

The whole number of furnaces in blast on December 31, 1901, was 266, against 232 on December 31, 1900.—The Bulletin.

**BUSINESS CHANGES.**

FROM BRADSTREETS.

**ONTARIO.**

BRAMPTON—Brampton Gas Co., assets advertised for sale.  
 BROADBENT—Broadbent Wood Turning Co., obtained charter.  
 ETHEL—John Cober, carriage maker, removing to Brussels, Ont.  
 GALT—Galt Carpet Co., obtained charter.  
 HAMILTON—T. W. Hand Fireworks Co., obtained charter.  
 HARROW—Halstead & Quick, saw mill, dissolved, T. E. Quick, continuing.  
 LONDON—Hilliard & McKinley, planing mill, dissolved, Thos. Hilliard continuing.  
 ORANGEVILLE—Dufferin Casket Co., obtained charter.  
 OTTAWA—Pontiac Power Co., obtained charter. Wright Mfg. Co., damaged by fire.  
 OWEN SOUND—McQuay Tanning Co., obtained charter.  
 SAULT STE. MARIE—New Ontario Builders' & Contractors' Supply Co., obtained charter.  
 TORONTO—Big Four Cap Co., obtained charter. P. W. Ellis & Co., obtained charter. John Abel Engine & Machine Co., obtained charter.  
 Boake Mfg. Co., obtained charter.  
 Robert Elder Carriage Works, obtained charter.  
 Electric Cab Co., assigned to J. P. Langley.  
 Lake Superior Terminals Co., obtained charter.  
 Wickett & Craig, obtained charter.  
 Canada Brass & Electrical Co., winding up order.  
 Diamond Machine & Screw Co., stock, plant, etc., sold.  
 Richmond Conduit & Mfg. Co., obtained charter.  
 Toronto Cold Storage Co., assets advertised for sale.  
 WIARTON—Colonial Portland Cement Co., obtained charter.

**QUEBEC.**

COTE ST. PAUL—Montreal Size Co., glue mfrs., dissolved.  
 GRANBY—Gulline Horse Collar Co., burnt out.  
 HULL—George Daglish, sr., mfr. of matches, stock sold.  
 MONTREAL—Canadian Automachine Co., dissolved. Canadian Automachine Co., registered. Commercial Twine Co., registered. Edinburgh Roperie & Sallcloth Co., registered. Delfosse Co., mfrs. shop fixtures, applied for charter.

Dominion Subway Co., obtained charter.  
 Diamond Lighting Co., assets advertised for sale.  
 J. W. Mann Mfg. Co., Brockville, registered.  
 Montreal Lumber Co., applying to increase capital to \$100,000.  
 Pariseau Freres, box mfrs., registered.  
 Royal Hat & Cap Mfg. Co., meeting of creditors.  
 Sunlight Gas Co., applied for charter.  
 Jacob Swartz & Son, mfrs. suspenders, etc., dissolved.  
 United Factories, registered.  
 St. Johns—Corticelli Silk Co., registered as incorporated.  
 St. Raymond—Denis & Robitaille, sash and door mfrs., dissolved.  
 WATERVILLE—George Gale & Sons, mfrs. iron beds, etc., burnt out.

**NEW BRUNSWICK.**

St. JOHN—St. John Knitting Mills Co., applying for incorporation.  
 John Galey & Co., saw mill, closing business.  
 St. MARY'S—Maritime Combination Rack Co., applying for incorporation.

**NOVA SCOTIA.**

TRURO—Truro Knitting Mills Co., obtained charter.  
**PRINCE EDWARD ISLAND.**  
 CHARLOTTETOWN—T. A. MacLean Mfg. Co., foundry burned.

**MANITOBA.**

WINNIPEG—J. H. Ashdown Hardware Co., obtained charter.  
 Electric Supply Mfg. Co. and Macdonald Bros., sold out to J. W. T. Grant.  
 Royal Crown Co., mfrs. soap, applying for incorporation.  
 WINNIPEGOSIS—Standard Lumber Co., applied for charter.

**BRITISH COLUMBIA.**

CRANBROOK—Cranbrook Lumber Co., agreement to sell to East Kootenay Lumber Co.  
 East Kootenay Lumber Co., incorporated.  
 Leask & Slater, saw mill, agreement to sell to East Kootenay Lumber Co.  
 JAFFRAY—McNabb Lumber Co., agreement to sell to East Kootenay Lumber Co.  
 MOODYVILLE—Moodyville Lands & Saw Mill Co., sold out.  
 VANCOUVER—Lardean Smelting & Refining Co., incorporated.  
**NORTH-WEST TERRITORIES.**  
 CARDSTON—Farmers Electric, Water & Telephone Co., incorporated.  
 EDMONTON—Vogel Meat & Packing Co., incorporated.

**The Whitman & Barnes Manufacturing Co.**

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| Mower Knives,       | Twist Drills,   |
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| Wood-working        | Sledges,        |
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**CROW BARS.**—Duty 30%.  
5 cents per lb.

**CRUCIBLES.**  
Dixon's, 7 cents per number.

**DRILLS.**—Duty 25%.  
Blacksmiths' \$6 to \$15 each.  
Jardine's, \$7.50 to \$20 each.

**DYES (Aniline).**

**DYNAMITE.**  
30 to 50 cents per lb.

**EMERY.**  
Coarse, 7 cents per lb.  
Fine, 5 cents per lb.

**EMERY CLOTH.**—Duty 25%.  
Beader & Adamson, 40% discount.

**EMERY HONES.**—Duty 25%.  
\$3 to \$5 per doz.

**EMERY STEELS.**—Duty 25%.  
\$2 per doz.

**EMERY WHEELS.**—Duty 25%.  
65% discount.

**EXPANDERS.**—Duty 30%.  
Tube, Dudgeon, 33½% discount.

**FAUCETS.**—Duty 30%.  
Brass, \$2.50 to \$5 per doz.  
Wood, 60c. to \$1.00 per doz.

**FENCING.**  
Barb Wire, \$3.05 per 100 lbs.

**FENCING (Wire).**—Duty 15%.  
Galvanized, barb, f. o. b. Toronto, \$3.05.  
Galvanized, plain twist, f. o. b. Toronto, \$3.05.  
Galvanized, barb, f. o. b. Cleveland, \$2.82½  
less than car lots, and \$2.70 in car lots.  
Mesh, 5½x10½, 20 rod rolls 55% discount, Can. list.  
" 4 x 8, 20 " 50 & 5% " "  
" 3 x 6, 20 " 55 & 5% " "

**FERRULES.**—Duty 30%.  
Tool handle, 5c. & 6c. per lb.

**FILES.**—Duty 30%.  
Black Diamond, 50 and 10% discount.  
Globe, 70% discount.  
Grobet, net.  
Jowitt's, 25% discount.  
Nicholson, 50 & 10% discount.  
Stubbs', 15% discount.

