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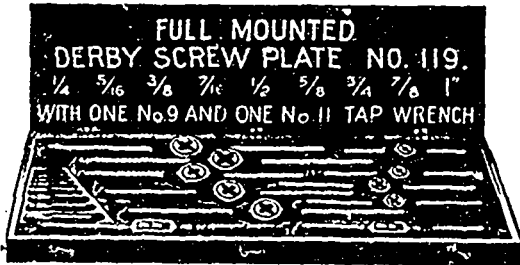
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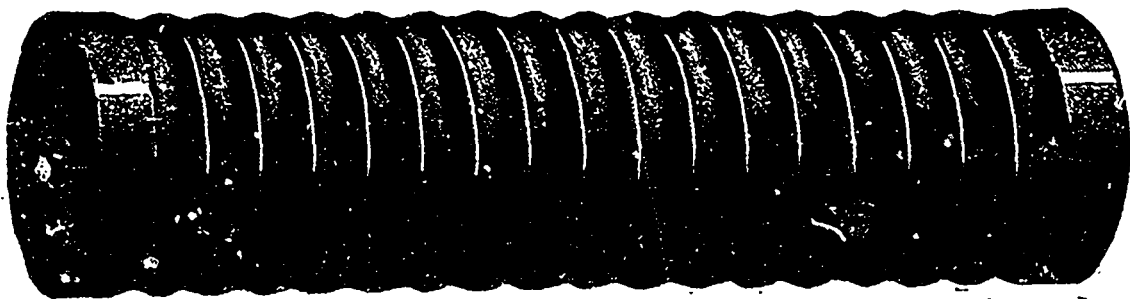
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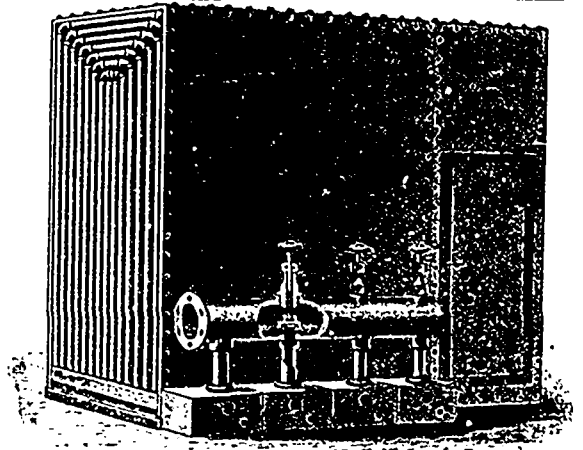
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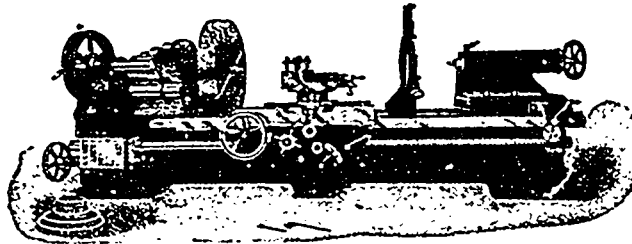
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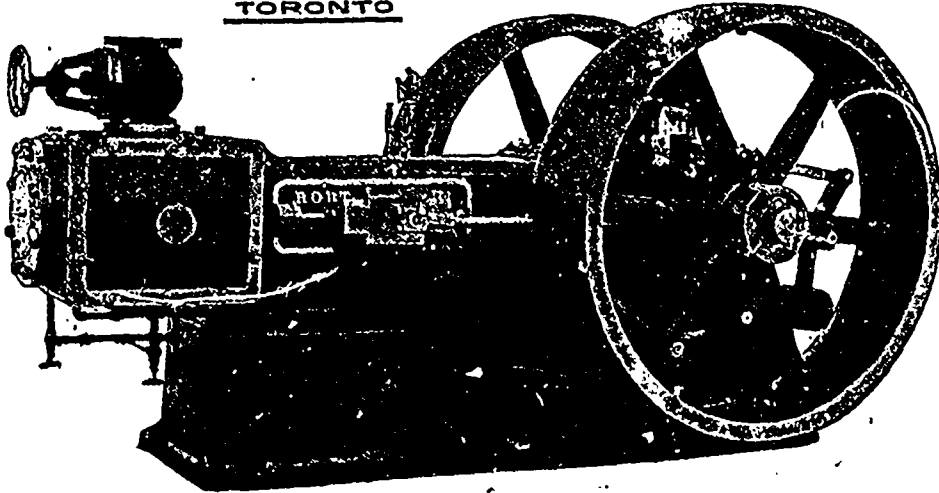
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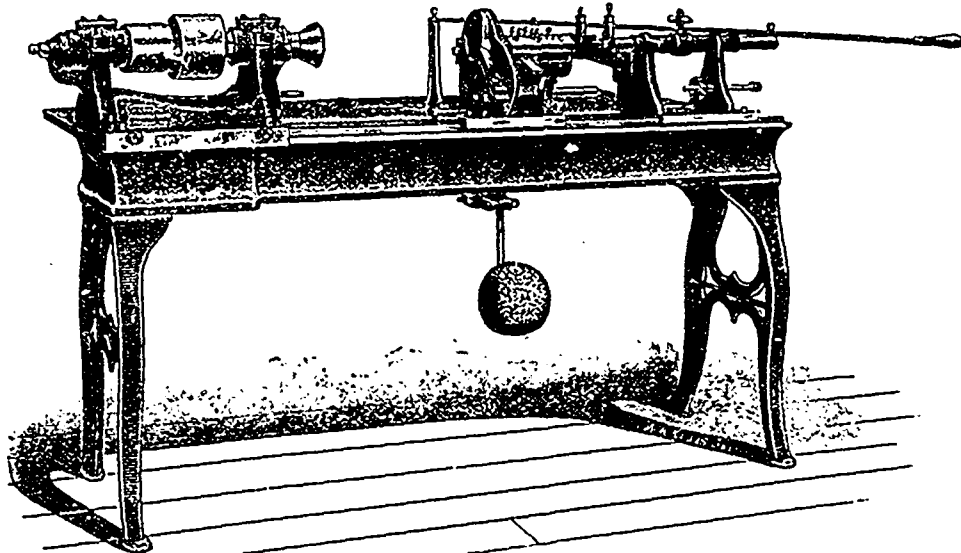
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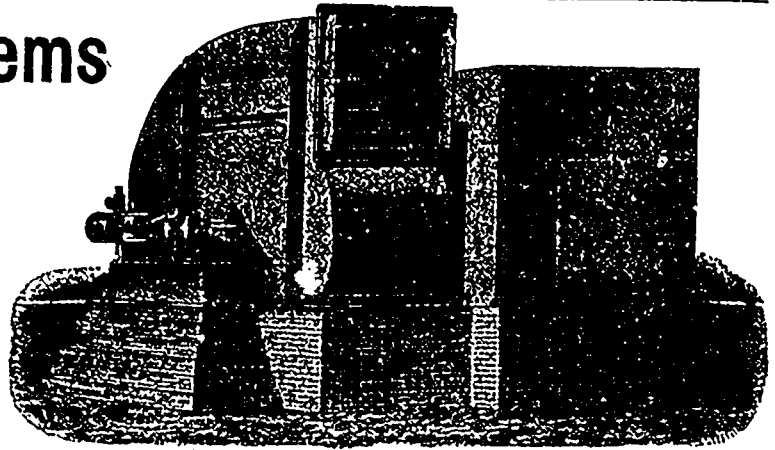
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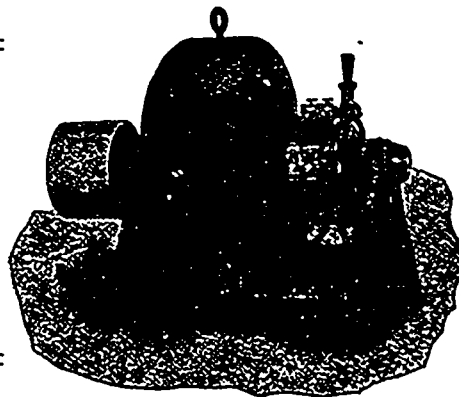
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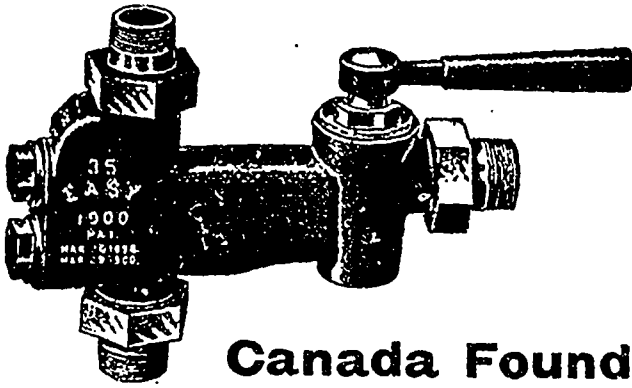
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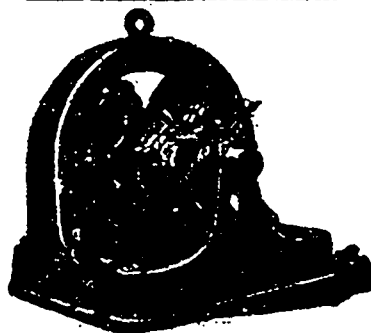
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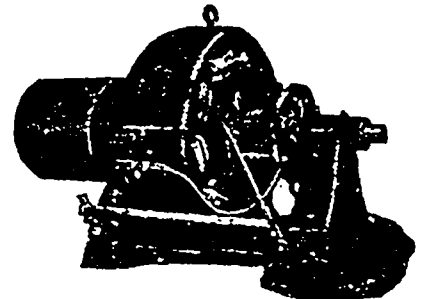
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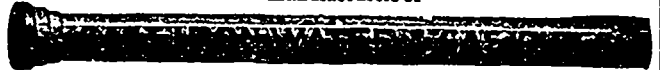
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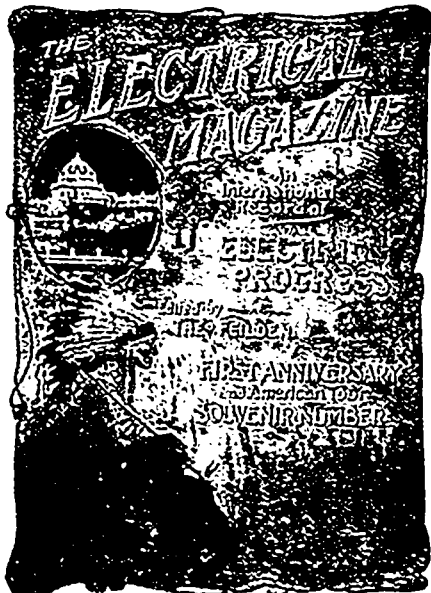
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TENDERS FOR DREDGING.

TENDERS addressed to the undersigned and endorsed "Tender for dredging" will be received up to and including May 15th, 1905, for the dredging required at the following places, during the present year: Bayfield, Belle River, Beaver ton, Collingwood, Kincardine, Matchedash Bay, Menford, Owen Sound, Trenton, Penetanguisheno, Point Edward, Sarnia, Port Stanley, Rondeau, Port Burwell, Sauguen River, Thornbury, Wiarton.

Specifications can be seen and form of tender obtained at the Department of Public Works, Ottawa. Tenders to include towing of plant to and from the works. Only dredges can be employed which are registered in Canada at the time of filling of tenders. Contractors must be ready to begin work within thirty days after the date they have been notified of the acceptance of their tender.

The Department is not bound to accept the lowest or any of the tenders.

By order,
FRED GÉLINAS,
Secretary.

Department of Public Works,
Ottawa, April 20, 1905.

Newspapers inserting this advertisement with out authority from the Department will not be paid for it.

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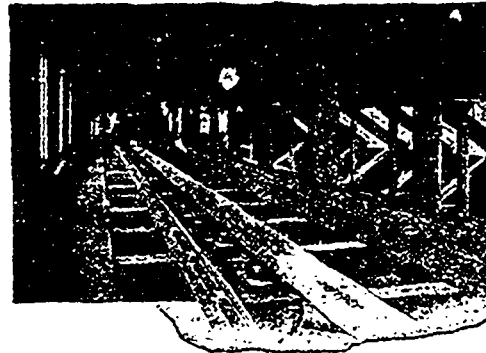
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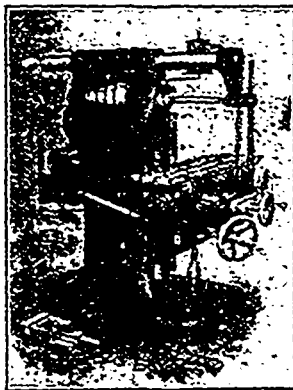
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The floor space occupied is small com-
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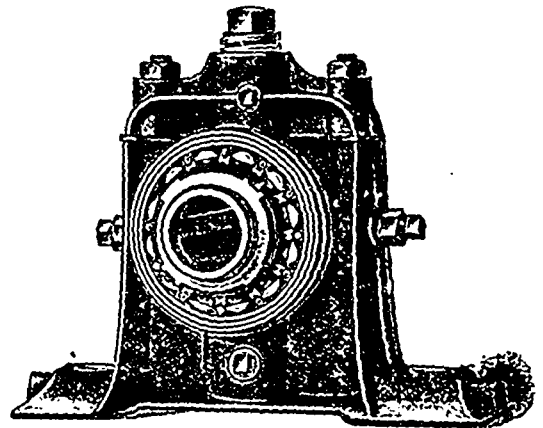
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The Canadian Manufacturer Publishing Co., Limited.

McKinnon Building, Cor. Melinda and Jordan Sts., Toronto.

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SUBSCRIPTIONS:

Canada and United States \$1.50 per year. All other Countries in Postal Union ten shillings sterling, including postage.

J. J. CASSIDY, Editor and Manager.

Classified IndexPage 42
Index to AdvertisersPage 49

CANADIAN MANUFACTURING INDUSTRIES AND THEIR ENEMIES.

Canadian manufacturers cannot but be interested in the views entertained and doctrines taught by some of the daily papers of Toronto, regarding the fiscal outlook of the country, and to observe the great lack of common sense expressed by them in their discussions of the subject. The Mail and Empire imagines that the political and material salvation of Canada depends almost entirely upon the adoption of what may be called Chamberlainism by Great Britain, and uses harsh language in denouncing those both there and here who oppose it. It tells us that the fight of Mr. Chamberlain for a commercial understanding within the Empire is handicapped somewhat by Canadian opposition—that a faction in the Dominion seizes every opportunity to aim an underhand blow at the project. It enquires, "Who are the people in Canada who declare against the Chamberlain policy, and what are their objects?" And its answer to its own conundrum is that they are the old Commercial Unionists—persons who labored for years to pass the entire trade of Canada from Great Britain to the United States. In evidence of this we are told that "these persons" tried to discriminate against the products of Britain by a tariff system for Canada, which would admit the goods of the United States free of duty, and lay a heavy tax—the same tax as that levied by the United States tariff—upon all the products of the British Isles. Of course this is brand new news to Canada and to the rest of the world, the falsity of which is only equalled by its audacity. Since that time, we are told, the Chamberlain policy has come to the front—a project which offers us a reciprocal advantage in trade—and that once we have a preferential policy in force commercial union with the United States is out of the question.

It is difficult in this day and generation to comprehend why the Mail and Empire should so assiduously use the old commercial union question, now dead and buried for many years, to boom Imperial federation. Possibly Imperial federation might be a good thing for Canada—under certain conditions, but if free trade within the Empire is to be a salient feature of it, Canada would most positively decline to participate in it. Aside from the fact that the people of Great Britain are not at all likely to accept Mr. Cham-

A WORD TO OUR READERS!

The line at the bottom of our advertising pages requests you when writing to Advertisers, to mention The Canadian Manufacturer. Compliance with the request costs nothing, but would mean a great deal to us. As the manufacturer usually grades the salary of his salesman according to the value of the orders he turns in, so the advertiser values space according to inquiries received. The only way for this journal to receive full credit for sales influenced is for our readers, when writing to advertisers, to kindly mention The Canadian Manufacturer.

berlain's proposition to tax their food stuffs, it is not apparent that the preference the Canadian tariff shows to British goods is appreciated by that country, except by her manufacturers of woolen goods, nor that it has, in any way, been of any benefit whatever to Canada.

The preferential tariff, which came into full force and effect in 1898, was intended and expected to be the entering wedge to Imperial federation. It has had very little effect upon the general trade of the country, and but little attention would be paid to it were it not that it has ruined and destroyed what was once a large and valuable industry—the manufacture of woolen goods; and now we find Canadian woolen manufacturers, going suppliantly, hat in hand, to the Government, beseeching that something be done to retrieve the situation. Mills are being closed, employees are seeking work elsewhere, capital is being as irretrievably lost as if it were at the bottom of the ocean, and Canadian farmers are forced to seek other markets for the sale of their wool through the operation of what we know as our British preference. The sufferers from this unjust oppression cannot but feel keenly that Chamberlainism, as exemplified by this preference, supplies them with a bed of thorns, for they see that they starve to the end that British woolen manufacturers may thrive; and yet the Mail and Empire denounce them as a "faction" in the Dominion who aim underhand blows at Imperial federation, and are advocates of commercial union with the United States.

THE TEMISCAMING DISTRICT.

Northern Ontario is about four times the area of Old Ontario, and is possessed of vast timber, mineral and agricultural resources.

The great clay belt in Northern Ontario contains over 16,000,000 acres. This area is ten times the area of land under wheat in the whole Province, and seven times the area under wheat in the whole Province of Manitoba.

The Ontario Government will build the Temiskaming and Northern Railway from North Bay to James Bay, a distance of about 400 miles, at a cost of over \$10,000,000.

A large number of settlers have settled in that district, and have conclusively proven that the great clay belt is suitable in every way for agricultural purposes.

Discoveries made during the construction of the line of railway have been developed into valuable mineral properties.

