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The

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AND INDUSTRIAL WORLD

DEVOTED TO THE MANUFACTURING INTERESTS OF CANADA.

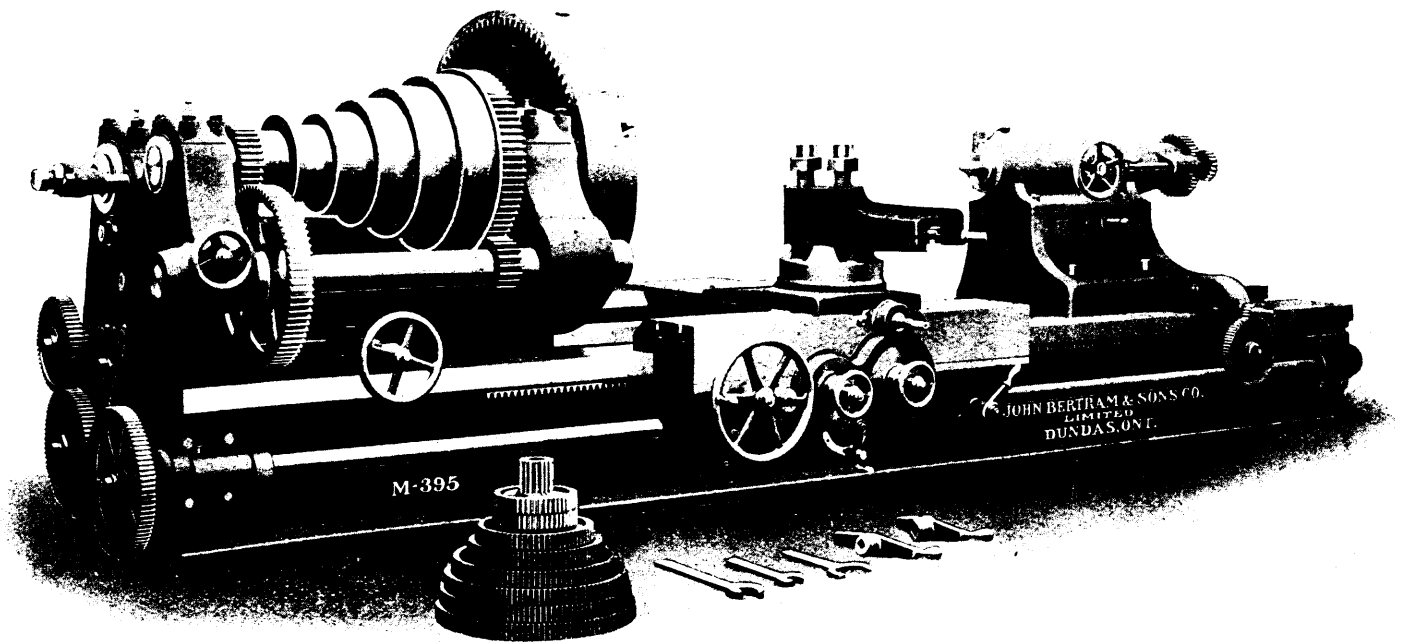
Vol. 55.

TORONTO, DECEMBER 6, 1907.

No. 11.

Bertram Engine Lathes

From 16-inch to 72-inch Swing



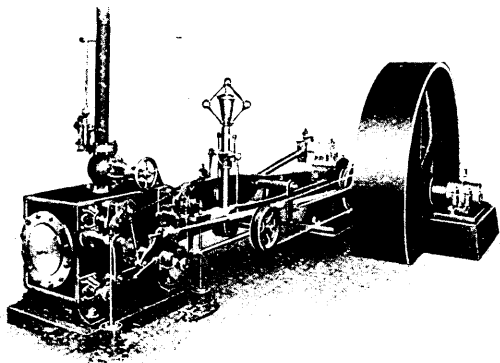
Built for the heaviest service required by modern shop methods.

Our lathes can be driven to their rated capacity without strain to the machine or the nerves of the operator.

Illustrated circulars describing our line of lathes will be sent to any address on application.

The John Bertram & Sons Co., Limited

DUNDAS, ONTARIO, CANADA



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Simple Cross and Tandem Compound
Condensing, Non-Condensing,
Horizontal, Vertical.

Speeds, 80 to 150 revolutions per minute.

Laurie Engine & Machine Co.,

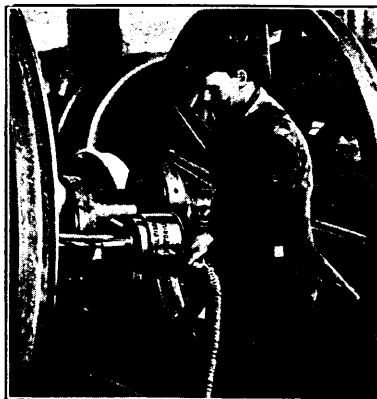
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Has been tested by years of constant use and we do not hesitate to guarantee them to those wanting the best that can be produced by a combination of experience, skilled labor and best material.



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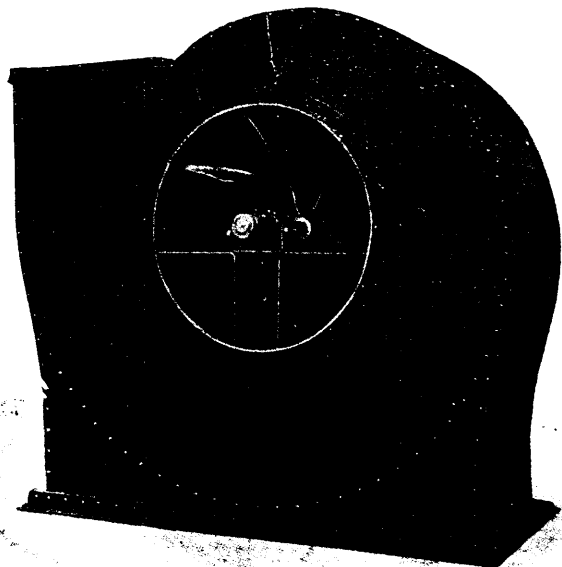
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CANADIAN RAND COMPANY

LIMITED

MONTREAL, QUE.

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HOT BLAST HEATING

MECHANICAL DRAFT

DRYING SYSTEMS OF ALL KINDS
FOR DRYING ANY MATERIAL

SHAVINGS EXHAUST SYSTEMS
INSTALLED COMPLETE

Dry Kiln Trucks and Wheels, Lumber Dryers,
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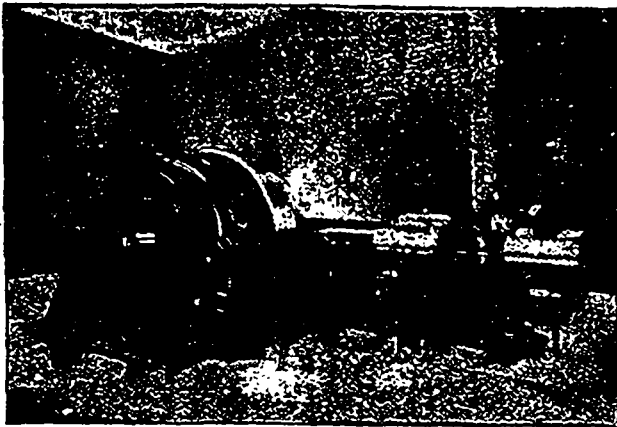
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SHELDONS, LIMITED

Engineers and Manufacturers

GALT, ONT.



SIDE CRANK IDEAL, DIRECT CONNECTED TO GENERATOR.

HIGH SPEED STEAM ENGINES

Centre Crank and Side Crank, Specially Designed for Both Belted and Direct Connection

SEND FOR OUR NEW ILLUSTRATED CATALOGUE No. 6.

IDEAL ENGINES ARE :

Automatically Lubricated, Economical in Use of Fuel, Easily Accessable, Perfectly Balanced, and Noiseless Running.

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WE MAKE Wheelock Engines, Corliss Engines, Ideal High Speed Engines, Boilers, Steam and Power Pumps, Condensers, Flour Mill Machinery, Oatmeal Mill Machinery, Wood Working Machinery, Heading Machinery, Wood Rim Split Pulleys, Iron Pulleys, Shafting, Hangers, Friction Clutch Couplings, Friction Clutch Pulleys, Safes, Vaults and Vault Doors. Send for Catalogue and Prices.

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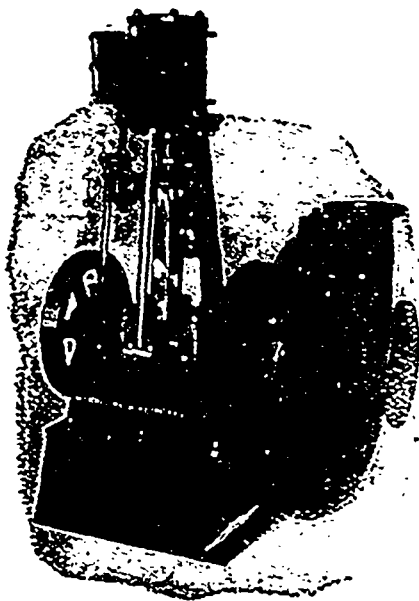
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SPECIAL PUMPING OUTFITS TO SUIT SPECIAL REQUIREMENTS

Estimates Furnished upon Application

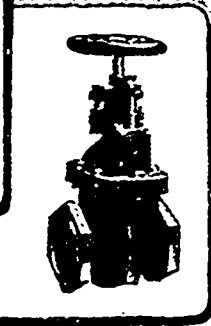
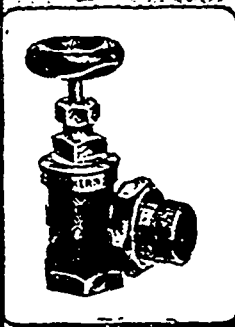


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STRICTLY HIGH GRADE. TESTED & PACKED



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STEEL RAILS

For delivery during the Season of 1907.

Parties intending purchasing will find it to their interests to let us have their specifications at an early date so as to ensure desired deliveries.

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Manufacturers of the well-known

“**C.I.F.**” Three Rivers
Charcoal
Pig Iron

Suitable for Car Wheels, Cylinders and Fine Castings, where the utmost strength is required.

UNSURPASSED IN STRENGTH BY SWEDISH, RUSSIAN OR AMERICAN CHARCOAL IRON.

Offices: Canada Life Insurance Building, **MONTREAL.**

Our Stock List for October shows a number of items just added to our line; viz.:

**SQUARE ROOT ANGLES,
EXTRA HEAVY PIPE,
HOOPS IN CONTINUOUS COIL**

Items we have not carried heretofore. As yet we have not a complete assortment of the various items enumerated above, but expect within a short time to have a complete stock.

Your inquiries and orders for these, as well as anything else in our line, will have our best attention.

**THE
BOURNE-FULLER CO.
IRON, STEEL,
PIG IRON,
COKE.**

Cleveland, Ohio.

Pittsburg Office,

1126 Frick Bldg.

Nova Scotia Steel and Coal Co., Limited

MANUFACTURERS OF

BRIGHT COMPRESSED STEEL SHAFTING

From $\frac{3}{8}$ to 5 inches in Diameter. Guaranteed Straight and True to within $\frac{1}{500}$ of an Inch.

Spring. Reeled Machinery, Tire, Toe Caulk, Sleigh Shoe, Angles, Special Sections and all Merchant Bar Steel. Sheet Steel up to 48 inches wide.

**RAILWAY AND ELECTRIC RAILWAY CAR AXLES, FISH
PLATES, SPIKES AND TRACK BOLTS**

Tee Rails, 12, 18, 24 and 28 lbs. per yard.

HEAVY FORGINGS A SPECIALTY

“SCOTIA” PIG IRON FOR FOUNDRY USE.

WORKS—TRENTON, N.S., and SYDNEY MINES, N.S.

HEAD OFFICE—NEW GLASGOW, NOVA SCOTIA

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HIGH GRADE BAR IRON

COMMON IRON ROLLED FROM BEST
SELECTED SCRAP

SPECIAL REFINED IRON

FORGINGS

OF EVERY DESCRIPTION IN ROUGH OR
ROUGH TURNED

CAR AXLES

OPEN HEARTH BAR STEEL

IN ANY DESIRED CARBON

SPECIALTY OF STEEL FOR SCREWS AND
COLD PRESSED NUTS

PIG IRON

FOUNDRY - BASIC - MALLEABLE

DAILY OUTPUT, 500 TONS

R. R. SPIKES

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CRANK SHAFTS,

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FORGINGS OF ANY DESIRED HIGH CARBON FOR
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Aluminum Stamped, Cast, Spun Articles of any Description to Order.

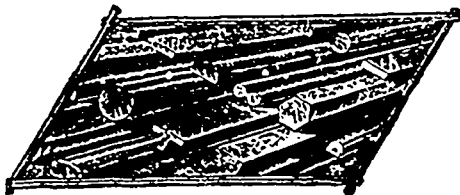
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Cold Die-Rolled
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For Shafting, Piston Rods, Screw
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ASK FOR PRICES



True to Size and Highly Polished.

Union Drawn Steel Co., Limited

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A

WATER CURTAIN

ON THE OUTSIDE OF

YOUR BUILDING

Not only protects it from the
FIRE in a neighboring building
but **REDUCES YOUR
INSURANCE** rate from
40% to 70%

WRITE US TO-DAY FOR FULL PARTICULARS

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TORONTO and MONTREAL.