**FITTINGS (Pipe).**—Duty 30%.  
Bushings, 55% discount.  
Cast Iron, 55% discount.  
Cocks, 60  
Elbow, tees, crosses, couplings, lock nuts, re-  
turn bends, 30% discount.  
Flanges, 55% discount.  
Nipples, 55 " "  
Plugs, 55 " "  
Unions, 55 " "  
Wrought Iron, 50% discount.

**FLUE SCRAPERS.**—Duty 30%.  
Engineers' Favorite, 40% discount.  
Ingals, 20% discount.  
Wire, 50

**FORKS, HOES AND RAKES.**—Duty 25%.  
50, 10 and 5% discount.

**FUSE.**  
Blasting, Single tape, \$3.75 per M ft.  
Double tape, \$5 per M ft.

**GASKETS.**—Duty 35%.  
Rubber Insertion, 80 cents lb.

**GAUGE GLASSES.**—Duty 30%.  
Water, 25% discount.

**GAUGES.**—Duty 30%.  
Steam, 50% discount.

**GLASS.**—Duty 20%. (Window—Box Price).  
Star, under 26 in., \$2.15 per 50 ft., \$4.15 per 100  
ft.; 26 to 40 in., \$2.30 per 50 ft., \$4.45 per 100  
ft.; 41 to 50 in., \$4.85 per 100 ft.; 51 to 60 in.,  
\$5.15 per 100 ft.; 61 to 70 in., \$5.50 per 100 ft.;  
71 to 80 in., \$6 per 100 ft.; 81 to 85 in., \$6.50  
per 100 ft.  
D. Diamond, under 26 in., \$6 per 100 ft.; 26 to 40  
in., \$6.65 per 100 ft.; 41 to 50 in., \$7.50 per  
100 ft.; 51 to 60 in., \$8.50 per 100 ft.; 61 to 70  
in., \$9.50 per 100 ft.; 71 to 80 in., \$10.50 per  
100 ft.; 81 to 85 in., \$11.70 per 100 ft.; 86 to 90  
in., \$14 per 100 ft.; 91 to 95 in., \$15.50 per 100  
ft.; 96 to 100 in., \$18 per 100 ft.  
Glass Demi-johns or carboys, empty or filled,  
bottles, decanters, flasks, phials, glass jars,  
lamp chimneys, glass shades or globes, cut,  
pressed or moulded crystal or glass table-  
ware, decorated or not, and blown glass  
tableware—Duty 30%.

**GLASS LAMP CHIMNEYS.**—Duty 30%.  
Common Crimp, per doz. O, 43 cents.  
" " " " A, 45 " "  
" " " " B, 65 " "  
" " " " A, 50 " "  
" " " " B, 76 " "

**FRUIT JARS.**—Duty 30%.  
Standard pints, \$7.25 per gross.  
" quarts, \$7.75 per gross.  
" half gal., \$10.00 per gross.  
Imperial pints, \$7.75 per gross.  
" quarts, \$8.75 per gross.  
" half gal., \$12.00 per gross.

**GLUE.**—Duty 25%.  
Cabinet, sheet, 12 to 13 cents per lb.  
Common, 8½ to 9 cents per lb.  
Coopers', 19 to 20 cents per lb.  
French Medal, 14 to 14½ cents per lb.  
Gelatin, 22 to 30 cents per lb.  
Huttner, 18 cents per lb.  
Strip, 18 to 20 cents per lb.  
White, extra, 18 to 20 cents per lb.  
LaPage's, 25% discount.  
Progressive, 25

**GOVERNORS.**—Duty 25%.  
Gardners', 25% discount.

**GRANITWARE.**—Duty 35%.  
Firsts, 50% discount.

**GRAIN CRADLES.**—Duty 25%.  
With Scythes complete \$33 per doz.  
Without scythes, \$18.50.

**GRINDSTONES.**—Duty 25%.  
Large, \$1.75 per 100 lbs.  
Mounted, \$3 to \$3.50 each.  
Small, \$1.50 per 100 lbs.

**HALTER MOUNTINGS.**—Duty 30%.  
1x½ inch, 10c. per lb.  
(Evans), 1x½ in., doz. set packages, \$8.00 per  
gross.

**HALTERS.**—Duty 30%.  
Leather, 1 in. strap, \$3.87½ to \$4 per doz.  
Leather, 1½ in. strap, \$5.15 to \$5.20 per doz.  
Rope, ½, \$9 per gross.  
Rope, ¾ to 1, \$14 per gross.  
Web, \$1.87 to \$2.45 per doz.

**HAMMERS.**—Duty 30%.  
Blacksmiths', 10 cents per lb.  
Carpenters', Madoles', \$6.40 to \$8.75 per doz.  
Carpenters', Warnock's, \$4 to \$7.50 per doz.  
Machinists', 22 cents per lb.  
Sledge, 10 cents per lb.  
Tack, 60 cents to \$1.20 per doz.  
Tinners', \$4 to \$6.50 per doz.

**HANDLES.**—Duty 25%.  
Axe, \$1.50 to \$2.50 per doz.  
Chisel, \$3.50 to \$5 per gross.  
Cross-cut saw, \$2 to \$3 per doz.  
File, \$2 to \$2.50 per gross.  
Hammer, 50 cents to \$2 per doz.  
Pick, \$1.50 to \$2.50 per doz.  
Plane, \$3.50 per gross.

**HANGERS.**—Duty 30%.  
Barn Door, round groove, \$4.50 to \$6.50 per doz.  
Lanes, \$6.75 to \$12 per doz.  
Parlor door, \$3 to \$6 per set.  
Stearns, \$5.50 to \$6.50 per doz.