Extensive areas of pulp and other timber exist. The railway that is being built will intersect the National Trans-Continental Railway otherwise known as the Grand Trunk Pacific Railway near Lake Abitibi, about 400 miles north from Toronto.

The road will be built east and west almost through the centre of the clay belt. For some seven hundred miles there will be a belt of good arable land from fifty to one hundred miles on each side of the Grand Trunk Pacific Railway.

For a distance of over 200 miles the Provincial Railway will pass through this vast clay belt.

The manufacturers of Ontario meet with strong competition in Manitoba and the North-West from local manufacturers, and from the manufacturers of the United States.

The development of these natural resources is of vital importance to our manufacturers, as they would have special advantages over all other manufacturers in that market.

The rapid and successful development of this vast northland is of supreme importance to all of Ontario's interests.

The Government has guaranteed the bonds on the line of railway from Toronto to Sudbury to the extent of \$4,000,000, and in building its line of railway to the Hudson Bay will expend over \$10,000,000.

The immediate settlement of the arable lands tributary to such line of railway and the development thereof to the fullest possible extent is of supreme importance in securing a remunerative traffic for such line of railway. At the same time a new and important market can be secured for the manufacturer of Ontario, and homes are provided for Ontario's sons and daughters within the province instead of allowing them to drift to an alien land, where they no longer purchase our product or contribute to the revenue of the Dominion.

Settlement in the Temiskaming country has been very rapid and practically all the surveyed lands capable of cultivation has already been located, and additional territory will be surveyed immediately. In 1903 there were over 19,000 immigrants received in the Province of Ontario. Most of these immigrants were from the United Kingdom.

TARIFF DECISIONS.

The following decisions have been ratified by the Customs Board:—Lithographic presses, 10 per cent., and not free, as claimed by certain importers.

Tram silk, boiled, dutiable at 20 per cent.

Mimeographs, rotary and oscillating, dutiable at 25 per cent. under tariff item 315.

Pictorial "cut-outs," that is to say, lithographed pictures on cardboard, embossed or not, with the outlines of the picture cut out by stamp or die, dutiable at 20 per cent., under tariff item 130.

Refined coconut oil not further manufactured than bleached or refined, dutiable at 20 per cent. as a non-enumerated article.

The question having arisen as to the rate of duty on stereotyping outfits, such as curved casting moulds, "cutting-off" cylinder, power shaving machine, iron top imposing table, stereotype metal furnace with pump, imported along with printing press, such articles were declared to be dutiable at 20 per cent. under tariff item 313, as type-making accessories, and not to be included under the designation of a printing press in the free list. Electric motor rheostat and other electrical appliances for use in connection

with printing presses were declared dutiable at 25 per cent. as electrical apparatus, and not free of duty as part of printing press. A soldering flux in a fluid state made from an acid and zinc was declared to be dutiable at 20 per cent.

Microscopes valued at not less than \$100 each were held to be entitled to free entry when for use for surgical purposes.

EDITORIAL NOTES.

The London representative of The Birmingham Post who a few days ago interviewed Lord Strathcona, with reference to the matter, who, referring to the transfer of the garrisons at Halifax and Esquimalt, is reported as stating that Canada is rapidly developing a system of military and naval defence on her own account, and that an extensive market is opening there for munitions and weapons of war. Concerning railway extensions in Canada Lord Strathcona was of opinion that the demand for engineers and for railway material there could hardly be supplied by Canadians, and Canada preferred to employ engineers from England and place orders for railway equipment there rather than allow Americans to make use of these extraordinary business opportunities.

On motion of Hon. Adam Beck the Railway Committee of the Ontario legislature has inserted a clause in a bill retaining to the Government the right to transmit electricity on the right of way from water-powers to the municipalities. The matter came up in granting an extension of two years for beginning and five years for completing the Ontario electric line from Toronto to Cornwall. The amendment was as follows: "The Government has at all times the right to enter upon the right of way of the said company and dig up the same, erect thereon all necessary poles, or lay all the necessary conduits, erect, put down, and construct all cables, wires and poles for the transmission of electrical power from any point in the Province to the works and plant of any municipality for the distribution of such power within the limits thereof." This clause was announced by Mr. Beck to have Government approval, and will be inserted in all future electric railway charters. Another amendment introduced by Mr. Beck was to the effect that branch lines could be built only with the consent of the Government. They must not exceed 30 miles in length, and must not go outside the county in which the branch joins the main line.

The Department of Trade and Commerce has been notified by Lord Strathcona, High Commissioner at London, of the fact that the Imperial Government has a bill before the House of Commons for the appointment of a Minister of Commerce. In this respect, Great Britain is profiting by Canada's example.

Mr. W. C. Brennan, secretary of the Hamilton, Ont., Board of Works, has received a letter from John McDougald, commissioner of customs at Ottawa, stating that the department is satisfied that the cement bought by the city of Hamilton from the Cayuga Lake Portland Cement Co., an American concern, is quoted at a fair market price, and does not come under the anti-dumping clause. A duty of 12 1/2 per hundred pounds will be all the company will have to pay on it.

The London Morning Post in an article giving facts regarding the importation of United States journals into Canada similar to those argued when Lord Stanley refused to consider a reduction in postage from Great Britain, says:—"Here is

one of the innumerable instances of lack of commercial common sense which causes the inhabitants of the colonies to despise the British Government. The Imperial authorities have often displayed a ridiculous incapacity to get their money's worth in negotiations. The various improvements at Esquimalt and Halifax and the senseless squandering of money in South Africa constitute an Imperial scandal. All these things are against Imperial federation of any kind, which the man of Greater Britain always defines as putting the empire on a business footing."

It is reported that the Ontario Government will this season announce a definite policy on the question of reforestation, and in so doing will follow the plan which the former Commissioner of Crown Lands, Mr. Davis, on returning from a trip to the Temiskaming district in October, 1903, announced would be adopted. The scheme practically amounts to a system of permanent forest reserves, on which the timber will be sold only as it comes to maturity and the price paid will be regulated by the amount actually taken, that is to say, measuring will be by the thousand feet, and not by the acreage. The new plan, according to Mr. Davis' idea, was to apply to non-agricultural lands, and the trees to be cut were to be marked by Crown Lands employees. No trees below the size marked could be cut. On lands fit for agricultural purposes he thought the present system of selling timber was about the only one that could be adopted in order to get the lands quickly cleared and opened up for settlement. As old licenses on non-agricultural lands lapsed, and the limits reverted to the Crown, these could be reforested and kept as a permanent forest reserve, being added to the non-agricultural lands previously set aside, in addition to the existing forest reserves proper. No other plan is before the present Government. Competent men declare that the ultimate outcome of the plan now before the Government would be to give Ontario a forest reserve of 40,000,000 acres, yielding a yearly revenue of at least \$30,000,000, huge as that sounds.

The Board of Commissioners of the Temiskaming and Northern Ontario Railway will inaugurate a Government-owned telephone system for the entire length of the railway. For the present the telephone line will be built from North Bay to New Liskeard, a distance of 113 miles, but as the railway is extended northward the telephone system will also be extended. The line will likely be built this summer.

Owing to the great increase of trade between Canada and South Africa the Government has arranged for fortnightly trips instead of monthly as at present. If the trade continues good the fortnightly service will be made permanent. The new arrangement will begin about May 21.

An article, to be found in another page, sets forth incidentally the advantage derived by an advertiser in having his business announcements published in THE CANADIAN MANUFACTURER. At a cost of \$150, enquiries directly traceable to the ad. resulted in the sale of \$12,000 worth of machinery.

The merchant or manufacturer, the industrial or professional, the manager or operator, who assumes to "get on" without the trade journals directly or collaterally bearing on his particular specialty, is seriously handicapped in the stress of competitive strife. Willfully, though perhaps not wittingly, he deprives himself of sources of information and material for progress and profit, lack of which must inevitably leave him

in the lurch. The managing head of every "house," no matter how large the "concern" should above all things see to it that each department head, and so many of the working force as by their intelligent interest show that they would profit by technical and professional information—that all these men are provided with the trade journals best fitted to promote the advancement of each in efficiency. This at the expense of the firm, of course, since the firm, in turn, cannot fail largely to profit by such policy. And don't commit the folly of balking at the preponderance of ad. pages. The information these contain is never less and often far more valuable than that found in the "reading matter."—Boston Herald.

An attractive display advertisement has recently appeared in some of the Toronto papers appealing to salaried employees who may need some ready money, which may be had upon loans secured by liens upon household effects. The inducements offered to effect such transactions are easy payments; no publicity; no enquiry from relatives, friends or employer; money can be had in two hours time if necessary. Payments can be made weekly, semi-monthly or monthly. Ten cents a day pays a loan of \$10; 19 cents a day pays a loan of \$25; 24 cents a day pays a loan of \$50. These terms are exceedingly favorable to—the lender. Most financial institutions are quite glad to let out their money at 6 per cent. per annum, which, on \$10, would be 60 cents; on \$25, would be \$1.50; and on \$50 it would be \$3. The money lender, however, who loans the poor borrower \$10 demands for the use of it at the rate of \$36.50 per year; which, if not paid according to agreement, means that the household effects of the borrower are seized and sold by the bailiff.

The result of the canvas by the Boston Commercial Bulletin of the Canadian press with regard to reciprocity between this country and the United States is now made known. In all, 238 papers replied, the total estimated circulation of which is 1,023,653 copies. Twenty of them favor reciprocal concessions, six absolute free trade. Seven declare that the United States must reduce tariff duties for the benefit of Canada before Canada should even consider reciprocity. Ten are non-committal. Ninety-four were too indifferent to express a definite opinion. One hundred and one newspapers specifically oppose lowering the present Canadian duties on American manufactures, no matter what inducements should be offered by the United States.

In a business letter written us by the Joseph Dixon Crucible Co., Jersey City, N.J., they say: "We feel that THE CANADIAN MANUFACTURER is a good medium for us to advertise in."

MEETING OF THE SHAREHOLDERS OF THE CANADIAN MANUFACTURER PUBLISHING CO., Limited.

The Shareholders of the Canadian Manufacturer Publishing Co., Limited, are hereby notified that a General Meeting of the Company will be held on Monday, the 5th day of June, 1905, at the hour of 11 o'clock in the forenoon, at the Head Office of the Company, Room 408 McKinnon Building, corner Jordan and Melinda Streets, Toronto, for the purpose of receiving and considering a report from the Directors upon the affairs of the Company, to elect a Board of Directors for the ensuing year, and to consider, generally, such business of the Company as may be presented.

ARTA CASSIDEX,

Secretary.

Dated at Toronto, this 5th day of May, A. D., 1905.

ADVERTISING SYSTEM FOR MANUFACTURERS.

Following is an illustrated article that appeared in the April, 1905, number of The Business Man's Magazine, published in Detroit, Mich., entitled "An Advertising System for a Manufacturer," contributed by Harold E. Goodhue, advertising manager for the Jenckes Machine Co., of Sherbrooke, Que., one of the largest machine manufacturing concerns in Canada. The article sets forth incidentally the advantages to the advertiser of THE CANADIAN MANUFACTURER as an advertising medium. It shows that an advertisement, for which the Jenckes Machine Co. paid \$150 for publishing one year, brought enquiries directly traced to that investment that resulted in the sale of \$12,000 worth of machinery.

Advertising, Mr. Goodhue says, has made rapid strides in Canada within the past few years, and while the advance in the volume and the quality of the advertising issued by manufacturing concerns has been slower and more conservative than that sent out by the retailers, it has yet shown marked progress.

Many of the large manufacturing firms have recently made important enlargements to their works, and are reaching out more aggressively for foreign business. This is particularly noticeable in the lines of ready-made clothing, furniture, machinery, etc.

Some manufacturers deal wholly with the consumer through selling agencies or jobbers, others have both wholesale and retail departments, while others give their attention entirely to the consumer without the middle-man.

When the goods manufactured appeal to but a comparatively small number of people, the advertiser must place his copy in just those publications which reach that class.

The manufacturing company which is taken for an example in this article turns out boilers, engines, water wheels, mining machinery, pulp-mill machinery, etc. It has, naturally, a clientele of considerable size, acquired during the lifetime of the company, and these patrons may be counted on for a relatively large stream of orders, consisting of new goods, repairs and alterations. So long as the people composing this clientele continue to get satisfaction their trade is held. It is, therefore, the new companies springing up every day whose patronage must be attracted.

The small farmer, grown prosperous as a result of his toil, decides to erect a small mill, a grist mill, for example. His order is worth getting. He will probably buy a water wheel but once in his life, but that once he will pay several hundred dollars for it.

The question is, "How to reach him?" Magazine advertising for this class of trade is practically worthless, as the cost of space is so high that a prohibitive price has to be paid to get an advertisement of sufficient size inserted, and as the ad necessarily contains a cut, it must take up an appreciable amount of space.

Few machinery ads that are set without an illustration of the machine adver-

take a prominent place. They usually have a fair circulation among the classes to which they cater, and are looked on as a convenient index of manufacturers' names. No manufacturing firm can afford to be without representation in the trade journals representing the lines which they handle.

The large contracts which mean name and money, however, have to be sought,

Name of Paper Canadian Manufacturer Published by Can. Mfr. Pub. Co. Ltd. No. 27
 Address 5 Melinda Street, Toronto, Ont.
 Contract made Nov. 15-03 Expires Nov. 15-04 Form 1/2 page Position _____
 Issued bi-monthly Rate _____ Yearly \$150 Payable Quarterly YEAR 1904

RESULTS

DATE	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV	DEC.
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11	30/0											
12												
13	3022											
14												
15	3081											
16	3000											
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
TOTALS												

Total inquiries per year 100 Cost per inquiry \$150 Sales effected \$12000 Ratio sales to inquiry 120:1

REMARKS: *Cost per inquiry high, but class of trade good, though large sales to any one person or firm were rare*

FIG. 1.

tised have any drawing power. The farmer may scarcely know a water wheel from an automobile, but he wants to see a picture of it to get even an enquiry from him. The insignificance of the results received from magazine advertising in this line renders their use inadvisable.

Nearly every family, however, takes a weekly paper, published at the county seat, and often a daily, published in a neighboring city, and the farming periodicals are also read; but the saw mill owner, the pulp company, the electric light and the power company have to be considered, and here the trade journals

not waited for. These are the new companies just starting, who want complete plants for an enterprise of considerable magnitude, such as a pulp mill, or large water power or mining development.

An invaluable assistant in getting acquainted with these companies and enterprises is a journal published in Toronto, which gives information of projects throughout the Dominion, the formation and published objects of new companies, public and private enterprises, etc., and the information contained in its columns makes it very useful.

The methods followed by this manu-

facturing company (The Jenckes Machine Co.) for securing inquiries and turning them into orders is this: At the end of each year a certain sum is set aside as an advertising appropriation for the coming year, apportioned according to the results traced to the different publications during the preceding year by means of the schemes here outlined.

A sheet (Fig. 1) is made out for each periodical when the contract for space is

Beneath the columns ruled for "Results" are spaces to be filled in at the end of the year, together with the advertiser's recommendation.

As the company occupies practically the whole of one street of the city, street numbers are used for keying. When no street number is given in an inquiry an addressed post card (Fig. 2) is enclosed with our letter, with a courteous request to acknowledge receipt of our catalogue

calling on him, and filled in as shown. They frequently prove very useful.

At the top of the card are numbers from 1 to 31, and these are used in connection with small metal pointers for the purpose of following up the inquiry at the proper dates.

His number is then entered on sheet (Fig. 1) under the proper date received, and at the end of the year the numbers on each sheet are looked up and the sales totalled and entered in the spaces provided for that purpose on the sheet.

This shows at a glance the cost per inquiry through each periodical, the average per inquiry, and the cost of selling each dollar's worth through that particular medium, or rather, the cost of influencing the inquiry to the extent of buying. This information forms the basis for the advertiser's decision regarding space in that periodical for the following year.

Personal letters are invariably used, although the first one or two letters are little else than personally written form letters, as it is comparatively seldom that the first letter from a prospective buyer gives sufficiently definite information to enable a quotation to be made.

The catalogue plays a very important part in the advertising scheme of this company, and special efforts are made to get out catalogues that will give full and explicit information about the articles they list. The bulletin system is used—Catalogue A containing all the bulletins relating to boilers, engines and pumps, bound in a substantial manner, size 6x9 inches, while each bulletin which forms a part of Catalogue A is issued separately under its own number, the number in Series A running from 100 to 199, inclusive.

This saves postage in addition to the saving in initial cost, as when a man asks for information regarding a small vertical boiler he gets the printed matter pertaining to that article, and is not bewildered by descriptions and illustrations of other kinds of boilers. When, however, he asks for information about boilers, etc., in rather an indefinite way, the complete catalogue is sent him at once.

Classified lists are made up from the card index for the different machinery lines, and are kept in a loose leaf file or binder, thus facilitating mailing when a new catalogue is got out.

So far it has been found impossible to make correspondence and advertising all-sufficient; they are as yet supplementary and preliminary to the travelling representative.

The intimate co-operation of the advertiser and the representatives is necessary for the best results, but the advertiser for the manufacturing company is daily becoming a more considerable factor in the firm's success, and is getting to be considered a necessity rather than a luxury.

Form 5-P. M-3-03.

NAME John Jones 3064

ADDRESS 31 Crescent St. Montreal

Your Catalogue No. 112 received in good order. Saw your ad. in March issue of Can. Mfr

Machinery Ads

April 2 1907

FIG. 2.

signed. This sheet is made with ample binding margin on the left, and is filed in a binder.

On this sheet appear the name of the periodical, the publisher's name and address, date of contract, its duration, form and position of ad, time of issue, rate, yearly price, when payable, and, in large figures, the year during which the contract is to run. Beneath this are twelve columns ruled vertically for the month of

on it and fill it in. This almost invariably brings the desired information, and the proper periodical is then credited with an inquiry, as shown below.