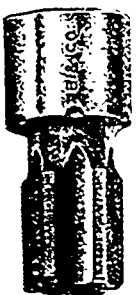
FULL MOUNTED
DERBY SCREW PLATE NO. 119.
1/4 5/16 3/8 7/16 1/2 5/8 3/4 7/8 1"
WITH ONE No. 9 AND ONE No. 11 TAP WRENCH



WE MANUFACTURE

STAY BOLT TAPS, all diameters and lengths up to 94 inches.
SPINDLE STAY BOLT TAPS and TAPS for Screw
Machines, and TAPS for all uses.

Regular and Full Mounted Reece and Derby Plates, Bicycle
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WELLAND, ONT.



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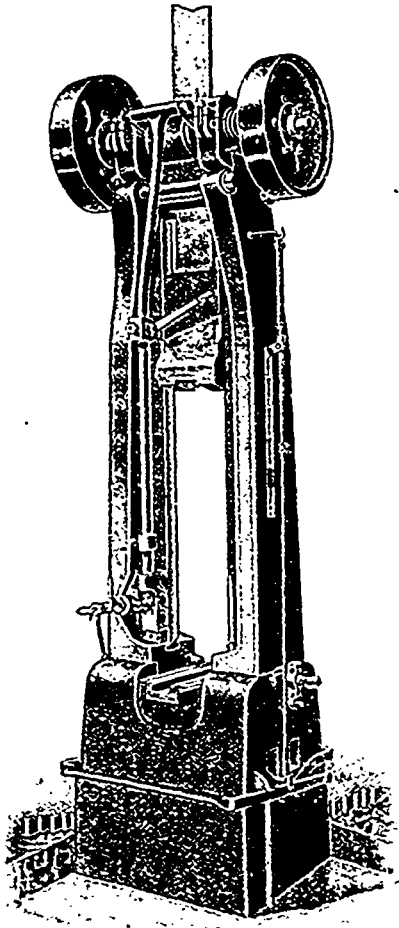
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TRADE MARK

FORGINGS

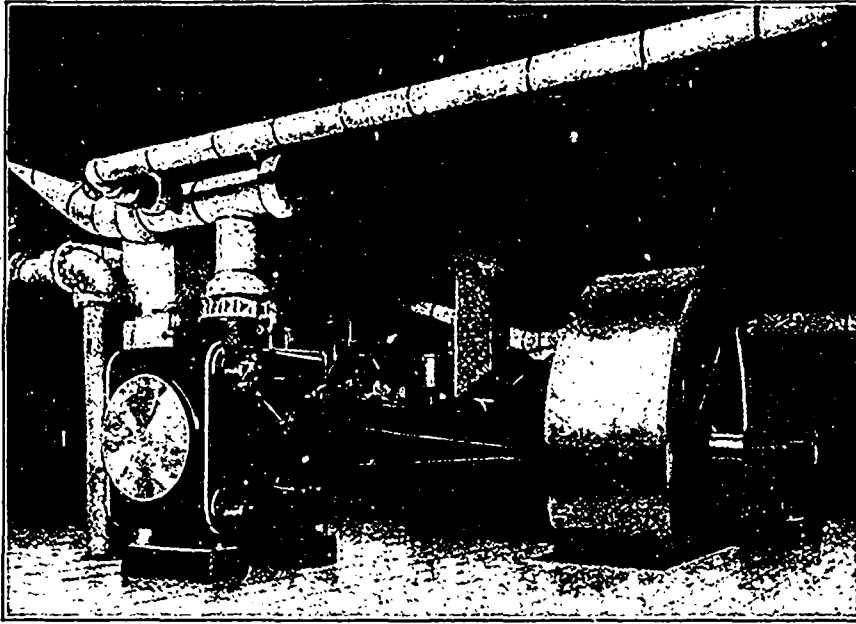
MACHINE WRENCHES
 LOCOMOTIVE and
 CAR FORGINGS
 CRANK SHAFTS,
 CONNECTING RODS
 AUTOMOBILE
 FORGINGS
 LATHE DOGS,
 EYE BOLTS



All Machinery Parts in Steel,
 Iron, Copper and Bronze

American Works:
THE BILLINGS & SPENCER CO.
 HARTFORD,
 CONN.

SEND
MODEL OR DRAWINGS
FOR ESTIMATES



This cut shows one of the six Robb-Armstrong Coriss Engines in the Plant of J. R. Booth, Ottawa.

ROBB ENGINEERING CO., Limited, AMHERST, N.S.

DISTRICT OFFICES } 320 Ossington Avenue, Toronto; Wm. McKay, Manager.
Bell Telephone Building, Montreal; Watson Jack, Manager.
365 Carlton Street, Winnipeg; J. F. Porter, Manager.

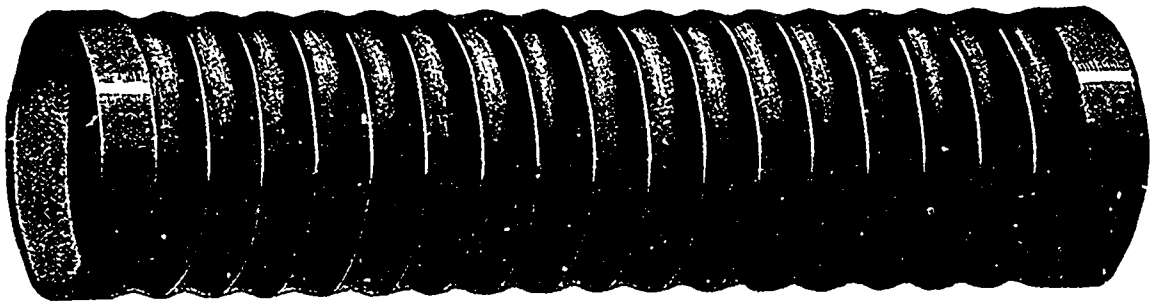
MORISON Suspension Furnaces

For Land and Marine Boilers

With Plain Ends or Flanged to any required shape.

Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

The universally satisfactory record of "THE MORISON" proclaims it the best furnace made.



MANUFACTURED BY

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Sole Canadian Agent—MR. GEORGE HOLLAND, M. C. Soc. C. E., P. O. Box 529, MONTREAL

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THE CANADIAN COPPER COMPANY.

NICKEL FOR NICKEL STEEL

THE ORFORD COPPER COMPANY.

WRITE US FOR PARTICULARS AND PRICES.

General Offices: 43 Exchange Place, NEW YORK.

Hot Pressed Nuts, Cold Pressed Nuts, Set Screws, Cap Screws, Engine Studs, Coupling Bolts.

Have you any small special pieces that are costing you too much to make? If so, send us samples and ask for quotation.

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Ingersoll, Ont., and Montreal, Que.
Also operating Ingersoll Nut Co., Limited, Ingersoll, Ont.

THE TELEPHONE

Is a Companion, Friend and Servant Combined.
Invaluable for convenience in the household.

LONG DISTANCE TELEPHONE SERVICE

has no equal for the facility it affords in business life.

Full particulars as to rates and service at the nearest office of the

BELL TELEPHONE COMPANY OF CANADA.



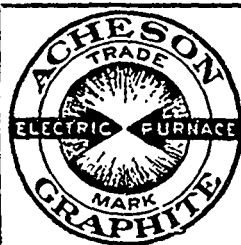
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MONTREAL, QUE.

Perforated Sheet Metals

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Brass, Copper, Steel, Etc.
All sizes of perforations and thickness of metals for
Miners' use.
Grain cleaning machinery.
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ACHESON=GRAPHITE—The Purest in the World

Manufactured in the Electric Furnace. Write us for full information regarding the use of this material in lubricating compounds, pipe joint compounds, as foundry facings, for electrotyping purposes, etc.

ACHESON-GRAPHITE ELECTRODES. Best for Furnace Work

Works at NIAGARA FALLS, ONT. - - - - NIAGARA FALLS, N. Y.

INTERNATIONAL-ACHESON-GRAPHITE CO., Niagara Falls, N. Y., U. S. A.

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The GARTSHORE-THOMSON PIPE & FOUNDRY CO. LIMITED



For Water, Gas, Culverts and Sewers **WATER WORKS SUPPLIES**
3 in. to 60 in. diameter.
Special Castings and all kinds of **Flexible and Flange Pipe**
HAMILTON, ONT.

BANK OF HAMILTON

J. TURNBULL, General Manager

HEAD OFFICE, - HAMILTON, ONT.

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96 Branches Throughout the Dominion of Canada.

Collections made in all parts of Canada on most favorable terms.

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THIS BATTLESHIP IS LINED WITH
SYRACUSE SMELTING WKS. "BABBITT"
IT IS POSITIVELY THE BEST
SYRACUSE SMELTING WORKS

Is adapted to all purposes. Has a tensile strength of 10,000 pounds to the square inch. Has no fear of high speed and heavy pressure. One pound of the MANGANESE Brand will cover as much space as one and one-half pounds of any other metal at the same price. Will not chill in the ladle. Will cast true to the mould,

IMPROVEMENT OF THE AGE

U. S. BATTLESHIP "NEBRASKA"
Is lined throughout with

SYRACUSE SMELTING WORKS'
BABBITT METALS

MANGANESE ANTI-FRICTION BABBITT METAL—"The Best by Test"
Because of its Malleability, Ductility, Toughness, Hardness, Plasticity, Fusibility and Fluidity

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Saves oil: Is an assurance against breakdowns or unnecessary delays.

SAVES TIME, MONEY, LABOR. Is sold under a written guarantee.

SPECIAL INDUCEMENTS TO JOBBERS.

SYRACUSE SMELTING WORKS, - Montreal, Que.

Albert Manufacturing Co.

MANUFACTURERS OF THE WELL-KNOWN

"Hammer Brand"

Calcined Plaster

AND

PATENT ROCK WALL PLASTER.

HILLSBOROUGH, N.B., CANADA.

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TANNERS & MANUFACTURERS OF
OAK LEATHER BELTING
AND **LACE LEATHER**
HYDRAULIC & MECHANICAL LEATHERS
DEALERS IN GENERAL MILL SUPPLIES.
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Eugene F. Phillips Electrical Works, Limited

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CANADA

TORONTO BRANCH,
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Bare and Insulated Electric Wire

Electric Light Line Wire, Incandescent and Flexible Cords.

Railway Feeder and Trolley Wire

Americanite, Magnet, Office and Annunciator Wires, Cables for Aerial and Underground Uses.

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THE
LTD
TRADE MARK
THE SIGN OF QUALITY.

FAIRBANK'S BRAND LEATHER AND RUBBER BELTING

WE CAN SUPPLY YOU WITH

Special Belts for Dynamos, Motors, Etc.

Power Transmission Machinery

THE CANADIAN FAIRBANKS CO., Ltd.

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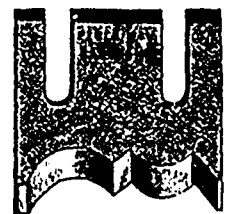
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VANCOUVER

THE PETER HAY KNIFE CO., Limited



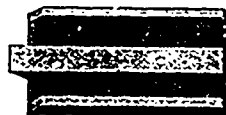
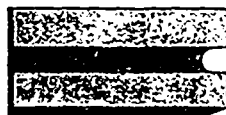
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MACHINE KNIVES

For WOOD-WORKING,
PAPER CUTTING and LEATHER SPLITTING
MACHINES,



Quality Warranted.

Send for Price List.

SHEAR BLADES,

BARK and RAG KNIVES.

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All Products of Petroleum

Main Offices: Marketing Department, Montreal, Winnipeg, St. John, Halifax.

ELECTRIC LAMP TESTING

Do you furnish your own lamps?

Are you constantly renewing them?

Or increasing your light bill by burning them after they have become dim, in order to save cost of renewals?

WHY NOT DETERMINE IF YOUR LAMPS ARE EFFICIENT AND FULFILLING SPECIFICATIONS BY HAVING THEM TESTED?

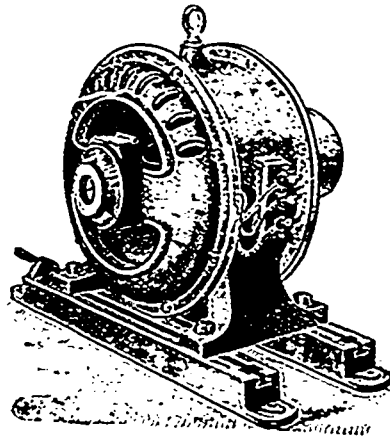
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40 HOSPITAL STREET, MONTREAL.

**Motors, Dynamos,
Fixtures, Shades,
Heating Apparatus,
Transformers,
Telephones, Etc.**

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**Toronto and Hamilton
Electric Co.**



**ALTERNATING CURRENT MOTORS
and DYNAMOS for all Circuits.**

REPAIRS PROMPTLY EXECUTED.

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NEW BOILERS IN STOCK

FOR 100 POUNDS—

2 42" x 12'	35 H.P.
2 48" x 12'	45 H.P.
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2 Locomotive	25 H.P.
1 Locomotive	40 H.P.

FOR 125 POUNDS—

5 60" x 16'	90 H.P.
2 66" x 14'	100 H.P.
3 66" x 16'	110 H.P.
5 72" x 16'	130 H.P.
5 72" x 18'	150 H.P.

MADE IN CANADA BY

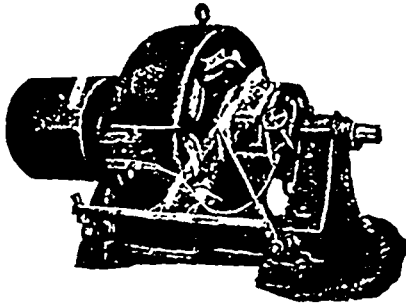
CANADA FOUNDRY COMPANY, Limited

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ELECTRICAL CONTRACTORS.