**HARVEST TOOLS.**—Duty 25%.  
Forks, 50 & 10% discount.  
Rakes, 50 & 10 " "  
Hoes, etc., 50 & 10 " "

**HATCHETS.**—Duty 30%.  
Canadian, 40 to 42½% discount.

**HAY KNIVES.**—Duty 25%.  
50, 10 and 5% discount.

**HINGES.**—Duty ½ cents per lb., & 25%.  
Blind, Parker's, 50 & 10 to 60% discount.  
Heavy T and strap, 4 in., 6½ cents per lb.  
" " " " 5 in., 6½ " "  
" " " " 6 in., 6 " "  
" " " " 8 in., 6½ " "  
" " " " 10 in., 5½ " "  
Light T and strap, 65 & 5 off.  
Screw hook and hinge, 6 to 12 in., \$4.50 per 100  
lbs.; 14 in. up, \$3.50.  
Spring, \$12 per gross pairs.

**HOES.**—Duty 25%.  
Grab, \$5 to \$6 per doz.

**HOOCS.**—Duty 30%.  
Brush, \$7.50 to \$9.  
Reaping, 50, 10 and 5% discount.  
Chain, wrought, round or grab, \$3 & \$4.50 per  
doz.  
Lumber Piling, \$7 to \$19 per doz.  
Malleable, wardrobe, \$1.50 to \$2.50 per gross.  
Wire, " \$1.25 to \$2

**HORSE NAILS.**—Duty 30%.—See Nails.

**HORSE SHOES.**—Duty 30%.  
Lt. Med. & H., \$3.40 per keg.  
Snow, \$3.95 per keg.  
Steel, \$3.80 to \$5.25 per keg.  
Toe weight steel, \$6.15 per keg.

**HOSE.**—Duty 35%.  
City Standard, 70% discount.  
Phoenix, 60% discount.

**INJECTORS.**—Duty 30%.  
Pemberthy, 65% discount.  
I. J. C., 65% discount.

**IRON.**—See Metals.

**JACKS.**—Duty %.  
Lifting, 40% discount.

**KEYS.**—Duty 30%.  
Carpenter, 50 cents to \$1.25 per doz.  
Desk, 25 to 35 cents per doz.  
Mortise Lock, 25 cents to \$1 per doz.  
Padlock, 25 to 35 cents per doz.  
Rim Lock, 25 cents to \$1 per doz.

**KNIVES.**—Duty 30%.  
Butcher, \$2 to \$5 per doz.  
Pocket, \$1 to \$5 per doz.

**KNOBS.**—Duty 30%.  
Door, Bronze, \$7 to \$12 per doz.  
" White Porcelain, 90 cents per doz.  
" Wood, \$4.50 per doz.

**LACING.**—Duty 15%.  
Belt (Raw Hide Cuts), \$1 per lb.  
" (Leather Side Cuts), 75 cents per lb.

**LADDERS.**—Duty 25%.  
Step, 10 cents per foot.  
Rung, 10 cents per foot.

**LAND ROLLERS.**—Duty 20%.  
\$12 to \$15 each.

**LANTERNS.**—Duty 30%.  
Cold Blast, \$7 per doz.  
Dashboard, cold blast, \$9 per doz.  
Japanned, 50 cents per doz. extra.  
No. 0, \$5.75 per doz.  
No. 3 "Wright's", \$8.50 per doz.  
Ordinary, with O burner, \$4 per doz.

**LAWN MOWERS.**—Duty 35%.  
Pennsylvania, 50% discount.  
Stearns, 50 " "  
Woodyatt, 40 " "

**LEAD (Bar and Strip).**—Duty 25%.—See Metals.  
Lead, pig.—See Metals.

**LEAD.**—Duty 5%.  
Red and White, dry.—See Paints.

**LINES (Cotton).**—Duty 25%.  
Chalk, \$2 to \$3.50 per gross.  
Wire, clothes, \$2.50 to \$4.50 per M ft.

**LOCKS.**—Duty 30%.  
Cupboard, \$1.50 per doz. up.  
Desk, \$1.50 per doz. up.  
Drawer, \$1 per doz. up.  
Padlocks, 75 cents per doz. up.  
Rim and Mortise, Peterboro, \$1.50 per doz. up.  
Amer., \$1.50 per doz. up.

**MALLEABLES.**—Duty 30%. See Castings.

**MALLETS.**—Duty 30%.  
Carpenters', hickory, \$1.25 to \$3.75 per doz.  
Caulking, 60 cents to \$2 each.  
Lignum Vitae, \$3.85 to \$5 per doz.  
Tinsmiths', \$1.25 to \$1.50 per doz.

**MATTOCKS.**—Duty 30%.  
Canadian, \$5.50 to \$6.50 per doz.

**MEAT CUTTERS.**—Duty 30%.  
Amer., 25 to 30% discount.  
German, 15% discount.

**METALS.**  
Ingots.—Aluminium, 35 to 50 cents per lb.  
Antimony (Cookson's), 10½ to 11 cents  
per lb.  
" Copper, "English", 18 cents per lb.  
" Bar, 25 cents per lb.  
" Tin, "Lamb & Flag", 32 cents per lb.  
" " Straits, 32 cents per lb.  
" " Bar, 33 cents per lb.  
" Zinc, 6 to 6½ cents per lb.; sheets, 7  
cents per lb.  
Babbit Metal (duty 10%).  
Lewis, 7 to 10 cents per lb.  
Magnolia, 25 cents per lb.  
Post's Zero, 25 cents per lb.  
Spoooner's Copperine, No. 2, 12½ cents per lb.,  
finest, 25 cents per lb.  
Syracuse Smelting Works, dynamo, 29 cents  
per lb.; special, 25 cents per lb.  
Sheets, Black, Duty \$7 per ton.  
" 10—\$2.65, 100 lbs.  
" 12—\$2.75, " "  
" 14—\$3.10, " "  
Sheets, Black, Duty 5%.  
" 17—\$3.10, 100 lbs.  
" 18—\$3.20, " "  
" 20—\$3.25, " "  
" 22—\$3.30, " "  
" 24—\$3.50, " "  
" 26—\$3.75, " "  
" 28—\$4.00, " "  
Sheets, Tinned—7½ cents per lb., Base price.



