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DEVOTED TO THE MANUFACTURING INTEREST OF THE DOMINION

Vol. 40.

TORONTO, MARCH 16, 1900.

No. 6.

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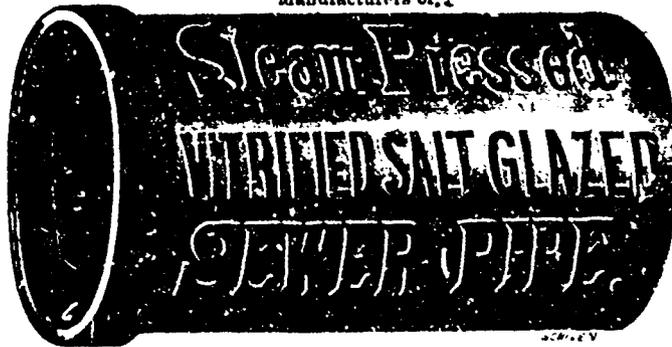
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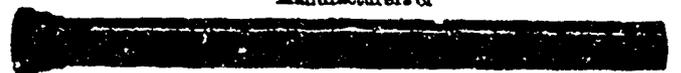
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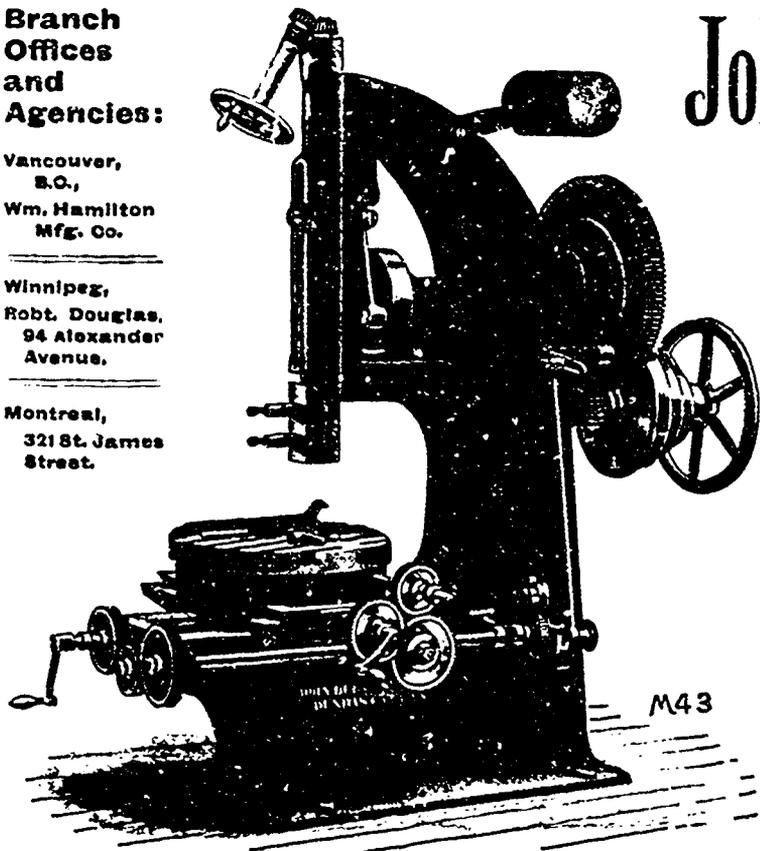
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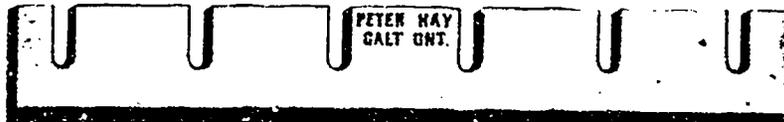
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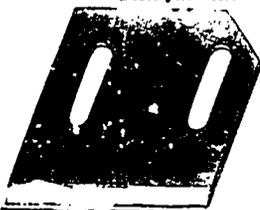
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HOT PRESSED NUTS.

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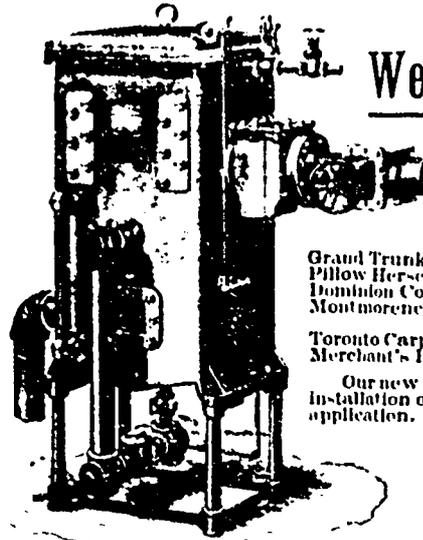
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Our new Catalogue explains the saving to be effected by the
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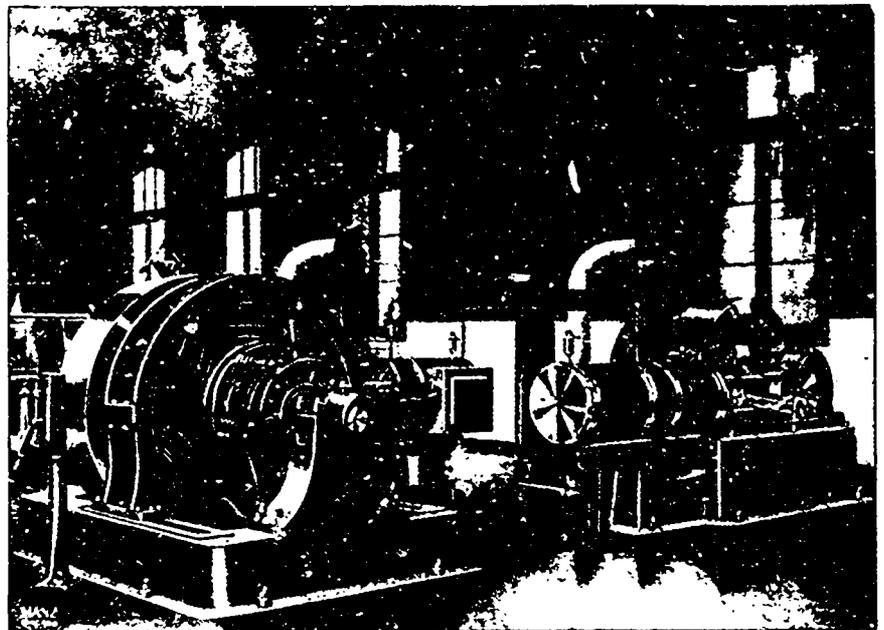
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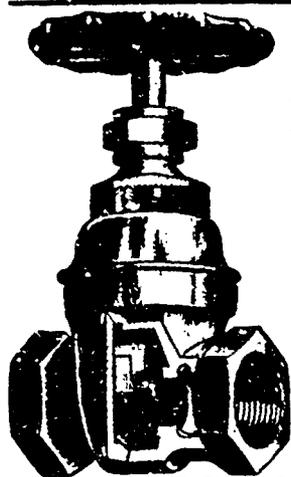


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STRAITWAY VALVE

For
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EVERY VALVE TESTED.

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Oakley's Flexible Twilled Emery Cloth.
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Prize Medal and Highest Award Philadelphia, 1876, for Superiority
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We invite enquiries from engineers in need of any description of Pumping Machinery. We manufacture over five hundred varieties and sizes of Steam and Power Pumps for stationary and marine purposes. We will be pleased to furnish plans and specifications for any special types. Our Catalogue, giving a good idea of our standard patterns, sent free to all enquirers.

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To anyone requiring a compact, thoroughly reliable engine, especially suited for users of intermittent power, we recommend our Gas and Gasoline Engine. We shall be glad to furnish estimates for Gas or Gasoline operated pumps, electric light plants, etc., etc. Explanatory Booklet free on request.

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The Canadian Manufacturer Publishing Co., Limited.

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J. J. CASSIDY, Editor and Manager

OUR INFORMATION BUREAU.

The International Bureau of Commerce, of Canada, recently established in connection with THE CANADIAN MANUFACTURER, is meeting with much success. It is devoted to the development of Canadian trade, both foreign and domestic. By reference to an announcement on page 13 it will be seen that the names of certain countries are given, followed by the names of certain articles. This indicates that we have authentic information that these articles are wanted in the countries named, and we are prepared to supply the names and addresses of these would-be purchasers to our friends. The list, as it appears on that page, will not be repeated or duplicated, but new lists will appear in each succeeding issue, naming other countries and other articles, concerning all of which we are prepared to give names and addresses with whom correspondence may be had. Therefore, it would be well to preserve these bulletins for reference. The information connected with these pointers is at the service of our advertising patrons who may desire it.

This information bureau has been established for the purpose of giving our manufacturers and exporters the names of possible buyers of their goods in all parts of the world. This is certainly worth to them much more than it costs.

It is also prepared to inform shippers concerning the best, most expeditious and cheapest routes of transportation from factory or mill to destination in any part of the world, and how to obtain cash for goods sold within ten days from date of shipment.

MR. THORN AND THE INDUSTRIAL EXHIBITION.

At the recent annual meeting of the Toronto Industrial Exhibition Association one of the members, Mr. J. O. Thorn, created quite a mild excitement by making criticisms upon the management of the Exhibition, during which he was requested to subside—not that he was out of order in what he was saying, but rather because he was saying things that were too true to be pleasant. Mr. Thorn is a new member, having quite recently been elected as one of the representatives of the Canadian Manufacturers' Association.

To enable him to speak knowingly of the matters he discussed he had previously put himself into communication

with a large number of manufacturers who had made exhibits at the fair, and had thus learned their views and experiences, including the disadvantages under which they had labored. These views he epitomised, accentuating and reinforcing them by reference to statements made by the directors in their printed reports. From these he found that a number of the buildings were totally inadequate for their requirements, and that, although grave complaints had been made by exhibitors, nothing had been done to correct the evils complained of. He also stated that he had been informed that unless some important reforms were made ninety per cent. of the implement manufacturers would not again exhibit. He also alluded to the grievances of the furniture manufacturers; the tanners and leather manufacturers; the piano and organ manufacturers; the stove manufacturers; and the windmill manufacturers; to the deficiencies in the stove building, machinery building, carriage building, etc.; and he spoke strongly regarding the lack of sanitary accommodations throughout the grounds, and the disgustingly unsanitary condition of such so-called accommodations as already exist. He also pointed to the fact that the attention of the directors had very frequently been directed to the total inadequacy of the Main Building to its requirements.

If there had not existed the element of entire accuracy in Mr. Thorn's strictures the old war horses of the Industrial Exhibition Association, particularly the directors of it, would not have become so disgruntled at what he said. But it was a rude shock which they were not inclined to tolerate. No doubt, as Mr. Thorn stated, there are gentlemen upon the board of directors who have worked long and faithfully in the interests of the Association, but it is evident that others of them entertain the idea that the sum of human happiness during the two weeks of the year when the show is on, consists in wearing distinguishing badges, consuming free lunches, occupying reserved seats in the grand stand, and having free entree to the side shows that always abound there upon those occasions. The idea seems to be quite prevalent, too, that, regardless of the interests of the constituents they are supposed to represent, the holding of a seat on the board implies obliviousness of other claims, and entire devotion to making money for the Fair by most available methods.

Mr. Thorn, however, seems to take a different view of the matter. He appreciates the fact that he owes his position as a member of the Exhibition Association to the grace of the body which made him one of its representatives, and that his duty lies very much in the direction of looking after the interests of those whom he represents; and herein, in our opinion, Mr. Thorn differs from some of his co-representatives who seem to think that they owe allegiance first, last and all the time, to the Exhibition Association, and only incidentally to those who made them members of it.

THE TORONTO INDUSTRIAL EXHIBITION AND THE CANADIAN MANUFACTURERS' ASSOCIATION.

It is a well developed fact that there is wide-spread dissatisfaction with the management of the Toronto Industrial Exhibition, and that something must be done, and that without unnecessary delay, to save it from the collapse that is

otherwise inevitable. It is, in our opinion, well within the power of the Canadian Manufacturers' Association to initiate a movement that will result in again placing the Industrial Exhibition upon as high a plane as it ever occupied, and to make it an affair of much importance to all Canadian manufacturers. The question is, will the Association rise to the occasion, and meet the opportunity now presented to it.

At the reorganization of the Industrial Exhibition Association some twenty-one years ago it was under an arrangement whereby certain organizations were authorized to name some of the members of the Association, included in which was the Canadian Manufacturers' Association, to which was appointed five representatives, and ever since then the Manufacturers' Association has been represented by five members in the Industrial Exhibition Association. Of these five, two were made directors upon the Exhibition Board, who until now occupy that position, and later—perhaps about ten years ago, another of the representatives of the Manufacturers' Association was made a director on the Exhibition Board. By the grace of the Manufacturers' Association no member of it residing outside of Toronto was ever chosen to represent it in the membership of the Exhibition Association, although it had the inherent right to be so represented. The object in having the Manufacturers' Association thus represented was that the interests of manufacturers generally might be looked after, and as long as exhibiting manufacturers were fairly treated by the Exhibition Association no objection was made to the arrangement. But, as is usually the case in such institutions, deviations have been introduced into the management under which the interests of exhibiting manufacturers have suffered, and although the Manufacturers' Association have frequently called the attention of the Managers of the Exhibition to the evils, no effective steps have been taken to correct them, and now we are brought face to face with a condition of affairs that cannot be overlooked or avoided. Something must be done or the Exhibition will soon be a thing of the past.

What has the Manufacturers' Association done in the matter is a question for its officers to answer—what it intends doing is to be seen. It might reasonably be supposed that the three members on the board of directors would have considered the complaints of those who had made them their representatives, would have consulted with their association regarding the situation, would have urged the reforms demanded, or, in the interests of their association resigned from their seats at a board where they were so persistently ignored. Unfortunately, however, they seemed to entertain the idea that as directors of the Exhibition it was their duty not so much to look after the interests of the Manufacturers' Association and of manufacturers generally, as to the ways and means for making money for the Exhibition.

To our mind these interests should not be antagonistic, but if they really are, and if the interests of the manufacturers are to be subservient to those of the Exhibition, the sooner the gentlemen resign from the Board, and surrender their commissions to their Association, the better it will be for all concerned. If they are not inclined to resign a general meeting of the Association should be called, at which the whole matter could be discussed, leaving it for the meeting either to endorse the suicidal policy of the directors, or to appoint new men to represent them. Either this should be

done, or such a protest should be made to the management of the Exhibition as would result in the reforms hinted at by Mr. Thorn.

This is a matter that concerns not Toronto manufacturers alone, but every manufacturer in Canada who desires to exhibit at the Fair, whether he is a member of the Manufacturer's Association or not. The letters which Mr. Thorn has received show that there is a widespread feeling of dissatisfaction with the management of the Exhibition, and that if effective steps are not taken to redress grievances, the word "Industrial" should be omitted from the name of the Association.

To be true to its members the Canadian Manufacturers' Association should take the initiative in the matter and enthusiastically back up and endorse Mr. Thorn in what he is doing.

THE TORONTO INDUSTRIAL EXHIBITION.

The following open letter appears in the Toronto daily newspapers:

SIR:—I desire to draw the attention of the public, through the medium of your valuable journal, to the very peculiar action of the manager and Board of Directors of the Industrial Exhibition Association, of which I am a member, as one of the representatives of the Canadian Manufacturers' Association.

A few days before the annual meeting of the Exhibition Association, held February 20th, I applied to the manager for a copy of the constitution and by-laws, which he stated he was unable to furnish. On the 28th of February I wrote him as follows:

"DEAR MR. HILL,—I applied to you some time ago for a copy of the by-laws of the Industrial Exhibition Association, which I understand I was unable to obtain in consequence of your not having any copies on hand. If it is not asking too much, I should be very glad if you will be kind enough to have your stenographer strike off a copy for me, and if necessary I should be glad to pay any expense that may be incurred by so doing."

Upon receipt of this letter, he agreed to furnish me with a copy of the by-laws in two or three days, and also said the directors were going to pass new ones, but as I told him that I wished to get a copy of the by-laws in force at the annual meeting, he undertook to furnish it. On March 9th I reminded him that I had not received the promised copy. He then stated that the copy had been prepared for me, but in the interval the directors had held a meeting at which he read my letter of February 28th, and they (the directors) had instructed him not to send me the copy he had prepared. I immediately informed him that unless I received a copy of the by-laws by noon of the following day, that I should be reluctantly compelled to consult my solicitors regarding the matter, and that I considered the action of the board most extraordinary and unwarranted. Before the time limit I had set had expired, the manager stated he had conveyed my message to the new president, and informed me that he (the president) did not feel disposed to sanction my receiving a copy of the by-laws after the directors had instructed the management not to furnish it.

I feel that it may be of interest not only to myself, but also to the citizens of Toronto, to know the names of the directors present at the meeting in question, and whether or not they were unanimous in the matter, and their reasons for declining to furnish a member of the Exhibition Association, one of the representatives of the great manufacturing interests of the country, with a copy of the by-laws in question, especially after it had been prepared for him; also why the manager hit upon the evident afterthought of con-

sulting the board regarding such an apparently small matter as sending out a copy of the by-laws that he had promised and prepared.

Yours, etc.,

J. O. THORN.

TORONTO, March 12th.

THE BERNE CONVENTION.

As a result of a conference held at Ottawa, on February 14th, the editor of this journal addressed a communication to Hon. Sydney Fisher, Minister of Agriculture, as follows:

TORONTO, February 28, 1900.

SIR,—Having reference to a matter upon which I have had the honor to address you before, and being very much interested in it, I beg to be informed if the Dominion Government have determined to accede to the terms of the Berne Convention for the protection of industrial property. I noticed some days ago in the Toronto Telegram, of which Mr. J. Ross Robertson, M.P., is proprietor, an account which leads me to believe that the Government were inclined to accede, but as I have seen no official statement to that effect, I beg, if I am not wrong in doing so, to be informed in the matter.