Dynamos, Telephones,
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We manufacture Direct
Current Machinery in all
sizes and for any purpose.

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Long Distance Phone 1103.

The Electrical Construction Co. of London,
LIMITED

32-40 Dundas Street, London, Can.

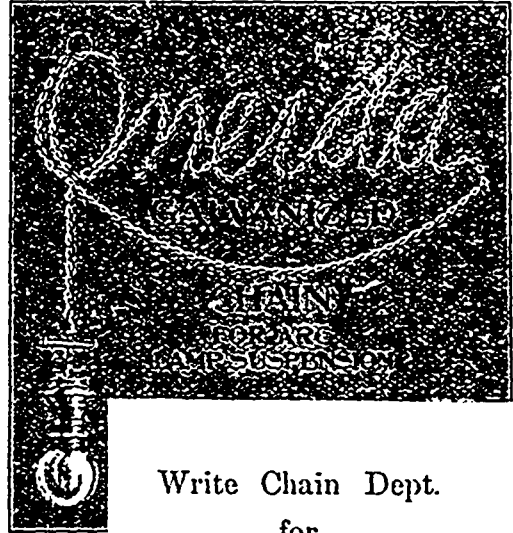
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DYNAMOS AND MOTORS

Multipolar or Bipolar, Direct-Connected or Belted.

Over 1500 of our machines in use.
We contract for complete installations, including wiring of
factories.

We repair machines of any make.
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Branches at VANCOUVER. WINNIPEG. TORONTO.
MONTREAL. HALIFAX



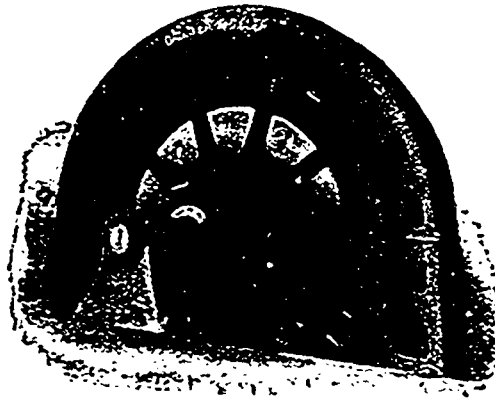
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for

"Lifting the Light" pamphlet

**Oneida Community
Limited**

Niagara Falls, Ont.

CROCKER-WHEELER COMPANY



ALTERNATING CURRENT GENERATORS.

Outputs—Belt Type, 25 K.V.A. up.

Engine Type, 75 K.V.A. up.

Canadian Representatives

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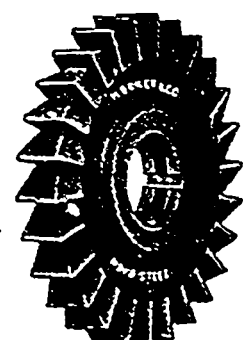
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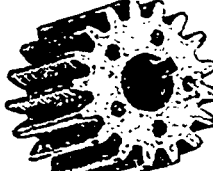
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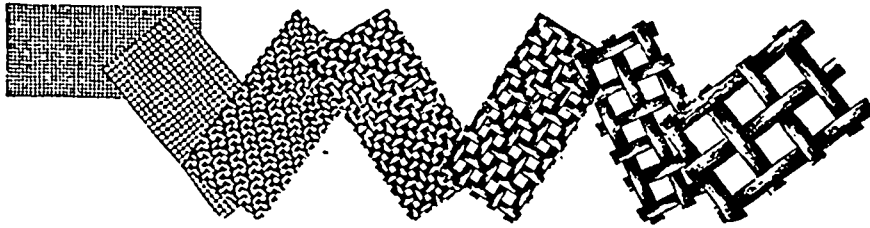
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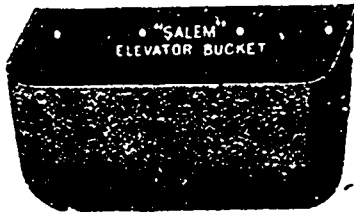
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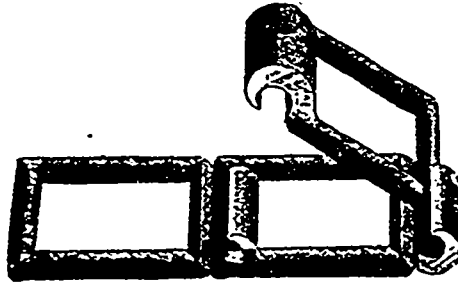


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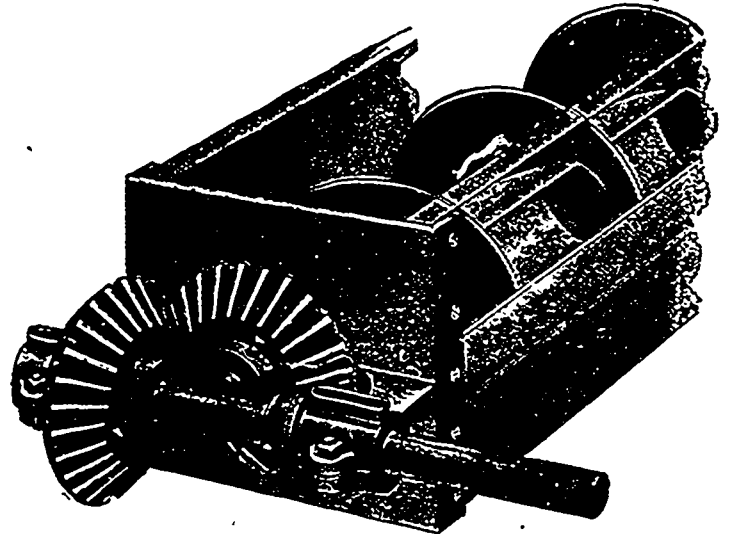
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NINETY-EIGHT "GIVE-AWAY" ITEMS.

The French treaty, laid before the House of Commons at Ottawa last week, is, according to *The Globe*, the first of a series of preferential trade bargains following upon the British preference intended to put Canada in an advantageous position in exporting her products to the world's markets. In effect, Canada has said to France: "There are 98 items in our tariff lists on which we think you can do very well if we give you the benefit of our intermediate tariff, which is just a little higher than the tariff levied against goods from the Motherland. There are several items on which we can afford to give you even lower rates than those of the British preference, but you must, of course, share these concessions with the British merchant."

France in return says to Canada: "There are 152 items in our tariff on which we think you will do very well when you get the benefit of the minimum rates. We need meats, foodstuffs, of various sorts, fish, forest products, and a good many manufactured articles that you can make for us."

The treaty is made on these specific items, the intent being not to tie Canada's hands by any general clause that would prevent the making of treaties with other countries. Indeed, it is the intention of Mr. Fielding and his colleagues to make similar trade agreements with such countries as Germany, Italy, and with the Australian Commonwealth at as early a time as possible.

THE PRICE OF PROTECTION.

It is an oft-quoted saying that "eternal vigilance is the price of liberty." Finance Minister Fielding, on a certain occasion told a deputation of manufacturers who had waited upon him in tariff matters, that "eternal

vigilance is the price of protection." And, indeed it is; and we may say that perpetual organization among manufacturers in the cause of tariff protection to Canadian manufacturing industries is, as Mr. Fielding says, the price of safety to them. The question is whether we are to have a policy of adequate tariff protection to all our industries, or whether the policy shall be based on a tariff for revenue only. If a tariff for adequate protection is adopted, the extent and amount of duties to be levied on different articles may be readily and satisfactorily adjusted, but the most important thing is to maintain the policy of protection.

In the United States each particular industry is organized for self-protection and they maintain their trade associations to watch over their interests; but, however much the interests of these may differ or vary as regards their respective trades, all manufacturers are agreed as to the necessity of a general policy of tariff protection.

We are not without warnings as to the danger of neglecting organization in connection with maintaining a policy of tariff protection to our manufacturing industries. There may be, in fact are many other things that manufacturers require and which should be looked after by organizations, but at this time we are not referring to them. Our desire is to point out and emphasize the necessity of manufacturers maintaining an organization which should be perpetual, for the great purpose of keeping alive and teaching the policy of protection.

In 1858 there was a movement in what was then known as Old Canada, under the leadership of Hon. Isaac Buchanan, for the adoption of tariff protection to home manufacturers. The movement was successful, and in that year the government adopted a policy of protection, the average rates of duty being placed at 20 and 25 per cent. Then the men who had been the life of the movement relaxed their energies and allowed their organization to fall into disuse. Of course the result was disastrous. When the details of Confederation were under consideration in 1865 and 1866, duties were reduced to an average of about 15 per cent. A brave minority in Parliament, including men of both political parties fought against the reduction, but were powerless to prevent it. The Canadian Industrial Association, as the organization had been called, which had been formed in 1858, had become defunct. There was no machinery for advocating and perpetuating its principles before the people. There was a great pressure to be contended against from the Maritime Provinces, in favor of free trade. The pressure from England in the same direction was stronger still, though exercised, chiefly, in a manner of which the people of Old Canada knew little or nothing. Our public men succumbed to the pressure—it was too much for them to stand up against.

It should be remembered that the tariff adopted in 1858, and the amendments of 1859 was at the time working most satisfactorily in both Ontario and Quebec. Not a single petition for changing back to the old status was presented to Parliament; not a single public meeting was held in the county to demand it, nor did any deputations wait upon the ministers for that purpose. Both

Ontario and Quebec were well satisfied with the 1858 tariff, for they were prosperous and contented; but there was no organization to give voice to the popular feeling, and a change, of which it is safe to say not one fourth of the people approved, was carried out. With the association of 1858 in existence, and public meetings held in protest of the change in the leading manufacturing centres, Parliament would have hesitated and refrained from destroying the good work of eight years before. In the public mind the importance of Confederation appeared to overshadow everything else, and there was no organization to act in the emergency, and the cause of protection for home manufacturers was allowed to go by default.

This great mistake of 1866 was followed by loss of confidence and consequent hard times and financial difficulties of very disastrous character. To recall this episode in our history is no reflection on the government of that day, for in 1866 our statesmen did not feel behind them enough strength of public opinion to resist the enormous pressure from the Mother Country in favor of free trade. For thirty years after 1866 the British free trade sentiment had but comparatively little influence on Canadian politics. The great work of the Canadian Industrial Association of 1858 and the lamentable consequences resulting from the want of such an organization in 1865 and 1866 carry to us a lesson which should not now be forgotten. It was not forgotten in 1874; and the organization then formed, or revived, did excellent work for many years in the cause of tariff protection. This latter organization had but one object in view, and a most important result was the adoption by Canada of the National Policy; and as long as that policy was kept strictly in view, and lived up to, the manufacturing industries of the country prospered. Alas! at this time there is no organization in Canada that gives its entire time and energies to promoting the National Policy, and in consequence the cause of tariff protection languishes.

Manufacturers should not close their eye to the political perils that beset their interests. The cause of tariff protection is imperilled, and if the organizations of 1858 and of 1874 were of paramount importance, of even a greater importance are the circumstances that now confront them. What is needed is an organization that will devote its whole time, and energies to the cause of protection.

THE TARIFF IN POLITICS.

It is quite a familiar cry now-a-day among some manufacturers that the tariff is not in politics; if it ever was it should not have been; and whatever differences there may be between political parties, they are upon grounds other than the tariff. We differ in that opinion, and we beg of any who know to inform in what constitutes politics? Absolutely the greatest question that confronts any government is how to raise revenue. We have no knowledge of any enlightened responsible government in modern times with whom this question of how to raise revenue was not the most important with which they

had to deal—it is so with all governments; and in all countries without exception differences of opinion exist on the subject. How, then, can it be said that the tariff can be taken out of politics? Before the confederation of the Canadian provinces a tariff existed that was to some extent protective in its character, but, unfortunately on the insistence of the British Government, which was then as now, under the influence of Cobdenism, the protective features of the tariff were abandoned and a tariff for revenue only was substituted. We do not understand that the first government of the Dominion, under Sir John Macdonald, concerned itself very much one way or the other in tariff matters—they had too many other things to look after—and for reasons other than the tariff they lost power. Sir John, of course, in his ambition to regain power did what the Mackenzie regime absolutely refused to do—listen to the complaints of the manufacturers for tariff protection on their products; and while he could not have hoped for success under any other banner, he swept the country under that of tariff protection to Canadian manufacturing industries. As between the two political parties the question of the tariff was the important dividing line, the issues being whether the fiscal policy should be protection or free trade as far as it could be applied to Canadian affairs.

From the reinstatement of Sir John until the overthrow of his party in 1896, protection held sway in Canada; and it was not by any mandate on the part of the people that protection was abandoned. Protection was not a matter of discussion by the politicians of either party pending the elections. The Conservative party was completely outgeneralled by the Liberals, and Mr. Laurier acceded to power. If the Conservatives had fought the battle on the tariff protection issue no doubt they would have retained possession of the government until this day.

In preparing for the then approaching conflict the Liberal party held a convention at Ottawa in 1893 at which they laid down a platform of principles by which they hoped to win. Mr. Laurier, who was then leader of the opposition, Sir Richard Cartwright, the war horse and doughty old free trade fighter, and others did not fail to express their views regarding protection; and knowing these views the Conservatives were forewarned as to what the Liberals proposed doing should they accede to power. At that Convention Mr. Laurier said:—

“The Conservatives want to reform the tariff and still retain the principles of protection; but I submit to you that the ideal system is the British system of free trade. Let it be well understood that from this moment we have a distinct issue with the party in power. Their ideal is protection: our ideal is free trade.”