**METALS—Continued.**

**Sheets, Galvanized Iron.**  
 17—\$3.80 per 100 lbs.  
 18—\$3.90  
 20—\$3.90  
 22 to 24—\$4.10 per 100 lb.  
 18 to 24—\$4.50  
 26—\$4.25 per 100 lb.  
 28—\$4.50  
 16—(Queen Head), \$3.90 per 100 lb.  
 18-22-24—(Queen's Head), \$4.15 per 100 lb.  
 26—\$4.40 per 100 lb.  
 28—\$4.65

**Sheets, Corrugated—Galv., \$4.50 per 100 sq. ft.**  
**Shafting, Bright Steel.—\$3.50 per 100 lb.**  
**Shingles, Galv. Iron, Ordinary, \$4.90 per sq.**  
 Medium, \$5.45  
 Best, \$5.80  
**Painted Steel, Ordinary, \$3.15 per sq.**  
 Medium, \$3.35  
 Best, \$3.80

**Iron (duty \$7 per ton).**  
 Angle.—\$2.75 per 100 lb.  
 Bar (Common).—\$1.95 @ \$2.05.  
 Bar, "Swedes."—\$4.50 per 100 lb.  
 Lowmoor.—\$6.50 per 100 lb.  
 Refined Bar.—\$2.60 per 100 lb.  
**Iron, Planished Sheet (duty 5%)**  
 "A"—\$6.00 per 100.  
 "B"—\$5.00  
 Russia.—\$10.00 per 100 lb.  
**Iron, Galv. Sheet, see Sheets.**  
 and Corrugated, see Sheets.

**Pig Lead (duty 15%).—Domestic, \$3.75 per 100 lb;**  
 pigs, imported, \$4.25 per 100 lb.; bars, \$5 per 100 lb.; sheets, \$5.50 per 100 lb.  
**Solder bar (duty 25%).—1st, refined, 18 cents per lb.;**  
 half-and-half, 18 cents per lb.  
**Iron, Pig (duty \$2.50 per net ton). \$16.50 @ \$17 per ton.**  
**Iron, English Horse Shoe.—\$2.85 per 100 lb.**  
**Iron, Band.—\$2.05 per 100 lb.**  
**Iron, Hoop.—\$2.90 per 100 lb.**  
**Beams, Steel.—\$3 per 100 lb.**  
**Rods.—Brass, 24 cents per lb., base price; hard sheets,**  
 20 to 30 cents per lb.; soft sheets, 20 to 30 cents per lb.  
**Rails, Small Steel.—\$3 per 100 lb.**  
**Steel, Cultivator.—\$1.50 per 100 lb.**  
 Channel.—\$3 to \$4 per 100 lb.  
 "Firths."—12 cents per lb.  
 "Crescent."—9 cents per lb.  
 Cant Hook.—7¢ cents per lb.  
 Machinery (in the rough).—\$2.25 per 100 lb.  
 Machinery.—\$2.75 per 100 lb.  
 Mild.—\$1.90 per 100 lb.  
 Sleigh Shoe.—\$1.90 per 100 lb.  
 Spring.—\$3.00 per 100.  
 Tire.—\$2.05 per lb.  
 Toe Caulk.—\$2.20 per 100 lb.  
**Steel, Cast.—Firth's, 12 cents per lb.**  
 Jessop's, 14 cents per lb.  
 Black Diamond, 12 cents per lb.  
 Silver, 15 cents per lb.  
 Mushets.—55 cents per lb.  
**Steel, Blister.—12¢ cents per lb.**  
**Steel, Hammer.—7 cents per lb.**  
**Steel, Decarbonized Sheet.—7 cents per lb., base.**  
**Steel, Black Sheet, Duty \$7 per ton.**  
 10—\$2.65, 100 lbs.  
 12—\$2.75  
 14—\$3.10

**Sheets, Black, Duty 5%.**  
 17—\$3.10, 100 lbs.  
 18—\$3.20  
 20—\$3.25  
 22—\$3.30  
 24—\$3.50  
 26—\$3.75  
 28—\$4.00

**Tank Steel Plate (duty \$7 per ton). 3-16, \$2.60 per 100 lb.**  
**Plates, Steel Boiler (duty 10%).—1 and larger,**  
 \$2.50 per 100 lb.  
**Steel Boiler Heads (duty 10%).—\$2.60 per 100 lb.**  
**Canadian Plates.—All dull, 52 sheets, \$2.90;**  
 half polished, \$3.

**MOPS.—\$1 per doz.**

**NAIL PULLERS.—Duty 30%.**  
 German and American, \$1.85 to \$3.50 each.

**NAILS.—Duty, cut, 1 cent per lb.; wire, 3-5 cent per lb.**  
 Chair nails, 35% discount.  
 Clout nails, blued, 65 and 5% discount.  
 Coopers', 35% discount.  
 Copper nails, 52½% discount.  
 Cut, 2d \$3.65; 3d, \$3.30; 4 & 5d, \$3.65; 6 & 7d, \$2.95; 8 & 9d, \$2.80; 10 & 12d, \$2.75; 16 & 20d, \$2.70; 30, 40, 50 & 60d (base), \$2.65.  
 Flour barrel nails, 30% discount.  
 Galvanizing, 2 cents per lb. net, extra.  
 Horse (C brand), 50 & 7½% discount.  
 M brand, 50 & 10% discount.  
 Steel cut nails, 10 cents extra.  
 Trunk nails, black, 65 and 5% discount.  
 Trunk nails, tinned, 65 and 10% discount.  
 Wire, 2d \$3.85; 3d, \$3.50; 4 & 5d, \$3.25; 6 & 7d, \$3.15; 8 & 9d, \$3; 10 & 12d, \$2.95; 16 & 20d, \$2.90; 30, 40, 50 & 60d (base), \$2.85; fine, 3d, \$3.85.  
 Wire nails in car lots, \$2.77½.  
 Miscellaneous wire nails, 70 & 10% discount.

**NAIL SETS.—Duty 30%.**  
 Assorted sizes, \$1.20 per doz.

**NETTING—Wire.—Duty 30%.**  
 Galvanized, 50% discount.  
 Green wire, \$1.50 per 100 sq. ft.  
 Poultry, 2x2 mesh, 150 ft. roll, 55 off Canadian List.

**NOZZLES.—Duty 30%.**  
 Hose (Brass), \$3.50 to \$5 per doz.

**NUTS.—Duty 1 cent per lb. & 25%.**  
 Finished, tapped, 25% discount.  
 Rough, square head, 4 cents per lb. from list.  
 Rough, hexagon head, 4½ cents per lb. from list.  
 Semi-finished, tapped, 25% discount.