To which enquiry Hon. Mr. Fisher made reply as follows:

MONTREAL, March 3, 1900.

DEAR SIR,—In reply to yours of February 28th, I have been confined to my room in Montreal for the last two weeks, but before leaving Ottawa an interview was had with me by Mr. Robertson, M.P., of Toronto, Mr. Ellis and Mr. Riches, on the one side, with Mr. Prefontaine, M.P., mayor of Montreal, Mr. Evans, patent solicitor, of Montreal, and Mr. Scudder on the other. The objections of the Manufacturers' Association to Canada's adherence to the Berne Convention, and their fears of the result were thoroughly gone into and discussed from every side. As a result of the discussion these gentlemen left me with the understanding that the fears were groundless, and that on the whole it was in the interests of the Canadian inventors and manufacturers to adhere to the Convention. I therefore sent a recommendation to Council to that effect and I presume that it has been acted upon.

It might be well to mention that Mr. Scudder, who is a member of the Canadian Manufacturers' Association, is president of the Canadian Composing Company, of Montreal, who have very large works in that city for the manufacture of a typesetting machine, with which they expect to do an extensive export trade; and his contention was that this trade could not be engaged in unless Canada subscribed to the terms of the Berne Convention. In urging the Association to lend its influence in that direction, he showed a list of names of very large and important manufacturing concerns in Canada who had memorialized the Dominion Government to subscribe to the Convention, among the number being some fifty members of the Association.

We congratulate our manufacturers upon the event of Canada becoming a signatory to the Berne Convention, and for them thank the Minister of Agriculture for the active interest he has taken in their behalf.

THE ORFORD COPPER COMPANY.

Hon. E. J. Davis, Commissioner of Crown Lands, has moved a resolution in the Ontario Legislature protesting against the renewal by the Dominion Parliament of the letters patent granted to the Orford Copper Co. for refining

matte of the nickel and copper ores of the Sudbury District. The resolution also prays that the patent laws of the Dominion shall be allowed to take effect, permitting any or all persons to use the process in Canada. The text of the resolution is as follows:—

That this House declares its opinion that the interests of the nickel and copper industries of this Province demand that letters patent granted by the Government of the Dominion of Canada to the Orford Copper Company of New York in 1893, and now in use by that company in the State of New Jersey for refining matte of the nickel and copper ores of the Sudbury district of the Province of Ontario, should not be revived or renewed as is proposed by the bill now before the Parliament of Canada, providing for the revival of the said letters patent and for the renewing and extension of the powers conferred thereby, but that the provisions of the patent laws of the Dominion shall be allowed to take effect, and the said process heretofore covered by the said patent rendered available to all persons desirous of using the same for the refining of nickel or copper ores, or the mattes thereof in the Dominion of Canada—the said process, though patented in Canada, having never been operated therein, and no attempt having been made by the owners of the patent to apply it within the limits of Canada to the said ores or mattes, and the said patent having by operation of the patent laws of Canada been null and void for non-use for a period of more than four years. And this House further approves of a petition to the Dominion Parliament being presented under the hand of the Speaker of this House, respectfully protesting against the said legislation.

AMERICAN ARMOR PLATE.

Mr. James M. Swank, General Manager of the American Iron and Steel Association, has sent us a most interesting publication entitled, "A History of the Manufacture of Armor Plate for the United States Navy," which gives an account of the establishment of this branch of the steel industry in that country, and the recent legislation by Congress that has had such a threatening effect upon it. It is interesting to learn that the first contract for armor plate for American war ships was with the Bethlehem, Pa., Iron Company, on June 1, 1887, the total amount of the order being 6,700 tons, at \$536 per ton. In 1890 it was decided that it would be desirable to encourage competition, and in that year Carnegie, Phipps & Co. were awarded a contract for 6,000 tons of plain, oil tempered steel plates at the price above named. Efforts were made by Congress to bring about a reduction in the price of armor plates, with the alternative of the establishment of Government work to manufacture the article. Mr. Swank's book gives the history of the long continued proposing and counter proposing which has hindered naval construction so seriously in that country during the past few years. The recent rise in the prices of steel of all kinds puts a new face on the situation, and it seems probable that the result of haggling over prices will be a serious matter in the increased price which must now be paid for armor plates. The history closes with these words:

Since Congress has thus interrupted the construction of United States warships, the selling values of all customary forms of iron and steel have more than doubled. Not only have the prices of iron ore, fuel, pig iron and labor greatly risen, but even at these higher prices it is extremely difficult for iron and steel makers to meet the urgent demands upon them. It is under these circumstances that Congress must now consider what course it will take in regard to authorizing purchases of needful armor.

The arguments against the erection of a Government armor plate plant are set forth clearly and in a most convincing manner, and the book is profusely illustrated with photographic reproductions of the plant and equipment of the Carnegie and Bethlehem armor plate works, and of test plates of Harveyized and Krupp armor.

EDITORIAL NOTES.

Editor W. K. McNaught, of *The Trader*, has the following to say regarding changing the tariff:

There have been rumors going the rounds of the press last month that the Dominion Government were proposing to increase the preference on British goods from 25 per cent. as at present, to 35 per cent. This is contradicted in ministerial circles, however. We think it would be bad policy to tinker with our tariff at present, unless it would be to raise it in some respects as against certain lines of goods which we import largely from the United States, and on which they charge a considerably higher rate of duty on Canadian importations than we do on their goods. The country is prospering at present, and it would be unwise to do anything which would disarrange present conditions. It is a very ticklish business to meddle with the tariff. It is about as bad a thing to monkey with as a buzz-saw, and sometimes has about as bad an effect.

This is the same tariff, including the same preference in British goods coming into Canada, administered by the same government as when Sir Richard Cartwright, Minister of Trade and Commerce, made his popular speech in Massey Hall, Toronto, last August, when he showed what a wonderfully favored country Canada was under it. The "growing time" that Sir Richard alluded to is yet with us, and we quite agree with Mr. McNaught that, "it is a very ticklish business to meddle with the tariff."

The Supreme Court of Missouri has declared the department store law of that State unconstitutional. The purpose of the act was to kill off the department stores, and it undertook to do it by levying on each line of goods carried in such stores a license so heavy as to make the business unprofitable. The Court held that this was class legislation, and that no reason had been given or suggested, nor in the judgment of the Court could any reason be given why an arbitrary selection of persons or corporations having for sale in the same store or building, under one management, more than one line of goods, should be discriminated against by a license upon the different lines heavier than upon those lines carried independently in different stores, and yet there are those in Toronto who are besieging the Ontario Government to enact a law similar to that which has recently been declared unconstitutional by the Supreme Court of Missouri.

The Trader, Toronto, of which Mr. W. K. McNaught is editor, says:

That the jewelry trade are pretty well represented upon the management of the Canadian Manufacturers' Association may be gleaned from the fact that at the annual meeting held last month, Mr. P. W. Ellis, of P. W. Ellis & Co., was re-elected first Vice-President; Mr. Roden, of Roden Bros., Chairman of the Reception and Entertainment Committee; G. H. Lees, manufacturing jeweler, of Hamilton; E. G. Gooderham, of the Toronto Silver Plate Co., and W. K. George, of the Standard Silver Co., Toronto, members of the

Executive Committee, and W. K. McNaught, Toronto, as a member of the Executive Committee and one of the Association's representatives to the Industrial Exhibition Association.

It is said that the Main Building of the Toronto Industrial Exhibition is under the control of one of the directors of the board of that institution, who is also a representative of the Canadian Manufacturers' Association. The incongruousness of the event is most obvious, and in many ways. The building is not assigned for exhibits of products of our manufacturers, but is rather a bazaar in which departmental stores, candy and lunch counters, fakirs and side shows are mingled in indiscriminate confusion; and, to cap all, the provisions made for the personal conveniences of visitors, particularly ladies, are of the most disgusting and objectionable character, which the police or health officers would do well to suppress. There is no greater nuisance on the grounds than that contained in the Main Building.

An industry that is fast growing in importance in Canada, is the manufacture of fuel from bog peat. There are thousands of acres of bog land in Ontario and other provinces from which peat could be cut, the quantity of fuel produced from it being limited only by the enterprise bestowed upon the industry. Already these pages have recorded the organization of a large number of companies for manufacturing peat fuel, but we are informed that the expansion of the business is very much retarded by the lack of suitable machinery for pressing the superfluous water from the peat as it is cut from the bog. The article holds a very large percentage of water in its sponge-like interstices, and the process of elimination by gravity and evaporation is slow and unsatisfactory, the want being for machinery that will squeeze out the water quickly. We would be glad to learn from any of our readers if they have knowledge of any such. There would be a good demand for it in Canada.

"Stahl und Eisen" contains an article in which the author, Dr. Frank, proposes to utilize the great peat beds of North Germany for the production of electricity on a large scale. He estimates that a hectare of turf, three metres thick, gives 2,500 tons of dry turf, equivalent to 1,200 tons of coke, or in English measure, an acre of turf, 10 feet thick, gives a 1,000 tons of dry turf, equivalent to 480 tons of coke. The mosses of the Eves valley, which cover an area of 1,000 square miles, might furnish the equivalent 300,000,000 tons of pit coal; that is to say, more than the total production of Germany for three years. The turf would be burnt at central stations of 10,000 horse power capacity, consuming annually 200,000 tons of turf, the product of 200 acres of the beds. One application of the power produced would be to the service of the canal connecting Dortmund to the Eves, which will soon be finished; but the author thinks the most interesting will be the manufacture of acetylene, the materials for which can be obtained easily and cheaply in the neighborhood. With 10,000 horse power, a quantity of acetylene can be produced daily equivalent for lighting purposes to 150,000 gallons of petroleum, or annually in value to 20,000 tons of foreign imported petroleum.

THE CANADIAN MANUFACTURER

ESTABLISHED IN 1880.

Devoted to the Development of Canadian Trade,
Foreign and Domestic.

THE INTERNATIONAL BUREAU OF COMMERCE

OF CANADA

In connection with The Canadian Manufacturer, works to attain this end.

Any inquiry addressed to THE CANADIAN MANUFACTURER will result in placing the writer, if he so desires, in communication with Manufacturers, Buyers or Sellers of any sort of merchandise in Canada or any other country.

Merchant, Importers, Exporters, Boards of Trade, Chambers of Commerce and Commercial Organizations in any part of the world are invited to make full use of the facilities afforded by THE CANADIAN MANUFACTURER whenever they may desire information about any article produced in Canada, Tariff Law, Customs Regulations, Routes of Transportation, etc.

We especially request Canadian manufacturers to send us lists of the different lines of goods produced by them so that we may address to them special letters of inquiry as soon as information is received by us.

WE DESIRE NAMES AND ADDRESSES:

There is a demand in Canada for machinery for pressing water out of peat after being cut from the bog. Manufacturers of such machinery kindly notify us without delay.

We desire names and addresses of manufacturers of machinery for making excelsior for upholsterers' use.

We desire names and addresses of manufacturers of celluloid or rubberine.

Addresses of manufacturers of machinery for making butter dishes for grocers' use, cut from one piece of wood with lapped corners.

We have information, principally from buyers, that is valuable to manufacturers who desire to increase their trade in the British and foreign markets, that will be furnished on application. If you find any item in this list (which is changed every issue), that you are interested in, write to us. If you see an item that does not interest you but would be of value to some friend, kindly inform him or us.

AUSTRALIA.

Cameras.
Photograph Materials.
Cardboards.
Carriage Woodwork.
Carriage Hardware.
Camping Outfits.
Paints.

Oils.
Varnish.
Clothing for Sportsmen.
Leather.
Bicycles.
Bicycle Accessories.

BRAZIL.

Newspaper, all kinds.
Oils, Mineral Lubricating.
Corn Flour.

Wheat Flour.
Paints (misc.).
Paint Brushes.

CHINA.

Leather Belting.
Wire Nails.
Electrical Machinery.
Telephones.
Window Glass.

Cotton Prints.
Shirtings.
Sheetings.
Flour.
Artificial Butter.

COSTA RICA.

Sash Door and Blind Machinery.
Furniture Machinery.
Hand Printing Presses.

Tobacco Machinery.
Tailors' Trimmings.

DENMARK.

Hemlock Sole Leather

Twines and Cordage, all sizes.

EGYPT.

Rain Pipe.
Soil Pipe.
Furniture.
Rubber Shoes.
Hardware Novelties.
Lanterns.
Railway Supplies.

Oil Engines.
Padlocks.
Locomotives.
Railroad Cars.
Timber for Freight.
Car Construction.

Wheat.
Barley.
Oats.
Corn.
Tool Making Machinery.
Bicycles.

GERMANY.

Typewriters.
Agricultural Implements.
Paper.
Dried Fruits.
Electrical Material.

GREAT BRITAIN.

Cotton Army Duck.
Cotton Rope.
Lard.
Table Glassware.
Brewers' Machinery and Supplies.
Distillers' Machinery.
Files and Rasps.
Engine Oils.
Cylinder Oils.
Expanding Tools.
Flue Cleaners and Scrapers.
Anti-Friction Metal.
Oil Filters.
Iron Ore.
Gas Stoves.
Moist Pine Mechanical Pulp.
Sulphite Pulp.
Lime Cake and Meal.
Calcium Carbide.
Acetate of Lime.
Acetate of Lead.
Fancy Photograph Frames.
Fancy Groceries (all kinds), and
Novelties suitable for same.

Gelatine.
Buckwheat.
Maple Syrup.
Evaporated Apples.
Confectionery in barrels and fancy packages.
Spruce Box Shooks.
Paraffin Wax.
Wheelbarrows.
Building Materials.
Mineral Oils for mixing purposes.
Malt Spirits.
Drugs and Chemicals.
Petroleum Jelly.
Corn Starch.
Indian Corn Flour.
Low Grade Wheat Flour.
High Grade Winter Wheat Flour.
Pumps.
Builders' Hardware.
Household Hardware.
Wire Netting.
Rivets, Nuts, Bolts.

HOLLAND.

Special machinery for Chair Makers.
Wood-Working Machinery.

Textile Machinery—especially Cotton.
Moulding Machines.

INDIA.

Bicycles.
Sportman's Clothing.
Tobacco.

Cold Metal Saws.
Armored Hose.
Machine Tools.

JAPAN.

Machinery of all kinds.
Bar Iron, Steel, Angles and all kinds of shapes.
Printing Paper.
Sheet Iron.

Alcohol.
Electrical Supplies.
Bicycles.
Bicycle Sundries.

MEXICO.

Linen Letter Paper.
Common Letter Paper.

Hardwood Furniture.
Rattan Furniture.

PERU.

Jewelry.

RUSSIA.

Cotton Goods, all kinds.

TURKEY.

Shot.
Files.
Nails, cut and wire.
Paints.
Oils.
Varnish.
Household Utensils.
Watches.
Clocks.

Printing Paper.
Writing Paper.
Leather.
Oil Cloths.
Lanoleums.
Cotton piece goods.
Photographic Goods.
Alcohol.
Shoe Findings.

Preserve this Bulletin for Reference—it will not be Duplicated.

If You want Information, Ask for It.

Address, THE CANADIAN MANUFACTURER, Toronto, Canada.

OPPORTUNITIES FOR CANADIAN TRADE.

The following enquiries have been received at the office of the High Commissioner of Canada in London, England.

NOTE—Those who may wish to correspond with any of these enquiries 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.

145. A firm in the Midlands ask to be placed in communication with Canadian exporters of witherite, or native carbonate of barium. The lowest price for 100 ton lots delivered c. i. f at Glasgow should be stated and a fair sized sample submitted.

146. Enquiry is made by the manufacturers of halters with web heads, and rope reins, for names of respectable firms in Canada who would be open to do business.

147. An important firm, manufacturing stoves, grates and fenders, desire to be represented in one or two Canadian cities by concerns who are able to work these lines.

148. Enquiry comes from a general export merchant for names of importers of tin plates in Canada, also of sheet metals, alum, whiting and sal-ammoniac. He is also open to act on commission for Canadian shippers who might be able to utilize his services.

149. A firm of export bottlers who import a considerable quantity of staves for barrels, are prepared to place orders for such goods in Canada if prompt and certain delivery can be depended on.

150. A Glasgow firm of commission agents are anxious to get in touch with principals dealing in Canadian asbestos. They wish to open up a connection in Scotland and prefer dealing direct instead of through agents.

151. A buyer of iron ore, manganiferous ore, lead, zinc and copper ore, as well as of all kinds of pig iron, in large quantities for England and for export, desires to correspond with Canadian firms interested. He is also a vendor and exporter of large quantities of Portland cement.

152. A manufacturer of desiccated eggs desires the names of Canadian barrel makers with whom he could place orders for extra well-finished barrels.

153. The names of Canadian shippers of dried codfish are asked for.

154. An important London firm of lubricant manufacturers desire to enter into communication with Canadian importers of solidified lubricant, petroleum jelly, oils, greases, etc.

155. Enquiry is made for the names of Canadian manufacturers of paraffine wax and exporters of graphite, crude oils, asbestos fibre, asbestos, soapstone, mica, and other mineral substances.

156. Canadian manufacturers are invited by the promoters of an International Patentees Exchange and Mart to take

advantage of the opportunity their exhibition department affords for the display of Canadian made goods. A sales department is also being organized, and it is claimed that through this a large number of wholesale buyers throughout the kingdom will be made acquainted with the exhibits.

157. Enquiry comes from Fler de l'Orne (France), for names of Canadian exporters of linseed cake, wheat starch, lubricating mineral oils.

158. The names of a few lead pipe manufacturers are asked for by a correspondent in Ottawa.

159. Another enquiry has been received respecting the quantity of native carbonite of barium available for export from Canada.

160. A firm of paper agents and merchants desire to open up business connections in Canada for the sale of the product of their paper and pulp board mills, and will be glad to hear of a house through whose intermediary they could find a market.