Sir Richard Cartwright never lost an opportunity to denounce protection; and on various occasions said things that were bitter pills for manufacturers to swallow. From his place in the House of Commons, according to Hansard, Sir Richard said:

“Our policy from first to last has been to destroy this villainous protective system. I do not care in what particular way the reptile is destroyed, I do not care whether it is cut off by the head, or the tail, or in the

middle. I do not care whether it is by free trade, positive or absolute, by revenue tariff, or by continental free trade."

Sir Wilfrid in a speech at Waterloo in 1894 said: "I denounce to you the policy of protection as bondage, yes, bondage; and I refer to bondage in the same manner in which American slavery was bondage. Our policy is freedom of trade as it exists in England—such as is practised in Great Britain. I propose we should follow England's example, and open our ports to the products of the world."

Does any one suppose that since his elevation to power Sir Wilfrid Laurier has changed his opinions regarding protection? He had declared himself opposed to it. He had declared that he and his party had a distinct issue with the opposing political party; that their ideal was protection while his ideal was free trade. Has Sir Wilfrid changed his views since then? Is he any the less a free trader now than he was then? He found it impolitic and impossible to jump out of the Conservative frying pan of protection as he found it when he came into power, into the fire of free trade as he wanted it; but has he not been changing the fiscal policy from protection to free trade as rapidly as possible ever since? It is certainly to be seen of every observer that every important fiscal move his government has made, from their incipency of his preferential tariff to British manufacturers programme, to the ratification of a commercial treaty with France, that he is rushing the country into free trade as fast as possible, and to the delight of all the friends of Cobdenism.

And yet there are those here in Canada who tell us that the tariff is not and should not be a political question—that it is not and should not be a bone of contention between political parties.

AN EXPORT DUTY ON PULPWOOD.

A delegation representing the pulp and paper section of the Canadian Manufacturers' Association recently had a conference with the prime minister at Ottawa with a view to inducing the government to impose an export duty on pulpwood. The deputation included president J. D. Rolland and Mr. C. Riordan, Mr. J. R. Booth; Mr. Rowley, manager of E. B. Eddy Paper Co.; F. C. Campbell, of the Canada Paper Co; H. Beirmans of the Belgo-Canadian Manufacturing Co.; L. Armstrong, of Grandmere, Que., and Albert Maclaren, of Buckingham, Que. The deputation strongly urged views against allowing the exportation of pulp, as expressed at the recent meeting of the Manufacturers' Association in Toronto, pointing out that such a policy would make for the conservation of Canada's pulpwood resources and would compel the American manufacturers to erect their own mills in Canada, thereby assisting to build up a great industry in Canada.

The following memorial was presented to the Government by the deputation:

"Whereas it has been the policy of the Federal Government to encourage and promote manufacture within the bounds of the Dominion by duties sufficiently high to protect home manufacture, and by bounties to encourage

the use of home raw material; and whereas the Federal Government has expended large amounts to promote agriculture and to encourage immigration from the motherland and foreign countries; and whereas we have within the bounds of Canada as a natural product spruce pulpwood capable of providing employment for a large number of our people, and for many who may come to find homes here; and whereas this wood grown in Canada is shipped to the United States to keep pulp and paper mills in that country running; and whereas our present natural advantages should make pulp and paper our greatest industry; and whereas the exporters are stripping the lands of wood, while those of permanent interests in the country are striving to conserve the forests; and whereas the crop of pulpwood is of very slow growth, and the supply already becoming inaccessible; and whereas the free export of pulpwood to the United States, combined with the tariff against our pulp and paper, favors the development of the paper industry in the United States rather than in Canada; therefore, your petitioners humbly pray that the exportation of pulpwood be prohibited by the Federal Government."

As a matter of course a large amount of disgruntlement exists among American paper manufacturers and American newspapers at the idea that a most important and necessary source of supply for their raw material should be thus restricted. Representatives of the industry in the United States, both producers and consumers, are constantly visiting Canada in quest of lands from which spruce logs can be obtained, the object being to denude the lands and carry away the logs to be manufactured into pulp and paper in their country. They find that the forest wealth of their country is fast disappearing through the improvident and disastrous methods observed by American lumbermen, and that unless stricter methods of conservation are practised it will not be long before the various industries of their country dependent upon forest products will have to go out of business for lack of raw materials, or depend upon Canada and other countries for it. A writer in the Boston Transcript discussing the rapid melting away of American forests, says:—

"We have cut and slashed our great forests in the most wasteful manner, forgetting that there was any limit to our resources, and made barren wastes of great areas of country. The stern logic of events, however, finally brought to the attention of the thoughtful the absolute peril that confronted us. Then forestry, which had been practised in other countries for hundreds of years, was invoked to prevent the utter destruction of our standing timber.

"To illustrate the situation in figures, the approximate annual output of forest products is given as follows:

	Quantity.	Value.
Lumber, board feet.....	35,000,000,000	\$560,000,000
Firewood, cords.....	100,000,000	350,000,000
Shingles, lath.....	.....	30,000,000
Hewed crossties.....	70,000,000	30,000,000
Cooperage stock.....	.....	25,000,000
Turpentine and resin.....	.....	25,000,000
Pulpwood, cords.....	3,000,000	25,000,000
Timber exported (unsawn)	.....	10,000,000
Mine timber, posts, etc...	.....	30,000,000

Total annual value..... \$1,075,000,000

The New York Commerical is one of our contemporaries that feels badly over the matter, and says so. It tells

us that "Canada manufacturers are selfish, and short-sighted, and affect to have fear that the paper consumers of the United States will speedily exhaust Canada's pulpwood resources." "Their prime purpose," it says, "is plain enough, of course—that is, they would so 'fix things' that the paper manufacturers of the United States would be cut off from the use of Canadian pulpwood and thus the paper consumers of this country be forced to buy and import Canada-made paper. In other words, their fears as to the exhausting of the pulpwood supply are a myth, a hollow mockery; they really want the export to continue but in the form of paper instead of pulpwood; and they know well enough that the imposition of an export duty on spruce logs would tend to narrow the market for that product and thus enable them to buy the raw material cheaper than at present. They are extremely short-sighted, for the levying of an export duty on spruce logs by Canada would not put our American Congress in a mood to take off the duty on Canada-made paper—and these Canadian paper manufacturers ought to know that the more open and free the American market is the better it will be for their business. . . .

"This means only one thing—an invitation to the Dominion government to impose an export duty on all spruce logs going into the United States from Canada—an effort to induce legislation that would tend to shift the manufacture of the great bulk of white paper in North America from the United States to Canada. We are now manufacturing and using here in the United States more than \$200,000,000 worth of this product every year; we do get some of the raw material for it from Canada; but the extent of our 'dependence' on Canada for it is grossly, almost ludicrously, exaggerated; and there is no exceptional stress of spruce-land conditions in Canada that would warrant a deliberate attempt to ruin an industry in a friendly country in order to build it up at home.

"If Canada wants our American market increasingly for her white paper product, the most absolutely unwise thing that she could do would be to raise a prohibitory wall against the exportation to the United States of her raw material for paper manufacture; once let her do that, and the chances would be immeasurably decreased for the United States ever lowering the present tariff wall against the importation of Canadian paper. What Canada needs is to broaden the market for her white paper, if she would develop that industry. But the surest way to narrow it would be to antagonize at the outset one of her very best prospective customers."

The United States is a large consumer as well as manufacturer of paper. In 1906 the dutiable imports of paper and manufactures of from all the world were valued at \$5,748,255, of which Germany contributed to the value of \$2,424,006, and Canada only \$111,936. In the same year the American imports of wood pulp (dutiable) were 157,224 tons, valued at \$4,584,942, of which Canada supplied 116,258 tons valued at \$2,503,362.

In the same year the American imports of logs and round timber, which means spruce, which are admitted

duty free if imported from countries which do not impose an export duty thereon, were 100,542 thousand feet, valued at \$773,260, of which Canada supplied 100,480 thousand feet valued at \$772,272.

These facts show that in addition to the home production of paper in the United States in which, the New York Commercial says, amounts in value to more than \$200,000,000 a year, the imports of paper in 1906 were valued at \$5,748,255, of wood pulp \$4,584,942, and of pulp wood, \$773,260—total \$11,106,457, of which Canada's contribution was: of paper \$111,936; wood pulp, \$2,503,362, and of pulp wood, \$772,272—total, \$3,387,570.

The dependence of the United States' paper mills for raw materials—pulp logs and paper pulp—upon other countries in 1906 was \$5,358,202, of which Canada supplied \$3,275,634, all other countries supplying to the extent of only \$2,082,568.

The Commercial tells us that "if Canada wants the American market for her white paper products, the most absolutely unwise thing that she could do would be to raise a prohibitory wall against the exportation to the United States of her raw material for paper manufacture. Once let her do that, and the chances would be immeasurably decreased for the United States ever lowering the present tariff wall against the importation of Canadian paper." Our contemporary should understand that Canada proposes to do and does do just exactly what the United States does—make her tariff laws to suit herself; and can but look with amazement at the threats and bullying and attempts at interfering in Canada's concerns. But Canada is accustomed to such exhibitions of unfriendliness. At the rate of forest denudation now going on in the United States, at a cost of \$1,075,000,000 as herein shown, spruce growth there, will soon be a thing of the past; and if American paper manufacturers will then desire to continue in business they will probably be glad to purchase Canadian pulp. If the United States think it in the interest of paper makers and paper consumers in that country to unduly increase the duties on Canadian pulp, or Canadian paper, it will hurt them and not Canada.

"Harvesters, if imported by farmers for use in producing grain, free; if imported by anyone else, 20 per cent. ad valorem." This is the kind of item we may look for in the tariff after the united Dominion Grange and Farmers' Association have brought their influence to bear in parliament.—The Globe.

Those who are not farmers and there are a great many such in Canada—are large contributors through the government to the establishing and maintaining of large ocean steamers for carrying the grain of Canadian farmers to many distant parts of the world where it has to meet the competition of Russia, Argentina, Turkey, and cheap labor countries, with which they could not compete but for the cheap transportation afforded them. Why not those who are not farmers oppose the scheme of the united Dominion Grange and Farmers' Association by saving the expense of the contribution to foreign transportation companies; or would it not be better to live and let live?

The French Trade Treaty

A Summary of the Trade Treaty between France and Canada
Which Goes Into Effect at Once.

The Franco-Canadian treaty which was concluded at Paris on September 19 last, negotiated on the part of Canada by Hon. W. S. Fielding, Canadian Minister of Finance, and Hon. L. P. Brodeur, Canadian Minister of Marine and Fisheries, and by Sir Francis Bertie, British Ambassador at Paris, was presented to the Dominion House of Commons on Thursday of last week, November 28, 1907, the opening day of Parliament. It will be ratified without doubt and without delay; and by agreement the ratification was to have been made concurrently by the French government, when it was to go into effect, in both countries.

The treaty supersedes the previous treaty, which was approved by the Canadian Parliament in 1894.

The old treaty gave to Canada in the French market the minimum tariff rates on a number of articles, chiefly the products of the fisheries and the forest. It gave to France in the Canadian market special rates of duty on a number of French specialties, of which the most important were champagnes and wines.

The new treaty gives to France in Canadian markets the benefit of the Canadian intermediate tariff on 98 tariff items. In addition to these, concessions below the intermediate tariff are granted to France on a number of French specialties. The rates on champagnes remain the same as in the old treaty. The duties on light wines are graded in proportion to their alcoholic strength. Those containing more than 23 per cent. of alcohol and not more than 26 per cent. remain at the same rate of duty as now—namely, 25 cents per gallon. The lighter wines containing only 20 per cent. or less of alcohol are to come in at 15 cents per gallon. Those containing more than 20 per cent. and not more than 23 per cent. of alcohol are to bear duty at 20 cents per gallon.

Canned vegetables, except tomatoes, are to bear duty at one cent per pound. Anchovies, sardines, etc., two cents per box.

Novels or works of fiction, etc., unbound or paper bound, printed in the French language, 15 per cent. ad valorem. Other books in the French language, 5 per cent. ad valorem. Liquid medicines, not containing alcohol, 25 per cent. ad valorem. Olive oil, 15 per cent. ad valorem.

Embroideries, lace, manufactures of lace, nettings of cotton, linen, silk, etc., 27½ per cent. Velvets of pure silk and silk fabrics, 20 per cent. Ribbons of all kinds and materials, 25 per cent. Manufactures of silk, 32½ per cent.

In several of these cases the duties are the same as in the British preferential tariff, and in one or two cases they are lower than the rates of the British preferential tariff, but these are cases in which Britain does not produce the goods. In any case where the British preferential rate is higher it follows that it will be reduced to the rates of the French treaty. In the case of embroideries, laces, velvets and silk goods the treaty rates are above those of the British preferential tariff.

On the other hand, Canada is to enjoy the

benefit of the French market at the rate of duty in the French minimum tariff upon 152 tariff items. These include nearly all the products of the farm, meats, fish, wood goods, pulp, paper and a considerable line of manufactured goods, some of which are already exported from Canada and others are of a class which might in future be exported.

In the case of a number of these items, which are printed in italic in the treaty as brought down, the rates of the French minimum tariff are the same as the rates of the French general tariff, but by putting them in the list Canada is assured of the benefit of any reduction which may hereafter be made on such items. In the old treaty Canada received guarantees of favored-nation treatment in France as respects the particular articles mentioned in the treaty, while France, on the other hand, received guarantees of favored-nation treatment in all tariff and commercial matters.