On receipt of an inquiry the card index is looked through, and if the inquirer's name does not already appear there, a card (Fig. 3) is made out, and a number allotted him. This card gives his name, address, name of the company with which he is connected (if any), his number and

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
NAME <u>Jones, John</u>																														
ADDRESS <u>31 Crescent St. Montreal</u>																														
SEE ALSO <u>Royal Mfg. Co.</u>																														
LITERATURE SENT															WROTE #															
<u>#112 3-31-04</u>															<u>4-6-04. Boiler # 810 =</u>															
<u>602 4-5-04</u>															<u>6-12-04 Crusher 400 =</u>															

Will want 125 lb. Boilers about Aug. 1-04
call at office Royal Mfg Co. in afternoon. Member R.C.Y.C

FIG. 3-1-12-13

THE JENCKES MACHINE COMPANY, SHERBROOKE, QUE.

FIG. 3.

the year, and thirty-one spaces, ruled horizontally, for the days of the month. This is headed "Results." The key number allotted the periodical occupies the right upper corner of the sheet and never changes for that periodical.

key number of the periodical responsible for his inquiry. Particulars regarding literature and correspondence sent him, and orders received from him, are shown on the lower part of card. Personal particulars are also given by the traveller

DO IT NOW!

Subscribe for

THE CANADIAN MANUFACTURER.

MACHINERY AND ENGINEERING.

ALLIS-CHALMERS-BULLOCK, LIMITED.

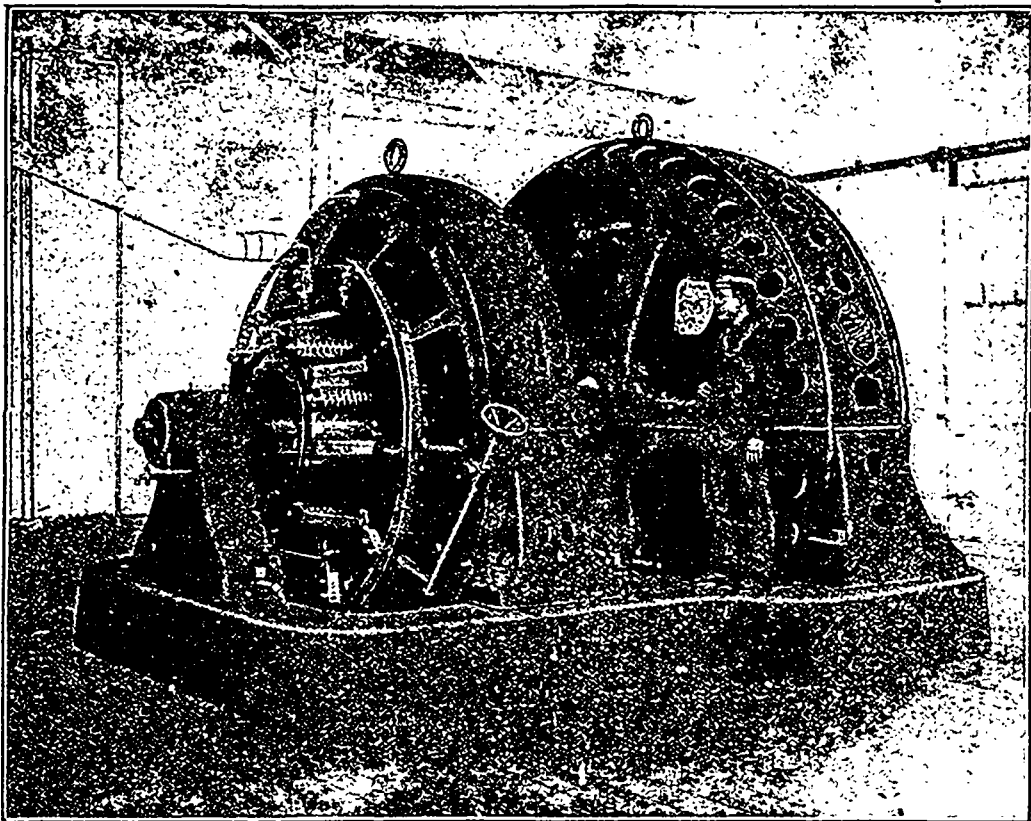
Though in existence less than a year, Allis-Chalmers-Bullock, Limited, Montreal, have already attained an enviable position in the manufacturing world. The firm recently completed their contract for the machinery necessary in the Montreal sub-station of the Shawinigan Water & Power Co., to receive the electricity amounting to 15,000 h.p. transmitted from Shawinigan Falls, 86 miles away, and to convert it to meet the requirements of the city. A description of this installation appeared in the CANADIAN MANUFACTURER of March 17. The

particular is being followed with interest by electrical engineers, for it is making valuable additions to existing data on the subject of alternating current machinery.

In the present issue there is illustrated one of two motor generator sets for the Montreal Street Railway. They will be used to convert the alternating current transmitted from Shawinigan Falls to direct current for street railway purposes. The set consists of a 750 h.p., 360 r.p.m., 2,200 volt, 3 phase, 60 cycle, induction motor, built by Allis-Chalmers-Bullock, Limited, direct connected to a 500 k.w., 600 volt Bullock street railway generator. The diameter of the motor yoke is 12 feet,

buildings on stone and cement foundations and having stone and cement piers. A narrow gauge industrial railway runs through the buildings and from one to the other, supplementing the cranes and reducing the labor of transportation.

The main machine shop, of which an interior view is also given, is 400 feet long by 100 feet wide and 35 feet high. A 20-ton travelling crane, with a span of 42 feet is shown at the far end of the building. The general arrangement is of the most approved design and affords ample light for all operations. The centre aisle is devoted to assembling some of the heavier machinery, while at the sides are installed all other machines. The power is derived



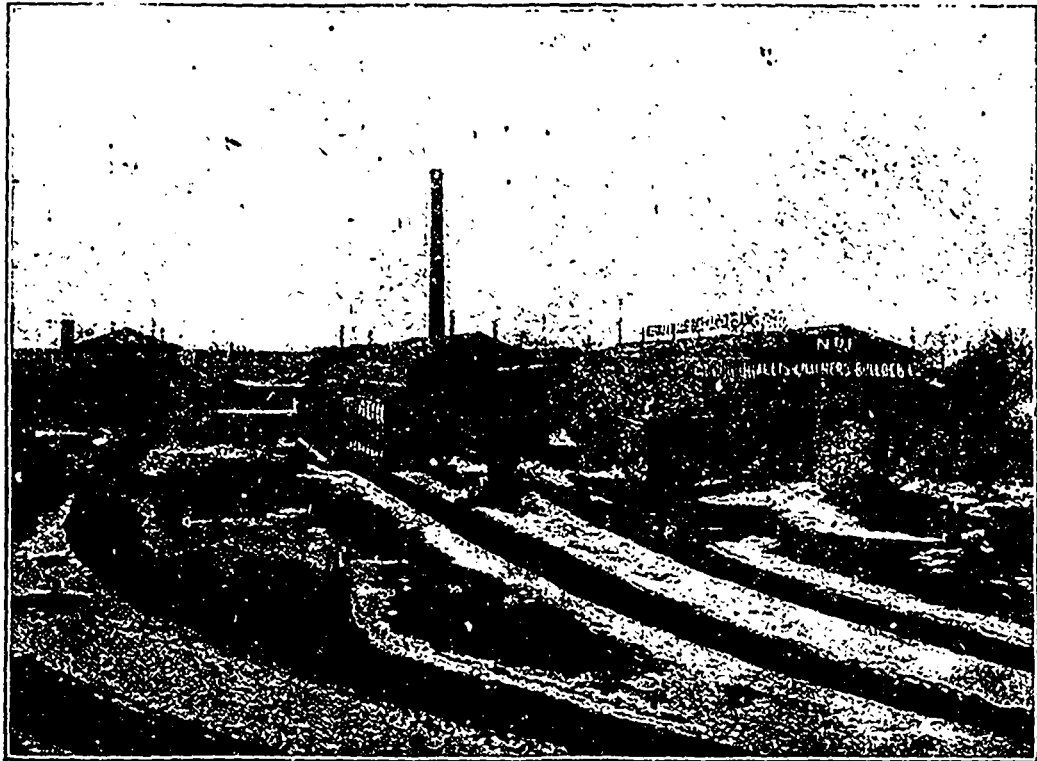
750 H.P. MOTOR GENERATOR SET FOR MONTREAL STREET RAILWAY.

portion last completed is not only the largest frequency changer ever built but it is composed of the largest alternating current generator in operation at the present time and the largest electric motor ever built. It is an 8,000 h.p. synchronous motor generator set, comprising a 5,750 k.w. alternating current generator, an 8,000 h.p. synchronous motor and a direct connected induction motor for starting purposes, all mounted on the same base. The total weight of this set is about 500,000 pounds. This set is further remarkable for concentrating over 15,000 h.p. on a comparatively small floor space. The whole plant is now in successful operation. The working of the great frequency changer in

6 inches, and the length over all is 15 feet, 6 inches. The view shows the set assembled for testing before delivery.

The works are situated on the Lachine Canal, just outside of the city limits, and having sidings both from the Grand Trunk and Canadian Pacific Railways, are well provided with transportation facilities. There are five main buildings, viz., a machine shop, blacksmiths' shop, pattern shop, foundry and power and testing building. The view taken from a photograph shows the machine shop No. 1, and the foundry No. 5, with the testing and power building between; the other buildings are in the background. They are all of the most modern type, being brick enclosed, structural steel

from a 300 h.p. Goldie & McCulloch Ideal high speed engine direct connected to a 200 k.w., 250 volt, direct current Bullock generator. A compound and compound steam compressor supplies the power for the pneumatic tools, hoists, etc. A recent addition to the equipment is a 12 ft. Niles self driven boring mill, operated by the Bullock multiple voltage system of control. In addition to these there are over 100 machine tools, embodying the latest designs in duplex and horizontal boring machines, double headed planers, slotting machines, universal milling machinery, drill grinders, radial and other power drills, boring and turning mills, threading machines and a large number of lathes. A Newton port



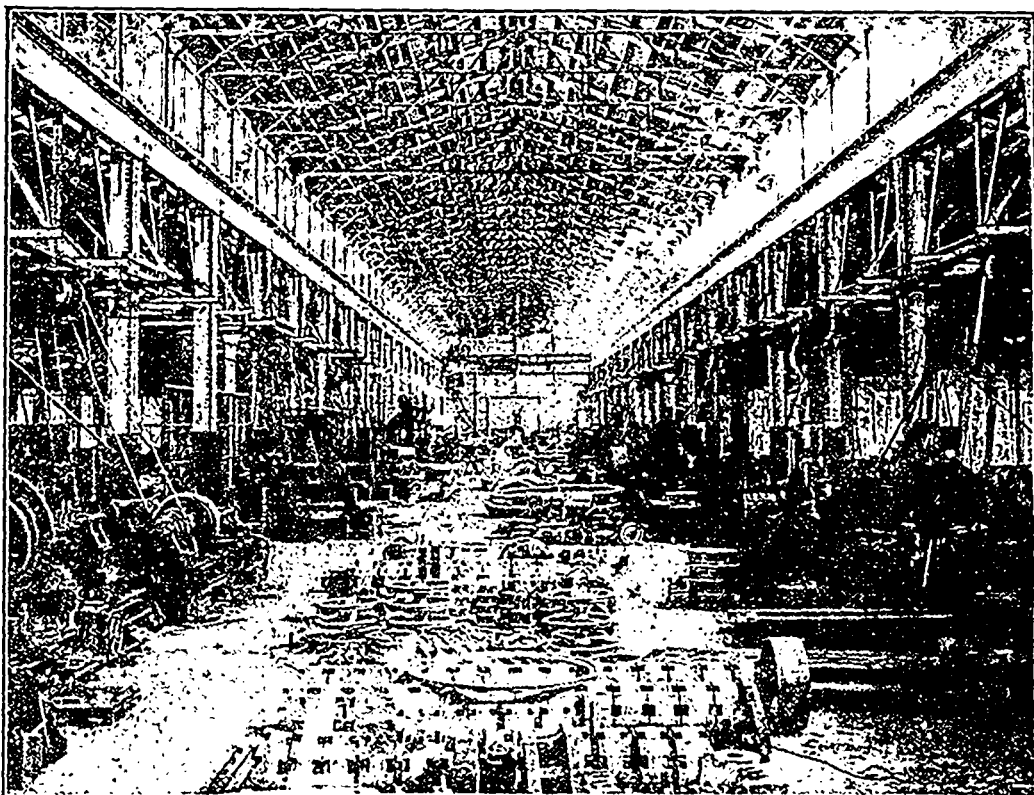
THE WORKS OF ALLIS-CHALMERS-BULLOCK, LIMITED.

able vertical milling machine is now being erected on a cast-iron floor, plate about the centre of the shop.

The power and testing building is 300 feet long by 60 feet wide with brick enclosed cement flooring. It is divided into

three parts, separated by fire walls and metal doors, one for the boilers, one for the power house, and the other for the electrical department. An interior view of the latter is given, taken from the top of the annealing oven at one end. At the

other end is shown the 750 h.p. motor generator set for the Montreal Street Railway already described. About the centre of the building is shown the 20-ton electric travelling crane, and in the foreground are shown the motor driven



MAIN MACHINE SHOP.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

punching and shearing machines. The annealing oven, from which the view is taken, is built against the wall separating this department from the power house. It has three grates and the oven gates are lifted by pneumatic power. The carriage upon which the metal to be annealed is placed, rolls on 10 inch balls set in tracks. A notable feature in connection with the oven is an electric pyrometer which enables the temperature to be read at a considerable distance. This pyrometer is the invention of Dr. Barnes and Dr. Tory, of the science faculty of McGill University, and measures the heat of the oven within five degrees in eight hundred. There is also an oven for dipping the coils in special insulating varnish and for baking them. This process is a special feature in the treatment of the windings of Allis-Chalmers-Bullock electrical machinery. The electrical engineering

by a fire brick partition from the pattern store-room.

The foundry is 200 feet by 100 feet and 35 feet high. It is of the same construction as the other buildings with a frame addition for storing castings. A 20-ton electric travelling crane facilitates casting operations and a 5 ft. auxiliary crane is also used. The cupola is a No. 6 Whiting Foundry Co., connected with a No. 8 Sturtevant fan, run by a 33 h.p. motor. A pneumatic elevator carries the cupola charge to the upper platform. About ten tons of metal are used in the daily cast. For the larger castings, such as frames of generators, etc., two large floor pits have been prepared, one 18 feet by 14 feet and 3 feet deep, and the other slightly smaller.

To comply with the underwriters' rules for fire protection an 18x10 fire pump is provided. Set up in the power room is a

Sergeant Drill Co., New York, and the Lidgerwood Mfg. Co., New York. Among the principal products are the following:

Electrical Machinery:

Alternating current—Belted, engine, fly-wheel and water-wheel types of generators; induction and synchronous motors, rotary converters, transformers.

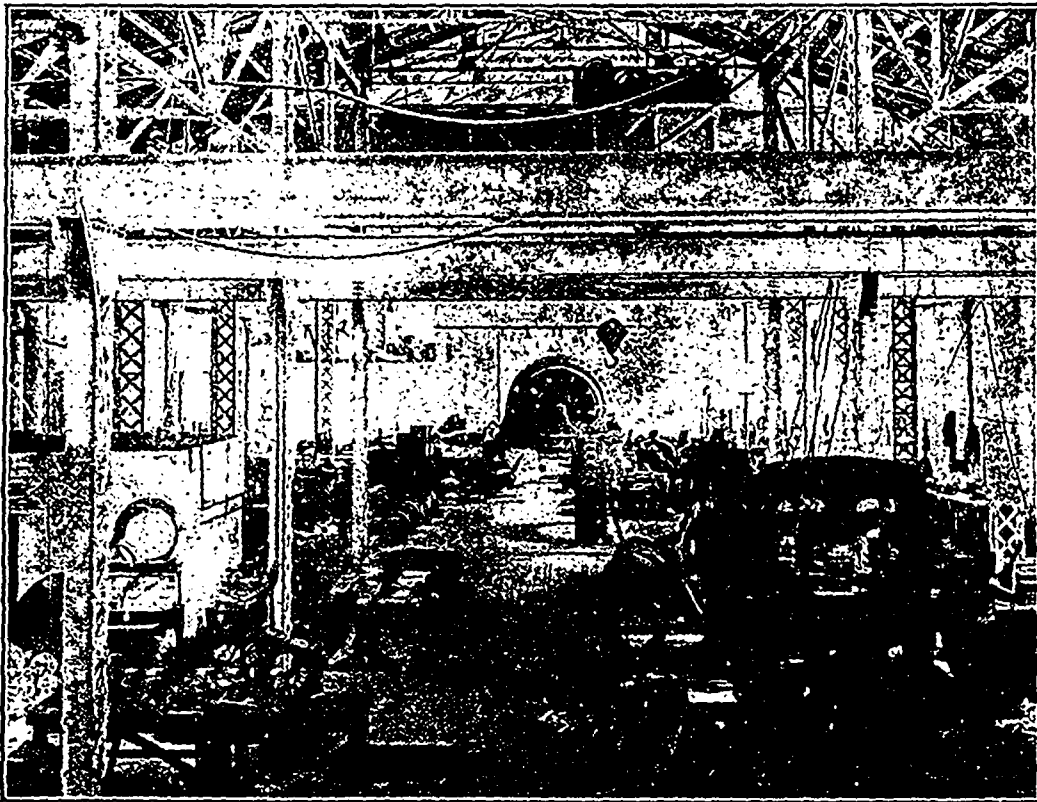
Direct current—Bullock teaser equipments for printing presses, multiple voltage balancing sets, small bipolar and multipolar motors and generators, street car equipments.

Engines:

Blowing, corliss, hoisting, pumping.

Mining Machinery:

Air compressors, cableways, coal cutters, concentrators, gyratory, rock



POWER AND TESTING BUILDING.

is in charge of Mr. H. A. Burson, M.Sc., who has made a specialty of induction motor design.