161. Enquiry is made for the names of Canadian firms exporting wood pulp and paper.

162. A firm in the Midlands wishes to enter into communication with one or two good Canadian houses who desire representation here, for the sale in the United Kingdom and Europe generally, of Canadian productions. They are acquainted with foreign trade and could develop a large business in suitable goods.

163. A financial agent interested in the wood-pulp industry desires to hear of properties favorably situated on the Atlantic coast which could be utilized.

164. The manufacturers of rubber parts used in the manufacture of pneumatic tires, viz., outer covers and inner tubes, and other various cycle rubber goods, are desirous of opening up a trade with Canada, and are looking out for reliable firms in the Dominion who would do a factoring business with them.

165. A commission agent at Messina, interested in the export of Sicilian products, oil, almonds, pistachio nuts, other nuts, liquorice, etc., desire to correspond with Canadian importers who may be open to do business.

166. An enquiry comes from Canada for the prices usually ruling for dried apples; it is also asked whether a market exists in London for the culls of the evaporating plant called "seconds" and the dried cores.

167. A firm in Nova Scotia enquire if there is any sale in London for dry codfish. If so, they desire particulars as to prices, the kind of fish used, etc.

168. A Canadian firm packing canned pork and beans, fruits and vegetables, and able to supply large quantities, desires to hear of a reliable firm who could represent them in the United Kingdom.

169. Parties in Canada who are prepared to manufacture fish guano for export, desire to obtain the names of firms who handle the article.

Transfer Ornaments, AMERICAN MADE.

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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.

Announcement is made that the famous International bridge across the Niagara at Black Rock, at Buffalo, N.Y., is to be practically rebuilt by the Grand Trunk. The old superstructure will be entirely removed. This renewal work is to be carried out in order to bring this bridge fully up to the requirements of modern rolling stock and moving loads, which are considerably more than double of what they were in 1870, when the erection of the existing structure was begun. It is expected the work will be completed during the coming year.

The Ontario Wind Engine and Pump Co., Toronto, have recently received large orders for tanks and tank fixtures, of which three were for Manitoba. The company are now busy engaged with three large railway tanks for Cape Breton, as well as three for Montreal. They anticipate a busy season in connection with tanks, especially as well as their Canadian air motors, which are popular everywhere.

Warton, Ont., will issue debentures for a waterworks system.

The Cling-Surface Manufacturing Co., Buffalo, N.Y., are in receipt of a letter from Mr. O. P. Rochevot, chief engineer of the Lion Brewery of that city, in which he says: GENTLEMEN.—We have been using Cling-Surface on our belts for seven months. It was formerly necessary to use our idlers when carrying full load of mash tubs, elevators, etc., and even after we found our belts were not slipping, it was some months before we dared raise our idlers, but as soon as we did we found the belts transmitted as much power as when

we used the idlers, and we can now do our full work easily without them. This belt is under full load. The bolts are flexible and elastic, and we are more than pleased with Cling-Surface.

Mr. R. Yamamoto, who was one of the Japanese delegates to the Philadelphia Commercial Congress, and who afterwards visited Ottawa, has written to the Minister of Agriculture for samples of flour for the Kobe, Japan, Chamber of Commerce. Mr. Yamamoto is president of the Kobe Chamber, and he is also anxious to be placed in communication with Canadian millers with a view to ascertaining whether a trade can be worked up. Last year not a barrel of Canadian flour went to Japan.

A Montreal trade journal publishes the following as a matter of news, regarding which we would inform it that pulp ware, otherwise known as indurated ware, has been manufactured in Canada for years. Wood pulp ware is gaining in favor as a substitute for certain grades of china, glass, and earthenware, and even for wood and metal. The raw material comes from Norway and Sweden in the shape, of course, of wood pulp. Its further treatment is thus described: After being ground and wetted, it is stored in vats, whence it is forced into a tank and then taken out and moulded into forms having a rough outline resembling to the finished article. These shapes are then treated in hydraulic presses, which apply the first pressure, with the object of compressing the pulp and hardening the surface of the ware. From the presses the goods are taken to a large drying shed,

where any excess of moisture is removed by the action of the atmosphere. The shapes, when dried, pass to the embossing rooms, fitted with a number of presses by which the pulp is still further compressed and the surface still more refined. The finishing of the article then begins. They are placed in ovens to be indurated or hardened, and much of the life of pulp ware depends upon the thoroughness with which this is done. Next in order come the enamelling or surfacing processes, also carried out into the ovens, the result being the hard, washable and smoothly-glazed skin, unaffected by acids, which forms so indispensable a feature of pulp ware goods. Thatford is the seat of one of the principle factories of this ware in England.

The Lauric Engine Company, Montreal, have just completed a gigantic steam engine for the Ogilvie Milling Company, of Winnipeg, Manitoba. The engine is what is technically called a tandem Corliss compound condensing engine, the general dimensions of which are as follows: Cylinders, high pressure, twenty-four inches diameter; low pressure, forty-eight inches diameter and forty-eight inches stroke. Both cylinders are steam jacketed, and fitted with the company's improved valve motion, all the levers of which are cast steel. The main shaft is sixteen inches in diameter and weighs over eight tons. The main bearing for this shaft is fitted into an enormous frame casting, weighing twelve tons, the bearing itself being water-jacketed. The most wonderful part of this immense machine is the fly wheel, or main pulley, which is twenty-two feet in diameter (four times the height of an average man), six feet six inches across the face, weighing sixty tons. The outer rim is made in ten sections and, owing to the great width of face, two sets of arms are required, ten in each set, or twenty arms in all. The hub is made of four heavy flanges, two flanges to each set of arms, in securing the wheel to the shaft. These flanges are forced into place with a pressure of two hundred tons, an aggregate pressure on the hub of 800 tons. The whole engine is massive in design, weighing about 175 tons, and reflects the greatest credit on the builders.

The Berlin Bicycle Manufacturing Co., Berlin, Ont., has been incorporated with a capital stock of \$49,000, to manufacture bicycles, etc. The provincial directors include A. Pequegnat, R. D. Lang, both of Berlin, Ont., and L. G. Pequegnat, of New Hamburg, Ont.

INGERSOLL-SERGEANT Rock Drills

FOR MINES, TUNNELS AND QUARRIES

PISTON INLET **Air Compressors** STRAIGHT LINE
 DUPLEX and
 COMPOUND.

FOR ALL DUTIES.

... COMPLETE MINE EQUIPMENT ...

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

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

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The Lake of the Woods Milling Co. recently received orders from the British War Office for 20,000 sacks, equal to fifty carloads, of their highest grade of flour, to be shipped immediately to South Africa. They have also received an order for a considerable quantity of their best patent flour from a commercial house in Durban, Natal. The shipment goes by the way of New York. The Lake of the Woods Milling Company has been shipping flour in smaller quantities for quite a while to South Africa, and its brands are apparently well known there. This large order from the War Office brings Canada prominently before the Imperial authorities as a country upon which they can draw largely for their food supplies.

Plans have been prepared for the works to be built for the National Cycle and Automobile Company, Hamilton. The premises will have a frontage, including two wings, of 700 feet, four storeys high, and sixty-six feet wide. They will be built on strictly modern factory plans, with six-inch floors, and light accommodation for 1,000 hands. It is expected that the cost of the buildings will be in the neighborhood of \$35,000, and already \$350,000 worth of machinery has been contracted for to equip the works. Under the agreement with the city the company is to start out with a list of 800 employees, and the premises must be ready for occupancy by August 1st of this year. The power to run the works will be electricity of 500 horse-power, and besides this there will be 1,500 incandescent electric lights in the place.

Messrs. George Wilson & Sons' planing mill at St. Catharines, Ont., was destroyed by fire March 4th. Loss about \$30,000.

Mr F. H. Lemay, of Montreal, has purchased the season's manufacture of white pine from McLaughlin Bros. Arnprior, Ont., amounting to about 65,000,000 feet.

Tenders for oil for the Toronto water works were awarded to McColl Bros., Toronto, for cylinder oil, at thirty-five cents a gallon; Queen City Oil Co., Toronto, for engine oil, at twenty-eight cents; McColl Bros., for boiler compound, at four cents a pound, and Atlantic Oil Co., Toronto, for lubricating grease, at ten cents a pound.

The Chicoutimi Pulp Co., Chicoutimi, Que., has been incorporated with a capital stock of \$1,000,000, to manufacture lumber, pulp, paper, etc. Among those interested are J. G. Guay, J. E. A. Dubuc, and O. A. Porritt, all of Chicoutimi, Que.

The coal areas of the Dominion are estimated at 97,200 square miles, not including the areas discovered, but not yet developed, in the far north. The three great coalfields of Nova Scotia, designated the Cape Breton, Pictou, and Cumberland basins, cover an area of 635 square miles. The Canadian Gazette states that the workable thickness of this coal is very great, being thirty feet in the Cumberland basin, from twenty-five to sixty feet in Cape Breton, and seventy feet in Pictou. Estimated on the basis of twenty-five foot seams, the amount of coal in these measures would be seven billion tons. The coal measures so far discovered in New Brunswick are small and not capable of successful working in competition with the Nova Scotia product. The coal areas of Manitoba are roughly estimated at 15,000 square miles, and the quality is exceptionally good. There is coal in many parts of the Territories, and outcroppings have been found over an area of 50,000 square miles, extending northward from the international boundary along the base of the Rocky Mountains to the Peace River district. The Rocky Mountains' coal is now brought within the reach of markets by the extension of the Crow's Nest line, and although it is small in regard to area, there are many thick seams of exceptional quality. On the Pacific coast the Nanaimo coal basin covers about 200 square miles, the Comox basin about 700 square miles, and the coal areas of Queen Charlotte's Island are roughly estimated at 800 square miles. In addition to these there is lignite-bearing rock in Southern British Columbia, distributed over an area of 12,000 square miles.

Messrs. Marion & Marion, patent attorneys, Montreal, whose business gives them opportunities to discover the facts, call our attention to the way inventor's names are frequently related to the subjects of their inventions. As shown elsewhere, some of the combinations are queer. Messrs. Marion & Marion will send The Inventor's Help to any address upon request. It gives full information how to proceed in applying for and obtaining patents.

The Richelieu & Ontario Navigation Co., Montreal, have decided to build a sister steamer to the Toronto, to be known as the Kingston. The contract will be given to the Bertram Engine Works, Toronto.

A large flour mill will be erected at St. Ann's, Ont., to be operated by electricity furnished by the Cataract Power Co., Hamilton, Ont.

The C.P.R. is always making important improvements on its property in the Fort William, Ont., district, and is making more this year. A survey has been completed for double tracking its lines between Fort William and Winnipeg, Man., and all the bridges constructed in recent years have been made capable of carrying two tracks. In the town itself the C.P.R. proposes the erection of a new elevator for clearing purposes. It will be situated just west of elevator "B," and will have a capacity of 1,000,000 bushels. The present C.P.R. elevators there have a capacity of 5,500,000 bushels. The C.P.R. also proposes enlarging its coal docks. Five years ago the C.P.R. delivered 50,000 tons into Fort William, last year it was 235,000 tons, and during 1900 it is expected that the road will bring in 275,000 tons. The company is also to enlarge its freight sheds, although considerable additions have been made within the last three years.

It has long been believed says the New York Journal of Commerce, that the uses of the material known as "Khaki" have not been fully recognized and the latest adaptation of this fabric has been its introduction to the retailer as a dress material for skirtings of the golf type. Two or three agents have canvassed the larger stores of the country and have reported very favorably upon its reception. One agent in New York states that as a result of 500 circulars sent broadcast throughout the country he had received nearly 400 orders and that more were being daily received.

The War Office continues to look to Canada for war supplies. We understand that through the agency of the High Commissioner orders have been secured by Canadian firms for nearly 1,500 tons of hay, nearly 300 tons of corned beef, over 1,000 tons of flour, and over 2,000 sets of saddlery, besides a large number of cases of beans, boneless chicken, and jam. Lord Kitchener is a great believer in jam as a war stimulant. The War Office has shown every desire to facilitate the desire of the Canadian Government that Canada should share in the supply of necessities for the front, and Canadian orders may be expected to increase. It is also assured that later on, should more horses be required, the claims of Canada will not be overlooked, and the same remark may be made in regard to transport wagons.—Canadian Gazette.

Arnprior, Ont., is to have a complete system of waterworks and sewerage.

JOHN HANCOCK BLDG., BOSTON, November 6, 1899.

N. ENG. BRANCH CLING-SURFACE MFG. CO.

We have been using Cling-Surface for seven months and are now running our dynamo and other belts slack. We take pleasure in saying that Cling-Surface is giving the best satisfaction. JAMES STACHOUSE, Sr.,

Cling-Surface Does These Four Things :

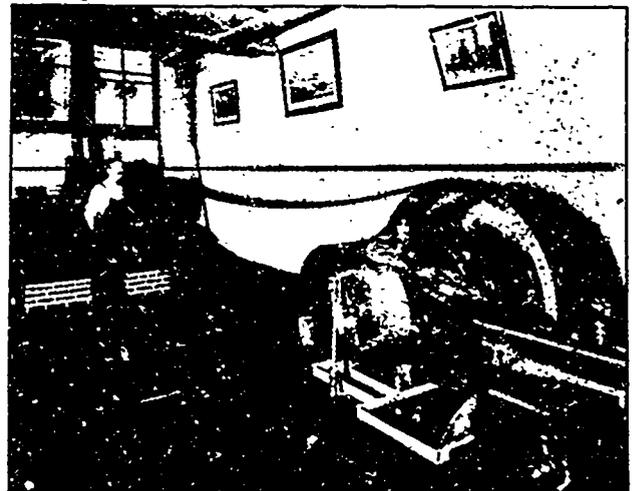
- 1.—STOPS SLIPPING.
- 2.—INCREASES POWER.
- 3.—RELIEVES INITIAL TENSION.
- 4.—PRESERVES THE BELT.

If it fails to do these you pay Us Nothing.

CLING-SURFACE MFG. CO.

N. Eng. and E. Can. Branch: 120-126 Virginia Street,
170 Summer St., Boston. BUFFALO, N.Y.
New York Branch: Chicago Branch:
253 Broadway. 225 Dearborn St.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.



The use of the bicycle in warfare was a theoretical matter until the opening of the South African conflict. In several cases English bicycle couriers have evaded and outridden the Boers. But the bicycle propelled by foot power is not alone in the field, for a motor cycle having a speed of thirty miles an hour is being used on the railroad at Sterkstroom. The English Government recently decided to send 330 electrical engineers to Africa. It is said that three cyclists can carry three sets of instruments, and enough wire to lay one mile of field telegraph in ten minutes over ground practicable for riding, and in twenty-five minutes, if the cycles have to be pushed by hand. Thus six cyclists can string two miles of wire, and so on. The wire will be carried on specially designed aluminum reels behind the saddles of the bicycles, and the complete apparatus is said to weigh twenty per cent. less than those for field telegraphing now in the service. Great confidence seems reposed in the success of this corps, but the heavier motor cycle, with its tougher tires and greater possibilities of speed and endurance combined with the narrow path utility of the common wheel, is likely to outstrip its prototype in the race for war honors. The use of the one referred to along the railroad is a peculiarly good illustration of its adaptability, where a leg-driven wheel would not be speedy enough to give due warning.

The Canada Asphalt Paving Co., Montreal, will apply for incorporation with a capital stock of \$50,000. The provisional directors will be A. W. Godson, Toronto, R. D. Dillon and James Dillon, both of Montreal.

Richmond Hill, Ont., will issue debentures for \$15,000 to aid the establishment of a boot and shoe factory.

The essential advantages of forced draft for marine service are clearly presented by Mr. William A. Fairbairn in a discussion of steam yacht design in a recent issue of Marine Engineering, from which the following is quoted:—"If the owner insists on Scotch boilers worked at natural draft we would find that five single ended boilers to give this power, (34,001 h.p.) estimating 10 ind. h.p. per square foot of grate area, would weigh, steam up and including all fire room weights, about 330 tons, and as fully seventy tons on a coasting or short distance cruiser would be taken up by water complement, outfit, stores, etc., only forty tons of coal could be carried on the designed thirteen feet draft. If Scotch boilers are insisted on it is quite evident that forced draft will have to be used. If we estimate 17 ind. h.p. per square foot of grate surface, which can be obtained with a fair air pressure, and without excessive forcing we can obtain the necessary power with two very large Scotch boilers, which, with water, a small donkey boiler for auxiliary purposes, and all the fire room weights complete, will weigh about 220 tons. Therefore about 100 tons of coal could be carried.

The Walper House, in Berlin, Ont., is now one of the best lighted hotels in Canada. The proprietors, some time ago, purchased a 300-light acetylene plant from the Acetylene Mfg. Co., and they now have three times the light they had from city gas and at the same time they are saving over \$40.00 a month on their lighting bill.

The Aylmer Mfg. Co., Aylmer, Ont., has been incorporated with a capital stock of \$20,000, to manufacture barrels, handles and wooden-ware. The provisional directors include J. J. Nairn, J. H. Glover, and H. A. Ambridge, all of Aylmer, Ont.

Kenneth Mackenzie, C. E., chief engineer of the Georgian Bay Canal, has arrived from London. Work on the canal will commence in April. The first sod will be turned at Ottawa on Dominion Day, and the contract calls for the completion of the canal within three years. In a recent address before the Montreal Board of Trade and Corn Exchange, McLeod Stuart maintained that the building of the canal would make Montreal the port of America. He is convinced that within two years of the completion of this canal 125,000,000 bushels of wheat alone will come down the canal, to say nothing of shipments of pulp, mekel and iron. The pulp business alone, he says, will fully pay for the construction of the canal within ten years, and that Canada can supply all the pulp and paper needed by the whole world for a century to come.