In the new treaty the conditions are reciprocal. France receives favored-nation treatment in Canada on the list of articles mentioned in the schedules. Canada receives favored-nation treatment in France on all the articles mentioned in the schedules. This clause opens the way for negotiating further trade treaties with other countries without having any reduction in the tariff rates given them apply necessarily also to France.

In the old treaty the benefit of the reduced rates on Canadian products was limited to such articles when sent to France by direct ship, while France received concessions on the articles named coming into Canada, irrespective of the route. In the new treaty the conditions are reciprocal. Canada receives the benefit of the concessions on all goods mentioned in schedules sent to France by direct ship. If the goods mentioned in the schedules be sent indirectly by way of a country enjoying the benefit of the French minimum tariff, the minimum tariff will still apply, subject, however, to a special tax as hereinafter mentioned. France receives the benefit of the concessions on all goods mentioned in the schedules, when conveyed direct to Canada without transshipment, or by way of a country enjoying either the preferential or the intermediate tariff. In the case of all shipments from non-European countries which go to France indirectly, France has for some years imposed a special tax known as "surtax d'entrepot." Canada in the treaty reserves the right to impose a similar tax on French goods coming indirectly.

In any case in which an article now exempt from duty in France is hereafter made dutiable, Canada is assured the most favorable rate granted to any foreign country.

Reciprocally, if any article, which is now free from duty under the Canadian intermediate tariff shall hereafter become liable to duty, France is assured of the most favorable rate granted to any foreign country. The treaty applies to Algeria, French colonies and possessions, and the territories of the protectorate of Indo-China, as well as to France proper, and may be after applied to

Tunis on a declaration to that effect exchanged before the high contracting parties. Certificates of origin may be required to accompany the goods of either country to secure the benefit of the concessions granted. If either Government wishes to have such certificates made through official agents they will appoint officers who will give such certificates free of charge.

Canada and France undertake not to establish one against the other any prohibition or restriction of importation, exportation or transit, which shall not apply at the same time to other countries. Except as regards tariff provisions, Canada and France accord to each other reciprocally the most-favored-nation treatment in either in relation to trade. Provision is made that neither country will establish any exceptional internal taxation against the goods of the other. Drawbacks on exportation allowed by either country are not to exceed the duty collected on the articles or materials used in their manufacture.

Patterns or samples used by commercial travellers or agents are to be reciprocally admitted to both countries on the payment of duty, with the right to obtain a refund on re-exportation within twelve months. Where certificates of value are issued by recognized Chambers of Commerce such certificates shall be taken into consideration by the respective customs officials in levying duties, but shall not be deemed to be final and conclusive. In like manner certificates of analysis of French wines issued under the authority of the French government shall be taken into consideration by the Canadian customs authorities in determining alcoholic strength, but these certificates shall not be deemed to be final or conclusive. Canada and France grant to each other reciprocally the most-favored-nation treatment in protection of trade marks, patent commercial names and industrial designs and patents.

The convention is to be approved by the French Chambers and by the Parliament of Canada, after which ratifications are to be exchanged at Paris, and the treaty will then come into force. Reference is made to a period of ten years as the contemplated period of the treaty, but either party may terminate the treaty at any time by twelve months' notice.

The French commissioners strongly urged when the treaty was in course of preparation that France should get the whole benefit of the British preferential tariff, but the Canadian commissioners would not agree to any such proposal, with the result that the tariff against British goods will be in nearly every item of importance to the British manufacturer considerably below the tariff against French goods.

The gradation in the wine duties is made with a view to encouraging the importation of light wines rather than heavier wines.

The provision with respect to goods coming direct to Canadian ports will help to build up Canadian shipping and Canadian ports. The total value of the Canadian exports enumerated in the treaty as getting the preferential

French rate amounts to about 200 million dollars. The reduction in duties given by the advantage of the minimum French tariff, as compared with the present schedule, varies from about five to 25 per cent. On agricultural implements, for instance, Canadian manufacturers would be allowed to export goods to France at a lower rate of duty than afforded the manufacturer of the United States or any other country.

The principal items of Canadian products, which will enjoy the benefit of the minimum French tariff when the treaty is ratified are as follows:—Horses and cattle, poultry, meats, dairy products, honey, fish, grain, malt, pulse, potatoes,

Photographs, chromos, chromotypes, artotypes, oleographs, paintings, drawings, pictures, engravings or prints or proofs therefrom and similar work or art, n.o.p. blue prints, building plans, maps and charts, n.o.p., acid, acetic and pyroligneous, n.o.p., and vinegar, all medicinal, chemical and pharmaceutical preparations, compounded of more than one substance, including patent and proprietary preparations, glue and mucilage, gelatine, casein, adhesive paste and isinglass, soap, pomades, French or flower odors, preserved in fat or oil, perfumery, including toilet preparations non-alcoholic, antiseptic surgical dressing. Celluloid, moulded into sizes for handles of knives and forks, not bored or otherwise manufactured, moulded celluloid balls and cylinders, but not finished or further manufactured, and celluloid lamp shade blanks and comb blanks, printing and writing ink. Essential oils, n.o.p., tableware of china, porcelain, white granite or ironstone.

Cement, portland and hydraulic or water lime, electric light carbons and points of all kinds, n.o.p., common and colorless window glass, plate glass not bevelled in sheets or panes, silver glass, bevelled or not and framed or not, articles of glass, not plate or sheet, designed to be cut or mounted, and manufactures of glass n.o.p., manufactures of lead, n.o.p., brass and copper nails, tacks, rivets and burrs or washers, bells and gongs, n.o.p., and manufactures of brass or copper, n.o.p., manufactures of aluminum, n.o.p.; gold, silver and aluminum leaf, brocade and bronze powders. Articles consisting wholly or in part of sterling or other silverware, nickel plated ware, gilt or electroplated ware, n.o.p., manufactures of gold and silver, n.o.p., watch actions and movements and parts thereof, clocks, watches, clock movements, etc., wire cloth, or woven wire of brass or copper, needles, of any material or kind, and pins manufactured from wire or any metal n.o.p., buckles and clasps of iron, steel, brass or copper, iron, steel, brass or copper of all kinds, n.o.p. (not being jewellery), knives and forks and all other cutlery, of steel, plated, or n.o.p.

Locomotives and motor cars, for railways and tramways, and automobiles and motor vehicles of all kinds, telephone and telegraph instruments, electric and galvanic batteries, electric motors, dynamos, generators, electric apparatus, n.o.p., manufactured articles or wares of iron or steel or of which iron and steel (or either) are the component materials of chief value, n.o.p., manufactures of wood, n.o.p., picture frames and photograph frames, of any material, house, office, cabinet or store furniture, cash registers, window cornices and cornice poles of all kinds, hair springs and other mattresses,

curtain stretchers, furniture, springs and carpet-sweepers.

White and cream colored lace and embroideries of cotton or linen, cotton or linen thread, n.o.p., crochet and knitting cotton, women's and children's dress goods, coat linings, etc., composed wholly or in part of wool, worsted, hair of camel, alpaca, goat, or like animal, not exceeding in weight six ounces to square yard, when imported in the grey or unfinished state for the purpose of being dyed or finished in Canada under regulations prescribed by the Minister of Customs, fabrics, manufactures, wearing apparel and ready-made clothing, composed wholly or in part of wool, worsted, the hair of the goat or other like animal, n.o.p., table fruits, such as apples, pears and peaches, syrups and candied fruits, preserves, tar, woods rough or sawn, charcoal, vegetables fresh or preserved, fodder including hay, spirits, wood pulp, mineral waters, emery in any form, cement, coal, cast iron, wrought iron drawn in bars, angle and T iron, axles and tyres in the rough, sheet and plate iron, steel wire, iron or steel rails, steel in bars, sheets or bands, copper ore, etc., lead, nickel, crude or refined, antimony, compound medicines, starch, incandescent electric lamps, yarn of hemp for manufacture, fishing lines and nets and of cordage, paper or card, cardboard goods ornamented, skins and hides, boots and shoes, gloves, transmission belts and other articles of leather, peltries, locomotives and traction engines, agricultural machinery, sewing machines, dynamos, linotypes, general machinery, tools, wire gauze, iron castings for machinery or for ornaments, wire nails of iron or steel, lead pipes, electric accumulators, furniture, doors, wainscoting, etc., small wooden wares, pianos, organs and instruments, with free metallic reeds, carriages for rail uses, seagoing ships of wood, river boats of any size of wood, manufactures of India rubber and gutta percha, mica, and typewriters without nickelled parts.

French products enjoying the benefit of the Canadian intermediate tariff include:—Canned meats, canned poultry and game, extracts of meats and fluid beef not medicated, and soups of all kinds, cheese, preparations of cocoa or chocolate, n.o.p., macaroni and vermicelli, garden, field and other seeds for agricultural and other purposes, n.o.p., sunflowers, canary, hemp and millet seed, when in packages weighing over one pound each, trees, apple, cherry, peach, pear, plums and quince, of all kinds, and small peach trees known as June buds, grape vines and nursery stock, pickles, sauces and catsups, dates and figs, dried prunes and dried plums, unpitted raisins and dried currants, fruits in airtight cans or other airtight packages, nuts of all kinds, n.o.p., anchovies, sardines, sprats and other fish, packed in oil or otherwise, fish preserved in oil, n.o.p., sugar candy and confectionery of all kinds, lime juice and other fruit syrups and fruit juices, n.o.p.

Alcohol, hydrated oxide of ethyl or spirits of wine, n.o.p., gin of all kinds, n.o.p., rum, whiskey, and all spirituous or alcoholic liquors, n.o.p., methyl alcohol, wood alcohol, wood naphtha, pyroxilic spirits, any substance known as wood spirits or methylated spirits, absinthe, arrack or palm spirit, brandy, including artificial brandy and imitations of brandy, n.o.p., cordial and liquors of all kinds, n.o.p., tafia, agostura and similar alcoholic bitters or beverages, and wines

n.o.p., containing more than 40 per cent. of proof spirit. Spirits and strong waters of any kind, mixed with any ingredient or ingredients, as being known or designated as anidynes, elixirs, essences, extracts, lotions, tinctures or medicines, or ethereal and spirituous fruit essences, n.o.p., alcoholic perfumes and perfumed spirits, bay rum, cologne and lavender waters, hair, tooth and skin washes and other toilet preparations containing spirits of any kinds, medicinal or medicated wines, including vermouth and ginger wine containing not more than 40 per cent. of proof spirits.

Mats, door or carriages, other than metal, n.o.p., carpeting, rugs, mats and matting of cocoa straw, hemp or jute, carpet linings and stair pads, church vestments of any material, braids, n.o.p., fringes, n.o.p., cords, elastic, tassels, handkerchiefs of all kinds, shams and curtains, corsets of all kinds, linen or cotton clothing, n.o.p., velvets other than 3 pure silk, velveteen and plush fabrics, pianofortes, organs and musical instruments of all kinds, n.o.p., phonographs, graphophones, gramophones and finished parts and mechanical piano and organ players, furs, skins, wholly or partially dressed, n.o.p., dongola, cordovan, calf, sheep, lamb, kid or goat, kangaroo, alligator and all leather n.o.p., harness leather and chamois skin, boots, shoes, slippers and insoles of any material, n.o.p., rubbers, cement and all manufactures of India rubber and gutta percha, n.o.p., trunks, valises, hat boxes, carpet bags, tool bags and baskets of all kinds, n.o.p., musical instrument cases and fancy cases or boxes of all kinds, bead ornaments and ornaments of alabaster, spar, amber, terra cotta or composition, fans, dolls and toys of all kinds, statues and statuettes of all kinds, braces or suspenders and finished parts thereof, feathers in their natural state, feathers and manufactures of feathers, n.o.p., jewellery of any material for the adornment of the person, n.o.p., precious stones and imitations thereof, not mounted nor set, and pearls and imitations thereof, pierced, split, strung or not, but not set or mounted, buttons of all kinds, covered or not, n.o.p., including recognition buttons and cuff or collar buttons, combs for dress and toilet, including mane combs of all kinds, brushes of all kinds, lead pencils, pens, penholders and rulers of all kinds, tobacco pipes of all kinds, pipe mounts, cigar and cigarette cases, cigar and cigarette holders, cases for the same, smokers' sets and cases therefor and tobacco pouches, magic lanterns and slides therefor, philosophical, photographic, mathematical and optical instruments n.o.p., cyclometers and pedometers and tapes of any material.

The last schedule of the new treaty gives a list of twelve items of French products which will come in under a special tariff, as follows:—Vegetables, tomatoes excepted, including baked beans, in cans, or other airtight packages, n.o.p., duty one cent per pound. Anchovies, sardines, sprats and other fish, packed in oil or otherwise, in tin boxes, when weighing over eight ounces, and not over twelve ounces each, two cents per box.

Wines of the fresh grape of all kinds, not sparkling, imported in barrels or in bottle: (a) Containing 20 per cent. or less proof spirit, duty per gallon, 15 cents; (b) Containing more than 20 per cent. and not more than 23 per cent. proof spirit, duty,

idem, 20 cents. (c) Containing more than 23 per cent. and not more than 26 per cent. of proof spirit, duty idem, 25 cents. For each degree in excess of 26 per cent. of proof spirit until the strength reaches 40 per cent. of proof spirit, duty 3 cents. Champagne and all other sparkling wines in bottles containing: (a) Not more than a quart but more than a pint, duty dozen bottles, \$3.30. (b) Not more than a pint, but more than one-half pint, duty idem, \$1.65. (c) One-half pint or less, duty, 82 cents. (d) Over one quart (old wine measure), duty gallon, \$1.50.