The blacksmith shop is 100 feet by 30 feet by 30 feet high, with iron clad, wood enclosed composition roof. It is equipped with forges, Bertram steam power hammers, Sturtevant fan motor, two 3-ton jib cranes with 15 feet swing, travelling on single tracks.

The pattern shop adjoining the smithy is 170 feet by 60 feet by 20 feet, with wood flooring. The power is derived from a direct current motor. It is fitted with band saws, pattern makers' lathes, buzz planers, pony planer, rip and cross-cut saw tables, etc. The building is divided

complete Sturtevant heating system, consisting of two 170-inch housing fans direct connected to 10x12 horizontal engines and two 11-section heaters with 80 nine-foot pipes in each section. In the boiler room are two return tubular boilers of 100 h.p. and a Babcock & Wilcox 200 h.p., together with a 200 h.p. Laurie heater. These supply heat for all the buildings, as well as the steam for power.

The scope of the products of the company is very broad for they have secured the rights to manufacture in Canada machinery of the Allis-Chalmers Co., Milwaukee; Bullock Electric Mfg. Co., Cincinnati, Ohio; the Ingersoll-

and ore crushers, hoisting engines, rock drills, roasting and smelting machinery, stamp mills.

Saw Mill Machinery:

Circular saws, double and single cutting band saws, edgers, filing room tools, lath mills, log jacks, rollers and turners, set works, slashers, trimmers.

Flour Mill Machinery:

Roller mills, corn mills, feed mills, bolters, purifiers, screens.

Cement, crushing and contractors' plants.

ADVERTISE IN
THE CANADIAN MANUFACTURER

CAPTAINS OF INDUSTRY.

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

The new Home Bank building of which Mr. Beaumont Jarvis is the architect, to be erected on the north side of King Street, Toronto, will be of reinforced concrete and when finished will be as handsome as natural stone. The design for this front alone, if executed in natural stone would, Mr. Jarvis says, cost about \$30,000, whereas in concrete it will only cost a little over \$3,000 or just one tenth of the cost of natural stone. Mr. Jarvis is also building a house for himself of the same material, and an office building for the Canada Foundry Co. This method of building does away with nearly all skilled labor and is nearly all done by machinery.

The Expanded Metal & Fireproofing Co., Toronto, have purchased the Canadian rights of the Jarvis system of reinforcing concrete beams, columns, etc., recently patented by Beaumont Jarvis, architect, of Toronto. The invention consists of combining a number of flat steel bars increasing in length, located one above the other, and provided with end lips, the shorter bars being placed intermediate of the longer ones, stirrups with end lips, properly spaced and set oblique, and inclined towards the end of the beam. It is claimed that at least 27 per cent. of metal is saved in the arrangement and distribution of this bar over that of any other system where the rods do not diminish in proportion to the strain to which the beam may be subjected. In the Jarvis beam the cross section of metal is greatest in the centre of the beam, where the greatest bending or tension of the truss is located.

The Andrew Malcolm Furniture Co., Kincardine, Ont., have been incorporated with a capital of \$100,000, to manufacture furniture, lumber, etc. The provisional directors include Andrew Malcolm, Jas. Malcolm and J. B. Watson, Kincardine.

The General Development & Securities Co., Toronto, have been incorporated with a capital of \$40,000, to erect public or private works, etc. The provisional directors include P. F. Cronin, W. B. Milliken and H. A. Clark, Toronto.

Michie & Co., Limited, Toronto, have been incorporated with a capital of \$100,000, to manufacture goods, wares, merchandise, etc. The provisional directors include J. F. Michie, C. H. S. Michie, and C. E. Stone, Toronto.

The Michigan & Ontario Oil Co., a United States incorporation, have been licensed to produce and refine petroleum and other oils, etc. in Ontario with a capital of \$40,000. A. R. Bartlet, Windsor, Ont., is their attorney.

The Galt Down Draft Furnace Co., Galt, Ont. have changed their name to the Down Draft Furnace Co., Limited.

The Chatham Bent Goods Co., Chatham, Ont., have been incorporated with

a capital of \$50,000, to manufacture carriage, wagon, cutter and sleigh wood-work and bent goods, etc. The provisional directors include S. J. Sullivan, Glencoe, Ont., Archibald Park, and J. M. Park, Chatham.

The Detroit Oil Exchange, a United States incorporation, have been licensed to produce oils, gas, etc., in Ontario with a capital of \$30,000. W. A. Brake, Leamington, Ont., is their attorney.

Messrs. Wilson Bros., Limited, Collingwood, Ont., have been incorporated with a capital of \$75,000, to acquire the business of Wilson Bros., and to manufacture doors, sashes, lumber, etc. The provisional directors include Daniel Wilson, Abraham Matts and H. A. Currie, Collingwood.

The Manitou Oil & Gas Co., Toronto, have been incorporated with a capital of \$1,000,000, to manufacture and refine oil, gas, salt, etc. The provisional directors include Pascal Poirier, Shediac, N.B., F. H. Silk, Shelburne, Ont., and John Costigan, Ottawa.

The Windsor Lumber Co., Windsor, Ont., have been incorporated with a capital of \$100,000, to manufacture lumber etc. The provisional directors include Jas. Grafton, Dermont, Ark., Thos. Watson and J. A. Straith, Windsor.

Messrs. Wm. Clark & Sons, Limited, Dundas, Ont., have been incorporated with a capital of \$40,000, to manufacture tweeds, flannels, felts, etc. The provisional directors include Wm. Clark, Frederick Clark, Dundas, and J. L. Clark, West Flamboro, Ont.

The Taylor Forbes Co., Guelph, Ont., have just put into operation their new plant for the manufacture of radiators, boilers, engineers supplies, pipe fittings, etc. It is one of the largest of the kind in Canada and will be an important factor in this line of work.

The Biggs Fruit & Produce Co., Burlington, Ont., have been incorporated with a capital of \$20,000, to carry on a fruit packing business, etc. The provisional directors include A. C. Biggs, W. T. Biggs and L. E. Biggs, Burlington.

The Toronto Cream & Butter Co., Limited, Toronto, have been incorporated with a capital of \$60,000, to manufacture dairy and farm products, etc., and to acquire the business of the Toronto Cream & Butter Co. The provisional directors include W. A. Clark, Harry Webb and W. H. M. Bruce, Toronto.

Messrs. Homer & Co., Limited, Gravenhurst, Ont., have been incorporated with a capital of \$50,000, to acquire the business of Homer & Co., and to operate steam boats, etc. The provisional directors include Robert Wade, Orillia, G. H. Homer and Geo. McJannett, Gravenhurst.

Novel-ti, Limited, Peterborough, Ont.,

have been incorporated with a capital of \$40,000, to manufacture textile fabrics, haberdashery, cottons, etc. The provisional directors include W. W. Livingston, A. G. Ross and J. M. Ewing, Toronto.

The Canadian General Electric Co., Toronto, will increase their capital from \$3,000,000 to \$5,000,000.

The Canadian Elgin Watch Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture watches, clocks, etc. The provisional directors include Wm. Worthington, W. M. Wallace and W. F. Bonsall, Toronto.

Messrs. Harris & Barry, Limited, Ottawa, have been incorporated with a capital of \$20,000, to manufacture furniture, etc. The provisional directors include R. P. Harris, W. N. Barry and R. G. Harris, Ottawa.

The Atikokan Iron Co., Toronto, have been incorporated with a capital of \$1,000,000, to carry on a mining, milling, and reduction business. The provisional directors include J. S. Lovell, Wm. Bain, and Robt. Gowans, Toronto.

The two blast furnaces of the Algoma Steel Co. (Lake Superior Corporation) at Sault Ste. Marie, Ont., have been making good outputs. The coke furnace, which is 80 x 15½ feet and rated at 250 tons a day, produced 306 tons in 24 hours one day last week. The charcoal furnace has an output of 130 to 140 tons a day. In the rail mill a recent record was 649 tons in 24 hours. The rails now being rolled for the Canadian Pacific railroad conform to a strict specification both as to chemical and physical requirements. Thus far the company's seconds have not been of sufficient tonnage to fill its orders for seconds. Minnesota ores and Pocahontas coke are used in the Algoma Steel Co.'s blast furnaces. The company's own Helen mine will ship this year to Ontario and Ohio ports, the estimated output being 240,000 tons. A second ore bridge will be erected in the furnace yard, the contract having been taken by the Wellman-Seaver-Morgan Co., Cleveland, Ohio.

The Canadian Heating & Ventilating Co., Owen Sound, Ont., will erect an addition 90x55 feet to their works.

The Firstbrook Box Co., Penetanguishene, Ont., have purchased through John J. Gartshore, Toronto, a standard guage engine. This engine was formerly used on the Manhattan Elevated Railway and is well suited for handling cars in a yard.

The Canadian Westinghouse, Co., Hamilton, Ont., have sold a 500 K.W. enclosed type turbo-generator unit to the Canadian Pacific Railway. This unit is to be installed at Fort William, Ont., on the Canadian Pacific and to be used for supplying power to the various grain elevators at that point. The unit is to operate 3 phase, 600 volt, 7,200 alternations, 3,600 r.p.m.

The Government steamer Scout, at Kingston, Ont., was destroyed by fire, caused by an explosion of a tank containing acetylene gas, April 18. Loss about \$50,000.

The Colonial Lumber Co., Ottawa, have been incorporated with a capital of \$100,000, to manufacture lumber, furniture, etc. The provisional directors include E. J. Chamberlin, J. W. Smith and C. J. R. Bethune, Ottawa.

Mr. K. L. Aitken, consulting engineer, Toronto, is laying out the power equipment for the new Brampton factory, of the Copeland-Chatterson Co., Toronto.

The contract for the installation of the pneumatic tube system in Toronto and Montreal, has been awarded to the Toronto Pneumatic Tube Co.

The Maunel House, at Listowel, Ont., was destroyed by fire April 18. Loss about \$4,000.

The Arthur Hotel, at Wallaceburg, Ont., was destroyed by fire April 18. Loss about \$15,000.

The Murphy Iron Works, Detroit, Mich., have been licensed to do business in Canada, with a capital of \$40,000, and have established a plant at Walkerville, Ont., for the manufacture of the Murphy automatic smokeless furnace. A number of these stokers are now in operation in Canada, among the buildings being equipped are the Union Station, Toronto, the Sherwin-Williams Co. plant, and the Bank of Montreal, at Montreal. The company have opened sales offices in the Board of Trade Building, Toronto, in charge of Mr. M. C. Huyette.

The Guelph Spring & Axle Co., Guelph, Ont., have increased their capital from \$20,000, to \$100,000.

The R. Watt Machine Works, Ridgetown, Ont., have been incorporated with a capital of \$50,000, to manufacture threshing and bean cleaning machines, implements, etc. The provisional directors include Richard Watt, W. J. Taylor, and C. R. Gammage, Ridgetown.

The Alvinston Canning Co., Alvinston, Ont., have been incorporated with a capital of \$40,000, to carry on a fruit and herb canning business, and to manufacture vinegar, syrup, etc. The provisional directors include D. H. Newcombe, A. E. Ketch, and T. A. G. Gordon, Alvinston.

The I. X. L. Laundry, Ltd., Toronto, have been incorporated with a capital of \$40,000, to carry on the business of laundrymen, dyers, clothing manufacturers, etc. The provisional directors include John Gardner, Robt. Gardner, and A. I. Gardner, Toronto.

Hawkins, Ltd., Hamilton, Ont., have been incorporated with a capital of \$40,000, to manufacture chemicals, drugs, stationery, etc. The provisional directors include H. E. Hawkins, E. M. Hawkins, and Jasper Hawkins, Hamilton.

The Napanee Canning Co., Napanee, Ont., have been incorporated with a capital of \$100,000, to carry on a fruit and vegetable canning business, and to acquire the business of W. A. Carson. The provisional directors include W. A. Carson, J. E. Caldwell, Belleville, Ont., and Thos. Symington, Napanee.

The Smith Stacker & Feeder Co. of Hamilton, Ltd., Hamilton, Ont., have

been incorporated with a capital of \$40,000, to manufacture agricultural implements, threshing machines, pneumatic straw-stackers, etc. The provisional directors include H. W. Smith, M. F. Smith, jr., Glanford, Ont., and J. P. Stanton, Hamilton.

The Fairgrieve Mfg. Co., Toronto, have been incorporated with a capital of \$40,000, to carry on a mining, smelting, casting, forging business, etc. The provisional directors include T. S. Baker, H. W. MacMahon, and W. F. Godfrey, Toronto.

The ratepayers of Whitby, Ont., have voted favorably on a by-law granting \$25,000 bonus to the Keystone Sugar Co., for the establishment of a beet sugar factory there.

The Meriden Britannia Co., manufacturers of silverware, etc., Hamilton, Ont., will make extensive alterations to their plant.

Messrs. D. Conboy & Co., Toronto, manufacturers of carriage tops etc. will erect a new factory building on the Don Esplanade at a cost of about \$60,000.

The varnish department of the factory of the Palmer Piano Co., at Toronto, was destroyed by fire April 27. Loss about \$40,000.

The warehouse occupied by the Eby, Blain Co., wholesale grocers, and the Craig, Cowan Co., glove manufacturers at Toronto, was damaged by fire April 23. Loss about \$12,000.

W. C. Harrison's saw mill, shingle mill and electric light plant at Norwood, Ont., were destroyed by fire April 21. Loss about \$8,000.

The Oshawa Canning Co.'s factory at Oshawa, Ont., was destroyed by fire April 27. Loss about \$27,000. Rebuilding operations will be commenced at once.

The Butchart Bros. Hardware Co.'s warehouse at Owen Sound, Ont., was destroyed by fire April 20. Loss about \$50,000.

The Sarjeant Co., Limited, Barrie, Ont., have been incorporated with a capital of \$50,000, to acquire the business of The Sarjeant Co., at Barrie and Orillia, Ont., and to manufacture lumber, shingles, contractors' supplies, etc. The provisional directors include Walter Sarjeant, Samuel Sarjeant, Barrie, and W. A. Sarjeant, Orillia.

The contract for 36,000 feet of cast iron tubing, 10 inches in diameter, to be used in the installation of the pneumatic postal tube system in Toronto, has been awarded to the Alex. MacLaren Co., Glasgow, Scotland, at \$1.50 per foot.

F. W. Stair, Toronto, has purchased a site on the northeast corner of Bay and Adelaide Streets upon which he will erect a large theatre.

Mr. M. J. Haney, construction contractor and manufacturer of structural iron, etc., is applying to the City of Toronto, for a lease of 25 acres of land on Ashbridge's marsh upon which he will locate his industry which is now in New Brunswick. Cribbing work will have to be done at a cost of about \$75,000 before

the new buildings can be erected and Mr. Haney estimates that \$750,000 would be spent before he is ready to do business. About 200 hands will be employed at the start.

Messrs. R. O. & A. B. Mackay, Hamilton, Ont., have in course of construction in the Old Country a large freighter for the lake trade. It will be 257 feet long, with a beam of 48 feet, and will be able to carry 4,000 tons on the lakes. Her speed will be 13 miles an hour.

Another big gusher oil well was struck a few days ago by the New York syndicate on the farm of Edgar Smith, near Leamington, Ont.

The Sharples Tubular Separator Co., West Chester, Pa., are considering establishing a Canadian plant in Brantford, Ont.

An addition will be built to the Queen's hotel at London, Ont.

The Cuban Realty Co., Toronto, have been incorporated with a capital of \$250,000, to carry on the business of a land development and improvement company. The provisional directors include J. J. Milliken, B. D. Cole and J. C. Wilgar, Toronto.

The new plant for the manufacture of tarred building paper at Sault Ste. Marie, Ont., invented and built by A. E. Millington, superintendent of the Sault Ste. Marie Pulp Paper Co.'s mill, commenced operations May 1. The run was successful from the start, even though the plant is new to employes. The mill will be run continuously. Its capacity is 20 tons daily. The plant is said to be the only one for the manufacture of tarred paper in Ontario.

The Traders' Bank, Toronto, have been granted permission to erect a fifteen story banking and office building at a cost of \$750,000. It will be 100x90 feet and 175 feet high and will be the largest of its kind in Toronto. It will represent the most modern methods of building construction, one new idea being a series of doors on each floor, which at a certain degree of heat will close automatically and shut off the elevators and stairways from the remainder of the building. With these in operation the entire building might burn, if it were not fireproof, and the inmates could pass to the stairway and elevator without danger. A stand pipe will extend to the roof of the building, and the projectors claim that with their own equipment they can fight any fire, not only in their own building, but in those surrounding it as well. Apparatus to filter the air for the building and to collect the dust by a vacuum process is also proposed.

The Diamond Flint Glass Co., Toronto, will establish a glass factory in Hamilton, Ont., which will give employment to about 150 men.

The Kerby House at Brantford, Ont., will be remodelled at a cost of \$10,000.

The Canadian Pacific Railway Co. contemplate making improvements to their plant at Toronto Junction this summer. Owing to the increasing business it has been found necessary to enlarge the round-house, where the engines are at

commodated. In order to do this the present wrecking shop will be transferred into an auxiliary round-house, and a new wrecking shop built to the east of the machine shop. A new store-house will also be erected. There will be an extension of the yards made to the west, taking in a large block of land where they propose erecting a large boiler shop.

The Montreal Suspender & Umbrella Co., Montreal, are considering the establishment of a branch factory at Ottawa.

The City Council of Stratford, Ont., have agreed to give the Canadian Pacific Railway Co. \$30,000 to purchase the right of way through the city.

The Wilkinson Plow Works, Toronto Junction, Ont., will be greatly enlarged.

The James Smart Mfg. Co., Brockville, Ont., have secured the contract for the heating and ventilation of the new school building to be erected at Riverside, N.B. Four No. 30 Kelsey generators will be used.

The John Bertram & Sons Co., Dundas, Ont., have recently supplied the Dodge Mfg. Co., Toronto, with one of their new patent head high speed turret manufacturing lathes, for the rapid production of duplicate work.

The Salvation Army Corps will erect a barracks at Galt, Ont., at a cost of \$9,000.