At the last meeting of the American Society of Mechanical Engineers, the veteran engine builder, Mr. Chas. T. Porter, in his discussion of Dr. Thurston's paper on "The Steam Engine in the close of the Nineteenth Century," stated that it is a principle of the new engineering that "the boiler furnace shall be independent of natural draft, effectually consuming its smoke, and burning two or more times as much coal per square foot of grate as it could do under natural draft alone, and yet sending off the gases at a low temperature; the boiler being a steam generator, a superheater and a fuel economizer combined." This statement clearly shows Mr. Porter's implicit faith in the future of mechanical draft as a substitute for chimney draft as a means of securing the desired ends.

The Grand Trunk Railway Co. will build a new station at Goderich, Ont., to cost about \$5,000.

W. A. FLEMING & CO.

MILL SUPPLIES **CAMEL BRAND BELTING**
HOSE of all kinds
DRIVING ROPE
BELTING of all kinds **57 St. Francois-Xavier St., Montreal.**



The Stratford Mill Building Co.,

STRATFORD, - - - - - ONTARIO.

STEEL BOILERS—all Sizes,
THE BROWN AUTOMATIC ENGINE,
FLOUR MILL MACHINERY, CORN MILL MACHINERY
GRAIN CHOPPERS OF ALL KINDS.

We keep a Full Stock of Chain, Leather and Cotton Belting, Sprockets, Pulleys and Iron Work of all kinds.
 We have one of the Most Complete Boiler Plant in Canada.

**Write for
 Prices.**

The Harness Makers' Association, of Ontario, was organized in Toronto on March 1st, and is composed, as the name indicates, of a large proportion of the harness manufacturers of this province. The following officers were elected for the ensuing year. President, Benjamin Shortly, of Peterborough; first vice-president, Claude Kelly, of Uxbridge; second vice-president, John Broderick, of Mitchell; treasurer, E. P. Snow, of Bradford. All the members of the Hardware Travellers' Association were elected honorary members. The principal object of the Association is to regulate prices.

George McLagan's furniture factory and David Easson's planing mill at Stratford, Ont., were destroyed by fire March 1st, loss about \$15,000.

Fort William, Ont., is asking the Ontario Legislature for special rights. The town passed a by-law granting aid by way of a free site to W. W. Ogilvie's grain elevator and flour mill. Confirmation of this by-law is petitioned for. The by-law closes a street

called Front street. Another by-law of the town authorized bondsmen for \$25,000 by way of a bonus to the Mattawin Iron Mining Company, to aid the erection of a copper smelter. Confirmation of this by-law is also desired. There is a further by-law to authorize \$50,000 debentures for a bonus to the Mattawin Iron Mining Company to aid a blast furnace for the manufacture of pig iron, which by-law will also be legalized.

The Dominion Fence Co., Toronto, has been incorporated with a capital stock of \$750,000, to manufacture iron and wire fences, metallic roofing and siding. Among those interested are Chas. Mills, Hamilton, Ont., Wm. McGregor, Windsor, Ont., J. G. Boucher, London, Ont., and Frederick Fen-ton, Toronto.

The Ottawa Furnace and Foundry Co., Ottawa, has been incorporated with a capital stock of \$40,000, to manufacture stoves, ranges, etc., and to acquire the business of the Ottawa Furnace and Foundry Co. The provisional directors include H. H. Gervan, H. C. Sparks and J. I. MacCraken.

The William R. Perrin Co., of Chicago, have decided to locate in Toronto. The firm are manufacturers of packing house machinery, filter presses, special mining machinery and packers' supplies, and their Canadian and British business has increased to such an extent that it was found necessary to establish a branch in Canada. Mr. William R. Perrin, the head of the firm, considered Toronto the best point on account of its shipping and distributing facilities. The firm have leased the premises formerly occupied by the Ontario Engine Co., 59 Richmond street east, and will in the course of a few days instal their machinery and commence operations with a staff of between forty and fifty hands.

The Imperial Starch Co., Prescott Ont., will erect buildings at once for the manufacture of all kinds of starch and glucose, and will employ 125 hands.

D. McLean, Calgary, N.W.T., will erect a 200 barrel flour mill at Moose Jaw, Man., at a cost of about \$30,000, if granted a bonus of \$6,000.

**THE
CUMMER
DRYERS.**

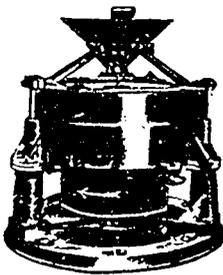
FOR
Mechanically Drying Everything

THE F. D. CUMMER & SON CO.,

HUNDREDS IN OPERATION.

CLEVELAND, OHIO.

ROCK



SEND FOR CIRCULAR.

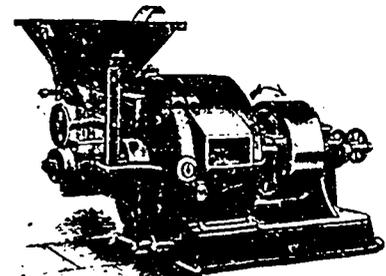
EMERY

MILLSTONES

CHEAP. DURABLE.

EMERY STONES are Made to Fit ANY MILL FRAME

MILLS



GRINDS EVERYTHING.

STURTEVANT MILL CO., 104 Clayton St., BOSTON, MASS.

Shafting—Hangers—Pulleys

FRICITION CLUTCH PULLEYS AND COUPLINGS

Rope Transmission of Power.

HANDSOME ILLUSTRATED CATALOGUE ON APPLICATION.

DODGE MANUFACTURING CO. OF TORONTO, Limited, - - TORONTO.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

The new 125-barrel flour mill of the Baxter & Galloway Co. (Limited) is now in operation at Burlington, Ont., and is described by the Burlington Gazette as a modern mill in every respect. Power is furnished by a 50-horse power Otto Gasoline Engine, located in the basement. On the first floor are the warehouse scales, roll shaft, two power and three hand packers and a cookle machine. On the second floor are six double stands of 9x18 inch rolls, feed stone and wheat separator. On the third floor are two purifiers, one shorts and one bran duster, and one centrifugal bolter. On the fourth floor are three Wolf Gyroters, three dust collectors, one Dobson reel and two wheat scourers. A wheat bin with a capacity of 25,000 bushels runs from first to third floor. Adjoining the mill is a 30,000 bushel elevator, equipped with every modern convenience. The machinery throughout was furnished by the Goldie & McCulloch Co. (Limited) of Galt, and the building was erected by Lewis Kribs of Hespeler, Ont. A. E. Cherry is head miller. The officers of the Baxter & Galloway Co. (Limited) are: R. G. Baxter, president; H. G. Patriarcho, secretary-treasurer; A. E. Cherry and F. W. Galloway, directors.

The Erie Tobacco Co., Kingsville, Ont., has been incorporated with a capital stock of \$100,000, to manufacture tobacco. The provisional directors include E. J. Wigle, C. J. Neville, and J. S. Bruner, all of Gosfield South, Ont.

The Haliburton Lumber Co., Toronto, has been incorporated with a capital stock of \$50,000. The provisional directors are G. P. Magann, W. D. Thomas and F. P. Brazil, all of Toronto.

David Dickson has recently improved the flour mill at Richard's Landing, Ont., by putting in a complete roller outfit. The mill now has a capacity of fifty barrels a day and is turning out a very superior quality of flour. In addition to the flour mill there is a chopping plant of large capacity. The motive power is furnished by two turbine wheels of sixty-five horse power capacity, operated by water with a head of sixty-nine feet, the water being conveyed from a lake above the mill by an iron pipe twenty-six inches in diameter.

Richmond Hill, Ont., will grant a bonus of \$15,000, to aid the establishment of a boot factory.

The Berlin Glue Co., Berlin, Ont., will erect a factory 314x89 feet, and a cooler house thirty feet square.

The town council of Barrie, Ont., are considering a proposition to grant a \$10,000 bonus and exemption from taxation for ten years, to a shoe factory to be located there that will employ from forty to sixty hands.

Spring Hill, Cumberland Co., N.S., will erect a new public building to cost \$10,000.

The Ogilvie Milling Co. will erect a large elevator and flour mill at Fort William, Ont. The mill will be a seven storey building, and the elevator will have a capacity for 750,000 bushels of wheat. It will be equal to the output of 4,300 barrels of flour per day. The projectors of the enterprise have guaranteed a minimum output of 1,500 barrels per day. The site of the plant is an ideal one, on the banks of the Kaministiquia River, about one mile from its mouth. It was given free by the corporation, along with exemption from all municipal charges, except school taxes.

The town of Fort William, Ont., has granted a bonus of \$50,000 to the Mattawin Iron Mining Company, who are to erect a blast furnace on the banks of the river, and also one of \$25,000 for a copper refinery, providing construction is commenced within six months, and finished in the space of two years.

The Rolla L. Cram Co., Ottawa, has been incorporated with a capital stock of \$30,000, to carry on the business of book-binders, publishers, engravers, etc. The provisional directors include R. L. Crano, G. L. Ormos and W. J. Cairns, all of Ottawa.

The Citizens' Electric Co., Smith's Falls, Ont., has been incorporated with a capital stock of \$35,000. The provisional directors include J. H. Gould, J. S. Gould and D. A. Fergusson, all of Smith's Falls, Ont.

The town council of Galt, Ont., will issue debentures for the construction of a sewerage system.

Milton, Ont., ask to issue debentures for \$10,000 to bonus a carpet factory.

The Ogilvie Milling Co., of Winnipeg, Man., have contracted for a leather belt to transmit 1,000 h.p. It will be seventy-two inches wide, three-ply thick and over 130 feet long.

The Reinhardt Browing Company, Toronto, have purchased 40,000 feet of land in Montreal, upon which they will erect one of the best equipped breweries on the continent.

A new post office will be built at Digby, N.S., to cost \$15,000.

The Canadian General Electric Co., Toronto, will erect a building 270x100 feet as an addition to their Peterborough, Ont., works.

John R. Barber, President.

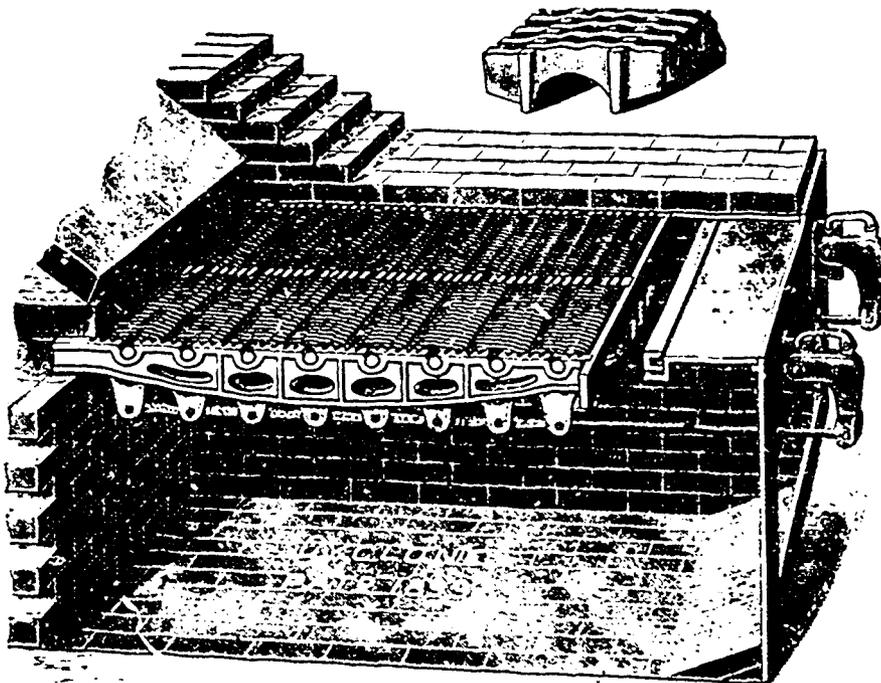
Geo. E. Challes, Sec.-Treas.

Henry Truesdell, Bus. Man.

THE CYCLONE GRATE BAR

Economy of Fuel and Increased Boiler Efficiency Guaranteed.

Cut shows construction of the Grate. No alteration of plant necessary.



**Simplicity,
Durability,
Economy.**

Burns the Cheapest Fuel
with the Best Results

A BOY CAN OPERATE IT.

Send for Descriptive Circulars
and Testimonials.

COPY OF TESTIMONIALS.

TORONTO JUNCTION, ONT.
Jan. 20, 1900.

THE CYCLONE GRATE BAR CO.,
(Limited), Toronto.

GENTLEMEN. — We take much pleasure in giving you our testimonial re Grate Bars. The set you put in for us is giving us perfect satisfaction. They are very convenient to operate, have ample air space, and are very economical regarding fuel.

To every intending purchaser we would advise to adopt the Cyclone Grate Bar in preference to any other kind.

Wishing you every success.

We are, yours truly,

"WATT & WATSON."

Manufactured
by...

Cyclone Grate Bar Co. Limited,

Office: 10 KING STREET WEST,
TORONTO, CAN.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

AIR POWER IN THE WORKSHOP.

Air-power in shop practice is coming into use rapidly. As it was, and is, with steam, electricity, and other motive powers, mechanical ingenuity is tireless in devising new ways and means of air-power service. The inventive faculty that is always in close touch with new forms of power, has not neglected its pneumatic opportunities. Nearly every field of industry has been exploited by the manufacturers of air-power tools and machines. Hoists, cranes, drills, reamers, tappers, hammers, riveters, grinders, sand-blast machinery, flue rolling machines, sand rammers, air-supplying devices for diving bells, and air cushions for vehicle axles to reduce friction, are on the list of air appliances. Running and painting street cars, cleaning the face of stone and iron structures, and down to driving dust from cushions and carpets, are among the many other uses of air power; and where economies and efficiency are practically demonstrated, the uses thereof will continue to multiply.

Liquified air that can be frozen, bottled

up, and made as portable as a bar of soap, is being applied, or soon will be, as a motive power and a general refrigerant. It can be converted into compressed air at six tons per square inch, and would probably be useful in the projection of high explosives, and in submarine boats and flying machines may yet be found of valuable service. An air gun charged with liquid air cartridges, has, it is said, been found of special value in tunnel construction. In cooling the apparatus of electric lines so as to improve conductivity and diminish losses, experts see a future service for liquid air. In getting oxygen from air and cheapening its cost to industries using it, it would render good service, and in medical practice it is already found to be of value, in the relief of pain and the removal of bacteria. From a conservative standpoint, it is but proper to say, that it is wise to be cautious as to any conclusions as to its predicted future uses. It has possibilities, however, that are more or less fascinating to the progressive engineer, and if all are not realized, such as are, or will be, the world will be the richer for its discovery.

Air in one form or another is destined to figure largely in mechanical appliances. The patents granted in 1898, in the United States for such devices as air-brakes, couplings, cooling apparatus, valves, engines and other compressed air appliances, were between sixty and seventy, and the end is not yet. — The Age of Steel.

AUTOMOBILE STEAM GENERATORS.

In the installation of all steam generators for land and marine purposes the paramount consideration is safety. The law demands this one qualification—safety.

Boiler inspectors care nothing about the cost, type, style, economical operation or other details of boilers they inspect. Their business is to determine by a thorough and scientific examination of material, workmanship and conditions of operation, the ultimate strength of the generator to resist rupture. When this has been ascertained, the appointment of a high factor of safety generally insures a safe working pressure, says The Horseless Age.

Beyond the requirements of safety what

BELTING

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Leather Belting,
Lancashire Hair,
English
Card Clothing,

D. K. McLAREN

Head Office and Factory—
MONTPEAL

G O A K

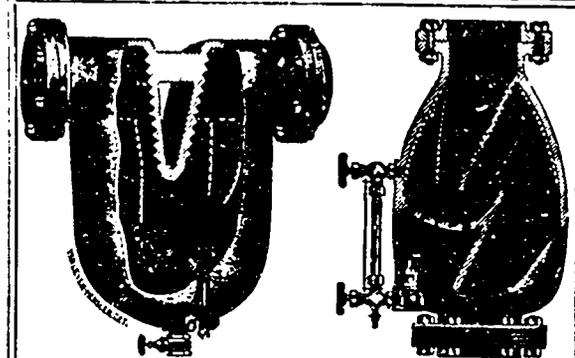
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WESTERN TRADE—TORONTO STOCK DEPOT,
'Phone 374 88 BAY STREET.

ADVERTISE IN.....

THE CANADIAN MANUFACTURER.

SEND FOR RATES.



HORIZONTAL. **VERTICAL.**

"Every pound of water in the cylinder requires an equal weight of steam to boil it off."

And steam costs money. Logically the thing to do is to obviate the trouble by using an

Austin Steam Separator,

which ensures drysteam. It's guaranteed to do that. Thousands in use in the United States and Canada.

Hundreds of testimonials in our new catalogue just out. Can we send you one?

AUSTIN SEPARATOR CO.
38-40 Woodbridge St. DETROIT, MICH., U.S.A.

The B. GREENING WIRE CO., Limited



MANUFACTURERS OF



Lang's Patent Wire Ropes
for Colliery
and Mining Use.

WIRE ROPE

of every description and for
all purposes
**HAMILTON, ONT.
and MONTREAL, QUE.**

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

restrictions has the law placed upon the operation of steam boilers? None of any importance. In some localities it has been seen fit to abolish the smoke nuisance by prohibiting the use of bituminous coal and fatty woods, but nearly all other precautions, such as rigid examination of boiler attendants, proper setting of boilers, methods of introducing feed water, fusible plugs, periodical cleaning, etc., are in the interests of safety.

These facts show, if one pauses to reflect upon them, that the items of safety should receive the first and most careful consideration in the construction of automobile boilers.

To individual builders, who intend to handle their productions themselves, no appeal should be necessary. The desire to secure freedom from personal danger will cause the majority of this class to err on the side of a too high factor of safety.

On the other hand, many manufacturers (honorable and conscientious though they may be) will, in the desire to market their goods, answer the mad clamor of the inexperienced public for light weight, cheapness, low cost of operation, etc., by turning out generators in which the element of safety has received little if any consideration, and borders on the danger line.