**OAKUM.**  
 Navy, \$7.80 per 100 lb.  
 Spun, \$9.30 per 100 lb.

**OIL.—Duty 25%.**  
 Boiled Linseed Oil bbls., 86 cents per gal.  
 Cylinder Oil, from 40 cents up.  
 Lard Oil, bbls., 90 cents per gal.  
 Machine.  
 Prime White (Can.), 14 cents per gal.  
 Prime White (U.S.), 15½ cents per gal.  
 Raw Linseed Oil, bbls., 83 cents per gal.  
 Sperm Oil, bbls., \$1.75 per gal.  
 Water White (Can.), 15 cents per gal.  
 Water White (U.S.), 16½ cents per gal.

**OILERS.—Duty 30%.**  
 \$1 per doz. up.

**PACKING.—Duty 35%.**  
 Rubber Insertion, 60 cents per lb.  
 Rubber Sheet, 22 cents per lb.

**PACKING.—Duty 25%.**  
 Asbestos, 35 cents per lb.  
 Flax, 35 cents per lb.  
 Hemp, 12½ cents per lb.  
 Jute, 8 cents per lb.

**PAISLS.—Duty 25%.**  
 Galvanized Iron, \$2.50 to \$3.50 per doz.

**PAINTS.—Duty 25%.**  
 Elephant Snow White, 8 to 9 cents per lb.  
 Pure White Zinc, 8 to 9 cents per lb.  
 No. 1, 6 to 7½ cents per lb.  
 No. 2, 5 to 6½ cents per lb.  
 Prepared, in 1, 1½ and 1-gallon tins, \$1.25 per gal.  
 Barn, in barrels, 75 to 85 cents per gal.  
 Canada Paint Co's Pure, \$1.25 per gal.  
 Second qualities, \$1.10 per gal.  
 Sherwin-Williams Paints, \$1.45 per gal.  
 Toronto Lead & Color Co's Pure, \$1.25 per gal.  
 Zanzibar, black, 75 cents to \$1 per gal.  
 colors, \$1.25 per gal.

**PAINTS.—Duty 30%.**  
 Copper, \$3.50 per gal.

**LEAD, DRY WHITE.—Duty 5%.**  
 Pure, in casks, \$5.75 per cwt.  
 Pure, in kegs, \$6.25 per cwt.  
 No. 1, in casks, \$5.50 per cwt.  
 No. 1, in kegs, \$5 per cwt.

**LEAD, WHITE.**  
 Pure, \$6.37 per 100 lb.  
 No. 1, pure, \$6 per 100 lb.  
 No. 2, pure, \$5.62½ per 100 lb.  
 No. 3, pure, \$5.25 per 100 lb.  
 No. 4, pure, \$4.87½ per 100 lb.  
 Elephant and Decorators' Pure, \$7.12½ per 100 lb.  
 Brandram's B.B. Genuine, \$9 per 100 lb.  
 " " Decorative, \$7.55 per 100 lb.  
 " " No. 1, \$6.85 per 100 lb.  
 " " No. 2, \$6 per 100 lb.

**LEAD, RED.—Duty 5%.**  
 Genuine, 560 lb. casks, \$5.50 per cwt.  
 Genuine, 100 lb. kegs, \$5.75 per cwt.  
 No. 1, 560 lb. casks, \$5.25 per cwt.  
 No. 1, 100 lb. kegs, \$5 per cwt.

**COLORS (Dry).—Duty 25%.**  
 American Oxides, \$1.75 to \$2 per 100 lb.  
 Brussels Ochre, \$2 per 100 lb.  
 Burnt Sienna, pure, 10 cents per lb.  
 " Umber, pure, 10 cents per lb.  
 Raw, 9 cents per lb.  
 Canadian Oxides, \$1.75 to \$2 per 100 lb.  
 Chrome Greens, pure, 12 cents per lb.  
 Chrome Yellows, pure, 18 cents per lb.  
 Drop Black, pure, 9 cents per lb.  
 English Oxides, \$3 to \$3.25 per 100 lb.  
 English Vermillion, 80 cents.  
 Fire Proof Mineral, \$1 per 100 lb.  
 Genuine English Litharge, 7 cents per lb.  
 Golden Ochre, 3½ cents per lb.  
 Mortar Color, \$1.25 per 100 lb.  
 Pure Indian Red, No. 45, 90 cents per lb.  
 Super Magnetic Oxides, \$2 to \$2.25 per 100 lb.  
 Ultramarine Blue, in 28-lb. boxes, 8 to 24 cents per lb.  
 Venetian Red (best), \$1.80 to \$1.90 per 100 lb.  
 Whiting, 12 cents.  
 Yellow Ochre (J.C.), bbls., \$1.35 to \$1.40 per 100 lb.  
 Yellow Ochre (J.F.L.S.), bbls., \$2.75 per 100 lb.  
 Yellow Ochre (Royal), \$1.10 to \$1.15 per 100 lb.

**COLORS (In Oil).—Duty 25%.**  
 25 lb. tins, Standard Quality.  
 Chrome Green, 8 cents per lb.  
 Chrome Yellow, 11 cents per lb.  
 French Imperial Green, 10½ cents per lb.  
 French Ochre, 5 cents per lb.  
 Golden Ochre, 6 cents per lb.  
 Marine Black, 9 cents per lb.  
 Marine Green, 9 cents per lb.  
 Venetian Red, 5 cents per lb.

**PAPER.—Duty 25%.**  
 Brown Wrapping, 2½ to 4 cents per lb.  
 Manila Wrapping, No. 1, 4 cents per lb.  
 " " No. 2, 5½ " " " "  
 Carpet Felt, \$45 per ton.  
 Plain building, 35 cents per roll.  
 Tarrd lining, 45 cents per roll.  
 Tarrd roofing, \$1.65 per 100 lbs.

**PEAVEYS.—Duty 30%.**  
 Round and Duck bill, \$2.50 and \$13 per doz.

**PIKE POLES.—Duty 30%.**  
 \$10.50 per doz.

**PICKS.—Duty 30%.**  
 \$4.50 to \$7 per doz.

**PITCH.**  
 85 cents 100 lbs.

**PIPE.—Duty, \$8 per ton.**  
 Cast Iron Soil, Medium and Heavy, 65% discount  
 Light, 60% discount.

**PIPE.**  
 Brass, 25 to 35 cents per lb., base price.  
 Copper, 25 cents per lb., base price.

**PIPE.—Duty 30%.**  
 Galvanized Iron.  
 1, \$5.15 per 100 ft.; 2, \$5.50 per 100 ft.; 1, \$7.95 per 100 ft.; 1½, \$10.80 per 100 ft.; 1½, \$12.95 per 100 ft.; 2, \$17.35 per 100 ft.