Messrs. Smith & Wilby will start a foundry at Toronto for the manufacture of steel castings.

The ratepayers of Listowel, Ont., have voted favorably on the by-law to sell to D. Hibner & Co., of Berlin, the town's interest in the chair factory and fixing the assessment for 10 years on the old property and additions to be built at \$14,000.

The Shurly & Dietrich Saw Works, at Galt, Ont., will be enlarged.

The Down Draft Furnace Co., Galt, Ont., will enlarge their plant at a cost of \$100,000.

La Compagnie de Chaussures, A. Lajoie, St. Liboire, Que., have been incorporated with a capital of \$20,000, to manufacture leather, and to carry on a tanning business, etc. The provisional directors include F. X. Lajoie, jr., P. S. Beaugard, and Alex. Lajoie, St. Liboire.

The La Reina Mineral Water Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture mineral and aerated waters, cigars, tobacco, etc. The provisional directors include A. Hamelin, L. Hamelin, and J. Leprohon, Montreal.

S. Hyman, Ltd., Montreal, have been incorporated with a capital of \$20,000, to acquire the business of S. Hyman, and to manufacture tobacco, smokers' articles, etc. The provisional directors include Thos. Reid, Westmount, Que., W. J. White and A. W. P. Buchanan, Montreal.

The Canadian Pacific Railway Co., have placed with Allis-Chalmers-Bullock, Ltd., Montreal, an order for four Lidgerwood, 25-ton pull rapid unloaders. Among modern devices for reducing the cost of railway construction the rapid

unloader takes a leading place. It is a compound geared winding engine of two sizes—25-ton pull and 60-ton pull—mounted on ordinary flat cars and supplied with steam from the locomotive. The engine of the smaller size just purchased by the Canadian Pacific Railway Co., has double 10x12 inch cylinders, is capable of exerting a direct pull on the cable of 25 tons, and of drawing in the same at the rate of 125 feet per minute. The drum is 41 inches diameter, and is grooved for 1½ inch cable. This new device is in strong contrast to the old method of drawing the plow by use of locomotives. It can be operated by any locomotive strong enough to pull the train. By actual test two mogul locomotives failed to unload by the old method a trainload of frozen clay after trying for three hours. The rapid unloader with an ordinary locomotive unloaded an identical train in seven minutes. The Canadian Pacific Railway Co. have already fifteen of these machines in operation—one of them working at Westmount, Que., unloads a train of twenty-five standard flat cars in nine to ten minutes.

The Montreal Cement Co., Montreal, have been incorporated with a capital of \$500,000, to manufacture Portland cement, bricks, blocks, tiles, etc. The provisional directors include Jas. Morgan, T. M. Morgan, and C. D. Morgan, Montreal.

Messrs. Brown Bros., Ltd., Montreal, have been incorporated with a capital of \$20,000, to carry on a meat packing and canning business, etc. The provisional directors include Christopher Hartley, E. F. Surveyer and Douglas Armour, Montreal.

The St. Lawrence Floating & Wrecking Co., Montreal, have been incorporated with a capital of \$200,000, to build and repair vessels, and to build dry docks, etc. The provisional directors include J. W. Harris, F. X. Durand, and T. Lessard, Montreal.

The Canadian Scale Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture scales, balances, weighing machines, etc. The provisional directors include L. A. Wheeler, G. D. Fyfe, and J. A. Ewing, Montreal.

The Canadian Manufacturing Co., Montreal, have been incorporated with a capital of \$40,000, to manufacture machinery, electrical devices, appliances, etc. The provisional directors include L. Rubenstein, E. Goodwill, Montreal, and A. D. Gall, Westmount, Que.

The Pineo-Dowson, Co., Montreal, have been incorporated with a capital of \$100,000, to carry on the business of manufacturing chemists, etc. The provisional directors include R. P. Pineo, C. K. Dowson, Westmount, Que., and G. A. Pattinson, Montreal.

The Roman Catholic convent at Genevieve, near Montreal, was destroyed by fire April 21. Loss about \$20,000.

La Compagnie d' Aqueduc de Richelieu, Richelieu, Que., have been incorporated with a capital of \$20,000, to carry on the business of a waterworks com-

pany. The provisional directors include H. A. Bergeron, J. P. Leduc and D. A. Fontaine, Marieville, Que.

Messrs. Butterfield & Co., Rock Island, Que., manufacturers of taps and dies, have recently added to their line a stock of hand and bridge reamers, and are also prepared to furnish special reamers of any shape and up to 24 inches in length. They have commenced the manufacture of an adjustable pipe die and stock of improved design, by which the cutting size can be varied to suit the irregularity in fittings. For some time they have been running 60 hours a week, and we are advised that during a recent week their shipments were to points all over the globe.

The new Immigration Hospital, Quebec city, was destroyed by fire April 28. Loss about \$30,000.

Mr. C. Desjardin's foundry and threshing machinery plant at St. Andre, Kamouraska, Que., were destroyed by fire April 25. Loss about \$150,000.

The Hamilton Powder Co.'s mixing and grinding mills at Windsor Mills, Que., were destroyed by an explosion, April 26.

The warehouse of J. R. Walker & Co., dealers in paper, rags, and scrap metals, at Montreal, was destroyed by fire April 22. Loss about \$25,000.

N. Wallot's business block at Valleyfield, Que., was destroyed by fire April 20. Loss about \$18,000.

While drilling for oil at Gamashihe, Que., near Montreal, a strong flow commenced at a depth of 280 feet.

Arthur Piers, manager of the Canadian Pacific Railway steamship lines, who has returned from England, where he arranged details for two vessels the company will put on the Atlantic route next summer, says that the first steamer will make her maiden voyage in May, 1906, and the second will follow some time during June of the same year. The new steamers will be 570 feet long, with beam 65 feet 6 inches and depths of hold 40 feet 6 inches. Maximum draught of water loaded will be about 28 feet. The vessels will have two funnels and be fitted with quadruple expansion engines, embodying every known improvement in the reciprocating type.

The Canadian Bank of Commerce, Montreal, will erect a new banking and office building, three stories high, in that city at a cost of \$1,500,000. Messrs. Darling & Pearson, Toronto, are the architects.

The Eastern Townships Bank will erect a new building in Montreal eight stories high, at a cost of about \$300,000.

The John McDougall Caledonian Iron Works Co., Montreal, have been awarded the contract for the new 6,000,000 gallon pumping engine for the high level station at Toronto. The engine will be of the Holly type, with box girder frames, will be fitted with Babcock & Wilcocks boilers and will cost \$43,947.

The Lake of the Woods Milling Co., Montreal, will build two new mills, one at Montreal and the other at Winnipeg, Man. The Montreal mill is to have a capacity of 40,000 barrels of flour a year

and the Winnipeg mill 50,000. At the present time the company is in a position to turn out 50,000 barrels so that the total output, when the proposed new mills are constructed, will be about 140,000 barrels a year.

The Dominion Coal Co., Glace Bay, N.S., recently placed an order with Allis-Chalmers-Bullock, Limited, Montreal, for eleven new Ingersoll coal cutters. The company had already 175 of these machines in operation.

The Electric Reduction Co., Buckingham, Que., are in the market for second-hand direct current generators and motors.

The municipalities of Richmond and Sweetsburg, Que., are considering the advisability of installing acetylene plants to light their streets.

The Government contractors have started operations on the building of the new feeder walls at the entrance of the Beauharnois Canal at Valleyfield, Que. The masonry walls are being taken down to allow the enlargement of the feeder, which will be rebuilt in concrete. These repairs will cost about \$30,000.

Among recent contracts awarded to Allis-Chalmers-Bullock, Limited, Montreal, were:—Three 450 h.p. induction motors, one 100 h.p. induction motor, rope driven, for use in the Royal and Glenora Mills of the Ogilvie Milling Co.; six type E 24 Ingersoll-Sergeant Rock Drills for the British Columbia Copper Co.; two Ingersoll-Sergeant sub-marine drills for the Montreal Harbor Commissioners; one Gate's K crusher, with engine and other equipment, to Michael Connolly for his contract at St. Raymond, Que.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., shipped their first cargo of pig iron from Sydney mined furnaces this season on April 25, by the Micmac for Philadelphia.

Mr. Horace Mayhew, president of the Cape Breton Coal, Iron & Railway Co., has completed arrangements for the building of a new town in Cape Breton, to be called Broughton. The town will be situated about eighteen miles from Sydney. A staff of engineers is now at work laying out its location, water pipes, etc. Work has already begun on a large hotel, which will be owned and managed by the company. The work of grading the railway from the pit mouth to the junction with Sydney and Louisburg Railway at Homeville, is complete and rail laying has begun. The company will probably ship over the Dominion Coal Co.'s road to Louisburg until their own line and pier are completed.

James Ready, Ltd., Lancaster, N.B., have been incorporated with a capital of \$50,000, to acquire the business of James Ready, and to manufacture malt, liquors, etc. The provisional directors include Jas. Ready, and T. L. Ready, Lancaster.

The Chatham Cooperage Co., Chatham, N.B., have been incorporated with a capital of \$5,000, to manufacture barrels, shooks, etc. The provisional directors include J. L. Stewart, R. A. Murdoch, and C. D. Ruddock, Chatham.

The Canada Woodware Co., Hampton, N.B., have been incorporated with a

capital of \$24,000, to manufacture woodenware, tubs, pails, shooks, etc. The provisional directors include T. W. Barnes, W. J. Brown, Hampton, and G. C. Welton, St. John, N.B.

The A. L. Wright Lumber Co., Salisbury, N.B., have been incorporated with a capital of \$75,000, to acquire the business of Alex. Wright & Co., and to manufacture lumber, etc. The provisional directors include L. A. Wright, Salisbury, J. E. Price, Norton, N.B., and J. E. Slipp, Sussex, N.B.

The Flood Piano & Organ Co., St. John, N.B., have been incorporated with a capital of \$5,000, to manufacture pianos, musical instruments, etc. The provisional directors include E. H. S. Flood, E. J. Neve, and T. J. Flood, St. John.

The City of Moncton, N.B., has ordered a 450 h.p. Corliss engine, for direct connection to electric generator, from the Robb Engineering Co., Amherst, N.S.

The Skiff Lake Mfg. Co., Hawksbaw, N.B., have been incorporated with a capital of \$25,000, to manufacture lumber, etc. The provisional directors include H. W. Shaw, J. F. Allan, Hawksbaw, and G. S. Ingraham, Southampton, N.B.

The F. B. Edgecombe Co., Fredericton, N.B., have been incorporated with a capital of \$65,000, to acquire the business of F. B. Edgecombe, and to generate electricity, power, etc. The provisional directors include F. B. Edgecombe, A. W. Edgecombe and G. S. Clarke, Fredericton.

J. E. Wilson, Ltd., St. John, N.B., have been incorporated with a capital of \$40,000, to acquire the business of the St. John Foundry Co., and to manufacture iron, steel, hardware, etc. The provisional directors include J. E. Wilson, Chas. Cobham, and W. D. Thompson, St. John.

The Presbyterian church at Campbellton, N.B., was destroyed by fire April 23. Loss about \$5,000.

Messrs. L. S. Higgins & Co., Moncton, N.B., have purchased the Redding shoe factory and plant, and will put same in operation shortly.

The contract for the rebuilding of Red Bank bridge, over the north-west Miramichi River, Northumberland County, N.B., has been given to D. J. McLaughlin, of Mill Cove, N.B. The new bridge will be a seven span covered bridge, each span being 140 feet long. The contract price is \$15,000.

The Western Co-operative Construction Co., Winnipeg, Man., have been incorporated with a capital of \$20,000, to manufacture contractors' and builders' supplies, etc. The provisional directors include E. Marchetti, S. Cossavella, and D. Volpatti, Winnipeg.

The Arabian Medicine Co. of Canada, Carberry, Man., have been incorporated with a capital of \$50,000, to manufacture drugs, medicines, etc. The provisional directors include A. E. Munson, T. D. Stickle, and R. M. Harrison, Carberry.

The Case, Chandler Co., Winnipeg, Man., have been incorporated with a capital of \$50,000, to manufacture lum-

ber, shingles, doors, etc. The provisional directors include W. K. Chandler, J. C. Grabam, and T. R. Case, Winnipeg.

Warner's, Ltd., Brandon, Man., have been incorporated with a capital of \$40,000, to manufacture stationery, etc. The provisional directors include Wm. Warner, H. J. T. Hill and G. G. Newton, Brandon.

The Western Canada Lumber & Fuel Co., Brandon, Man., have been incorporated with a capital of \$40,000, to manufacture furniture, doors, sashes, etc. The provisional directors include Alexander McEachern, R. J. McKee and W. C. Steadham, Brandon.

W. J. Tudge, is removing his pork packing plant, from Wapella, N.W.T., to Regina, Assa. He will erect an abattoir in that city at a cost of \$10,000.

Messrs. Carey & Co., Winnipeg, Man., have been incorporated with a capital of \$10,000, to carry on a general warehousing and manufacturing business. The provisional directors include J. E. Duane, J. P. Taylor, and T. G. Wells, Montreal.

The congregation of the Fort Rouge Methodist church, at Winnipeg, Man., will build an addition to the school building at a cost of \$20,000.

The Canadian Pacific Railway Co.'s freight sheds at Moose Jaw, N.W.T. were destroyed by fire April 25. Loss about \$15,000.

The ratepayers of Regina, N.W.T., have voted favorably on a by-law to raise \$160,000 for electric light, waterworks and sewer purposes.

Messrs. Henalt & Hesserman, Montreal, have secured the contract for excavating and pipe-laying for the new waterworks at Portage la Prairie, Man., at a cost of \$95,000.

A police station will be erected in Winnipeg, Man., at a cost of about \$200,000.

Mr. F. W. Thompson, vice-president and managing director of the Ogilvie Flour Mills Co., Montreal, and others contemplate the formation of a company with a capital of \$10,000,000 to \$12,000,000, for the purpose of building from 300 to 500 elevators throughout the Canadian North-West. These elevators are to be of the most modern and up-to-date type, possessing the greatest possible facilities for the farmers. It is understood that this company will be allied with the Ogilvie interests. It is also proposed to erect one or possibly two large flour mills in Great Britain, the whole to be under the direction of Mr. Thompson.

Messrs. Turner & McMichael will build a 100 barrel flour mill at Melfort, Sask.

The town of Wolseley, Assa., is offering a bonus of \$3,000 to any responsible party who will erect a 75 barrel mill there.

Messrs. Hope & Pearson, Grand View, Man., who now operate a 35,000 bushel elevator, will erect a 150 barrel flour mill at that place.

The Roman Catholics of St. Charles Parish at Winnipeg, Man., will erect a new church building at a cost of \$12,000.

Messrs. Taggart Bros., Winnipeg, Man., will erect a new factory for the manufacture of ornamental iron work.

Mr. James Stuart, president of the Stuart Machinery Co., Winnipeg, Man., has purchased the northern half of Miller & Morse's old warehouse in that city, and intends fitting up a modern electrical supply house to meet the requirements of the West. He has purchased the stock of the E. S. Harrison Electrical Co. The company will be incorporated under the name of the James Stuart Electric Co., Ltd.

Peter Birrell, Ltd., have been incorporated at Victoria, B.C., with a capital of \$15,000, to carry on a fish packing and preserving business.

The British Columbia Leather Co., have been incorporated at Victoria, B.C., with a capital of \$50,000, to manufacture leather, hides, saddlery, etc.

The H. A. Edgett Co., Ltd., Vancouver, B.C., have been incorporated, with a capital of \$40,000, to acquire the business of H. A. Edgett & Co., and to carry on a general canning business, etc.

The Surf Inlet Power Co., have been incorporated at Victoria, B.C., with a capital of \$50,000, to carry on the business of a power company.

The Victoria Hotel at Nelson, B.C., was destroyed by fire April 13. Loss about \$13,000.

Messrs. J. P. Burns & Co., Calgary, N.W.T., will erect an abattoir in Vancouver, B.C., at a cost of \$150,000.

The Oriental Power & Pulp Co., Vancouver, B.C., will shortly commence the construction of the pulp mill at Swanson Bay, Northern British Columbia.

The Magnesite Asbestos Supply Co., San Francisco, will establish a branch factory at Vancouver, B.C., for the manufacture of asbestos covering for steam pipes.

ELECTRICITY.

Electrical machinery and appliances of all kinds, electrical power plants and other progress in the electrical industries will be noted here.

The franchise of the Brantford Electric & Operating Co., Brantford, Ont., expires shortly and the city council are considering the purchase of the plant.

La Compagnie Electricque Maniwaki, Papineauville, Que., have been incorporated with a capital of \$49,000, to produce electricity for light, heat and power purposes. The provisional directors include T. Bonhomme, J. S. Bock and H. J. Tetreau, L'Ange Gardien, Que.

The Fairville Electric Light Co., Lancaster, N.B., have been incorporated with a capital of \$2,500, to operate a telephone system, etc. The provisional directors include James Ready, T. L. Ready and M. Ready, Lancaster.

The Town of Glace Bay, N.S., has ordered from the Robb Engineering Co., Amherst, N.S., a 375 Corliss engine and a 150 Robb-Mumford boiler for the extension of their electric lighting plant.

The Canadian Westinghouse Co., Hamilton, Ont., recently sold to the Edmonton, Alberta, Street Railway Co. a 200 K. W. railway generator and a number

of double equipments of railway motors. The City of Edmonton is the most northerly point on the American continent to operate an electric street railway.

The City of Windsor, Ont., will build a modern lighting plant, and will apply for legislation to permit them to engage in commercial lighting as soon as the new plant is established.

The citizens of Napanee, Ont., will erect an electric lighting plant in that town at a cost of \$40,000. For further information apply to Mayor Lowry.

The Hamilton Terminal Railway Co., Hamilton, Ont., are applying for incorporation with a capital of \$100,000, to operate steam or electric railways in connection with the business of the Hamilton Steel & Iron Co. The applicants include C. S. Wilcox, A. E. Carpenter and C. E. Doolittle, Hamilton.