To prevent this state of affairs it should suffice to remind manufacturers, and individual constructors also, that when an element of danger is present in articles or substances much used, and the general public does not possess the means or the inclination to guard itself against possible accident, it is customary for the law to step in and appoint itself a guardian of the public safety. In view of this fact, the subjection of automobile steam generators to the same regulations as stationary and marine boilers, will undoubtedly take place before long, and when that time comes it will mean thorough inspection of every steam vehicle which makes use of the highways and city streets.

DRYING FISH GUANO AND PEAT.

A Cummer mechanical dryer was recently supplied to the Frazer River Oil and Guano Works, of Vancouver, B.C., for drying its fish guano, and the results being obtained are most satisfactory, as is evidenced by the following testimonial recently received by the Cummer Company:—

“Vancouver, B.C., Feb. 16, 1900.

“THE F. D. CUMMER & SON CO.,
Cleveland, Ohio.

“DEAR SIRS,—Responding to your in-

quiry of the 1st inst., re the style ‘F’ dryer I purchased from your firm last year for Fish Guano Works on the Frazer River, B.C., I would say that the dryer would easily dry from fifty to sixty tons of fish scrap per day of twenty-four hours. The material is beautifully dried, and very satisfactorily and economically, as regards fuel and labor. I consider your dryer the best on the market, and do not hesitate to so endorse it.

“Sincerely yours,

“T. H. WYMONDE.”

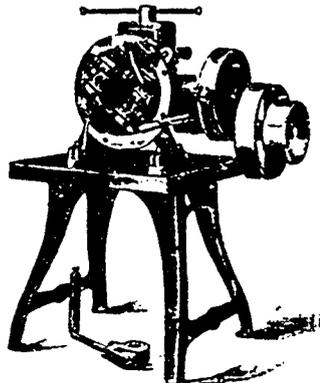
The Trent Valley Peat Fuel Company, with works at Kirkfield, Ontario, with capacity for producing in the neighborhood of 100 tons of peat briquets per day, dry all their peat with a Cummer rotary dryer. That company is much pleased with the dryer, as is proven by the following testimonials:—

“Peterborough Ont., Jan. 12, 1900.

“THE F. D. CUMMER & SON CO.,
Cleveland, Ohio.

“GENTLEMEN,—It affords us pleasure to say that the rotary dryer supplied by you recently, has proven itself capable of doing more than you guaranteed it would do. The following are the results of a test carefully made one day this week:

THE BEST PIPE THREADING and CUTTING-OFF MACHINES



No. 00 Machine, Power Attachment.

ARE MADE BY THE **ARMSTRONG MFG. CO.**
BRIDGEPORT, CONN.

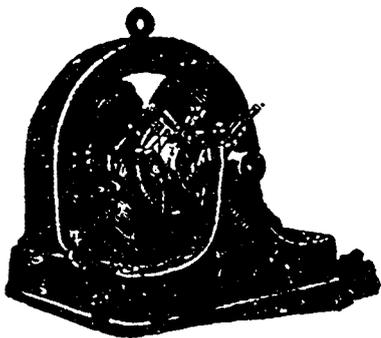
Also Manufacturers of a FULL LINE of **ADJUSTABLE STOCKS and DIES**
And **WATER, GAS and STEAM FITTERS' TOOLS.**

SEND FOR CATALOGUE 27.

Factory: BRIDGEPORT, CONN.

New York Office: 139 CENTRE STREET.

Toronto and Hamilton
ELECTRIC CO.



Motors and Dynamos

COMMUTATORS REFILLED.

99-103 McNab St. N., Hamilton

Phone 958.

RICE LEWIS & SON, LIMITED

HARDWARE and METAL

Bar Iron, Steel,
Boiler Plate Tubes.

**MACHINIST TOOLS,
PIPE FITTINGS.**

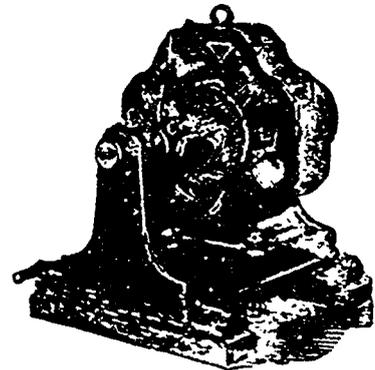
A COMPLETE STOCK OF
STOCKS and DIES. PIPE VICES.

STILLSON & TRIMO
WRENCHES.

STEAM PIPE.

Cor. King and Victoria, TORONTO

THE Electrical Construction
Co. of London, Limited.



MULTIPOLAR MOTORS & DYNAMOS

And Direct Connected Plants
for Isolated Lighting.

Repair Work a Specialty.

HEAD OFFICE AND FACTORY:

No. 90 YORK STREET, London, Canada.

750 Main St., Winnipeg.

42 York St., Toronto. 131 Granville St., Halifax

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

"The dryer evaporated at the rate of 4,565 pounds of water per hour; consumed 414 pounds of con. ustible per hour; one ordinary workman operates the entire dryer plant. The average peat we handle carries about fifty per cent. of moisture, but the dryer handled peat carrying as high as eighty per cent. of moisture equally as well. The product obtained is uniformly dried, and in excellent condition for pressing. Full control is had over the temperature in the dryer. Without any difficulty it can be regulated to dry our different grades of peat. Any further information you desire we will be glad supply.

"In conclusion, it affords us pleasure to state that your contract has been carried out in such an extremely satisfactory manner that we shall always be glad to be used as a reference.
Yours truly,

"A. L. DAVIS, President,
"The Trent Valley Peat Fuel Co."

NEW IDEAS.

There is a fortune awaiting the inventor who can discover a successful method for the preservation of eggs. The long severe winter in this region renders it absolutely

essential to preserve eggs, if they are to be had during this season.

The principle involved in preserving eggs is the preservation of the mucilaginous coating, which naturally covers the shell, and which prevents the entrance of the germs of decomposition. When this coating is removed, the egg begins to become "atale," and the process of decay actually begins. The use of lime and salt as means of preservation, never entirely successful, does not preserve the protecting covering on the shell and no process can be successful unless it does this.

Walter Dean, the boat builder, Toronto, is building a twenty-eight foot gasoline launch for M. Langmuir, Esq., of the Langmuir Manufacturing Co., Toronto, to be used on the Muskoka Lakes. It will be equipped with a MacLaughlin gasoline motor.

The Brackman and Ker Milling Co., Victoria, B.C., are erecting an addition to their plant.

The Listowel Furniture Co., Listowel, Ont., has been granted a bonus of \$10,000.

ADDRESSES furnished ENVELOPES and CIRCULARS

addressed and mailed

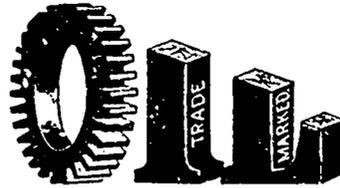
Reliable Type-written lists of names furnished at reasonable rates, from OUR OWN PUBLICATIONS, embracing all the Professions, Trades, Industries, etc., throughout the WORLD, covering every Commercial Centre, in EUROPE ASIA, AFRICA, and AMERICA. MANY of these lists are SPECIAL; that is, can be had only from us, or through our publications; on these lists a REBATE of full amount paid, including postage, will be allowed on all envelopes returned to us post marked "Can't find."

KELLY'S DIRECTORIES, Limited
28 VICTORIA St., Toronto, ONT.

"Capitol" Cylinder

"RENOWN" ENGINE

"ATLANTIC" RED



RELIABLE WELL-KNOWN BRANDS.

ALL ORDERS PROMPTLY FILLED

THE...

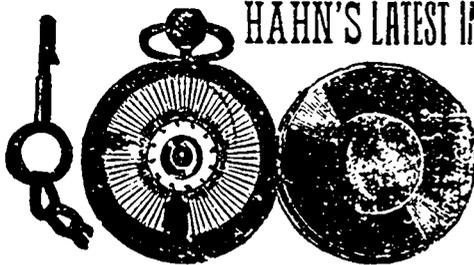
QUEEN CITY OIL CO.

LIMITED

SAMUEL ROGERS, President.

TORONTO, CANADA.

HAHN'S LATEST IMPROVED WATCHMAN'S TIME DETECTOR



This Clock is adapted for six or twelve stations, and the keys are all different, ranging from 1 to 6, and 1 to 12, instead of as in the old style Time Detector, which mark either by holes or an impression on the dial, being the same for all stations.

For Circulars, prices and further information address

A. NANZ & CO., Room No. 45, Graham Building, 127 Duane St. NEW YORK

This Clock received the First Prize at World's Fair.



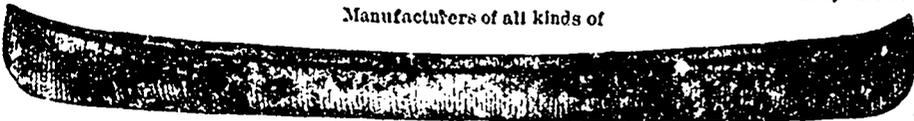
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The Diamond Machine & Screw Co. Limited. Manufacturers of TORONTO.

MACHINE SCREWS and BICYCLE PARTS OF EVERY DESCRIPTION

The Canadian Canoe Co., Limited, P.O. BOX 107, PETERBOROUGH, ONT.

Manufacturers of all kinds of



CANOES AND SKIFFS Canoes for Paddling, Sailing, Rowing and Prospecting Skiffs for Rowing and Sailing. A FULL STOCK OF PADDLES, OARS, FITTINGS, ETC.

Write for Catalogue J.

Correspondence Solicited

.. HIGH.. CURRENT INSULATORS



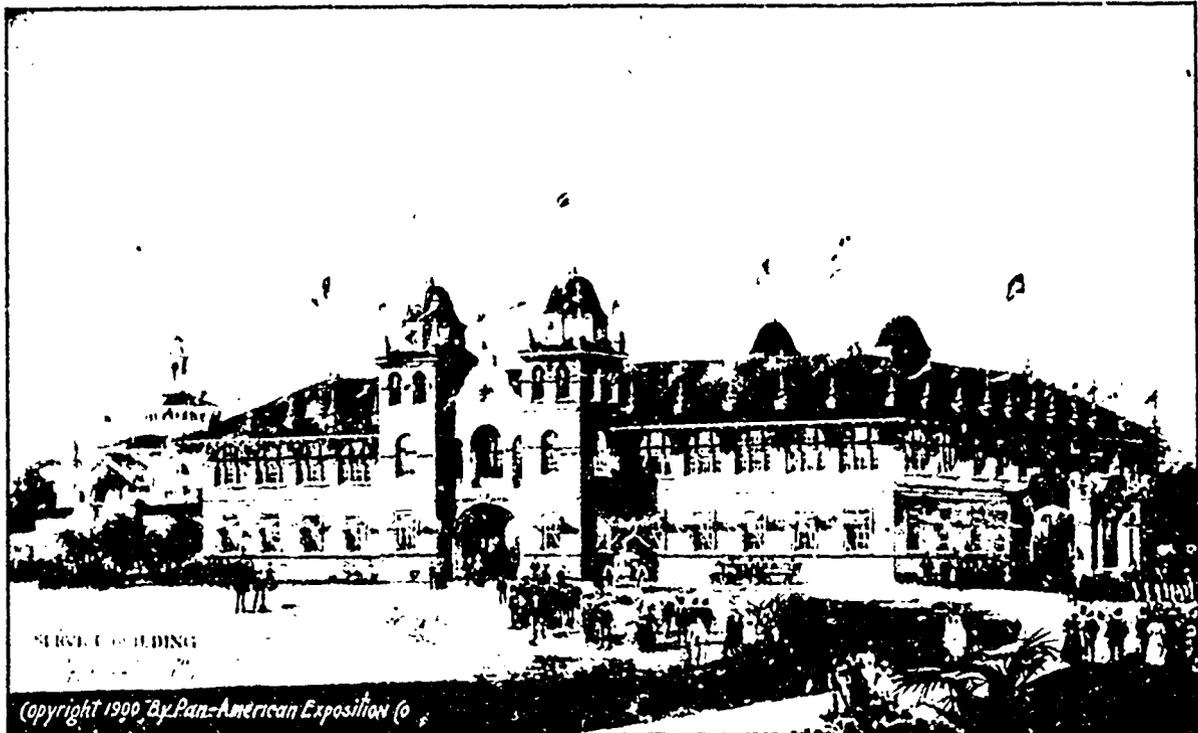
WILL STAND ANY TEST.

Patent sustained by United States

AGENTS WANTED IN CANADA.

Write for Samples and Particulars.

F. M. LOCKE, VICTOR, N.Y.



The Service Building.—Pan-American Exposition.

CROW'S NEST COAL.

The annual meeting of the shareholders of the Crow's Nest Pass Coal Co., was held in Toronto March 2nd.

The report of the directors to the shareholders was very gratifying, showing as it did an increase in the output of coal from 5,301 tons in January, 1899, to 15,219 tons in December, 1899. During the year the development of the company's mines at Coal Creek was vigorously prosecuted, while a

new mine was opened at Sparwood in order that the company's production might be speedily brought up to the present demand. The demand for coke continues good, as the company has calls upon it not only from British Columbia, but also from the North-Western States. Two hundred and two ovens have been completed, with a capacity of 300 tons of coke per day. The quality of the coal and coke is praised in the highest terms by the company's customers, and is acknowledged by all to be equal to anything

produced in America or Great Britain. It is expected that the year 1900 will show great strides in the company's production, as all work is to be very vigorously prosecuted under the direction of able and experienced mining engineers.

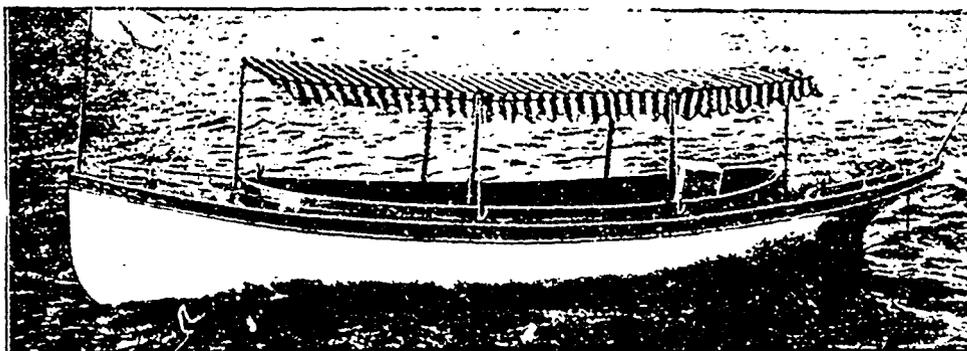
The following gentlemen were elected directors for the ensuing year:—Hon. Geo. A. Cox, Robert Jaffray, Major H. M. Pellatt, William Ferme, Ferme, B.C.; J. A. Geminill, Ottawa; William Hanson, Montreal; J. W. Flavelle, Toronto; Thos. Walm-

A BRIGHT YOUNG MAN with a thorough education, technical in mechanics desirable, can hear of an opportunity to his advantage by addressing "*Farm Machinery*," SARNIA, ONT. Want a young man of good habits and address, willing to grow up with a good business. Would be better equipped if familiar with farm and threshing machinery. No money required, but must be able to give best of references.

NO REPAIRING

of fence where the Page Woven Wire is used. Page fence is made of a wire made especially for us, which **does not break, stretch or rust.** Our standard fence is five feet high and woven so close that stock can't get through or over it. And you can buy it for less money than you may think. Better look into it.

THE PAGE WIRE FENCE CO. (LTD)
Walkerville, Ont.



Gasoline and Steam Launches

Dean's Canoes
are known the world over.

SEND FOR CATALOGUE.

WALTER DEAN, - Toronto.

sley, Toronto; E. R. Wood, Toronto; A. E. Ames, Toronto; Frederic Nichols, Toronto; Elias Rogers, Toronto; J. D. Chipman, St. Stephen, N.B.; D. Morrice, Montreal; S. Finley, Montreal.

At a subsequent meeting of directors the following officers were elected.—Hon. Geo. A. Cox, president; Robert Jaffray, first vice-president; Major H. M. Pellatt, second vice-president; Elias Rogers, managing director.

The following extract from the report of the general manager of the Company to the directors was read:—"During the past year you have proved beyond a doubt that your property contains as high a grade of steam and coking coal as the world produces, and it contains sufficient to meet all the possible requirements of many future generations. It also seems clear that your coal is the only first-class steam and cooking coal within a reasonable distance of the vast ore deposits of British Columbia, Montana, Idaho, and Washington. Further, you will undoubtedly be able to place coke on the Pacific coast as soon as you have a surplus to spare for that market.

"Rear-Admiral Palliser, of the British navy, tested the coal, and reported as follows on April 13, 1899:—"We are happy

to say that it has been found most satisfactory, so much so that I have written to the Lords Commissioners of the Admiralty recommending its use."

"Smelters are being erected at Greenwood and Grand Forks, and the latter smelter should be ready to use our coke by April or May.

"One special feature of the Fernie coal is, that the engines using it throw no sparks. This is a very valuable property for the coal to possess, because prairie fires are invariably started through sparks falling on the dry grass from passing engines. This will specially commend the coal for use on the railroad, even in sections where, owing to high freight rates, other coal might be cheaper.

"The timber area of your land is also most valuable, as it contains sufficient timber for all future mining requirements, and also for the requirements of the neighboring country for building purposes.

OPALESCENT WINDOW SIGN.

The Meyercord Company, Chamber of Commerce Building, Chicago, Ill., have originated a new line of their decalcomania goods which should become instantly popular.

They have been advertising very liberally their regular line of decalcomania transfer ornamentation, scrolls and general designs, in which they are doing a very large business, particularly with manufacturers and dealers in agricultural machinery, and they have now perfected a window sign that is not only brilliant in color and handsome in design, but remarkably easy to apply; all that is necessary in transferring it is to dip it into water, place it against the window, and gently press the superfluous water from it. The directions are simple, and are printed on the back of the picture.