**PIPE, BLACK IRON.—Duty 30%.**  
 1, \$4.65 per 100 ft.; 2, \$3.40 per 100 ft.; 3, \$3.45 per 100 ft.; 4, \$3.30 per 100 ft.; 5, \$3.75 per 100 ft.; 1, \$5.25 per 100 ft.; 1½, \$7.40 per 100 ft.; 1½, \$9.30 per 100 ft.; 2, \$12.75 per 100 ft.; 2½, \$22.75 per 100 ft.; 3, \$30.00 per 100 ft.; 3½, \$37.50 per 100 ft.; 4, \$42.75 per 100 ft.; 4½, \$51.50 per 100 ft.; 5, \$57.50 per 100 ft.; 6, \$74.50 per 100 ft.

**PIPE.—Duty 30%.**  
 Wrought Iron, 1 inch, per ft. 16½ cents.

**PIPES.—Duty 30%.**  
 Stove, 5 and 6 in., \$7 per 100 lengths.  
 " 7 in., \$7.50 per 100 lengths.

**PLANES.—Duty 30%.**  
 Bailey's, 40% discount.  
 Canadian wood, 25% discount.  
 Mathieson wood, 20 " "

**PLUMBERS' BRASS GOODS.—Duty 30%.**  
 Check Valves, 60% discount.  
 Compression Cocks, 50% discount.  
 Gate Valves, 55% discount.  
 Genuine Jenkins' Valves, 45 " "  
 Imitation Jenkins' Valves, 55 " "  
 Radiator Valves, 55% discount.  
 Standard Angle Valves, 65% discount.  
 Standard Globe Valves, 65 " "  
 Stop Cocks, 65% discount.

**POLISH.—Duty 25%.**  
 Liquid Stove, \$5 per gross.  
 Paste, \$5 per gross.

**PULLEYS.—Duty 25%.**  
 Awning, 25 to 60 cents per doz.  
 Clothes Line, 50 cents per doz.  
 Dodge wood split, 50% discount.  
 Sash, 25 to 27 cents per doz.

**PUMP CYLINDERS.—Duty 25%.**  
 Regular patterns, 65% discount.

**PUMPS.—Duty 25%.**  
 Cistern, 50% discount.  
 Force, 50 " "

**PUNCHES (centre)—Duty 30%.**  
 Assorted sizes, \$1.80 per doz.

**PUTTY.—Duty 20%.**  
 In bbls. (Bladders), \$2.10 per 100 lbs.  
 In kegs, boxes or loose, \$2.25 per 100 lbs.  
 In 25-lb. tins, \$2.35 per 100 lbs.  
 In 12½-lb. tins, \$2.65 per 100 lbs.  
 In bulk or tins less than 100 lb., \$2.90 per 100 lbs.  
 Bulk, in bbls., \$1.90 per 100 lbs.  
 " in less quantity, \$2.05 per 100 lbs.

**RASPS.—Duty 30%.**  
 Blacksmiths, Woodworkers, etc., see Files.

**REGISTERS.—Duty 30%.**  
 Floor and Wall, 50% discount.

**RIVET SETS.—Duty 30%.**  
 Canadian, 35 to 37½% discount.

**RIVETS AND BURRS.**—Duty 30%.  
Copper Rivets and Burrs, 35 & 5 off; cartoons, 1 cent per lb. extra.  
Extras on Iron Rivets in 1-lb. cartoons, 1 cent per lb.  
Extras on Iron Rivets in 1/2-lb. cartoons, 1 cent per lb.  
Extras on Tinned or Coppered Rivets, 1/2-lb. cartoons, 1 cent per lb.  
Iron Rivets, black and tinned, 60 & 10% discount.  
Iron Burrs, 55% discount.

**ROPE, ETC.**—Duty 25%.  
Cotton, 3-16 in. and larger, 16 cents per lb.  
" 5-32 in., 21 cents per lb.  
" 1/2 in., 22 1/2 cents per lb.  
Crucible Steel Rope, 25% discount.  
Galvanized Wire Rope, 25% discount.  
Jute, 8 cents per lb.  
Lath Yarn, 9 1/2 cents per lb.  
Manila, 7-16 in. and larger, 15 1/2 cents per lb.  
" 1/2 in., 14 1/2 cents per lb.  
" 1/4 and 5-16 in., 15 1/2 cents per lb.  
New Zealand Rope, 10 cents per lb.  
Russia Deep Sea, lines 1 1/2 cents per lb.  
Sisal, 7-16 in. and larger, 10 cents per lb.  
" 1/2 in., 11 cents per lb.

**RUBBER.**  
Reclaimed.

**RULES.**—Duty 30%.  
Boxwood, 75 and 10% discount.  
Ivory, 37 1/2 to 40% discount.  
Lumbermans.

**SAD IRONS.**—Duty 30%.  
Mrs. Potts', No. 55, polished, 62 1/2 cents per set.  
No. 50, nickel-plated, 67 1/2 cents set.  
"Sensible," 55 and 60 cents set.  
"Toy," \$13.00 gross.

**SAND AND EMERY PAPER.**—Duty 25%.  
B. & A. Sand, 40 & 5% discount.  
Garnet, 5 to 10% advance of list.

**SAP SPOUTS.**—Duty 30%.  
Bronzed iron, with hooks, \$9.50 per 1,000.

**SASH WEIGHTS.**—Duty 25%.  
Sectional, \$2.75 to \$3 per 100 lb.  
Solid, \$1.25 to \$2.25 per 100 lb.

**SAWS.**—Duty 30%.  
Crosscut, Disston's, 35 to 55 cents per foot.  
Hack, complete, 75 cents to \$2.75 each.  
Hack, frame only, 75 cents each.  
Hand, Disston's, 12 1/2% discount.  
S. & D., 40% discount.  
S. & D., 35 off on Nos. 2 and 3.