The proprietors of the Windsor Hotel, Montreal, will build a large addition to their hotel which will include a power house in which machinery will be installed capable of developing 1,000 h.p.

The Canadian General Electric Co., Toronto, have secured the contract for a waterworks pump and electrical apparatus for the corporation of Sudbury, Ont.

The village Council of Carberry, Man., are negotiating with Mr. Boyce for the installation of an electric light plant.

The city of Moncton, N.B., will make improvements to the electric light plant at that place to cost about \$20,000.

There were 91 independent telephones in Canada in 1904. These are distributed by Provinces as follows:—Quebec 29, Ontario 17, New Brunswick 11, Nova Scotia 14, Prince Edward Island 1, British Columbia 12, Manitoba 2, North-West Territories 6, Yukon 1.

An American company has purchased the telephone plant at Moose Jaw, N.W.T., and will enlarge the plant.

Paul Wood, Sutton, Man., who will develop a water power for electric light and power and pulp mill, has retained the services of Mr. R. S. Kelsch, consulting engineer, Montreal.

Mr. K. L. Aitken, consulting engineer, Toronto, has been retained by the town of Exeter, Ont., to make a valuation on the electric light plant at that place, and now owned by Mr. C. B. Snell.

The West Electric Light & Power Co. have secured control of a water power on the Assiniboine River, about five miles east of Brandon, Man., and have had plans prepared for developing power. It is expected that between 12,000 and 15,000 h.p. can be developed.

The Canada-Middlesex Railway Co. are seeking a charter from the Dominion Government to build an electric railway from the Niagara frontier through St. Catharines, Woodstock and Brantford to London, Ont.

The city council of Hull, Que., have awarded the contract for machinery for the electric light plant to the Canadian General Electric Co., Toronto.

Mr. K. L. Aitken, consulting engineer, Toronto, has prepared specifications covering the two 1,000 h.p. induction mot-

ors and other electrical apparatus for the new high pressure fire pumping system for the city of Toronto.

The city council of Charlottetown, P.E.I., will vote on a by-law to raise \$75,000 for the installation of an electric lighting plant at that place.

FUEL.

For names of fuel dealers see "Coal and Coke" in Classified Index.

The fuel supply question is a most important one to Canadian manufacturers. The information published in this department will keep the readers posted on sources of production.

The Carbray Coal & Storage Co., Quebec City, have been incorporated with a capital of \$10,000, to import coal, brick, cement, etc., and to purchase machinery and plant for discharging and loading, etc. The provisional directors include Felix Carbray, Joseph Archer, and Geo. Jalbert, Quebec City.

The Peregrine Coal Co., Hamilton, Ont., have been incorporated with a capital of \$40,000, to carry on a general coal and coke business. The provisional directors include J. M. Peregrine, J. G. Sherring, and E. H. Darling, Hamilton.

The Standard Coal & Railway Co. have struck a large seam of coal in their sinkings near Newville, Cumberland County, N. S.

Announcement has been made by Vice-President W. R. Woodford, of the Pittsburg Coal Co., Pittsburg, Pa., that the contract between that company and the United States Steel Corporation for fuel at all of its mills in the Pittsburg district for a period of 25 years has been closed. The total tonnage used by the Corporation mills in the district covered is from 6,000,000 to 9,000,000. The Steel Corporation by this contract practically takes 33 per cent. of the total production of the coal corporation annually. It will use the coal, not only at its mills, but for fuel on its lake vessels and on all of the ore-carrying railroads in the North-West.

Messrs. Heyl & Patterson, Pittsburg, Pa., have been awarded the contract for the erection of the new steel coal tippie for the Canadian Northern Railway Coal Co., at Fernie, B.C. The tippie will be built entirely of steel and the material will weigh over 800 tons. It will be fitted in the factory and will extend across the valley, a distance of 900 feet. It will be 30 feet wide, and will have capacity for 4,000 tons per day. It will be fitted with all the latest tippie machinery and when complete will cost \$170,000.

WESTERN ONTARIO COAL DEALERS' ASSOCIATION.

As announced in the last issue of this journal, the first annual convention of the Western Ontario Retail Coal Dealers' Association was held at London, Ont., April 17 and 18. President Hay and Secretary Martin had issued invitations to every retail coal merchant in the pro-

vince to attend, regardless of the fact whether they were members of the association or not.

The association was formed in June of last year, at a meeting held at London, with about seventy representative retail coal merchants present, when the following officers were elected: President, John C. Hay, Listowel, Ont.; secretary-treasurer, W. A. Martin, London, Ont.; executive board, F. M. Griffin, St. Thomas; A. J. McIntosh, Woodstock; R. Wilson, Seaford; F. Mann, Brantford, and John McDowell, Hensall, Ont.

Since its organization the officers and executive committee have devoted much time and energy in advancing the welfare and interests of the association and their work has met with the general approval and support of the dealers in their territory so that at the present time a strong organization is the result.

This association was formed and is being conducted along the same lines which the retail coal merchants in the United States have found so effective and profitable in, correcting the abuses in the handling and selling of coal which could never have been remedied had they been working as individuals instead of in a body.

It is estimated that there are 15 per cent. more dealers in the coal business to-day through Ontario than before the coal strike, and all because people were given to understand through the newspapers that there was a fortune to be made.

As regards shipments of coal direct to consumers and persons not regularly engaged in the coal business, the association has been able to practically put a complete stop to them in those towns where they have members, as the operators, shippers, and wholesalers have given much encouragement to the association and are anxious to protect its members.

The wholesale factors who have come into contact with the retail coal associations realize and appreciate the great advantage it is to their interests to have shipments confined to regularly equipped dealers, and they know that it is good business for them to protect their customers.

The Dominion Marine Association was in annual session in Ottawa March 25. The report of the Executive Committee, which was adopted, dealt with various matters of importance to the association. In regard to the proposal for the development of 1,100 h.p. from the waters of the Rapido Plat Canal at Morrisburg, Ont., the committee recommended that the Government be asked to withhold permission, as the utilization of the waters to the extent named might seriously interfere with the safe and convenient navigation of the canal by large vessels. The tonnage of vessels represented in the association is 112,297 tons, of which 79,349 tons is steam and 32,949 tons other vessel property. The association elected officers as follows: President, J. A. Cuttle, Montreal; vice-presidents, H. C. Hammond and A. A. Wright, Toronto; executive, C. F. Gildersleeve, Kingston;

James H. Hall, Ottawa; H. W. Richardson, Kingston; C. J. Smith, Montreal; R. O. Mackay, Hamilton; D. Murphy, Ottawa; S. Crangle, Toronto; Capt. Thomas Donnelly, Kingston; Frank Plummer, Toronto; secretary-treasurer, Francis King, Kingston.

OPPORTUNITIES.

Manufacturers and others in need of machinery, supplies, etc., of any kind are requested to consult our advertising columns, and if they cannot find just what they want, if they will send us particulars we will make them known free of cost, and in this way secure the attention of those who may be able to supply them. No charge for publishing what is wanted nor for giving information. When writing to enquirers kindly mention The Canadian Manufacturer.

The Department of Public Works, Ottawa, are inviting tenders for the erection of a new post-office building at Sandwich, Ont.

J. W. Park, Kendallville, Ind., who is the owner of some valuable Canadian patents on hand pumps, check valves, etc., desires to correspond with Canadian manufacturers of metal stamped goods.

The Dominion Government will receive tenders for the construction of 4,000 feet of pier at Port Colborne, Ont., to be faced with cement.

Francisco Rodriguez, Fresnillo Zac, Mexico will install an electric light and power plant in that town.

An Antwerp paper states that a great scheme for the supply of water to 33 parishes is being inaugurated by the Government of the Grand Duchy of Hesse. About 150 miles of iron and steel piping, 1,100 hydrants and large quantities of other accessories will be required. Particulars from the Grosshershoglich Hessische Kulturinspektion, Mayence-on-Rhine.

The Dominion Government will shortly invite tenders for the erection of an elevator at Port Colborne, Ont., to cost about \$1,000,000.

The Mexican Central Railway Co., City of Mexico, will construct a steel and masonry bridge across the Orizt River in the State of Chihuahua to replace the one destroyed by flood several months ago. The structure will be 1,800 feet in length. A number of bridges will be constructed at different places along the line. Lewis Kingman, Mexico, is Chief Engineer.

The Department of Public Works, Ottawa, are inviting tenders for the construction of two breakwaters at Rondeau, Ont.

The Guanajuato, Reduction & Mines Co., Guanajuato will establish a system of reduction works at their Guan. Mexico mines.

The Department of Public Works, Ottawa, are inviting tenders for the dredging required at the following places:—Rayfield, Belle River, Beaverton, Collingwood, Kincardine, Matchedash Bay, Meaford, Owen Sound, Trenton, Penetanguishene, Point Edward, Sarina, Port

Stanley, Rondeau, Port Burwell, Sauguen River, Thornbury and Warton, Ont.

PUBLICATIONS.

The publishers of The Canadian Manufacturer solicit in advance, if possible, catalogues, circulars, and other industrial publications issued by manufacturers. We wish to review such literature, and bring the principal points to the attention of our readers.

The Canadian General Electric Co., Toronto, have just issued Bulletin No. 836 which relates to "Single Phase Thomson Type 1 Induction Meter for House Service."

Allis - Chalmers - Bullock, Limited, Montreal, have sent us a brochure describing and illustrating Bullock Induction Motors Type An.

"The Murphy Automatic Smokeless Furnace" is the title of a handsome catalogue published by the Murphy Iron Works, Detroit, Mich. It contains a bird's eye view of the extensive plant of this company, also views of some installations representing a variety of industries.

The Tindal Morris Co., Eddystone, Pa., have issued new literature on their cold metal saws and other machinery.

The B. F. Barnes Co., Rockford, Ill., have sent us their illustrated catalogue of Twentieth Century Machine Tools, which contains some fine half tones showing the symmetrical outline and general construction of their machines.

The George White & Sons Co., London, Ont., have issued a year book relating to White Threshing Machinery, illustrating and describing engines, threshers, corn huskers, stackers, etc.

The Cassella Color Co., 182 Front St. New York City, have issued supplement No. 6 to their book on "Cotton Dyeing, Supplement I" containing dyeing instructions of Immedial Indone B.N. Conc.

The National Electric Co., Milwaukee Wis., have prepared a very handsome catalogue showing some installations and views of their electrical apparatus.

The Cassella Color Co., 182 Front St. New York City, have issued a folder containing samples of dyeings on woolen fabrics discharged with Hyraldite W. Pat.

The Westinghouse Electric & Mfg. Co., Pittsburg, Pa., have sent us folders relating to direct current fan motors and alternating current fan motors.


Hendrick's Commercial Register of the United States, for buyers and sellers, published annually by the Samuel E. Hendricks Co., New York City, Pages 1300. Cloth, \$7. The last edition of this work, which is issued annually in the interests of the architectural, mechanical, engineering, contracting, electrical, railroad, iron, steel, mining, milling, quarrying and kindred industries, contains some 350,000 names and addresses, over 1,300 pages and over 1,400 classifications. It aims to be the most complete and reliable index of these industries, and gives full lists of the manufacturers of and dealers in everything

employed in the manufacture of material, machinery and apparatus used in these professions from the raw material to the manufactured article and from the producer to the consumer. What may have been said of the previous editions may be said of the present one, with perhaps greater emphasis—that it is invaluable to those seeking to buy or sell anything in the extremely comprehensive list of trades which it covers. The book may also be made of considerable use in preparing mailing lists, covering the entire country, for which purpose its convenient classifications are of great value.

A Classified Article List of Industrial Products for Canadian Buyers, 1905-06.

A trade addition at a popular price—\$2.00, published by the Manufacturers'

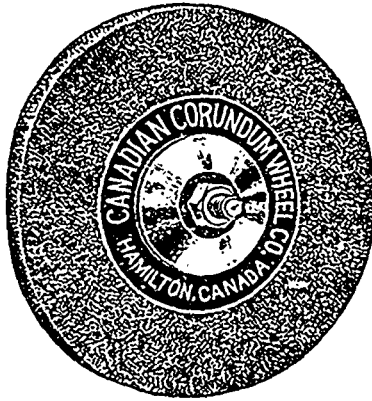
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**Grinding
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CANADIAN CORUNDUM WHEEL CO., - Hamilton, Ont.

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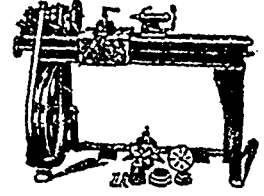


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OIL AND GASWELL SUPPLIES : BOILERS AND ENGINES

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PIPE LINE SUPPLIES, ETC.

Book the aim of the company is to provide a complete list of the articles named in the Blue Book and any additional articles brought out by the various manufacturing industries of the country for the benefit of merchants and dealers throughout the Dominion.

The Electric Controller & Supply Co., Cleveland, Ohio, are sending out a handsome advertisement in the shape of a souvenir card case and memorandum book.

PERSONALS.

Mr. T. F. Kenny has been appointed Mechanical Engineer of Allis-Chalmers-Bullock, Limited, Montreal. He graduated from the department of mechanical engineering at McGill University in 1896 and then spent two years with the British Columbia Iron Works. For the past six years he was Mechanical Engineer for the Jenckes Machine Co., Sherbrooke, Que.

Hon. Robt. S. Chilton took formal possession, April 24, of the office of the Toronto United States Consulate, succeeding Mr. E. N. Gunsaulus, who will take up his new post at Cork, Ireland. Mr. Chilton has been temporarily recognized by Earl Grey, pending the official sanction of the Imperial Government.

At the recent annual meeting of the stockholders of the Joseph Dixon Crucible Co., held at Jersey City, N.J., the old board, consisting of Edward F. C. Young, John A. Walker, Edward L.

Young, William Murray, George T. Smith, Joseph D. Bedle and George E. Long, was unanimously re-elected. The board of directors re-elected the former officers, namely, Edward F. C. Young, president; John A. Walker, vice-president and treasurer; George E. Long secretary.

Mr. J. L. Pilling, manager of the Pilling Air Engine Co., Detroit, Mich., informs us that it is the intention of his company to form and incorporate a Canadian branch of his works, for the manufacture of compressed air hoisting machinery, turntable devices, etc., half-tone representations of which he has sent to us.

Mr. J. F. Forbes has been appointed to take charge of the Pumping Engine Department of Allis-Chalmers-Bullock, Limited, Montreal. He is a native of Philadelphia and has had large experience with the water companies owned by the Delaware Co., New Jersey. Later he became superintendent at Dennison and Uhrickville and had charge of the construction of a slow sand filter plant and also of a mechanical gravity filter plant. Under his superintendence the pumping facilities were largely increased and re-arranged to suit the filter plant. Since 1902 he has been travelling salesman with the National Meter Co., making Chicago his headquarters.

The Canadian offices of the Chicago Pneumatic Tool Co. have been removed to the eleventh floor of the Temple Building, Toronto.

The Canadian Drawn Steel Co. have opened offices in the Sun Life Building, Hamilton, Ont.

Mr. A. M. Wickens, consulting engineer for the Canadian Casualty & Boiler Insurance Co., Toronto, will read a paper on "A Smokeless City" at the Engineers' Club, of Toronto, on Thursday May 11.

PLUMBERS' CONVENTION.

At the convention of master plumbers of the Province of Ontario, held at Guelph, April 20, all the officers were present and delegates from Toronto, Hamilton, London, Windsor, Sarnia, Woodstock, Berlin, Waterloo, Galt, Stratford, Barrie, St. Catharines, Niagara Falls, Alliston, Kincardine, Ottawa, Listowel, Paris, and Brantford.

One of the main features of the convention was the appointment of a committee composed of Messrs. S. Armstrong, J. H. Wilson, L. Legrow, Toronto; B. Noble, London; H. A. Knox, Ottawa; and A. Stevenson, Guelph, who are to draft a sanitary by-law to be presented at the next meeting of the association, which, after receiving the endorsement of the convention, will be presented to the various municipalities with a view to having it placed in operation as a uniform sanitary by-law for the Province.

Mr. W. J. Walsh, of Hamilton, and S. Armstrong, of Toronto, were appointed to attend the national convention to be held in Atlanta, Georgia, in June next.

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the most serious considerations are quality, reliability and uniformity, and these qualifications are of special importance to the dealer who is trying to build up a permanent varnish trade.

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Write for our 100 page illustrated catalogue. Every dealer should have a copy for reference.

J. McKinley, Ottawa, and B. Noble, London, were appointed delegates to the Master Steamfitters' Association convention in Atlantic City, N.J., in June, following the plumbers' convention.

The following officers were elected for the ensuing year:—President, W. J. Walsh, Hamilton; vice-president, W. Mahoney, Guelph; financial-secretary, T. H. Davies, Hamilton; treasurer, J. H. Wilson, Toronto; secretary, W. H. Meredith, Toronto; executive committee, E. H. Tunsell, London; H. A. Knox, Ottawa; A. Little, St. Catharines. Toronto was selected as the next semi-annual meeting place on next Thanksgiving Day.

BRICK MACHINERY.

The well known Berg brick press is now being built in Canada by the inventor Mr. Anton Berg. Mr. Berg has spent some months in Canada and recently made arrangements with the Bertram Engine Works of Toronto for the manufacture of these machines for the Canadian market. Among the plants of this system either installed or under construc-

tion in Canada are those of the Manitoba Press Brick Co., Winnipeg; John Watson, Calgary, N.W.T.; LaPrairie Brick Co., Montreal; Port Credit Brick Co., Port Credit, Ont., and a plant at Toronto Junction.

CALIFORNIA EXCURSIONS.

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FACTORY LOCATIONS.

The following Canadian municipalities are offering inducements to secure manufacturing establishments. Inquiries should be addressed to the Mayor, Town Clerk or Board of Trade of the respective cities:

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- Brantford, Ont.
- Fort William, Ont.
- Halifax, N.S.
- Hamilton, Ont.
- Lindsay, Ont.
- Orillia, Ont.
- Peterborough, Ont.
- Regina, N.W.T.
- Sherbrooke, Que.
- Toronto, Ont.