The Massey-Harris Co. will erect a new warehouse at Hartney, Man.

The N. L. Piper Supply Co., Toronto, will apply for incorporation with a capital stock of \$50,000, to manufacture railway supplies and to acquire the business of Noah L. Piper & Son. E. S. Piper, C. F. Piper and Hiram Piper will be the provisional directors.

The St. Lawrence Distilling Co., Montreal, has been incorporated with a capital stock of \$250,000. The applicants include E. C. Walker, F. H. Walker, J. H. Walker, all of Walkerville, Ont., and W. R. Wigham, of Montreal.

THE BEST IS NONE TOO GOOD

The largest machinery builders in Canada and United States use our Babbitt Metal.
Is this not sufficient proof of its superiority over other anti-friction metals?
If the largest users are satisfied with our Babbitt Metals, why should it not suit you?
We can furnish you with numbers of testimonials.

**SYRACUSE
BABBITT**

**BEATS
THEM
ALL**

Importers and Dealers in

**PIG TIN
ANTIMONY
INGOT COPPER
ALUMINUM**

**NICKEL
BISMUTH
IRON AND STEEL
SCRAP**



Manufacturers of

**BABBITT METALS
SOLDER
TYPE METALS**

**COLUMBIA
PHOSPHOR TIN
AND ALL OTHER
WHITE METALS**

SYRACUSE SMELTING WORKS,

WILLIAM and ST. THOMAS STREETS,

MONTREAL

Nicholson PATENT Flanged Face Compression Shaft Coupling

Is easily and quickly attached to or detached from shafting.
Will adjust to somewhat larger or smaller than standard size shaft.
Has DOUBLE the grip of other COMPRESSION COUPLINGS and is the most perfect-fitting coupling made.



Saves cost of key-seating shafts, fitting keys, and refacing couplings after being keyed on shaft.
Holds the shafts in accurate alignment with each other, the jaws being full length of coupling and extending over both shafts.
Has a very powerful grip equally exerted from both sides (not on two sides as with the majority of couplings).

PRICE LIST AND DISCOUNT ON APPLICATION.

Our New Supply Catalogue (Desk or Pocket Size), will be mailed free to anyone on application.

WE CARRY WOOD SPLIT PULLEYS, STEEL SHAFTEING, LEATHER AND RUBBER BELTING, COUPLINGS AND SAFETY COLLARS **IN STOCK**

THE FAIRBANKS COMPANY, 749 CRAIG STREET, MONTREAL

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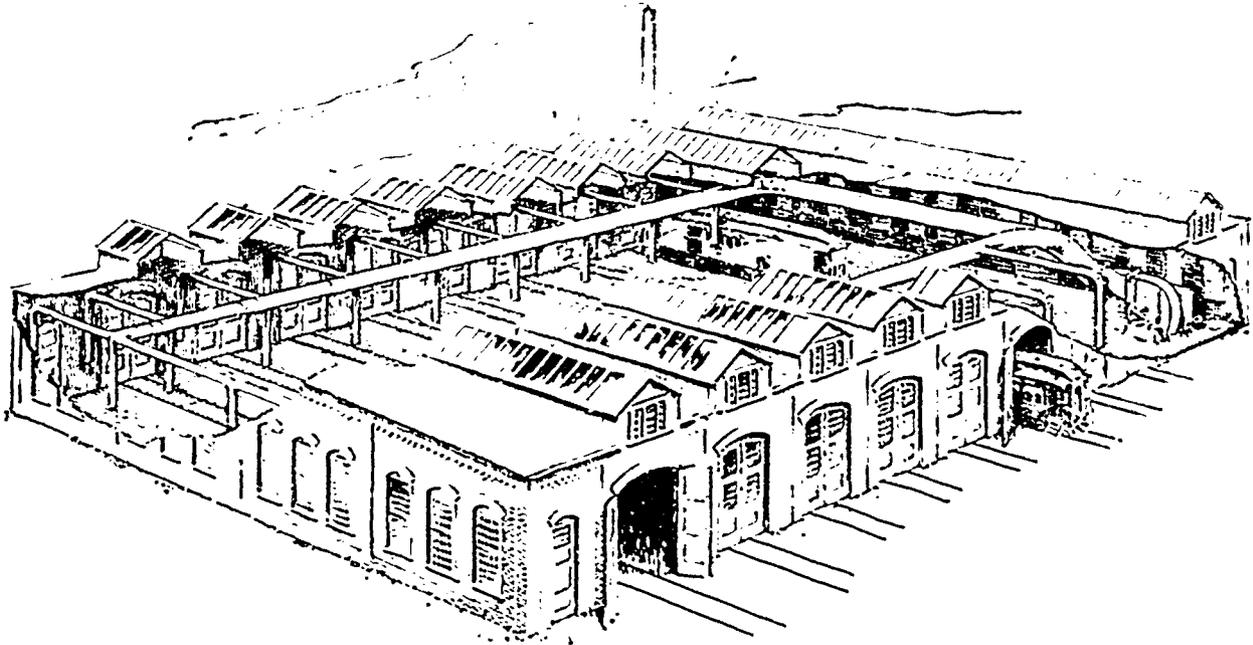
VENTILATION AND HEATING.

The accompanying illustration is of the blower system of ventilation and heating, as applied in the passenger car paint shops of the Pittsburg, Columbus, Cincinnati and St. Louis Railway Company at Columbus, Ohio, instituted by the B. F. Sturtevant Co., Boston, Mass.

The construction of a car paint shop is materially different from that of the ordinary one-story structure. This difference is most evident in the character of the roof, which is covered with a series of monitors, each corresponding to a line of track beneath. This arrangement, together with the presence of cars within the building,

practically prevents the supply of air by forcing it horizontally from overhead outlets.

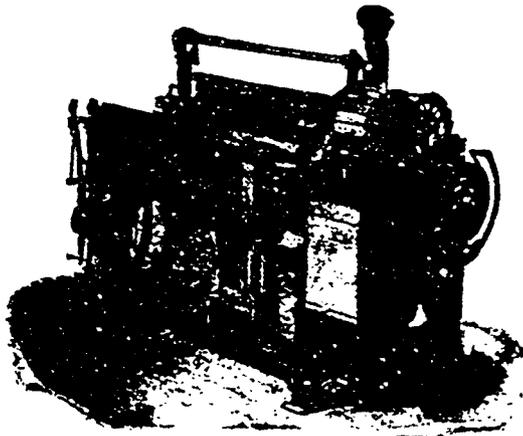
The illustration clearly indicates the best method to be adopted. Here the apparatus is located in one corner of the building, and the air is distributed through an overhead system of galvanized iron piping, extending



entirely around the inside of the building at some distance from the walls. Between each pair of tracks pipes are brought down, so as to deliver the air very near the floor, where it naturally spreads, and whence it gradually rises in a well distributed mass.

One of the important advantages of the introduction of this system of heating in a building used for this purpose lies in the increased rapidity with which the cars may be dried, owing to the large volume of fresh air constantly coming in contact with the

paint. In other words, with this system the same number of cars can be dried in a given time in a smaller building than by the usual methods—certainly an important element in deciding upon the system to be adopted.



THE NORTHROP LOOM.

There is only one Profitable Plan—BUY NORTHROP LOOMS

**With them the Future is Assured.
They are no Experiment.**

Thousands have been running in the United States, and a large number are now in Canada. Sales steadily on the increase.

“The Mills that refuse their opportunities will find their future utility serving as picturesque ruins in the landscape.”

We also Manufacture the Best Warper at present Known—also Spoolers.

Write for particulars and quotations. Address

The NORTHROP LOOM CO. OF CANADA, Ltd.

VALLEYFIELD, P.Q.

FOR SALE. PATENT RIGHT FOR CANADA.



THE RUGGLES FLUE CLEANER.

MOST PERFECT CLEANER

OF BOILER FLUES KNOWN.

Manufactured and sold with

Great Success
IN THE UNITED STATES.

For Particulars Write to

FRANKLIN A. BECHER

224 GRAND AVE.,

MILWAUKEE, WIS., U.S.A.

NEW DYESTUFFS.

Alizarine Viridino D G in paste produces, with acetate of chrome, darker shades than the older F F mark, but its other properties closely approach those of the former quality. Alizarine Viridino D G can be dyed on chrome padded and discharged cloth. In combination with alizarine yellow, very useful olives can be obtained, and, like the older F F brand, can be employed for slubbing printing.

Pluto Black A and 3 B extra in properties closely approach Pluto black B S extra, but their shades are of a more bloomy and violet tone. Pluto black A is not quite so fast to acid as B S extra, but the 3 B extra quality is equally as fast in this respect. The fastness to light, alkalies and washing of both marks is the same as that of the B S extra quality.

Fast Green C R is possessed of the same good fastness to washing as Fast Green extra, but faster to alkalies, and does not turn out so faint when milled. The fastness to light of this new brand is equally as good as that of the other fast greens. Fast Green C R dyes well on wool in a neutral bath with Glauber's salt, and is especially valuable for the dyeing of half-wool in one bath. Fast Green C R is also well adapted for the printing of woollen fabrics and slubbing. The color can be easily discharged with zinc powder.

Benzo Rhoduline red B and 3 B dye in the usual manner on cotton and produce fine shades similar to those of brilliant geranine B and 3 B, but the color exhausts far better. They are all extremely fast to washing, and do not bleed into white, and are sufficiently fast to meet most require-

ments. Their fastness to light approaches that of brilliant geranine B, and they are very fast to acids and alkalies. Benzo Rhoduline red B. and 3 B. are equally as well adapted for the dyeing of loose cotton as for yarns and piece goods and are especially suited for fancy woven cottons and mercerized yarns. Both qualities can be discharged well with zinc powder, but the B. mark only discharges well with tin.

Benzo Fast Blue B. dyed in the usual manner on cotton produces a navy blue of a similar shade to indigo, and in fastness to light is far superior to any of the well known direct dyeing blues. It possesses about the same fastness to light as indigo itself, which no other blue does, and its fastness to alkali and acid is good, while its fastness to washing is the same as that of most substantive blues. Benzo Fast Blue B dyes well on loose cotton, yarn and piece goods, and is equally suitable for half-wool and half-silk dyeing.

Latest information about new colors, samples, dyed shades, etc., supplied promptly by writing to the Dominion Dye-wood & Chemical Co., Toronto, sole agents in Canada for the Farbenfabriken vorm Friedr. Bayer & Co., Elberfeld, Germany.

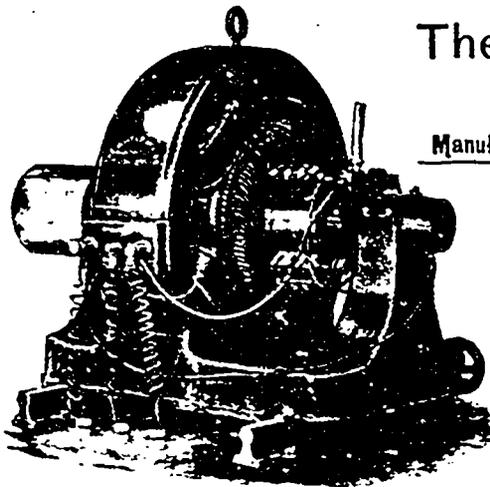
The Central Ontario Power Co., Peterborough, Ont., has been incorporated with a capital stock of \$750,000, to construct works for the production of electricity for heat, light and power, etc. The provisional directors include J. A. Culverwell, Toronto, James Kendrey, Peterborough, Ont., H. J. Taylor, St. Catharines, Ont.

The total mineral production of Canada for 1899, including metallic and non-metallic,

was \$47,276,512, as compared with \$38,661,010 in 1898, an increase of 22.2 per cent. Of the increase 15.52 per cent. is to be credited to the increased output of gold from the Yukon placers, 2.92 per cent. to the increases in the other metallic products, and 3.84 per cent. to the growth of the non-metallic mineral industries. Of the total output, gold contributed 44.53 per cent., coal 19.12, copper 5.32, silver 3.88, nickel 4.37 and lead 2.07 per cent. In copper, owing to the large advance in prices, there was a marked increase in value, notwithstanding a decrease in the output. Lead and silver show a considerable falling off, owing to local trouble in British Columbia. With the exception of a slight falling off in the value of the asbestos, all the other chief minerals show considerable advances, both in amount and value. This is especially true in the cement and cokemaking industries.

The Toronto city council have awarded a contract to Messrs. A. E. Kent & Co. for supplying the new City Hall with pneumatic clocks, the necessary air tubes having been placed in the walls where the building was being constructed. The dials are to be of plate glass, twenty-four inches in diameter for the court rooms and eighteen inches in diameter for the other offices. Forty clocks are to be located at a cost of \$1,145.

The Wellman-Seaver Engineering Co. of Cleveland, has closed a contract with the Nickel Steel Company of Hamilton to design and build the largest steel and iron plant in Canada. The capacity of the plant will be 200 tons per day. In addition to the steel plant there will be constructed a blooming mill of the largest size, a billet mill, rail mill and two plate mills.



The Jones & Moore Electric Co.,

Manufacturers and Contractors

All Work Fully Guaranteed

ELECTRIC LIGHT and
POWER PLANTS a Specialty

A Few Second-Hand A 1 Machines
For Sale Cheap

20 and 22 ADELAIDE STREET WEST
TORONTO

T. H. & A. H. DRYDEN

Manufacturers of and
Dealers in

FLOUR, SPICE AND

OATMEAL MACHINERY

Grain Elevators	Portable Mills
Shafting, Hangers	All Sizes
Pulleys, Sprockets and Chains	Gears Cogged

MACHINES MADE TO ORDER

All kinds of Repairing Promptly Attended to

Warehouse Elevator Works Electric or
Steam.
TORONTO

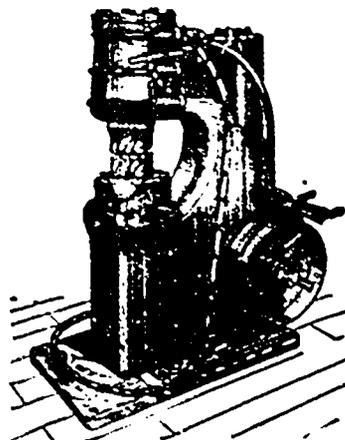
The Yeakley Vacuum Hammer.

Canadian Patent November 3, 1897.

Is now Manufactured and for Sale by
the undersigned Sole Proprietors
of the Canadian Patent:

George Brush

EAGLE FOUNDRY,
MONTREAL.



Dominion Oil Cloth Co.

Manufacturers of....

OIL-CLOTHS of Every
Description

Floor Oil-Cloth, Table Oil-Cloth,
Carriage Oil-Cloth,

Enamelled Oil-Cloth,
Stair Oil-Cloth, etc.

Office and Works
Cor. St. Catharine and Parthenais Sts.
MONTREAL, Que.

WOOD PULP SILK.

Wood pulp masquerades as silk in some places nowadays. Here is what an English exchange says about it. "Regarded from some points of view, what a staring fraud wood pulp is." It tries to pass itself off as stone, ivory, and so on; and as silk it has scored a great success. In days now regarded as ancient, if a man bought a silk handkerchief, and subsequently discovered that it was half cotton, the silly fellow used to think he had been 'had.' Now he can buy a silk dress for his wife without there being the smallest particle of silk in it. It is simply our versatile friend wood pulp got up to resemble silk. About two years ago Mr. C. F. Cross exhibited a number of samples of cellulose silk to the members of the Society of Arts; these were much admired at the time, and Mr. Cross explained that these goods would shortly be upon the market. They are here in all the shops, and are silkier and more lustrous than silk itself."

Messrs. Nerlich & Co., Toronto, will erect a warehouse 50x40 feet, six storeys high.

ANOTHER GRAIN ROUTE.

If Canada does not secure the bulk of the carrying trade between the head of the lakes and tide-water it will not be for lack of systems. A week or two ago Hon. Mr. Tarte surprised the public by announcing his intention of converting North Bay into a lake port. Now we are informed that a company of United States and Canadian capitalists has been organized to build a railway from the mouth of French River to Quebec. We are told that the new line, which is called the Quebec & Lake Huron Railway Company, will start from the mouth of French River, on the Georgian Bay, and run straight eastward to Quebec, crossing the Ottawa at Mattawa, the Leivo River at Rapido de l'Original, and the St. Maurice at Grandes Piles. The distance from Georgian Bay to Quebec will be 440 miles, or 135 miles less than from Parry Sound to Quebec via the Parry Sound and Great Northern Railways, which is actually the shortest route between the Great Lakes and Quebec. As regards the trade coming from Lake Superior and Lake Michigan, there will be a

saving of 115 miles of navigation on Lake Huron, as French River is so much higher up the Georgian Bay. The water and rail transportation will, therefore, be 250 miles shorter by the proposed Quebec & Lake Huron Railroad than by the Parry Sound and Great Northern. The new line will pass about 125 miles north of Montreal, and run through the immense plateau of the Matawin, Rouge, Lievre and Gatineau Rivers, embracing over 3,000,000 acres of the best forest and farming lands of the province of Quebec. The promoters expect to be able to bring to Quebec, for shipment by the St. Lawrence, either in grain or flour, between 30,000,000 and 50,000,000 bushels of wheat per year, and a great part of the 2,000,000 feet of lumber cut every year in the country traversed by their line. -The World.

The Newboro' Canning Co., Newboro, Ont., has been incorporated with a capital stock of \$40,000. The provisional directors include J. H. Singleton, W. H. Sturgeon and J. T. Gallagher, all of Newboro', Ont.



VANUZEN'S STEAM-JET PUMPS
Fully guaranteed. Especially serviceable for elevating or forcing sandy or muddy water from Mines, Quarries, Wells, Excavations, etc. Simple, portable, cheap. Requires no skill or attention. In sizes, ranging from \$7 to \$75. Send for Catalogue No. 69.
E. W. VANUZEN Co., Cincinnati, O.