**SCALES.**—Duty 30%.  
Champion, 60% discount.  
Gurney's, 40 " "  
Troenmer's, 30 " " Canadian list.

**SCREEN'S.**—Duty 30%.  
Door, \$7.50 to \$12 doz.  
Window, \$1.75 to \$2.75 doz.

**SCREWS.**—Duty 35%.  
Bench, iron, \$4.25 to \$5.75 per doz.  
" wood, \$3.25 to \$4 per doz.  
Drive Screws, 8 1/2 & 10% discount.  
Hexagon Cap, 45 " "  
Set, case-hardened, 60 " "  
Square Cap, 50 & 5 " "  
Wood, F. H., bright and steel, 8 1/2 & 10% discount.  
" R. H., bright, 8 1/2 & 10% discount.  
" F. H., brass, 80 & 10 " "  
" R. H., brass, 75 & 10 " "  
" F. H., bronze, 75 " "  
" R. H., bronze, 70 " "

**SCREWS, (Machine, Iron and Brass)**—Duty 35%.  
Flat head, 25% discount.  
Round head, 20

**SCYTHES.**—Duty 25%.  
Grass, \$8 to \$10.  
Grain, \$12 to \$14.

**SHEARS.**—Duty 30%.  
Tailors, 30 % discount Amer. list.

**SHELLS (Cartridge).**—See Ammunition.

**SHOT,** See Amunition.

**SHOVELS AND SPADES.**—Duty 35%.  
Burns', 40 and 5% discount.  
Ely's, " "  
Gray's, " "  
Jones', " "  
Steel, Snow, \$2.45 @ \$2.60 per doz.  
Wood, " "

**SKATES.**—Duty 35%.  
American Hockey, " "  
Canadian " 40 cents to \$2.50 pair.

**SNAPS.**—Duty 30%.  
Harness, 40% discount.

**SNATHS.**—Duty 25%.  
Sythe, \$5.25 to \$8 per doz.

**SOLDER (Plumbers).**—See Metals.

**SOLDERING IRONS.**—Duty 30%.  
20 to 90 cents each.

**SPIKES.**—Duty 1/2 cent per lb.  
Rail, 20% discount.  
Ship, \$5 per 100 lb.

**SPRINGS.**—Duty 35%.  
Bright Carriage, 6 1/2 per lb. net.

**STAPLES.**—Duty 30%.  
Barb wire, \$3.75 per 100 lb.  
Bed, 50% discount.  
Blind, 25 " "  
Wrought iron, 75% discount.

**STEEL**—see Metals.

**STOCKS AND DIES.**—Duty 30%.  
Blacksmiths', Lightning, 25% discount.  
" Green River, 25 " "  
" Reece, 30% discount.  
" Jardine, 35% " "  
Pipe, Solid, 70 & 10% discount.  
" Duplex, 33 1/2% discount.  
" Jarecki, 33 1/2% " "  
" Outer, 30% " "  
" Armstrong, 35% " "  
Wiley & Russell's, 25% discount, Canadian list.

**STONES.**—Duty 30%.  
Arkansas, \$1.50 per lb.  
Hindustan, 6 to 7 cents per lb.  
" slip, 9 cents per lb.  
Labrador, 13 cents per lb.  
" axe, 15 cents per lb.  
Scythe, \$3.50 to \$5 per gross.  
Turkey, 50 cents per lb.  
Washita, 25 to 60 cents per lb.  
Water-of-Ayr, 10 cents per lb.

**TACKS, BRADS, etc.**—Duty 35%.  
Carpet tacks, blued, 80 & 15% discount.  
" " tinned, 80 & 20 " "  
" " in kegs, 40% discount.  
Cheese-box tacks, blued, 85 & 12 1/2% discount.  
Copper tacks, 50% discount.  
Cut tacks, blued, in dozens only, 80% discount.  
" 1/2 weights, 60% discount.  
Fine finishing, 40% discount.  
Leather carpet tacks, 55% discount.  
Lining tacks, in papers, 10% discount.  
Patent brads, 40% discount.  
Picture frame points, 10% discount.  
Strawberry box tacks, bulk, 75 & 10% discount.  
Swedes, cut tacks, blued and tinned, in bulk, 80 & 10% discount; in dozens, 75% discount.  
Swedes, upholsterers', bulk, 85, 12 1/2 & 12 1/2% dis.  
" brush, blued and tinned, bulk, 70% dis.  
" gimp, blued, tinned and japanned, 75 & 12 1/2% discount.  
Trunk tack, black and tinned, 85% discount.  
Zinc tacks, 35% discount.

**TAGS.**—Duty 25%.  
Shipping, 50 @ 70 cents per M.

**TAR.**  
Coal \$2.75 bbl.  
Refined, \$4 per bbl.

**TENTS.**—Duty 30%.  
Canadian list, 20% discount.

**TONGS.**—Duty 30%.  
Ice, \$9 per doz.  
Pipe, " Brown's," net.  
" " Brock's," 25% discount.  
" " Trimo," 25 " "

**TRAPS.**—Duty 30%.  
" Hawley & Norton's," 65% discount.  
" Newhouse," 45% discount.  
" Victor," 75% discount.

**TRUCKS.**—Duty 30%.  
1, \$3.75; 2, \$5; 3, \$6.75 each.  
" Handy" Canadian, \$16 to \$18.

**TUBES FOR BOILERS.**  
1 1/2, 1 1/4, 1 1/8, 2, 2 1/2, 3, 3 1/2, 4  
15, 12, 12, 10 1/2, 13, 14, 14 1/2, 15 1/2, 24 1/2 ft.

**TURNBUCKLES.**—Duty, 1 cent per lb., 25%; 33 1/2% discount.

**TURPENTINE.**—Duty 5%.  
55 cents per gal.

**TWINES.**—Duty 25%.  
Bag twine, 3-ply, 20 cents per lb.  
" 4-ply, 20 cents per lb.  
Binding, 12 1/2 cents per lb.  
Colored, 27 cents per lb.  
Cotton bag, 30 cents per lb.  
Cotton, White, 20 to 30 cents per lb.  
" Colored, 30 to 40 " "  
Hemp, 20 cents per lb. " "  
Jute, 20 cents per lb. " "  
Mattress, 45 cents per lb.  
Sewing, 45 cents per lb.