Books, viz., novels of works of fiction or literature of a similar character, unbound or paper bound, or in sheets, in the French language, but not including Christmas annuals or publications commonly known as juvenile and

toy books, duty 15 per cent.; books, printed, periodical and pamphlets, or parts thereof, in the French language, n.o.p., duty 5 per cent.; all medicinal, chemical and pharmaceutical preparations, compounded of more than one substance, including patent and proprietary preparations, n.o.p., all other than dry, and not containing alcohol, duty 25 per cent.; olive oil, n.o.p., duty 15 per cent.; embroideries, n.o.p., lace, n.o.p., collars or collarettes in lace, and all manufactures of lace, nettings of cotton, linen, silk or other material, n.o.p., duty 27½ per cent.; velvets of pure silk and silk fabrics, duty 20 per cent.; ribbons of all kinds and materials, duty 25 per cent.; manufactures of silk or of which silk is the component part of chief value, n.o.p., duty 32½ per cent.

United States Industrial Situation.

Beyond question the financial crisis in the United States has seriously affected all lines of industry in that country and to a lesser degree has influenced industrial conditions throughout Canada.

It is reassuring, therefore, to note the confident tone taken by the great industrial leaders of the United States in their references to the situation. Some of these utterances are worthy of reproduction.

ELBERT H. GARY.

Elbert H. Gary, Chairman of the Board of Directors of the United States Steel Corporation, thinks there is "too much discussion" of the financial condition of the country.

"All this talk about the so-called tight money market makes people lean involuntarily to the idea that there really is something the matter with the nation, when, as a matter of fact, everything is in first-class shape," he said. "If I thought anything was the matter with the country's finances, I would not hesitate to give my views at length. But what is the sense in making a great fuss over the so-called financial flurry? In a little while the disturbance will be over, and then the persons who have been doing a lot of talking about the temporary financial upset will feel silly, I think. It is not a time for talking. It is a time for strengthening of the general confidence in the unquestionable financial soundness and abundant material prosperity of the nation."

FRANK BAACKES.

In a letter to representatives of the American Steel and Wire Corporation, Vice-President Frank Baackes writes:

"The financial crisis now upon us, and through which we are now passing, will be very strenuous upon all business men, and no one can prognosticate how far reaching it will be, or when it will end. In consequence more or less recession in business is bound to take place; in fact, the very action of the banks throughout the country almost forces a recession. There is no reason, however, to be pessimistic or hysterical. We feel confident that, as the United States Steel Corporation was strong enough in times of prosperity to prevent an undue inflation of prices, it is strong enough now to prevent an undue slump.

"My instructions to you are: Indulge in no cutting of any kind; maintain schedule prices absolutely. This is no time to think of anything else. No additional sales would result from a drop of any kind, and I want to emphasize the point that you are not to sell the trade any more goods than they can take in and pay for. If this is not sufficient to take care of our production, the goods will not be manufactured."

JAS. W. VAN CLEAVE.

In discussing present financial conditions, James W. Van Cleave, president of the National Association of Manufacturers, says:

"The recent action of the iron and steel men to hold producers of these commodities together for the direct purpose of maintaining prices is of far greater importance to our national prosperity than appeared on the surface. The price of pig iron is the most reliable barometer of financial conditions we have, entering, as it does, into practically every industry, an increase or decline in its price immediately affects more than 75 per cent. of our manufacturing industries and indirectly almost every line of activity in the country.

"Our industries use more than 25 million tons of pig iron each year. A drop in the price of pig iron, for instance, will depress similarly the price of all other natural products. A shrinkage in produce values means a corresponding shrinkage in the value of labor, so that the maintenance of prices is of importance not only to the employer, but to the employee.

"As a manufacturer I know that the action of the steel men in agreeing to maintain prices will greatly assist in minimizing the results of our present financial disturbances, as it will hold the producers of steel together and prevent ruinous rate cutting which would have a bad effect upon every business. More than 80 per cent. of the steel produced in America comes from a few plants, and of the entire total output fully 60 per cent. is represented by the product of the United States Steel Corporation. When the representatives of these interests meet and agree to maintain prices, it means that agreements of this nature make for our national prosperity.

"I cannot say too emphatically that the action of the steel men in maintaining the price of pig iron is the most important action yet taken to clear up the financial situation."

JOHN C. SCHMIDT.

In a letter to Mr. Alex. Gibb, Montreal, sales representative in Canada, of the Standard Chain Co., Pittsburg, John C. Schmidt, president of that company, writes:

"Operating as we do, ten factories in various cities, and having many and valued customers among jobbers, manufacturers and railroads in every state and territory of this broad land, we are in a position to realize and appreciate present unusual conditions. Personally, I have spent a good deal of time in the past weeks in comparing notes with other manufacturers and exchanging views with bankers and leading merchants, endeavoring to analyze the present situation. Buyers have feared to place their usual orders, and failing to receive their usual collections from the retail merchants, and the farmers hold that which they do collect, and while not remitting themselves, express the hope that the manufacturer 'will appreciate the present situation.' There is no doubt about the manufacturer doing this, as pay rolls must be met and supplies paid for.

"In the past when fear and distrust were shown in periods, afterwards called panic, each manufacturer made 'confusion worse confounded' by endeavoring to operate his plant full and cut the price, thus producing more goods than his customers could consume and pay for.

"In the present era of consolidation the great corporations, particularly in the iron and steel industries, have reversed this procedure by curtailing production and maintaining prices. This may seem cruel, but it is the wisdom of the highest order; better have a surgical operation than a cancerous sore; better make what the people want and can pay for, than weaken ones resources by carrying unsalable stocks to be sold at ruinous prices.

"Now, what is your duty in the present situation? Be optimistic; be cheerful; don't go about with a long face and look as if the world was going to come to an end. The first thing you do, go out and buy a carnation and put it in your buttonhole, and do this for thirty days, and I will pay for it. Let your customers see that you know that trade conditions will soon right themselves. The good Lord has blessed the farmers with ample crops and at high prices. They have plenty of money, and with \$70,000,000 of new gold coming into the country, our bank reserves will increase; with the lessening of premium and new currency issued, those who have selfishly hoarded currency will release it; and greater than all, with the slackening of industry, the demand for currency will rapidly decrease, and within six weeks at the farthest, clearing house certificates and pay checks will be a memory. Tell your customers to buy only what they want and can pay for. Tell them to pay as they can, that is, remit in small amounts and if necessary don't be too proud to give a short time note and then pay it when due; but don't expect a manufacturer to conduct his business successfully by telling his banker he has 'large book accounts.' Let him see some 'evidence' of it.

"Bear in mind the old adage, 'It is always the darkest the hour before dawn,' and with cheerful sanity you will find that conditions will soon change for the better. I am sorry my letter is so long, but felt that the expression of these views might be timely."

Practical Hints for the Factory or Mill Superintendent.

There are so many excellent technical publications issued throughout the world that even the most ambitious superintendent could not afford to read them all to get the cream of their articles. We propose in these pages to give some of the most practical hints and suggestions which appear in the technical press in all countries.

SHOE FACTORY WASTE.

From American Shoemaking.

In discussing the subject of "Waste" in a modern shoe factory, the field is broad enough to include the loss that might occur in the office to that of the boiler room in the use of coal. Without doubt waste occurs in these two departments, although they would be the last places a manufacturer would look for it.

According to the common acceptance of the word as applied to the shoe business the term covers those losses which happen through carelessness or lack of system and vigilance in the different operating departments, although many a dollar may and does disappear in escaped steam or is torn up in the office as waste paper.

Waste in our shoe factories starts with the goods in the cutting room, keeps pace with the cases as they go from one department to another and never stops until the goods are cased up and shipped. The whole progress of the cases through the works could be traced by the waste that lies along the way.

How often one hears the remark that he would be satisfied to have as his salary the waste that is seen in this or that factory. No doubt it would make a tidy sum.

Be that as it may it remains an almost impossibility to eliminate it entirely from a factory, no matter how small, owing to the fact that a shoe is composed of so many different parts and materials and has to pass through so many different hands. It is one of the necessary evils of the shoe business, and all that one can do is to watch and suppress it as much as possible.

If one could trace all the different materials back to their original starting point and locate the hands that have worked upon them, the cotton from Louisiana or Georgia, the nails from Pennsylvania, the hides from Buenos Ayres or Texas, the skins from Pernambuco or India or Australia and a thousand and one other things collected from the whole earth, he would find in every one that there has been some kind of waste which is hidden in the price that the manufacturer has to pay for the material, and to this he adds his own individual part that occurs in his factory.

However, the consumer pays for it all. The particular aim of our shoe manufacturer to-day is to eliminate the evil entirely from his factory, if possible, or reduce it to a minimum. In some modern up-to-date factories of to-day this is done. There has been long strides made in this matter within the last few years. The employees can help the matter greatly. If one can instill into his employees the principle of saving and of neatness, and impress upon them the importance of the matter, both as regard his own personal welfare as well as that of the manufacturer, he goes a long way toward correcting the evil. Indeed most waste that

occurs comes from the carelessness or indifference of the workman.

Besides the ordinary waste which occurs in all well regulated factories, such as thread, findings, cement, nails, counters, tacks and the host of other things which lie promiscuously about, there is another which although it relates to the management and systems of the plant, would not properly be called waste, yet if we should speak accurately it would come under that head, and is bound to show up at the final accounting at the end of the "run" in profit or loss. This is the matter of letting your competitor get ahead of you as to results in the cutting, stitching, making, finishing or stock room. We call it another name—efficiency.

If a boss cutter has a workman that uses more than the customary allowance of leather in feet, or does not get the desired quality; or whose room figures out for cutting more than other firms pay for the same grade of goods, this is "waste."

If the boss stitcher is not keeping up to his competitors in quality and price or has one hand that does inferior work or spoils too much stock, this too is "waste."

One of the greatest wastes in a factory is tacks. The way lasters waste tacks is almost criminal. Some factories adopt the method of making the laster buy their own tacks. This perhaps is overlapping the line. But one factory to go still further charged to lasters more than the market price for tacks. This firm evidently wanted both ends and the middle.

Another great waste that occurs in factories is on belts. Belts are a costly item and a factory account of this article cannot be too sharply watched. Yet in most factories one can find pieces of belting scattered about. Cement also is another big item. Cement has always been an eye-sore to most manufacturers. All sorts of schemes have been tried to reduce this item, but the poorest is trying to use poor cement.

*If this is tried either in the stitching room or bottoming room it will surely react upon the firm. The introduction of cementing machines was a step in the right direction and a great saver of cement. With good sole-laying cement selling at 85 cents a gallon one cannot spread much of it upon racks or having it lying around in balls without the waste being in evidence.

The list of places where waste occurs in a factory has hardly been touched upon. Almost every article that enters into the make-up of a shoe is subject to waste. A stray pair of counters kicking about the floor may represent more than the profit upon a pair of shoes. Among manufacturers each has his own hobby on the subject of waste. One may be watching the cement barrel so hard that he can't see anything else; while another is scrutinizing the cutting room so hard that he hardly knows he has a sole leather room, or cannot see the stays or

tips or linings lying loosely around his stitching room. All this reminds one of the Quaker who said to his wife, "Everybody is queer but thee and me and sometimes thee is a little queer."

HAVE NEW WAREHOUSE IN TORONTO.

The Canada Chemical Mfg. Co. have again built a new addition to their Toronto warehouse, so that they now have a frontage of 200 feet, on Mill Street and the buildings run back to the Canadian Pacific Railway tracks. The two sidings provide ample facilities for unloading tank cars and other carloads. This is the third addition which has been built to the warehouse since the company has located it's distributing warehouse in Toronto; but the rapid growth of the sales for acids and chemicals in the district has necessitated this constant enlargement of storage space. For the last couple of years the Toronto sales office, with Mr. Nieghorn in charge, has been located in the McKinnon Bldg., but Mr. Nieghorn and his staff are now moving out to the new Mill Street warehouse, where the sales office for Toronto district will be located for the future. The company report that sales of their acids and chemicals so far this year are considerably greater than for any previous year; and that the Chemical Works at London, as well as their other manufacturing works, are being operated to full capacity in an effort to keep up with the large demand for these products.

INCREASE IN CANADA'S TRADE IS \$28,000,000.

For the seven months ending with October, Canada's aggregate trade shows a gain of about \$28,000,000, as compared with the same time last year. The increase is in imports. The total imports for seven months were \$226,395,000, or a gain of \$31,384,000. The total exports, domestic and foreign, were \$165,227,000, or a decrease of \$2,516,000.

The decrease in foreign exports was over \$4,000,000, so that there was an increase in domestic exports of over two and a half million dollars, leaving an increase in aggregate trade at about \$28,000,000. There was an increase in the output of the mines of about \$2,000,000; \$8,000,000 in agriculture, and about \$1,000,000 on manufactures.

There was a decrease of nearly one million in the forest products, of about \$9,000,000 in animals and their products, while the fisheries remain about the same.

The assets of the estate of Geo. R. Tomlinson, electric supplies, Kingston, Ont., are advertised for sale by tender.

The Brown-Boggs Co., Limited, of Hamilton, Ont., have decided to put in a gas engine and producer gas plant to supply power for their entire work and are now in the market for an outfit of this kind.

The Convention of the Canadian Clay Products Manufacturers

THE SIXTH ANNUAL CONVENTION OF THE ASSOCIATION, HELD IN OTTAWA
ON NOV. 19, 20 AND 21, A SUCCESSFUL MEETING.