CHARLES F. CLARK, President. JARED CHITTENDEN, Treasurer.

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THE SMART-EBY MACHINE CO., LIMITED

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193 BARTON STREET EAST HAMILTON, ONT.

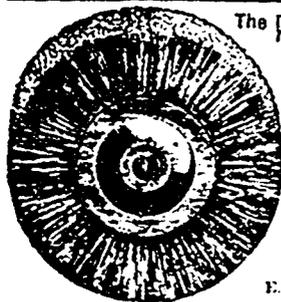
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If you are not yet using it, send for sample.

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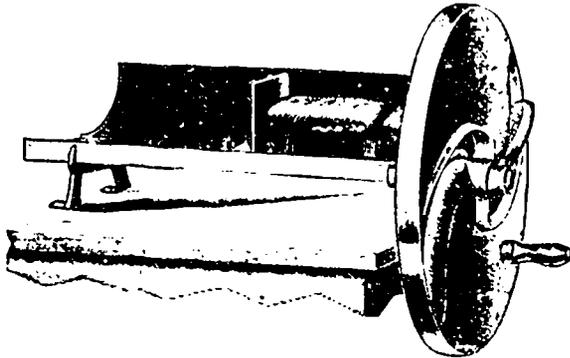
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- Crown Point Mine.
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CANADIAN RAND DRILL COMPANY, Montreal

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

CLARK'S LIGHTNING BREAD CUTTER.

The accompanying illustration is of Clark's lightning bread cutter, manufactured by the



Clark Metallic Mfg. Co., 123 Mill street, Rochester, N.Y.

This unique implement is intended for

use in public institutions, hotels, restaurants, cafes, etc., as well as private residences, and should be an important adjunct in every pantry. It is simple in construction, simple in operation and is self-feeding. The bread

is placed on the machine, one or two loaves at a time, and turn the handle. The knife is completely guarded, so that no accidents can occur in its use. It is adjustable to cut slices of any thickness up to one and-a-half inches. As a time and labor saving device it meets a requirement in all places where large quantities of bread are used. It is constructed entirely of iron and steel, nicely finished and enameled, and is an ornament in any pantry. It is made in three sizes, the largest of which

will cut two slices of bread at each revolution of the handle.

For further information apply as above.

BEEF SUGAR IN MICHIGAN AND CALIFORNIA.

The amount of beet sugar manufactured in Michigan during January was as follows: Michigan Sugar Company, 1,509,072 lbs.; Bay City Sugar Company, 2,080,075 lbs.; West Bay City Sugar Company, 599,661 lbs.; Alma Sugar Company, 847,080 lbs.; Kalamazoo Sugar Company, 174,540 lbs.; Wolverine Sugar Company, 251,545 lbs.; Holland Sugar Company, 548,567; Peninsula

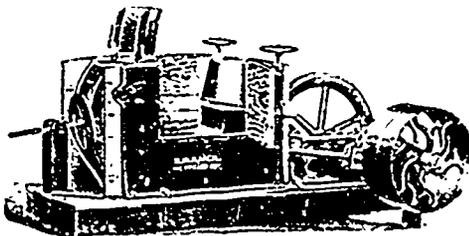
Sugar Refining Company, 1,420,568 lbs. Total, 7,431,108 lbs. Total sugar manufactured in the State to February 1st, 30,106,113 lbs. The Michigan Sugar Company closed its second campaign January 28th. The plant had been in continuous operation for 115 days. The Wolverine Sugar Company closed its factory on January 10th; the Holland factory January 7th; the Cairo factory January 29th, and the Kalamazoo factory January 8th. The factory at Ro-

chester closed on December 31st. The Bay City factory was still running in February, and the West Bay City plant will be in operation until March.

The total beet sugar output in California for 1899 is estimated at 52,500 tons, made up as follows: Spreckels Sugar Company, 25,000 tons; American Beet Sugar Company, 10,000 tons; Chino Valley Beet Sugar Company, 6,000 tons; Alameda Sugar Company, 4,500 tons; California Beet Sugar Refining Company, 3,000 tons; Union Sugar Refining Company, 3,000 tons; Los Alamitos Sugar Company, 1,000 tons.

The sugar campaign of 1899 was, of course, more satisfactory than that of the previous year, when the drought affected the entire State, but the results fell far short of what may be expected in the near future. The capacity of the factories already built, with an average run of 130 days, is about 70,000 short tons of refined sugar. A peculiar feature of the beet sugar industry of California is the very large size of the factories.

Eight sugar factories in Michigan producing over thirty million pounds of sugar in one season, while with identically the same soil and climate Ontario has not a dollar invested in the industry. The situation reflects no credit upon Ontario.



H. W. KARCH

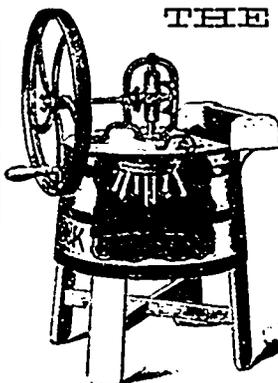
HESPELER, ONT.

IRON FOUNDER and MACHINIST

Manufacturer of

WOOLEN MACHINERY,

Rotary Fulling Mills, Kicker Fulling Mills, Soaping Machines, Cloth Washers, Wool and Waste Dusters, Rag Dusters, Drum Spool Winders, Reels, Spooling and Doubling Machines, Ring Twisters, Card Creels, Dead Spindle Spooler for Warp or Dresser Spools, Patent Double-Acting Gig Dyeing Machines.



THE O. K.

ROTARY WASHER

Has revolving steel ball gearing, making it almost noiseless; thus superior to others. Wheel continues one direction, the stirrer in both directions. Lid closes tight. No escape of steam.

WORKED BY HAND OR BELT.

(Patented in Canada June 13, 1899.)

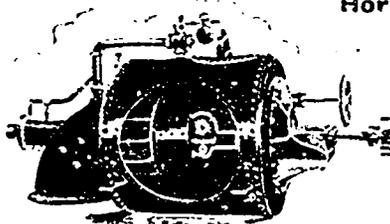
Want reliable party to manufacture on royalty, or will sell patent. Factory in U.S. sells nearly 1,000 per month.

Full particulars upon receipt of inquiry.

OTTO CLAUSEN, - - Davenport, Ia.

THE Crocker Patent Turbine

Horizontal Setting, with Quarter Turn Elbow.



Where the nature of the location will permit its use this type has many advantages. It is very suitable for direct connection to dynamos, and many are in operation in this class of service.

Notice how complete and compact this arrangement is, and how easily it may be installed. Can you use anything of this kind? Your inquiries will receive prompt attention.

WATER POWERS examined and reports made. Estimates submitted for Complete Equipments.

The JENCKES MACHINE CO.,

42 Lansdowne St., Sherbrooke, Que.

THE PRICE OF OIL.

Mr. Samuel Rogers, of the Queen City Oil Company, has written a letter to The Globe protesting against some of the misleading statements recently appearing in that and other Canadian journals regarding the price of oil, following being extracts from his communication:—

"In a recent issue The Globe made certain statements as to advances during the year in petroleum prices, and The Mail and Empire of January 4th, taking The Globe's statements, figured four millions extra profit per year being wrung from the people for oil. The fact is, the total gross receipts by the refineries for all the petroleum products made in Canada are, I believe, certainly not more than three millions per year, out of which about one and-a-half millions is paid spot cash for crude to producers who are in no way interested in the refineries, besides enormous sums for labor, fuel, plant, iron, chemicals, etc. Interested parties have misled The Globe and other papers into what, in effect, is an unjust attack on the Canadian oil trade, a trade which is the support of thousands of Canadians, and in its mining, manufacturing and mercantile interests has millions of Canadian money invested.

"My own personal means and that of my two sons are largely invested in the Queen City Oil Company, Limited; but we have no interest whatever in the Standard Oil Company. I have been in the Canadian oil trade over twenty years, and have seen many changes in prices, high and low, in that period. The present prices are higher than a year ago, but have not advanced more in proportion than the price of crude oil. . . and crude oil itself has not advanced as much as the increase in cost of sinking and fitting new wells. Canadian oil has not advanced as much as oil in the United States. Pennsylvania crude advanced last year from \$1.13 to the present price, \$1.66, and its product in proportion. Canadian lamp oil has advanced during the year about 20 per cent., while other lines have advanced: Lumber, 50 per cent. to 100 per cent., according to quality; woolens 50 per cent. to 75 per cent.; manufactures of iron and steel,

75 per cent. to 100 per cent. For instance, pumps for crude wells costing last year \$64 are now \$110; casings last year 18 to 24 cents per foot, now 40 to 50 cents per foot, and so on.

"We have been accused by some users of charging exorbitant prices for gas and fuel oil. I believe that these gentlemen would not think so if they understood the business, they are business men, and would not expect us to sell at less than cost of production. Our price for 32 degree gas oil is 5 2-5c. per imperial gallon, or \$1.89 per barrel; 34 degree, 5 3-5c; fuel oil, 5 1-2c., loaded on tank cars at refinery; while the crude costs the refinery spot cash 5 1-7c per gallon, including pipage to refinery. There is considerable loss in quantity in distillation, to which must be added cost of fuel and labor, etc., showing at the present prices of gas, oil and fuel oil are very low. A few gas plants of older construction use somewhat lighter gravity oil, containing more naphtha, which costs a little higher price; but four-fifths of the gas oil, and all of the

fuel oil used in Ontario, are of the above grades.

"The advance in the price of gas oil during the past year ranges from 25 per cent. to 37 per cent., according to gravity used, which is less than the advance in the United States in the same period.

"A good deal has been said about the advanced freight on American oil. My company imports over 30 per cent. of the American lamp oil in Ontario, and pays on it exactly the same freight as all other importers pay. We have not received, nor expect to receive, either directly or indirectly, any rebate or reduction on these payments; and I would be glad to see these rates reduced.

"Ordinarily, the advent of the fresh capital expended in the country to develop its mining resources and to build new manufacturing plants is welcomed as an acquisition, but the action of the Standard Oil Company in coming to the assistance of the Canadian oil men with a large amount of fresh money has been discussed by some as if it were criminal on the part of Canadians to permit

DAYLIGHT DISCOUNTED.

ACETYLENE GAS

Does it when made by the

"SAFETY"

200 MACHINES IN OPERATION AND NO ACCIDENTS
SPEAKS VOLUMES.

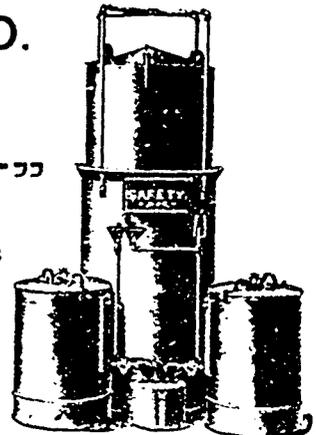
SIMPLICITY—SAFETY—ECONOMY the Leading Features.

Manufactured by

THE SAFETY LIGHT AND HEAT CO.,

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**THE CANADIAN
COLORED COTTON
MILLS COMPANY.**

Cottonades, Tickings, Denims,
Awnings, Shirtings,
Flannelettes, Gingham,
Zephyrs, Skirtings,
Dress Goods, Lawns,
Cotton Blankets,
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Only Wholesale Trade Supplied.

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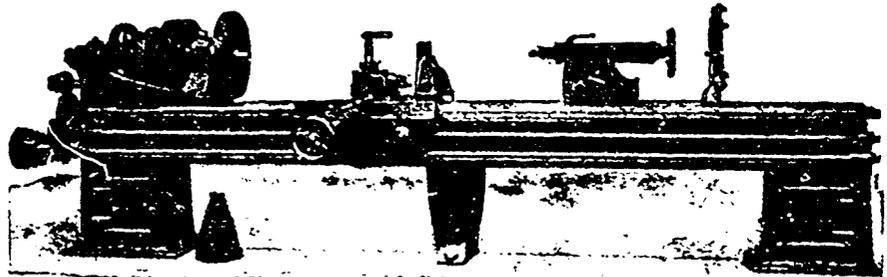
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LATHES,
PLANERS,
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MANUFACTURERS OF

General Machinery

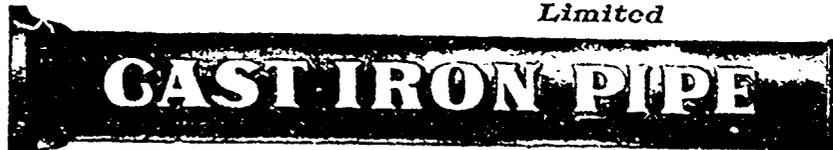
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BULL DOZERS
PUNCHES,
PRESSES.



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

THE GARTSHORE-THOMSON PIPE & FOUNDRY CO.

Limited



3 in. to 60 in. diameter.

For Water, Gas, Culverts and Sewers

Special Castings and all kinds of

FLEXIBLE AND FLANGE PIPE.

WATER WORKS SUPPLIES

HAMILTON, ONT.

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it, although this money has been expended largely in assisting the Imperial Oil Company to erect in Canada one of the latest and best equipped refining works in the world, and to apply to the treatment of our difficult Canadian crude oil methods of refining which make it equal to American oil. I believe that if this money had not come in Canadian oil to-day would be higher in price as well as poorer in quality. We are now delivering from our tank wagons, in twenty-gallon lots, to Toronto stores, a high-grade oil at four cents per gallon less than the price at which my old firm were selling in 1895, American oil of no better quality, and the average price of crude oil for the same period was only \$1.58 3-4 per barrel. I do not claim that the whole of this reduction is due to the large investment in the new refinery; a good portion of it is due to

the Government allowing the handling of oil in bulk, by removing the former harrassing restrictions. If the crude markets had not advanced the reduction would have been more noticeable, and as the use of tank wagons extends prices of lamp oil will be proportionately lower.

NEW ONTARIO.

To that part of Ontario which became historic as the disputed territory the term New Ontario has been applied, and it looks very much as if the day is not far distant when it may be known as Greater Ontario. In respect to that portion from Sudbury to the Sault, says The Globe, the term "disputed territory" is hardly applicable, but it shares with the more western portion those characteristic features that differentiate it

from the older portions of the Province. The physical features of the latter may be described as belonging mainly to the pastoral; the former presents the rugged and broken scenery so often associated with the presence of minerals. It is not so many years ago that the whole territory through which the Canadian Pacific Ry. ran, north of the Great Lakes, was regarded as a land of barren rocks and muskegs, even the stone being useless for structural purposes. It was spoken of as a break in the chain that would practically divide rather than connect the east and the west. It would always be a practically unpeopled wilderness, within which never a ton of freight would originate to feed the railroad that traversed it. How mistaken all this was is seen to-day, when four growing towns are firmly established within the territory, Sudbury, Port Arthur,

JOHN J. KELLER & CO.

104 and 106 MURRAY ST.
NEW YORK

220 Church St., Philadelphia.
135 Pearl St., Boston.
18 Pryor St., Atlanta, Ga.

**Aniline Colors,
Dyewood Extracts,
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Nutmeg Extracts.**

FAST COLORS for Wool Dyeing,
One Dip Cotton Colors, Novelties
and Specialties for Calico
Printing.

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BASEL, SWITZERLAND

**LIGHT YOUR
FACTORY WITH**

LUXFER PRISMS

The latest device for

LIGHTING

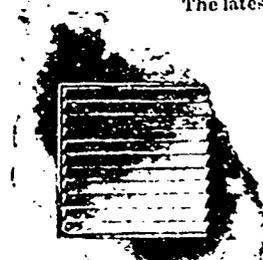
dark rooms and
offices

By Daylight

For catalogue
and estimates
write to

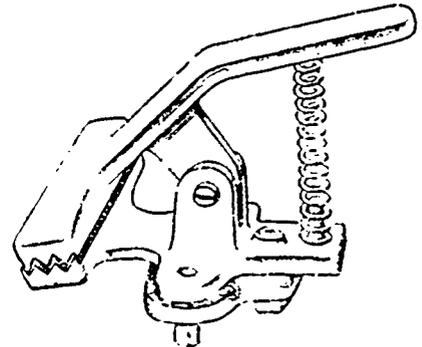
**Luxfer Prism
Co'y, Limited.**

98 King Street West, **TORONTO**



**Hardware Manufacturers
and Capitalists**

ATTENTION!



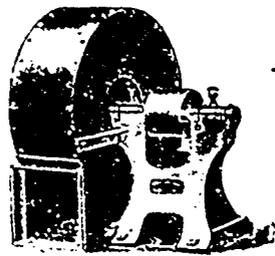
The Canadian patent, No. 62,111. Bed Clothes
Clamp, for sale, or will place on Royalty

I MEAN BUSINESS

Awarded first prize at National Export Ex-
position, Philadelphia, 1899.

For full particulars address at once

L. M. Lownes,
Norristown, Penn.



PLANING MILL STEEL PLATE
EXHAUST FANS

For removal of refuse from Wood-Working
Machinery.

**CYCLONE DUST
SEPARATORS**

Made of Galvanized Steel. All Sizes for Fans
from 30 inches and up.

Estimates cheerfully given for Complete Installations of Fans,
Piping, Gates, Hoods and Separators, with or without
Shavings Feed Attachment to Boiler Fires.

McEACHREN HEATING AND VENTILATING CO.,
GALT, - ONT.

WE MAKE

Forge, Cupola and Disc Fans, Electric Fans, Heaters and Fans for
Lumber and Wool Drying, etc., and for Heating of Factories.

STEAM TRAPS, OIL SEPARATORS, ETC.

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HAEMOTOL

For Wool

Dyed over a Chrome and Tartar
Mordant produces a black on
wool equal to Alizarin
Black for fastness,
but at a much
lower cost.

Solo Manufacturers

F. E. ATTEAUX & CO.

53 Colborne St. 13 Lomolino St.
TORONTO, ONT. MONTREAL

Main Office and Works

BOSTON, MASS., U.S.A.