**TWINE.**—Continued.  
Tarred Lath, 11 cts.  
Wrapping, 22 to 27 cts.

**VARNISHES.**—Duty 20 cents per gal.  
20% off 5-gal. lots.  
Black Japan, \$2 per gal.  
No. 1, 75 cents to \$1.50 per gal.  
Brown Japan, \$1.50 to \$2.50 per gal.  
Carriage, No. 1, \$2 to \$3 per gal.  
" body, \$4 to \$6 per gal.  
" rubbing, \$2.50 to \$4 per gal.  
Demar, \$2 to \$2.50 per gal.  
Elastic Oak, \$1.50 to \$2.50 per gal.  
Furniture Brown Japan, \$1.25 to \$2 per gal.  
Furniture, extra, \$2 to \$2.50 per gal.  
No. 1, 75 cents to \$1.50 per gal.  
Gold Size, Japan, \$1.50 to \$2.50 per gal.  
Hard Oil Finish, \$1.50 to \$2.50 per gal.  
Light Oil Finish, \$1.50 to \$2.50 per gal.  
Shellac, orange, \$2 to \$2.50 per gal.  
" white, \$2 to \$2.50 per gal.

**VICES.**—Duty 30%.  
Amer., 13 1/2 cents per lb.  
Brooks', 13 1/2 cents per lb.  
Peter Wright's, 15 cents per lb.

**WASHERS.**—Duty 1/2 cent per lb., 25%.  
Buggy, 75% discount.  
Wrought iron, 40% discount.

**WASHING MACHINES.**—Duty 35%.  
Re-acting square, \$51 00 per doz.  
" Round, \$48.00 " "  
Rocker, \$48.00 per doz.  
Popular Brands, \$30.00 to \$42.00 per doz.  
Dowswell, \$3.75 each.  
Re-acting (Dowswell), \$5 each.

**WIRE.**  
Barbed Wire, see Fencing.  
Brass Wire, (duty 10%), 50 to 60 & 2 1/2% discount.  
Copper Wire, (duty 15%), 45 & 10% discount net cash 30 days, f.o.b. factory.  
Smooth Steel Wire, (duty 20%), is quoted at the following net selling prices:  
No. 6 to 8 gauge, \$2.50 per 100 lbs.  
" 9 " 2.50 " "  
" 10 " 2.57 " "  
" 11 " 2.50 " "  
" 12 " 2.85 " "  
" 13 " 3.15 " "  
" 14 " 3.37 " "  
" 15 " 3.50 " "  
" 16 " 3.65 " "

Other sizes of plain wire outside of Nos. 9, 10, 11, 12 and 13, and other varieties of plain wire remain at \$2.50, base, with extras as before. The prices for Nos. 9 to 13 include the charge of 10 cents for oiling. Extras net per 100 lb.: coppered wire, 60 cents; tinned wire, \$2; oiling, 10 cents; special hay-baling wire, 30 cents; spring wire, \$1; best steel wire, 75 cents; bright soft drawn, 15 cents; in 50 and 100-lb. bundles net, 10 cents; in 25-lb. bundles net, 15 cents; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Fine Steel Wire, 17 1/2 off. List of extras, in 100 lb. lots, No. 17, \$5; No. 18, \$5.50; No. 19, \$6; No. 20, \$6.65; No. 21, \$7; No. 22, \$7.30; No. 23, \$7.65; No. 24, \$8; No. 25, \$8; No. 26, \$9.50; No. 27, \$10; No. 28, \$11; No. 29, \$12; No. 30, \$13; No. 31, \$14; No. 32, \$15; No. 33, \$16; No. 34, \$17. Extras net: tinned wire, Nos. 17-25, \$2; Nos. 26-31, \$4; Nos. 32-34, \$6; coppered, 5 cents; oiling, 10 cents; in 25-lb. bundles, 15 cents; in 5 and 10-lb. bundles, 25 cents; in 1-lb. hanks, 50 cents; in 1/2-lb. hanks, 75 cents; in 1-lb. hanks, \$1; packed in casks or cases, 15 cents; bagging or papering, 10 cents.

Galvanized Wire, per 100 lb.: Nos. 6, 7, 8, \$3.50 to \$3.85; No. 9, \$2.85 to \$3.15; No. 10, \$3.60 to \$3.95; No. 11, \$3.70 to \$4.10; No. 12, \$3 to \$3.30; No. 13, \$3.10 to \$3.40; No. 14, \$4.10 to \$4.50; No. 15, \$4.60 to \$5.05; No. 16, \$4.85 to \$5.35. Base sizes, Nos. 6 to 9, \$2.57 1/2 f.o.b. Cleveland.

Clothes Line Wire, solid 7 strand, No. 17, \$4.25; No. 18, \$2.65; No. 19, \$2.35; f.o.b. Toronto, Hamilton and Montreal.

**WASTE (Cotton).**  
Colored, \$5.50 to \$6 per 100 lb.  
White, \$7.75 per 100 lb.  
" extra, \$8 per 100 lb.

**WHEELBARROWS.**—Duty 30%.  
Garden, \$2 to \$4.50 each.  
Navy, \$19 per doz.  
Iron wheel, \$22.50 per doz.  
Steel tubular, \$7.50 to \$10.50 each.

**WRENCHES.**—Duty 30%.  
Agricultural, 60% discount.  
Alligator, 50 " "  
Coes', 30 " "  
P.S. & W., 30 " "  
Stillson's, 25 " "  
Trimo, pipe, 25 " "

**WRINGERS (Clothes).**—Duty 35%.  
Ajax, \$56 per doz.  
Canadian, \$26 to \$30 per doz.  
Crescent, \$17.50 to \$20 per doz.  
Leader, \$30 per doz.  
Novelty, \$25 to \$27 per doz.  
Popular Brands, \$16.50 to \$22 per doz.  
Royal American, \$26 to \$30 per doz.  
Royal Canadian, \$26 to \$30 per doz.

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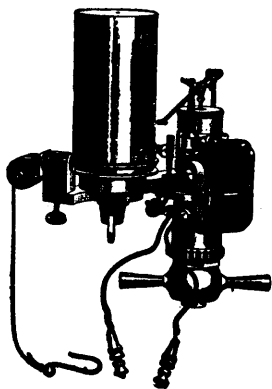
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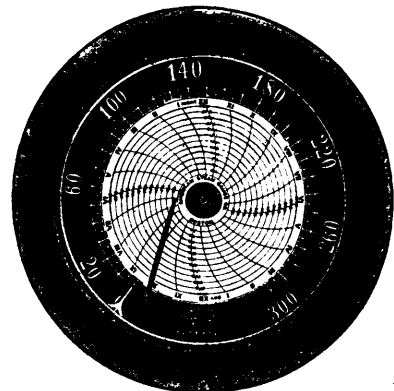
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