At 2 p.m. on Tuesday, November 19, Mr. John B. Millar, president, called to order the sixth annual convention of the Canadian Clay Products Manufacturers' Association in Goldsmith's Hall, Ottawa.

On behalf of the city of Ottawa, Mayor Scott extended a cordial welcome to the convention. In doing so he maintained that Ottawa was the most beautiful city in the country and had under way still greater improvements; pointing out at the same time that one of the causes of the beauty of the city's residences was that clay products had been so much used in their construction.

Mr. S. J. Fox, M.P.P., of Lindsay, replied on behalf of the Association. Years ago, said he, when the brick makers of this country started, they were not very proud of their trade; it was something like Ottawa in Bytown days. The country then was in a pioneer state: the brick makers in the early days were also pioneers.

"To-day," continued Mr. Fox, "we are beginning to feel proud of our position. We know that our products are among those which go to beautify such cities as Ottawa, and I am glad that the Mayor appreciates the products of the clay workers. Brick, probably, is the only thing that will stand a fire. It passes through our hands and we purify it and make it lasting and, therefore, the city of Ottawa need not be afraid to use brick in the construction of buildings. While we are proud of our own trade to-day we are equally proud of the province of Ontario and the Dominion of Canada. I concur with the Mayor in saying that we are proud to join hands with the city of Ottawa as the city of the people of this vast Dominion. We always should look to the capital of a country for enlightenment and one reason why we have come here on the present occasion is because we are seeking knowledge. We want more knowledge in regard to our own business and we know of no better place to come to to obtain it than Ottawa. Here is where the laws of Canada are made, here is where the people are governed, and here is where help to build our railways is given and to improve our canals is given. Canal transportation, as we all know, is a very important factor in the transportation of heavy freights. Brick is one of them. I am glad that we have with us to-day the Minister of Railways and Canals (applause). I believe in the past he has always been a very strong advocate of the use of water instead of stimulants. To-day the use of water will stimulate the transportation interests of this country; and in filling the position he does as Minister of Railways and Canals, I hope Mr. Graham will press forward that progress which the country needs and develop our railways and waterways to a corresponding degree with the growth and expansion of the country. Our natural resources, including our mineral wealth, have lain dormant too long. Years ago clay was not counted as a mineral; to-day it is included in the mineral class. It is, of course, non metallic, but it enters largely into consumption for building purposes. Now that the Minister of Railways

has been promoted to a higher position than he has occupied in the past I hope he will fill it with credit to himself and with profit to the whole Dominion. The clay workers of this country will try and discharge their duties just as creditably so that we will go forward with the march of time and add to the prosperity of this country."

President Millar then introduced Hon. George P. Graham, Minister of Railways and Canals in the Canadian Government. Mr. Graham was glad Mayor Scott had informed the convention how proud the people of Ottawa were of their city. The improvement of the city in recent years was beyond question. Members of a government were sometimes accused of making brick—gold bricks—but he believed that governments in Canada, as well as in other countries, were endeavoring to do what they thought best for their country. In short the governments are formed of clay



J. S. MCCANNEL, MILTON, ONT., President
C.C.P.M.

—some of those present would think them very ordinary clay. He thought the brick makers of Canada would agree that the members of the government were but the clay and the electors of the Dominion have the moulding of that clay—and it was the moulders, not the clay, who were responsible for the result. When this clay was getting wrong shapes the moulders (the electors) had merely to get new patterns.

He agreed with Mr. Fox regarding water transportation being not merely the means of carrying goods cheaply but of causing other transporting agencies to carry cheaply. Water transportation was probably the biggest problem confronting Canada to-day. One philosopher had called transportation the foundation of successful government and a proof of the success and prosperity of the people.

"The Government of Canada," stated Hon. Mr. Graham, "is endeavoring to do something along that line. Recently I

undertook a trip over the government railways in the Eastern part of Canada and over some of the water stretches as well. We have stretching from ocean to ocean but one line of railway; two others are under construction so that we will have three. Allow me to say, and I am not a prophet, that I absolutely believe when these three transcontinental lines are in operation we shall have only started the solving of the transportation problem in this great country. We will have to have more railways from ocean to ocean and in addition to that we must take advantage of the water stretches which nature has given us and where nature has failed to connect these water stretches we will have to provide artificial connection ourselves.

"Now, sir, as long as I have anything to say concerning the Department over which I now preside one of my chief duties will be to do everything possible to improve the transportation facilities of Canada and make it easy for the people to transport their raw material and their finished product and place it on the market. You can at home make all the goods you like, of the best possible quality, but unless some provision is made by which you can get those goods to market at a reasonable price you might as well not make them at all; because the profit to a large extent depends upon the cheapness with which you are able to market the product. A government, although it can do much, cannot make good crops, and it cannot make brick—that is it cannot attempt to do so. There is one thing, however, which it can do and that is, use every effort and the public money in moderation to bring the markets of the world as near the doors of the people as possible. That will be the aim and duty of the Railways and Canals Department as long as I preside over it."

Mr. George Crain, Beamsville, Ont., replied. After references to his former life in Ottawa and Brockville, he pointed out that the purpose of the convention was to consider certain technical questions. Mr. Graham need not be surprised if the government of the day should be asked to grant a little assistance toward the establishment of a technical school to help clay workers. There had been great improvement in the quality of brick made in Canada during the last year or two. Owing to the quality of pressed brick made by them during the past year they had to send their products as far east as Quebec and as far west as Victoria, B.C. The problem of transportation was the greatest problem in connection with that western trade. He trusted the new Minister of Railways and Canals would be able to make the solution easier.

Mr. Robert Stewart, M.P., for Ottawa, and Ald. Wilson, chairman of the Ottawa Finance Committee, also welcomed the convention.

President Millar then read the annual presidential address as follows:

PRESIDENT MILLAR'S ADDRESS.

Gentlemen of Canadian Clay Products Manufacturers' Association:

It affords me great pleasure to welcome

you to this our sixth annual convention of Canadian Clay Products Manufacturers.

It is an honor and I deem it such to have the duty devolve upon me of welcoming you on this occasion especially, meeting as we do in the capital city of our Dominion with its magnificent buildings, beautiful scenery, extensive manufactures and best of all its hospitable people.

It is gratifying, indeed, to look around and see so many from all directions and remember how far many of you have come specially to be present with us and take part in the discussions.

Experience has taught us it is good to come together at least once a year and compare notes.

The program arranged very carefully, the papers on which much valuable time has been spent, and the following discussions which bring out so many valuable points, are only a very small part of the work performed.

The lobby talks, where we meet those who have mastered troubles such as we are up against, and are willing to help us overcome them or suggest ways to us, must not be overlooked.

Then we have our exhibition room where you meet the dry press man and the stiff mud advocate and all other kinds of machine men: the fellow who has all competitors skinned in drying brick and the one who cuts them faster than they can possibly be handled: there is no doubt we will find the kiln man too who requires almost no fuel to burn with, a very desirable acquisition too just now. I like to meet the man with a hobby who at any rate appears to believe in it himself and tries to make you believe in it too.

We have experienced another year of phenomenal prosperity in Canada from Atlantic to Pacific. From every quarter comes the word, we could hardly fill our orders. My, we like to have it so!

Many changes in conditions have arisen during these last few years which cannot fail to have been noticed.

The time of the year is near at hand when we must reckon on what has been made during the season or what seems to be a very large turnover.

Most of us have been enjoying what we call good prices, but with increased cost of fuel, labor, transportation, etc., many will find the net profit will not be as great as we would wish.

These are some of the problems we must try and seek a solution for, viz: the production of the best brick possible and the delivery of them to the customer in the best possible condition at the least cost to ourselves so as to provide against a day, possibly not far off, when cost may not be materially reduced but selling prices may have dropped.

There is another matter being continually rung in on all who are engaged in the brick business and which I think, is worthy of notice.

We are being reminded every little while, by parties interested in having it so, of course, that in a very short time brick will be a thing of the past as a building material, being supplanted by cement; iron, etc., etc.

While we do not believe there is any material in the world which will ever approach a well burned clay product for construction purposes, either as regards rapidity of construction or safety, nor yet on sanitary grounds under normal conditions, never-

theless we begin to ask why all this agitation for a change?

Will we not remember brick is a tried, trusted and proven material, its use dating back almost to the beginning of time? There must be some cause.

Is it to be found in scarcity of raw material? No, for we know the everlasting hills are scarcely scratched yet, to say nothing of what is below.

Is it scarcity of fuel for burning our product? No, I would say not, for while there has generally been a considerable advance in prices, yet there seems to be plenty of fuel.

Is the quality of material manufactured in this country of such a character that a change is absolutely necessary for safety of life and property? There may be places where a little more care both in making and burning would improve the reputation of manufacturers, but the quality of brick required in all our large cities especially on mercantile and governmental buildings, are such that it has led manufacturers to improve their plants with a view to turning out the best brick possible and I am free to say on the whole I believe we compare more than favorably with other countries, though we be but striplings in years as compared with some of them.

I have heard it stated and would like very much to know if it is true that the reason for all this agitation was to be found in the fact that it cost altogether too much to have the brick placed in the wall after being delivered on the work, and that by using these other materials a class of labor (almost entirely foreign) wholly unskilled and most undesirable as citizens, can be utilized.

Yet we are told that they can be controlled by the men who pay them, while on the other hand the claim is made that bricklayers are at the mercy of the trade union whose members work when they like and as they like, demanding the highest wages.

If these assertions are true it brings us face to face with a serious problem and one which our friends who lay the brick would do well to look carefully into.

Are an honorable class of skilled mechanics who build structures of materials that defy the ravages of the elements and time itself; are these good citizens to be supplanted by those who have no aspirations to ever become citizens; and are our public buildings and homes to take the appearance of plastered or rough cast tenements on the back streets and poorer quarters of our cities simply because a common ground has not been reached between those who buy our products and those who make them take the form of buildings?

There is food for serious thought here for the manufacturer, the purchaser, the bricklayer and helper, and surely for the glory of our land and the beauty of our cities and homes there should be a reasonable and satisfactory solution.

I confess when passing a cement building to a feeling something like one experiences when entering a morgue. There is nothing bright and cheerful as there is to be found in a brick structure.

Our life work is a noble and honorable calling: building up and beautifying this great country. Let us see to it we do our part well, and let me hope, the discussions which arise may help us to do better than ever before.

Our time and session is limited, so I hope every one may be in their places on time and facilitate in every way possible the business before us and may we have one of the most successful and profitable conventions ever held, not only in Canada but anywhere else.

I shall soon vacate the presidential chair and hope you may extend to my successor the same considerate treatment and co-operation in the work of the association which has been accorded me. It has been a pleasure to serve you.

SECRETARY BECHTEL'S REPORT

Secretary-Treasurer Chas. H. Bechtel, Waterloo, then read the annual report, as below.

Mr. President and Gentlemen of the C.C.P.M.:

In presenting my report for the year 1906-7, I must congratulate you on the fine showing in attendance you have made. I might state that this association has the name of being the fastest growing association of its kind on the continent. This is what I hear at the conventions of our brother association across the line. I also hear that our papers are read with great interest, not only on this continent, but in Europe as well. I think this is a fine showing for an association of only six years standing, and I trust we shall always be, if not in the van, at least as they say, in racing parlance, "in the money."

During the year just past the cause of the Ceramic School for the Province of Ontario has been materially advanced. Two of our members along with Prof. Ellis of the University of Toronto, were sent by the Ontario Government to Columbus, to look over the school of the University of Ohio. Prof. Orton, whom you will remember, showed them through the school, and gave them every opportunity to examine the most minute details in connection therewith. Their observations were embodied in a report which was presented to the Ontario Government. Mr. McCredie, however, the Chairman of the committee in charge of this matter, will give you more details in regard to it.

You no doubt all received the printed report of last year's meeting, and it is therefore not necessary for me to go into that matter. If anyone has not received his report, I have a number with me, which I will be glad to present to any one who desires one.

The treasurer's report does not show as good a balance as I was able to present last year. This is partly on account of the fact that last year, we had Prof. Orton's expenses to meet, and partly because of the heavy travelling expenses to and from Ottawa. It was necessary for me to come to Ottawa twice, to get the matter in good shape. I might state here, that my efforts have been nobly seconded by the Ottawa committee. They have given me everything I have asked for, and thrown in a little more, and I think that before you leave the city you will be able to give the boys a hearty vote of thanks and a good rousing cheer for the reception they are giving us.

REPORT TREASURER C.C.P.M.

Receipts:

Balance from 1906.....	\$ 40 00
Fees.....	186 00
Space in Exhibition Room.....	10 00

Copy Sten. report to Kenfield Pub. Co.	\$ 5 00
Advertising in reports.....	80 00
6 copies report to American Clay Machinery Co.....	1 50
Disbursements:	
Secretary's office at Rossin House...	\$ 8 00
Travelling expenses, secretary, 1906	21 60
Travelling expenses, Prof. Orton, 1906.....	29 50
Travelling expenses, C. E. Whyard, 1906.....	10 60
Stenographer at Toronto.....	3 00
St. Louis Button Co., balance.....	12 30
Printing, Convention, 1906.....	16 25
Mail Printing Co., Identification lists	4 00
Stenographer's Report.....	46 25
Printing reports.....	86 00
Travelling expenses secretary, 1907	61 60
Postage.....	17 35
Exchange.....	90
Balance.....	5 96
	<hr/>
	\$323 31
To balance.....	\$ 5 96

Audited and found correct. (Signed) J. S. McCannell, S. J. Fox. November 19, '07.

THE REGISTER.