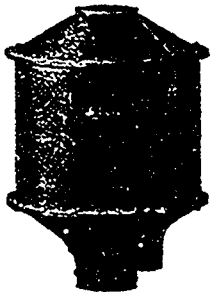
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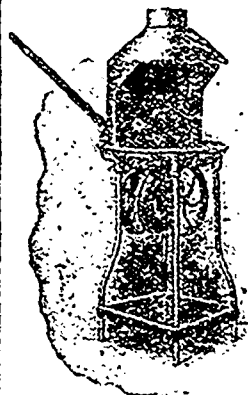
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All parts are constructed to withstand the excessive heat from the fire. The tuyero will not burn out. The firepan is of heavy metal and ribbed to prevent cracking.

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CAMEL BRAND BELTING
CANVAS HOSE
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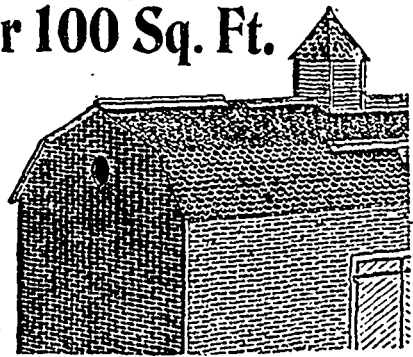
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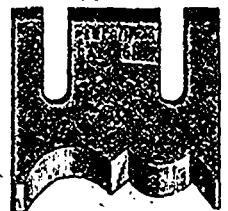
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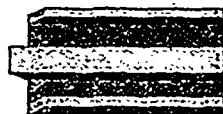
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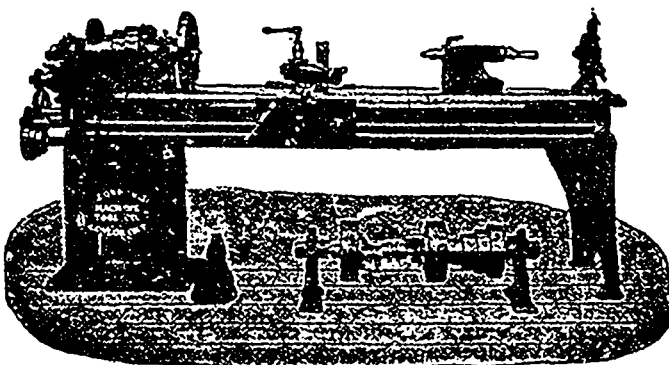
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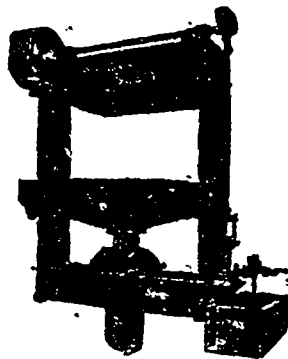
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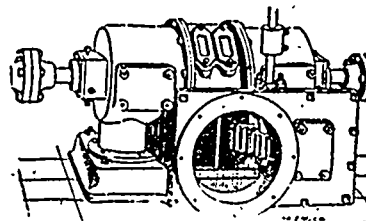


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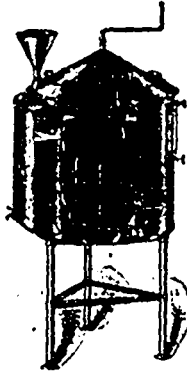
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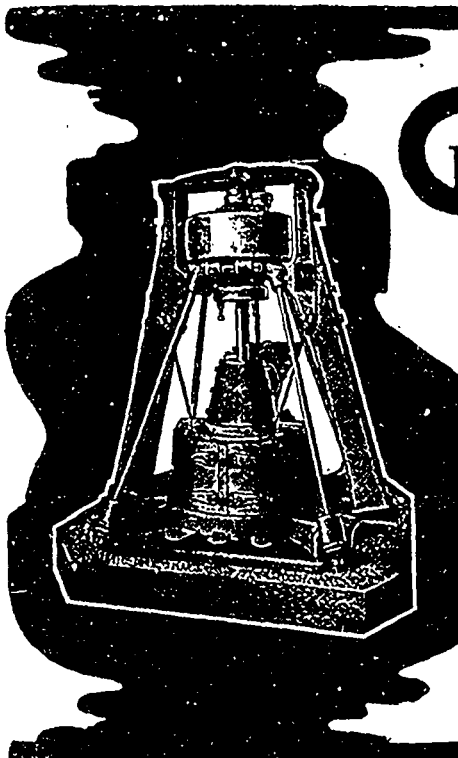
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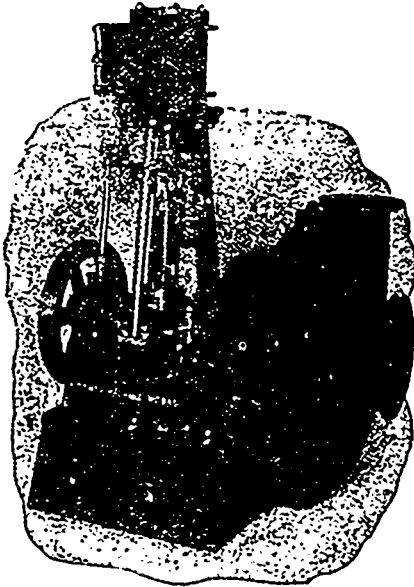
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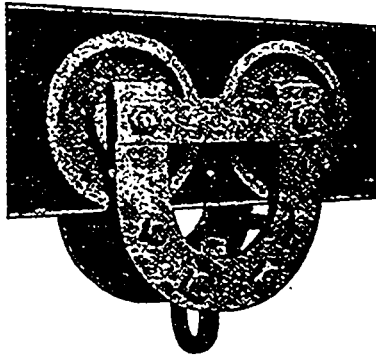
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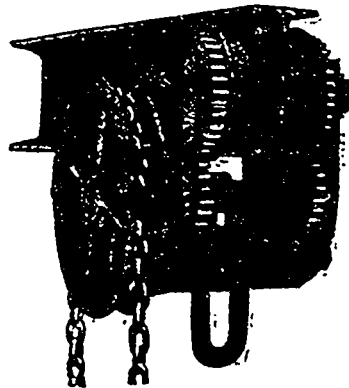
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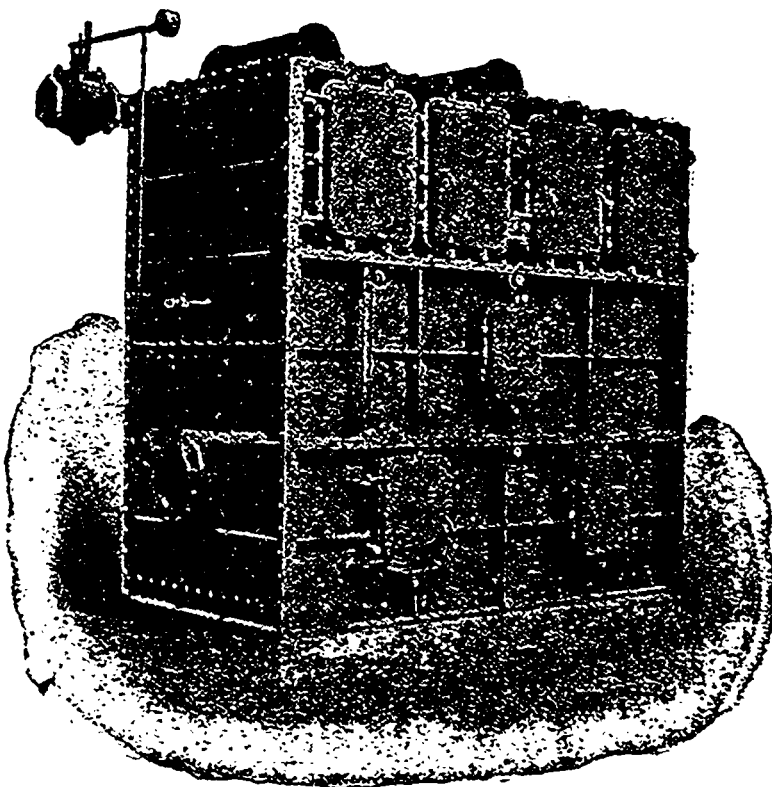
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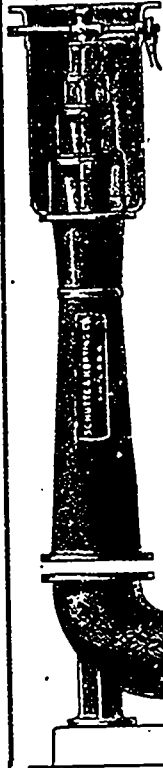
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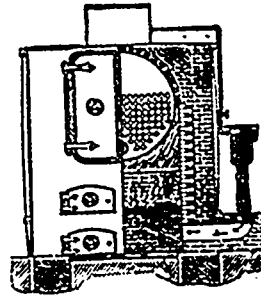
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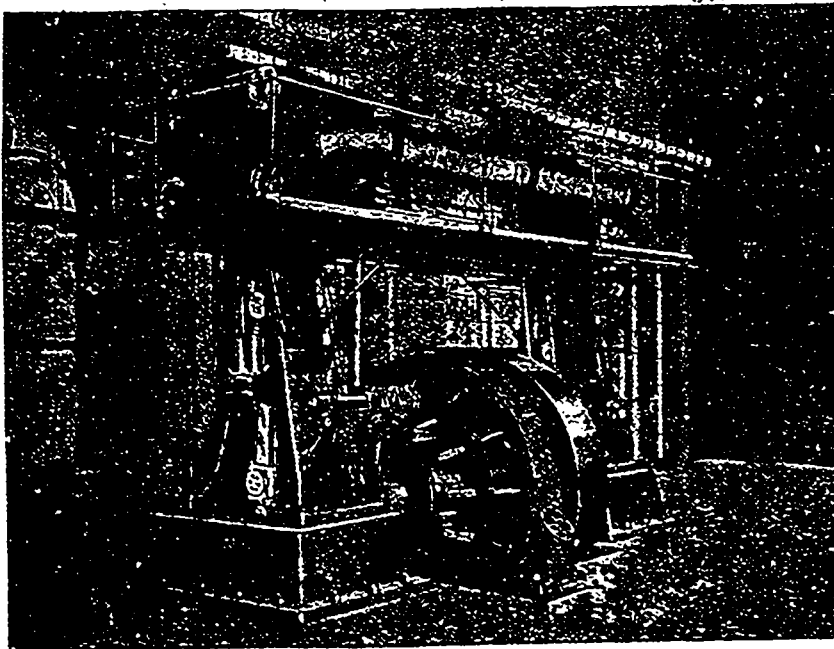
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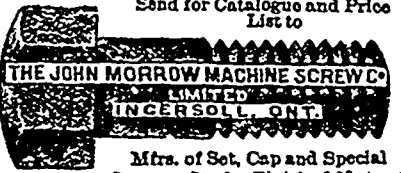


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CLASSIFIED INDEX.

(CONTINUED).

Copper Materials

Greening, B. Wire Co., Hamilton, Ont.
Phillips, Eugene F. Electrical Works, Montreal.
Syracuse Smelting Works, Montreal.
Wire & Cable Co., Montreal.

Corundum Wheels

Canadian Corundum Wheel Co., Hamilton, Ont.
Rico Lewis & Son, Toronto.

Cotton Banding and Rope

McLaren, J. C., Belting Co., Montreal.

Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Pittsburg Crucible Works, Pittsburg, Pa.

Crayons

Lowell Crayon Co., Lowell, Mass.

Crucibles

Dixon, Joseph, Crucible Co., Jersey City, N.Y.
McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Pittsburg Crucible Works, Pittsburg, Pa.
Syracuse Smelting Works, Montreal.

Crucible Caps

McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Pittsburg Crucible Works, Pittsburg, Pa.

Crucible Covers

McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Pittsburg Crucible Works, Pittsburg, Pa.

Cutter Grinding Machines

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Decalcomania

Meyerrood Co., Chicago, Ill.

Deep Well Engines

American Steam Pump Co., Battle Creek, Mich.

Detective Agency

Dewar Detective Agency, St. Louis, Mo.

Dies (Socket, Sewer Pipe and Tile)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Directories

Kelly's Directories, Limited, Toronto.

Draw Benches (Wire)

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Drills

Allis-Chalmers-Bullock, Limited, Montreal.
Barnes, B. F. Co., Rockford, Ill.
Canada Machinery Co., Sarnia, Ont.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
London Machine Tool Co., London, Ont.
Petrie, H. W., Toronto.
Pittsburgh Shafting Co., Detroit, Mich.

Drills (Pneumatic and Rock)

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Jeffrey Mfg. Co., Columbus, Ohio.

Drills (Twist)

Pittsburg Shafting Co., Detroit, Mich.

Drop Forgings

Globe Machine & Stamping Co., Cleveland, Ohio.

Drop Forging Dies

Canada Machinery Co., Sarnia, Ont.
Globe Machine & Stamping Co., Cleveland, Ohio.

Dry Kiln Apparatus

Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Dust and Shavings Separators

Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Dye Stuffs and Chemicals

Bellhouse, Dillon & Co., Montreal.
Benson, W. T. & Co., Montreal.
Brunner, Mond & Co., Northwich, England.
Canada Chemical Mfg. Co., London, Ont.
Cassella Color Co., New York City.
Geigy Aniline & Extract Co., New York City.
McArthur Cornelle & Co., Montreal.
Nichols Chemical Co. of Canada, Montreal.
Winn & Holland, Montreal.

DYNAMOS (See Motors and Dynamos)

Electric Motors and Transformers

Allis-Chalmers-Bullock, Limited, Montreal.
Packard Electric Co., St. Catharines, Ont.

Electric Mine Locomotives

Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Jeffrey Mfg. Co., Columbus, Ohio.

Electrical Repairs

Keystone Engineering Co., Toronto.
Volta Electric Repair Works Toronto.

Electrical Supplies

Allis-Chalmers-Bullock, Limited, Montreal.
Bristol Co., Waterbury, Conn.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jones & Moore Electric Co., Toronto.
Keystone Engineering Co., Toronto.
Packard Electric Co., St. Catharines, Ont.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.
Worth & Martin, Toronto.

Elevators and Conveyors

Allis-Chalmers-Bullock, Limited, Montreal.
Darling Bros., Montreal.
Greay, Wm. & J. G., Toronto.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Link-Belt Engineering Co., Philadelphia, Pa.
Ois-Fensom Elevator Co., Toronto.

Elevator Insurance

Canadian Casualty & Boiler Insurance Co., Toronto.

Emery and Emery Wheels

Canadian Corundum Wheel Co., Hamilton, Ont.
Forman, John, Montreal.
Petrie, H. W., Toronto.

Engineers (Chemical)

Heys, Thomas & Son, Toronto.
Hunt, Robert W. & Co., Chicago, Ill.

Engineers (Civil)

DeLano-Osborn Engineering Co., Toronto.
Parke, R. J., Toronto.
Vogel C. H., Ottawa.

Engineers (Consulting)

Aitken, K. L., Toronto.
DeLano-Osborn Engineering Co., Toronto.
Electrical Construction Co., London, Ont.
Hunt, Robert W. & Co., Chicago, Ill.
Keystone Engineering Co., Toronto, Ont.
Marion & Marion, Montreal.
Parke, R. J., Toronto.
Perrin, William R. & Co., Limited, Toronto.
Simpson, T. T., Dechenes, Que.
Vogel, C. H., Ottawa.
Volta Electric Repair Works, Toronto.
Von der Osten, E. & Co., Toronto.

Engineers (Contracting)

Babcock & Wilcox, Limited, Montreal.
Canada Foundry Co., Toronto.
Darling Bros., Montreal.
Electrical Construction Co., London, Ont.
Keystone Engineering Co., Toronto, Ont.
McDougall, John, Caledonian Iron Works Co., Montreal.
Robb Engineering Co., Amherst, N.S.

Engineers (Electrical)

Aitken, K. L., Toronto.
Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Crocker-Wheeler Co., St. Catharines, Ont.
DeLano-Osborn Engineering Co., Toronto.
Electric Engineering & Supply Co., Montreal.
Electrical Construction Co., London, Ont.
Jones & Moore Electric Co., Toronto.
Keystone Engineering Co., Toronto, Ont.
Marion & Marion, Montreal.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.
Volta Electric Repair Works, Toronto.
Worth & Martin, Toronto.

Engineers (Mechanical)

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Borden & Belleck Co., Chicago, Ill.
Darling Bros., Montreal.
DeLano-Osborn Engineering Co., Toronto.
Electrical Construction Co., London, Ont.
Greay, Wm. & J. G., Toronto.
McDougall, John, Caledonian Iron Works Co., Montreal.
Hunt, Robert W. & Co., Chicago, Ill.
Kerr Engine Co., Warkville, Ont.
Marion & Marion, Montreal.
Robb Engineering Co., Amherst, N.S.
Sheldon & Sheldon Galt, Ont.

Engineers (Mill and Hydraulic)

DeLano-Osborn Engineering Co., Toronto.
Hawksworth, Alfred, Montreal.
Vogel, C. H., Ottawa.

Engineers (Mining)

Heys, Thomas & Son, Toronto.
Mills, S. D., Toronto.

Engineers (Municipal)

Von der Osten, E. & Co., Toronto.

Engineers and Contractors

Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.

Engines and Boilers

Allis-Chalmers-Bullock, Limited, Montreal.
Babcock & Wilcox, Limited, Montreal.
Bertram Engine Works Co., Toronto.
Canada Foundry Co., Toronto.
Canadian Hoist Safety Boiler Co., Toronto.
Corbett, R. B., Brooklyn, N.Y.
Goldie & McCulloch Co., Galt, Ont.