Fort William, Rat Portage, and Sault Ste-Marie, each gives promise of being respectable members of Ontario's fair sisterhood of cities.

The news of the intentions of the Ontario and Lake Superior Company makes prophecy in the case of the Sault easy. The company is organized with a capital of \$20,000,000, of which \$6,000,000 is paid up, the purpose being to establish reduction works there to cost \$1,500,000. Connected with these will be chemical works intended to save the sulphur and other by-products of the reduction works, which would otherwise be belched uselessly into the air. The cost of the chemical works is estimated at \$500,000. Alkali works will also be erected at a cost of \$1,500,000, and a consequence of the saving of the sulphur will be the erection of a \$250,000 sulphide pulp mill. But the largest project in contemplation is the erection of a steel rail mill at a cost of \$2,500,000.

Whether in this latter project there is any idea of using the nickel of the Sudbury district for the production of nickel-steel rails, which eminent authorities declare is to be the steel rail of the future, does not appear. It can assuredly be said, however, that there are few places more happily situated for the union of the two. Immense bodies of iron ore have been from time to time reported from New Ontario. The Atik-oken deposits have frequently been referred to. A more recent discovery is in the Michipicoten district, and so sure is the owner of the mercantile value of the ore that a railway has been constructed from the Helen mine

to Lake Superior, and already contracts have been made for the delivery of 500,000 tons during the next season. Mr. F. H. Clerque, the enterprising manager of the great pulp mill at Sault Ste. Marie, is interested in this property, and he is also the active spirit in the Ontario and Lake Superior Company. It is altogether likely that the company look forward to assembling Ontario iron and nickel ores at Sault Ste. Marie, and thus producing nickel-steel at the nearest available point to the mines. The proposed reduction works, however, possess an interest for every owner of mineral lands in the territory tributary to Sault Ste. Marie. The purpose is to establish a market for ores there. Every carload of mineral ore taken from the earth will there be sure of a purchaser. The effect on the mineral development of the region should be enormous.

The lumber industry in those north-western parts of the province also shows unwonted vitality. The Algoma Conservator, for example, reports that three mills in its constituency which have been suspended for comatose for some time past, are all showing renewed life. Electric plants and new machinery are being put into them, and sawing will soon start up on a large scale. It also reports that a large pulp mill with abundant capita! behind it will be erected to the south of Spanish river, the logs being floated down that stream. Both the activity in lumbering and the extensive preparations for the treatment of ores have been directly influenced by the Ontario Government's twin policies forbidding the exporta-

tion of logs, and of nickel and copper ores or matto. The effects of these regulations will grow with the growth of the years, and instead of New Ontario being a barren neck of rocks separating the east and the west, it may soon be the most lively section through which the traveller passes as he hurries from one ocean to the other.

But the other day we were able to congratulate with our brethren of the east on the prosperity that reigns through all industries in Nova Scotia. On the shores of Sydney Bay a village is growing with astonishing rapidity into a city which will make its far away sister, Vancouver, look to its laurels. The province in which the latter is situated is already looked upon as the Witwatersrand of North America. In the territories ranching and irrigation is transforming the foothills and the prairies. Population is flowing into the wheatlands farther east. New Ontario we have just spoken of. Old Ontario does not mean to be behind-hand in the race. Quebec is renewing her youth with dairying and cattle-raising and better government. The Maritime Provinces are realizing that they have only just begun to discover their wonderful resources, and even the dim isle is the gateway of the St. Lawrence, which will one day be a part of the Dominion, is furnishing the raw material which is to be the foundation of the newest Canadian city. Canada is an empire in itself.

The Elgin Elevator Co., Elgin, Man., has been incorporated with a capital stock of \$10,000.

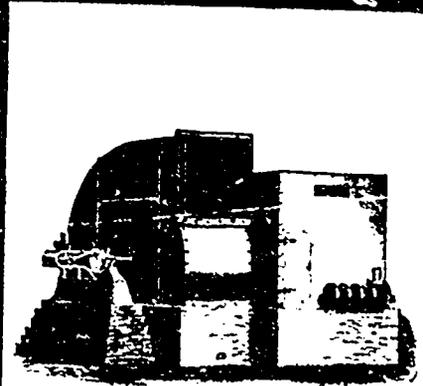
STURTEVANT SYSTEM OF MECHANICAL DRAFT.



*Saves cost of chimney.
Burns cheap fuel.
Increases boiler capacity.
Send for Catalogue "110."*

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*Centralized plant.
No scattered steam piping.
Utilizes exhaust steam.
Send for Catalogue "84"*

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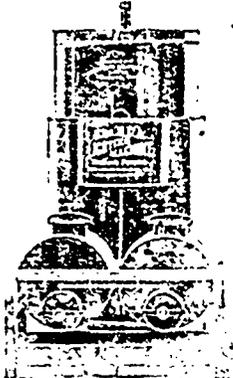
MR. O. P. LETCHWORTH.

The Cleveland, Ohio, Iron Trade Review publishes a portrait and short sketch of the life of Mr. O. P. Letchworth, of the Pratt & Letchworth Co., of Buffalo, N.Y., a gentleman in whom Canada is interested in that his company is now establishing a large branch works at Brantford, Ont., soon to go into operation in the manufacture of steel and malleable castings, etc. In fact Mr. Letchworth will soon be one of our most prominent captains of Canadian industry. Speaking of him the Iron Trade Review says:—His career is, in some respects, typical of the achievement of a number of the industrial leaders of to-day—a never-halting advance from a level on which there was company in plenty to positions in which the number of competitors became fewer and fewer, and there was less jostling to grasp the next round. Mr. Letchworth's business experience dates from the later sixties when he was office boy in a saddlery manufacturing establishment in Auburn, N.Y. By successive advances he became a partner in the firm of Heydon, Letchworth & Smith. In 1876 he went to Buffalo and became connected with the firm of Pratt & Letchworth, manufacturers of steel and malleable castings, his father being the junior partner. As salesman, stockkeeper, corresponding clerk, purchasing agent and general manager, he continued in the employ of the firm until 1886, when, on the death of his father, he was admitted to partnership. The partnership expired by limitation in 1896, and a stock company, the Pratt & Letchworth Co., was formed, headed by Mr. Letchworth, who is still president. In addition to the expanding operations at Buffalo, the company has an extensive plant under way in Canada, and its success gives evidence that strong organization and directing forces have been linked with courage and foresight.

Davis & Son, Kingston, Ont., have completed a steel steamer for the Lake of the Woods. It will be shipped in parts to Rat Portage, and put together for the opening of navigation.

Sun Lighting Machine.

ACETYLENE GAS.



The Acme of Perfection in Lighting.

At the Minimum of Cost.

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

Write for Catalogue.

THE Acetylene Lighting Co.

(LIMITED).

LONDON, ONTARIO.

SOLID COMFORT.

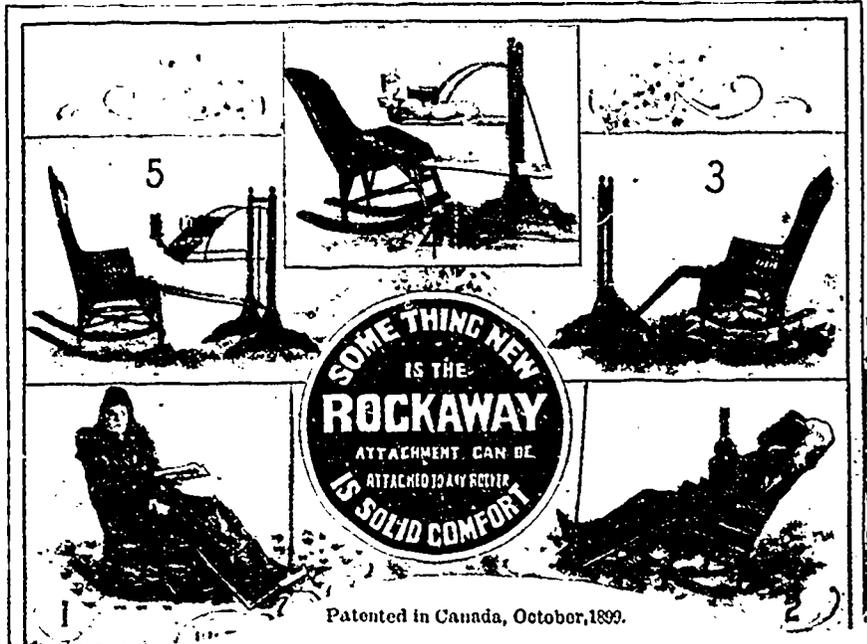
The accompanying illustrations are of an attachment for rocking chairs, manufactured by Otto Clausen, Davenport, Iowa. It was patented in Canada in October, 1899.

With the "Rockaway" attachment, as shown, the comforts of the rocking chair will be still more appreciated, for by the use of the attachment, the rocker becomes a most comfortable rocking chair and foot rest, and not only a stationary but a rocking reclining chair.

over the centre of gravity, and the spring assists in rocking the occupant back and forth without hardly any exertion.

Figure 3 shows the attachment as in Figs. 1 and 2, fastened to rocking chair, but here the spring that holds the foot-rest up is fastened to the crosspiece of a stand instead of coiling as in Figures 1 and 2.

Figure 4 shows same as described in Figure 3, with the addition of two nickel-plated brackets, which are hooked on to stand upon which a tray-holder or table is fastened,



Figures 1 and 2 show lady and gentleman seated in their rocking chairs, to which the "Rockaway" attachment is fastened by means of screw eyes, two fastened in rocker and two in foot-rest, a rod passing through them.

At Figure 1 the bonded foot-rest is attached. At Figure 2 the straight foot-rest. At the outer end of foot-rest a cord is fastened to which a strong coiled steel spring is attached and fastened on a hook in ceiling.

The least movement of the feet brings it

upon which may be placed a meal or dainties for an invalid or convalescent. The outer ends of brackets have cups fastened to them to hold a glass of water, cigars, matches, etc.

Figure 5 shows stand with attachment, as described in Figures 3 and 4, but now by reversing, the tray holder is changed into a book-rest or holder for large books, papers, etc., for the occupant.

This "Rockaway" attachment is now placed on the market with or without the

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stand and brackets, and with either straight or bent foot-rest.

Mr. Clausen, whose address is here given, desires correspondence with parties who would manufacture in Canada on royalty, or he would sell the patent outright.

A GROWING TIME IN HAMILTON.

Hamilton bids fair to become the Sheffield of Canada. The Blast Furnace Company, whose works were started four years ago, has been reorganized to manufacture steel as well as pig iron, and rolling mills are also part of its scheme. It is expected that the new works will be completed shortly, and when they are ready a large number of men will find employment.

But the shareholders of the company, who include twenty or more of the wealthiest men in Hamilton, have a more ambitious project under way. It is proposed to organize a company which will have a capital of \$10,000,000, to build and operate blast furnaces, steel works, rolling mills and refineries, with a capacity to produce and treat 800 to 1,000 tons of pig iron per day. The charter for this company has been applied for, the plans of the works are nearly ready, and it is expected that the enterprise will be well advanced this year.

The same men who have joined together to establish iron and steel works are also interested in two or three other projects. The erection of a plant for refining zinc has been undertaken, and is expected to be in operation soon. The process to be employed is the invention of Dr. Carl Hoepfner of Germany, and has been for the last two or three years in use at the works of Dr. Ludwig Mond at Winnington, in England. Supplies of ore will be obtained from Allumette Island, in the Ottawa river, and probably also from the new zinc mines opened last year north of Lake Superior.

An enterprise of still greater importance, which owes its inception to the policy recently announced by Premier Ross, is the

establishing of works to refine nickel and copper ores. Within the last week contracts have been signed under which, in a year hence, more of these metals will be refined in Hamilton from matters of the Sudbury ores than the whole of the present production of the mines of that region. Commencing with September 1st next, ten tons of matte, carrying not less than forty per cent. of nickel and copper, will be supplied to the refinery daily, and on the first of each succeeding month the daily supply will be increased by ten tons until, at the beginning of the sixth month, it will reach sixty tons per day. The process to be adopted is also the invention of Dr. Hoepfner, and is claimed to be well adapted for treating Sudbury ores. It is in use in Papanburg, in Prussia, where the inventor claims it is producing one to one and-a-half tons of fine nickel per day.

For these refining works, both of which

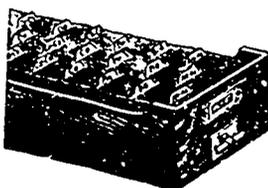
will employ the electrolytic method, the city of Hamilton is well situated, owing to the large supply of electricity it commands. The same capitalists who have developed electric energy from the water power of the Welland Canal are also interested in the refining works, and, as so often happens in the history of industries, one enterprise serves to build up another. The outlook at present is for a very substantial enlargement of the works for producing electricity, for which purpose the waters of the Welland river will be tapped and brought down over the Niagara escarpment.—The Globe.

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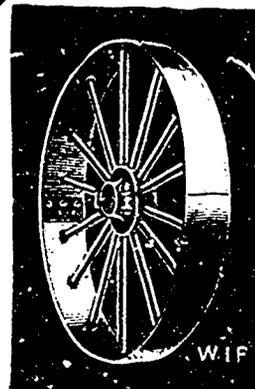
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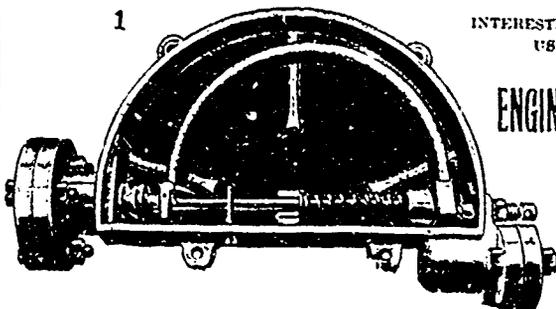
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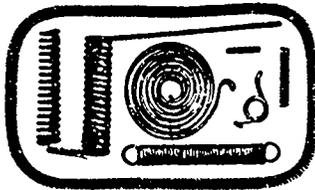
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RECORDS AT THE PATENT OFFICE.

Inventors' names are often related to the subject of their inventions.

A veteran clerk in the patent office shows by a ten years' collection of memorandum slips strange coincidences occurring between the names of inventors and their own inventions. From a bundle of several thousand records giving the names of patentees and their patents, he shows that a heavy per cent. of the patents granted in his office during the past ten years were significantly related to the name of the originator. This singular coincidence is amusingly illustrated by papers on record at the department.

The fact that Messrs. Fairweather, Blizzard, Thunderbolt and Lem took out patents for improvements to weather devices first called this comical feature to the mind of the record collector. Mr. Snow was next in line to the weather man, and in 1880 he was notified that the Snow sleigh could be placed on the market. The summer of the same year brought forth a thought from a Mr. Cutter to improve the runner of Mr. Snow's sleigh, and a patent for a sleigh runner was granted him. A patent was then applied for by A. Break for a break shoe now sold by numerous shoe dealers. This grant was hardly cold when Mr. Buck was given the desired papers for his buckle, and Mr. P. Jack patented a new boot-jack. Mr. Cutter having successfully sold his sleigh improvement device, reappeared at the patent office with an ice cutting machine. Mr. G. P. Gunn invented a breech-loading gun, and a Mr. Candy invented candy tablets.

Among the family of "eatable" names appeared Mr. P. Hogg, with his self-waiting table, and S. S. Drybread with a new brand of wheat flour. Succeeding these, a Mr. Barrett annexed his name to the election booth. Names recalling metals are no exception. It was Brazier who invented a stone firepot and stoker, and Mr. R. J. Bolt a combination lock. Singularly enough, politics are not barred out, as Mr. J. McTammany invented a novel voting machine and a patent was granted him. Racing is allowed in the collection, for a Mr. Horse was complimented on a safety fast driving rein lately patented by him. The horseman was followed by Mr. Larson and a patent burglar alarm.

Hardware is also mentioned, as Mr. Pulley patented a stump extractor, which has been advantageously used. A man named Girl invented a baby walker, and Mr. Husbands, who is unmarried, put before the masses a patent baby jumper. In railroad patents Mr. Carr is registered with his patent car mover, and he opened the way for Mr. Gatewood with his original gate.

A Pittsburg patentee obtained the exclusive right to sell a washing machine. The Smoky City, in this case, is said to have had more to do with this thought than the gentleman's name, which was Daubenspeck

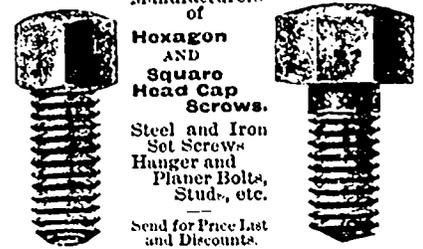
The use of forced draft is advantageous, however, aside from the question of weight. Two boilers working under forced draft must necessarily take up much less room, fore and aft, than four or five boilers working with natural draft. Two large yachts at present building have the same power. One is to obtain the power with natural draft and the other is to use forced draft. If the coal capacity and dimensions of the vessels were the same, the total fore and aft length of the machinery would be 102 feet in the natural draft boat, against eighty-six feet in the other.

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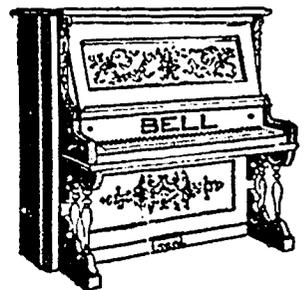
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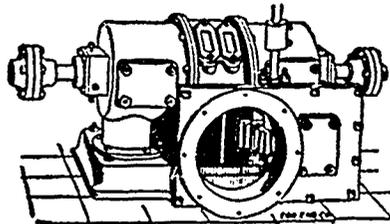
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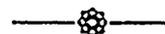
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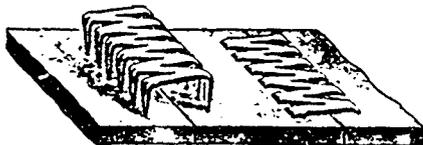
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