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

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Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Hopkins, F. H. & Co., Montreal.
 Jencks Machine Co., Sherbrooke, Que.
 Morris Machine Works, Ballwinville, N. Y.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 McEachren Heating & Ventilating Co., Galt, Ont.
 Oil Well Supply Co., Pittsburgh, Pa.
 Petrie, H. W., Toronto.
 Pittsburgh Shafting Co., Detroit, Mich.
 Robb Engineering Co., Amherst, N.S.
 Sheldon & Sheldon, Galt, Ont.
 Sturtevant, B. F. Co., Boston, Mass.
 Williams, A. R. Machinery Co., Toronto.

Engravers
 Canadian Manufacturer, Toronto.
 Jones, J. L. Engraving Co., Toronto.

Exhaust Fans
 Sheldon & Sheldon, Galt, Ont.
 Sturtevant, B. F. Co., Boston, Mass.

Exhaust Hoods
 Bert Mfg. Co., Akron, Ohio.
 Darling Bros., Montreal.
 Sheldon & Sheldon, Galt, Ont.

Exhausters
 Schutte & Koerting Co., Philadelphia, Pa.

Explorer and Geologist
 Irans, Horace F. Ashcroft, B.C.

Factory Sites
 See Factory Locations, page 35).
 Central Ontario Power Co., Peterboro, Ont.
 Etcheson, S. M., Paisley, Ont.
 Island, Chas. F., St. Catharines, Ont.

Feed Water Heaters
 Babcock & Wilcox, Limited, Montreal.
 Darling Bros., Montreal.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 Schutte & Koerting Co., Philadelphia, Pa.

Files
 Jones, R. & Co., Hamilton, Ont.

Fillet (Pattern)
 McLaren, J. C. Belting Co., Montreal.
 Sadler & Haworth, Montreal and Toronto.

Filters (Oil)
 Babcock & Wilcox, Limited, Montreal.
 Bert Mfg. Co., Akron, Ohio.
 Darling Bros., Montreal.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 Perrin, William R. & Co. Limited, Toronto.

Filters and Filtering Systems (Water)
 Babcock & Wilcox, Limited, Montreal.
 Jencks Machine Co., Sherbrooke, Que.
 McDougall, John, Caledonian Iron Works Co., Montreal.

Financial
 Chestnut's, New York City.
 Co. R. G. & Co., Toronto.
 Ed & Postlethwaite, Toronto.
 Fitch, H. D. Hamilton Ont.

Fire Brick and Clay
 Carr Fire Brick Co., Cleveland, Ohio.
 Carr Fire Brick Co., Pittsburgh, Pa.
 Caledonia Facing Mill Co., Hamilton, Ont.
 Pennsylvania Fire Brick Co., Lock Haven, Pa.
 Pennsylvania Run Fire Brick Co., Lock Haven, Pa.
 Pennsylvania Hammon Fire Brick Co., Boliver, Pa.
 Pennsylvania Mountain Fire Brick Co., Frostburg, Md.
 Pennsylvania Fuller Co., Cleveland, Ohio.

Fire Escapes
 Darling Bros., Montreal.
 Labowa, Geo. B., Wire, Iron & Brass Works, Toronto.

Flour Mill Machinery
 Babcock & McCulloch Co., Galt, Ont.
 Groey, Wm. & J. G., Toronto

Forges and Blowers
 Canada Foundry Co., Toronto.
 McEachren Heating & Ventilating Co., Galt, Ont.
 Sheldon & Sheldon, Galt, Ont.
 Sturtevant, B. F. Co., Boston, Mass.

Founders
 Canada Foundry Co., Toronto.
 Canada Machinery Co., Sarnia, Ont.
 Jones & Co., Galt, Ont.
 Babcock & McCulloch Co., Galt, Ont.
 Groey, Wm. & J. G., Toronto.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jencks Machine Co., Sherbrooke, Que.
 McDougall, John, Caledonian Iron Works Co., Montreal.

Foundry Facings and Supplies
 Caledonia Facing Mill Co., Hamilton, Ont.

Fuel Economizers
 Babcock & Wilcox, Limited, Montreal.
 Schutte & Koerting Co., Philadelphia, Pa.
 Sturtevant, B. F. Co., Hyde Park, Mass.

Furniture (Lodge, Opera and School)
 Canadian Office & School Furniture Co., Preston, Ont.

Galvanizing
 Ontario Wind Engine & Pump Co., Toronto.

Galvanizing and Tinning Machinery and Furnaces (Wire)
 Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Gas and Gasoline Engines
 Goldie & McCulloch Co., Galt, Ont.
 Morrison, T. A. & Co., Montreal.

Gauges (Recording Pressure)
 Bristol Co., Waterbury, Conn.

Gauges (Steam)
 Penberthy Injector Co., Windsor, Ont.
 Petrie, H. W., Toronto.
 Williams, A. R. Machinery Co., Toronto.

Gauges (Water)
 Babcock & Wilcox, Limited, Montreal.
 Penberthy Injector Co., Windsor, Ont.

Generators
 Allis-Chalmers-Bullock, Limited, Montreal.
 Canadian General Electric Co., Toronto.
 Canadian Westinghouse Co., Ltd., Hamilton, Ont.
 Electrical Construction Co., London, Ont.
 Forman, John, Montreal.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Jones & Moore Electric Co., Toronto.
 Phillips, Eugene F., Electrical Works, Montreal.
 Toronto & Hamilton Electric Co., Hamilton, Ont.
 Volta Electric Repair Works, Toronto.

Gloves, Mittens and Moccasins
 Storey, W. H. & Son, Acton, Ont.

Glue Heaters
 Advance Machinery Co., Toledo, Ohio.
 Groey, Wm. & J. G., Toronto.

Glue Room Equipment
 Advance Machinery Co., Toledo, Ohio.

Government Notices
 Factory Inspectors.
 Minister of Agriculture.

Graphite
 Dixon, Jos., Crucible Co., Jersey City, N.J.
 McCullough-Dalsell Crucible Co., Pittsburgh, Pa.
 Pittsburgh Crucible Works, Pittsburgh, Pa.

Grease Cups
 Penberthy Injector Co., Windsor, Ont.

Grinding Machinery
 Canadian Corundum Wheel Co., Hamilton, Ont.
 Groey, Wm. & J. G., Toronto.

Hardware
 Butterfield & Co., Rock Island, Que.
 Gartshore, John J., Toronto.
 Globe Machine & Stamping Co., Cleveland, Ohio.
 Hopkins, F. H. & Co., Montreal.
 Morrow, John, Machine Screw Co., Ingersoll, Ont.
 Rice Lewis & Son, Toronto.

Heating and Ventilating Apparatus
 Darling Bros., Montreal.
 McEachren Heating & Ventilating Co., Galt, Ont.
 Sheldon & Sheldon, Galt, Ont.
 Sturtevant, B. F. Co., Boston, Mass.

Holting Engines
 Bertram Engine Works Co., Toronto.
 Jencks Machine Co., Sherbrooke, Que.

Hoists (Chain and Pneumatic)
 Allis-Chalmers-Bullock, Limited, Montreal.
 Canadian Rand Drill Co., Sherbrooke, Que.
 Hopkins, F. H. & Co., Montreal.

Hoyo (Fire and Pneumatic)
 Gutta Percha & Rubber Mfg. Co., Toronto.
 McLaren, J. C. Belting Co., Montreal and Toronto.
 Sadler & Haworth, Montreal and Toronto.

Hydrants
 Kerr Engine Co., Walkerville, Ont.
 Jencks Machine Co., Sherbrooke, Que.
 McDougall, John, Caledonian Iron Works Co., Montreal.

Hydraulic Accumulators
 Jencks Machine Co., Sherbrooke, Que.
 McDougall, John, Caledonian Iron Works Co., Montreal.

Hydraulic Leather
 McLaren, J. C. Belting Co., Montreal.
 Sadler & Haworth, Montreal and Toronto.

Hydraulic Machinery
 Canada Foundry Co., Toronto.
 Darling Bros., Montreal.
 Hamilton, Wm. Mfg. Co., Peterborough, Ont.
 Jencks Machine Co., Sherbrooke, Que.
 McDougall, John, Caledonian Iron Works Co., Montreal.
 Perrin, William R. & Co., Limited, Toronto.
 Petrie, H. W., Toronto.
 Wilson, J. C. & Co., Glenora, Ont.

Industrial Plants
 Von der Osten, E. & Co., Toronto.

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PUBLISHER
DEPOSIT, N. Y.

CLASSIFIED INDEX.

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Insulated Wires and Cables

Phillips, Eugene F., Electrical Works, Montreal.
Wire & Cable Co., Montreal.

Iron and Steel Specialties

Armstrong Mfg. Co., Bridgeport, Conn.
Bourne-Fuller Co., Cleveland, Ohio.
Canada Foundry Co., Toronto.
Leslie, A. O. & Co., Montreal.
London Rolling Mill Co., London, Ont.
Lysaght, John, Limited, Bristol, England and Mont-
real.
Meadows, Geo. B., Wire, Iron & Brass Works Co.
Toronto.
Nova Scotia Steel & Coal Co., New Glasgow, N.S.
Petrie, H. W., Toronto.
Pittsburgh Shafting Co., Detroit, Mich.
Rice Lewis & Son, Toronto.

Injectors

Canada Foundry Co., Toronto.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Penberthy Injector Co., Windsor, Ont.
Schutte & Koerting Co., Philadelphia, Pa.
Williams, A. R. Machinery Co., Toronto.

Iron and Steel Inspection

Hunt, R. W. & Co., Chicago, Ill.

Lamps—Electric

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Forman, John, Montreal.
Packard Electric Co., St. Catharines, Ont.
Sunbeam Incandescent Lamp Co., Toronto and St.
Catharines Ont.

Lathes

Barnes, B. F. Co., Rockford, Ill.
Canada Machinery Co., Sarnia, Ont.
Cowdrey, C. H. Machine Works, Fitchburg, Mass.
London Machine Tool Co., London, Ont.
Petrie, H. W., Toronto.
Williams, A. R. & Co., Toronto.

Lathes (Wood-working)

Goldie & McCulloch Co., Galt, Ont.
Petrie, H. W., Toronto.
Williams, A. R. Machinery Co., Toronto.

Loom Reeds.

McLaren, J. C., Belting Co., Montreal.

Lubricators

Penberthy Injector Co., Windsor, Ont.

Machinists

Bertram Engine Works Co., Toronto.
Canada Machinery Co., Sarnia, Ont.
Goldie & McCulloch Co., Galt, Ont.
Greay, Wm. & J. G., Toronto.
London Machine Tool Co., London, Ont.
Worth & Martin, Toronto.

Machinists' Supplies

Armstrong Mfg. Co., Bridgeport, Conn.
Butterfield & Co., Rock Island, Que.
Canada Machinery Co., Sarnia, Ont.
Goldie & McCulloch Co., Galt, Ont.
Gutta Percha & Rubber Mfg. Co., Toronto.
Hopkins, F. H. & Co., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
London Machine Tool Co., London, Ont.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
Petrie, H. W., Toronto.
Pittsburgh Shafting Co., Detroit, Mich.
Worth & Martin, Toronto.

Machine Tools

Barnes, B. F. Co., Rockford, Ill.
Becker-Brainard Milling Machine Co., Hyde Park,
Mass.
Canada Machinery Co., Sarnia, Ont.
Cowdrey, C. H. Machine Works, Fitchburg, Mass.
Darling Bros., Montreal.
London Machine Tool Co., London, Ont.
Petrie, H. W., Toronto.

Machinery Repairs

Bertram Engine Works Co., Toronto
Canada Machinery Co., Sarnia, Ont.
Greay, Wm. & J. G., Toronto.

Malleable Castings

International Harvester Co., Hamilton, Ont.
Smith's Falls Malleable Castings Co., Smith's Falls,
Ont.

Marine and Stationary Engines and Boilers

Allis-Chalmers-Bullock, Limited, Montreal.
Bertram Engine Works Co., Toronto.
Jenckes Machine Co., Sherbrooke, Que.

Mechanical Draft

Babcock & Wilcox, Limited, Montreal.
McEachren Heating & Ventilating Co., Galt, Ont.
Sheldon & Sheldon, Galt, Ont.
Sturtevant, B. F. Co., Boston, Mass.

Metal Gates

Page Wire Fence Co., Walkerville, Ont.

Metal Stamping

Globe Machine & Stamping Co., Cleveland, Ohio.
Pedlar People, Oshawa, Ont.

Metallurgists

Mills, S. D., Toronto.

Mill Machinery and Supplies

Allis-Chalmers-Bullock, Limited, Montreal.
Armstrong Mfg. Co., Bridgeport, Conn.
Becker-Brainard Milling Machine Co., Hyde Park,
Mass.
Darling Bros., Montreal.
Fleming, W. A. & Co., Montreal.
Gartshore, John J., Toronto.
Goldie & McCulloch Co., Galt, Ont.
Greay, Wm. & J. G., Toronto.
Gutta Percha & Rubber Mfg. Co., Toronto.
Hamilton Brass Mfg. Co., Hamilton, Ont.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Hawksworth, Alfred, Montreal.
Hay, Peter Knife Co., Galt, Ont.
Hopkins, F. H. & Co., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
London Machine Tool Co., London, Ont.
Morrow, John, Machine Screw Co., Ingersoll, Ont.
McDougall, John, Caledonian Iron Works Co., Mon-
real.
McLaren, D. K., Montreal and Toronto.
Penberthy Injector Co., Windsor, Ont.
Petrie, H. W., Toronto.
Pittsburgh Shafting Co., Detroit, Mich.
Reddaway, F. & Co., Manchester, England.
Rice Lewis & Son, Toronto.
Robb Engineering Co., Amherst, N.S.
Spence, R. & Co., Hamilton, Ont.
Wilson, J. C. & Co., Glenora, Ont.

Milling Cutters and Machines

Becker-Brainard Milling Machine Co., Hyde Park,
Mass.

Miners' Lamps

Allis-Chalmers-Bullock, Limited, Montreal.
Anton, John & Son, Monongahela, Pa.

Mining Machinery

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian Rand Drill Co., Sherbrooke, Que.
Corbett, R. B., Brooklyn, N.Y.
Gartshore, John J., Toronto.
Hamilton, Wm. Mfg. Co., Peterborough, Ont.
Hopkins, F. H. & Co., Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jenckes Machine Co., Sherbrooke, Que.
Link-Belt Engineering Co., Philadelphia, Pa.
McDougall, John, Caledonian Iron Works Co.,
Montreal.
Perrin, William R. & Co., Limited, Toronto.
Petrie, H. W., Toronto.
Schutte & Koerting Co., Philadelphia, Pa.
Williams, A. R. Machinery Co., Toronto.

Motors and Dynamoes

Allis-Chalmers-Bullock, Limited, Montreal.
Canadian General Electric Co., Toronto.
Canadian Westinghouse Co., Ltd., Hamilton, Ont.
Corbett, R. B., Brooklyn, N.Y.
Electrical Construction Co., London, Ont.
Forman, John, Montreal.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Moore Electric Co., Toronto.
Keystone Engineering Co., Toronto.
Petrie, H. W., Toronto.
Toronto & Hamilton Electric Co., Hamilton, Ont.
United Electric Co., Toronto.
Volta Electric Repair Works, Toronto.

Moulding Sand

Hamilton Facing Mills Co., Hamilton, Ont.

Nickel.

Canadian Copper Co., New York, N. Y.
Orford Copper Co., New York, N.Y.

Novelty Manufacturers

Worth & Martin, Toronto.

Nozzles

McCullough-Dalsell Crucible Co., Pittsburg, Pa.
Pittsburg Crucible Works, Pittsburg, Pa.

Office and Bank Fittings

Canadian Office & School Furniture Co., Preston,
Ont.
Meadows, Geo. B., Wire, Iron & Brass Works Co., To-
ronto.

Oils and Lubricants

Dixon, Jos. Crucible Co., Jersey City, N.J.
Fleming, W. A. & Co., Montreal.
Imperial Oil Co., Petrolia, Ont.
Queen City Oil Co., Toronto.

Oil Cloth

Dominion Oil Cloth Co., Montreal.

Oil Cups

Penberthy Injector Co., Windsor, Ont.

Paints and Colors

Bellhouse, Dillon & Co., Montreal.
Berry Bros., Walkerville, Ont.
Fleming, W. A. & Co., Montreal.
Geigy, Aniline & Extract Co., New York City.
McArthur, Cornsille & Co., Montreal.

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Paper Manufacturers
 Barber, Wm., & Bros., Georgetown, Ont.
 Toronto Paper Mfg. Co., Cornwall, Ont.

Patents
 Belden, Hanbury, A., Montreal.
 Fisherstonhaugh & Co., Toronto.
 Marion & Marion, Montreal.

Perforated Metals
 Gobe Machine & Stamping Co., Cleveland, Ohio.
 Greening, B. Wire Co., Hamilton, Ont.

Personal Accident
 Canadian Casualty & Boiler Insurance Co., Toronto.

Phosphorizers
 McCullough-Dalzell Crucible Co., Pittsburg, Pa.
 Pittsburg Crucible Works, Pittsburg, Pa.

Pig Iron
 Bourn-Fuller Co., Cleveland, Ohio.
 Canada Iron Furnace Co., Montreal.
 Nova Scotia Steel & Coal Co., New Glasgow, N.S.
 Shepard, Charles G., Buffalo, N.Y.
 Syracuse Smelting Works, Montreal.

Pipe (Riveted, Iron and Steel)
 Babcock & Wilcox, Limited, Montreal.
 McDougall, John, Caledonian Iron Works Co., Montreal.

Pipe Threading Machines
 Armstrong Mfg. Co., Bridgeport, Conn.
 Waterfield & Co., Rock Island, Que.
 Arrie, H. W., Toronto.
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 Jones & Moore Electric Co., Toronto.
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Electric Co., St. Catharines, Ont.
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 H. W., Toronto.
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Pittsburg Crucible Works, Pittsburg, Pa.

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Tubs (Cleaning and Coating Wire)
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Babcock & Wilcox, Limited, Montreal.
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Schutte & Koerting Co., Philadelphia, Pa.
Williams, A. R. Machinery Co., Toronto.

Valves (Rubber)
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