- J. B. Millar, Don Valley Brick Co., Toronto.
- T. A. Mulligan, Ottawa.
- W. H. Craig, Supply Co. of Ottawa, Ottawa.
- Geo. B. Brennan, The J. D. Fate Co., Plymouth, O.
- C. H. Bechtel, Bechtels, Limited, Waterloo, Ont.
- Robt. H. Rose, Dominion Belting Co., Hamilton.
- B. Davenport, Bechtels Limited, Waterloo.
- S. Sells and Harry C. Kraft, Arthur Koppel Co., 66 Broad St., New York.
- Alex. Mills, Ormstown, Que.



JOHN C. MILLAR, TORONTO, Ex-President C.C.P.M.A.

- Albert Osmond, Ormstown, Que.
- John P. Cain, Cain Brick Co., Limited, Ottawa.
- John Watson, Watson Brick & Tile Co., Bracebridge, Ont.
- Wm. and Wm. H. Elliott, Glenannan, Ont.

- Harry de Joannis, "Brick" Chicago.
- S. J. Fox, M.P.P., Lindsay, Ont.
- Geo. Whittington, Napanee, Ont.
- J. S. McCannell, Milton Pressed Brick Co., Milton.
- R. G. Way, Trenton, Ont.
- Frank K. Ebbitt, Haileybury Brick & Tile Co., Limited, Haileybury, Ont.
- David Martin, Thamesville, Ont.
- John Wardle, Blenheim, Ont.
- Henry Janes, Delaware, Ont.
- J. C. Randall, "Clay Worker," Indianapolis, Ind.
- O. Baird, H. C. Baird & Son Co., Park Hill, Ont.
- Jas. Cornhill, Jas. Cornhill & Son, Chatham, Ont.
- Geo. Frid, Main St. West, Hamilton, Ont.
- J. G. Wilson, H. C. Baird & Son Co., Park Hill, Ont.
- Geo. Close, The Close Brick Co., Limited, Stratford.
- J. H. Sipprell, Wilkesport, Ont.
- W. J. Barchard, Barchard & Co., Limited, Toronto.
- S. J. Henfield and C. B. Sharer, American Clay Machinery Co., Bucyrus, O.
- R. R. McArthur, American Clay Machinery Co., Brantford, Ont.
- B. E. Bechtel, Bechtels Limited, Waterloo, Ont.
- A. C. Conlin, Haileybury, Ont.
- W. H. Woods, Brockville, Ont.
- Albert Neal, Sealey's Bay, Ont.
- Anson Berg, A. Berg & Sons, Manning Chambers, Toronto.
- W. S. and M. C. Odell, Odell Bros., Ottawa.
- Geo. Crain, Beamsville Brick & Terra Cotta Co., Beamsville, Ont.
- W. D. Richardson, Richardson & Lovejoy Engineering Co., Columbus, O.
- Isaac M. and R. H. Taylor, Taylor Bros., Kemptville, Ont.
- T. E. Rultz, Ottawa.
- D. C. Merkey, Merkey Bros., Casselman, Ont.
- W. McCredie, Lyons, Ont.
- B. F. and G. F. Davenport, Orwell, Ont.
- A. M. Chisholm, Perfect Brick & Tile Co., Ottawa.
- R. F. Ollman, Ollman Bros., Hamilton.
- Joseph Lee, St. John, N.B.
- Geo. E. Baird, Ormstown, Ont.
- A. W. E. Hellyer, Cain Brick Co., Limited, Ottawa.
- J. A. Ballantyne, Morris & Ballantyne, Ottawa.
- F. Hilliard, Renfrew, Ont.
- J. C. Wright, Proton Station, Ont.
- P. S. McKergow, Laprairie Brick Co., Montreal.
- J. M. Carter, St. Catharines Brick Co., St. Catharines, Ont.
- Geo. S. Watson, Crown Pressed Brick Co., Ormstown, Que.
- J. W. Ball, Toronto Fire Brick Co., Mimico, Ont.
- J. J. Bell, Dominion Department of Mines, 29 Prince Arthur Ave., Toronto.
- A. A. B. McDermid, Ottawa Brick Mfg. Co., 22 Metcalfe St., Ottawa.
- Dr. D. S. Macdougall and W. F. Kenney, The Russell Brick & Tile Co., Russell, Ont.
- J. S. Shane, E. M. Fresse & Co., Galion, O.
- T. Enard and O. Duford, Embrun, Ont.
- Chas. Pratt, Plattsville, Ont.
- Edward Caldwell, Kingston, Ont.
- D. O. McKinnon, "Canadian Manufacturer," Toronto.

President Millar then introduced J. H. Griddale, B.Agr., Ottawa, who read a paper on "Tile Drainage and Its Needs." This paper, with discussion which followed, will appear in a later issue.

Mr. P. Shearson Gregory, Ottawa, followed with a paper entitled "Keramic Art," in which he traced the history and development of clay-working from the first crude



S. J. FOX, M.P.P., LINDSAY, ONT., Past President C.C.P.M.

stages in ancient countries to the modern practices in Europe and America to-day.

Both gentlemen were given a hearty vote of thanks.

Mr. W. S. Odell, president of the Ottawa Supply Co., and chairman of the local reception committee, read the following paper on "Local Associations and their Uses," which he stated had been prepared by Mr. W. H. Craig, Secretary of the Supply Co. of Ottawa, Limited.

LOCAL ASSOCIATIONS AND THEIR USES.

"Association is necessary to business extension and perpetuity. It has long been discovered that individual effort though valuable in itself, is circumscribed and is hedged about by difficulties and limitations to which the individual must eventually succumb under repeated attacks. On the other hand, the bonding together of a number of individuals with a mutual vested interest brings into being a force before which the difficulties and limitations which seem insuperable before now disappear and recede.

"The subject of forming associations in connection with the clay-working industry has been brought up from time to time in the different conventions which have been held by clay-working associations in the United States and Canada. Analysing the results it would seem that most of those who heard the papers and addresses on this subject have come to the conclusion that it may work all right with the other fellow but could not possibly do so in his neighborhood.

"Associations of this character embracing a more or less wide territory have been formed and several are in fairly satisfactory operation in the United States at the present time. Possibly the most notable one is

that in Denver, Col., in which the brick companies have banded themselves together and all the products of their plants are handled through one selling agency. This agency makes all sales in connection and stands in the position of a wholesaler for the clay-product trade. The work of the association so far as can be learned has proven it to be satisfactory and conditions have favored this because of Denver's geographical location, rendering it difficult for much competition to be encountered and also because of the general building boom experienced during the past three or four years so that the supply is never lagging behind the demand.

"It will be interesting to the members of this Association to know that in Canada only one satisfactory association of this character has been formed and is now in existence. I refer to the Supply Co. of Ottawa, Limited, in this city. Some years ago the conditions here among the brick manufacturers was similar to those which prevailed throughout many cities where competition is keen among the building-material men. Each one looked at his neighbor askance fearful lest he carry in his pocket a bid on a contract lower than his own. The time of the manufacturer was divided in unequal portions between superintending his plant, figuring on contracts at heart-breaking prices and rounding up delayed collections. Three years ago the change began. Some of the Ottawa manufacturers discovered the wholesome truth that the other fellow was not adorned with horns and they met together and organized a joint stock selling company whose sole purpose was the removal of the exasperating conditions which had prevailed and the establishment of stability in the conditions of manufacture.

"This movement was undertaken with confidence by those first organizers, confidence in the organization as a means of solving the difficulty. There was, however, an element of distrust in the permanency of the enterprise because of the fact that several of the manufacturers, and those not the least important ones, did not see fit to ally themselves with the organization. The company, however, held on its way and time brought about a final union of all the brick manufacturing enterprises in Ottawa. Please note that it was not coercion that was the means of amalgamation and in this we find the key to the successful establishment of any local association.

"There must first be an absolute confidence existing between the members of the enterprise and such confidence must not be left to the mercy of the average human nature for its perpetuation, there must be a business basis underlying the relationship and a faithful carrying out of the obligations of such business relationship. In that way only can the confidence remain. In Ottawa these conditions prevail. The brick manufacturers have ceased their warring, the products of the plant are handled through the central agency and each plant receives its proportion of profit not according to the amount of brick manufactured on any one plant but according to the rated capacity of the plant, these ratings having been established by agreement from the beginning. It consequently cannot make any difference to one manufacturer to know that his neigh-

bor has been making more or less brick per day than he has. Everyone feels a genuine interest in his neighbor's welfare and the time which was formerly devoted to the cutting of prices and the collection of accounts in arrears can be applied to the supervision of the plant and the perfection of the product.

"Not only are the brick manufacturers themselves benefitted, but the contractors and builders of the city are provided with a guarantee constantly operative that the quantity and quality of brick desired by them can be obtained. The contractor does not have to hesitate in his figuring on certain jobs for the price of the product is a fixed one, fixed according to its grading by the manufacturer. Not only so, but the contractor is protected in the fulfilment of his contract against shortage or non-delivery by reason of individual plant incapacity. Business conditions, therefore, in the building trade here are uniform. A spirit of harmony prevails and has continued in the association referred to for several years without a hitch. It



HENRY JANES, DELAWARE, ONT., 1st Vice-President, C.C.P.M.

must be distinctly understood however, that the object of the association is not that of raising prices or cornering the products and enlarging its territory of shipment to an abnormal degree. Whenever such is the case there is introduced an element of weakness, a possibility of distrust. The failing of other organizations can be assigned directly to this cause, confidence was not the base of operation but greed and the desire for accumulation. It may be possible that some of the members of this association may contemplate the formation of a similar organization in their own town. Conditions vary so much that it would be impossible to lay down a series of laws under which associations of this character could be formed anywhere and the laws apply with uniform satisfaction in each case."

A JOLLY THEATRE PARTY.

An important feature of these conventions has always been its social features. On Tuesday evening a theatre party was provided, and a most enjoyable evening was so spent. On Wednesday morning a drive

around the city was provided by the local Reception Committee, who, by the way, were most lavish entertainers.

WEDNESDAY SESSION.

When the meeting was called to order on Wednesday afternoon there was a slightly larger attendance than on the first day.

Mr. M. B. Baker, of the School of Mining, Kingston, Ont., read a paper on "Simple Devices for Controlling Temperatures in Brick Kilns."

ELECTION OF OFFICERS, ETC.

The following officers were unanimously elected:

President—J. S. McCannel, Milton, Ont.
1st vice-president—Henry Janes, Delaware, Ont.
2nd vice-president—James Cornhill, Chatham, Ont.
3rd vice-president—S. M. Mulligan, Ottawa, Ont.
Secretary-treasurer—D. O. McKinnon, of CANADIAN MANUFACTURER, Toronto.

Executive Committee—George Close, Stratford, Ont.; J. H. Ebbith, Haileybury, Ont.; John B. Millar, Toronto; W. McCredie, Lyons, Ont.; Harry DeJoannis, Chicago; S. J. Fox, Lindsay; C. H. Bechtel, Waterloo, Ont.; Geo. Crain, Beamsville, Ont.; D. Martin, Thamesville, Ont.; O. Baird, Parkhill, Ont.; J. B. Cain, Ottawa, and M. Mills, Ormstown, Que.

President elect McCannel thanks the meeting in the following words:

"I am sure you will agree with me that, following in the footsteps of our late president, I have a hard position to fill. I do not know of anybody who could better fill the chair than the gentleman who has just vacated it. However, I thank you very heartily for the honor you have done me—an honor that I feel personally and one that I am sure will be appreciated greatly by the firm which I represent. I feel that the success of this organization does not depend upon the president; it depends largely upon the co-operation not only of the executive but everybody connected with the association. We have a great country and it is growing rapidly. I feel that one of my duties will be to endeavor to have every brick maker in Canada connected with this Association. If he cannot attend personally, if the distance is too great to enable him to attend the meetings, I feel that he should belong to the organization and get the literature and copies of the reports of our meeting. I cannot say any more. I am not a speech maker and in this position I feel somewhat like a fish out of water, but I can assure you that I will use every effort to make the Association a success and I trust you will cooperate with me. I again thank you very heartily for electing me to this office." (Applause).

THE BANQUET.

The Banquet on Wednesday evening was a complete success. The dining room of the Russell House was brilliant with light and flowers, and made joyous with a merry company of genial fellows, clay-workers, architects, contractors, and representatives of the Ottawa City Council, Board of Trade, Dominion and Provincial Governments.

Mr. W. S. Odell, president of the Ottawa association was chairman and toast master.

The first toast, "The King," was drunk with musical honors.

The toast "The United States," proposed by the chairman, was responded to by Mr. Richardson, Columbus, O., who felicitated the Canadian clay-workers on the way they were seeking to broaden their knowledge of their industry and the people of Ottawa on the beauty of that city.

"Ottawa City Council" had an enthusiastic champion in Ald. Wilson, chairman of the Finance Committee. Ottawa, he emphasized, has increased 25,000 in population in ten years and was unmistakably on the threshold of larger growth. It was, in addition to being the capital of the Dominion and one of the most beautiful cities of its size in the world, bound to be one of the great railway and industrial centres of Canada. Nine railway lines now reach it and four more will connect with it before many more years. Over 900,000 h.p. of electrical energy is available within 45 miles, a fact which will guarantee cheap power for manufacturers. Iron ore is near at hand in abundance; it is probably the greatest lumbering centre of America, and the city was making provision to have many acres of suitable land within its boundaries set apart for manufacturing.

Mr. Stewart, M.P., responded to the toast "The Dominion of Canada" in equally confident strain. He made the point that instead of believing that only a fringe of Canada was available for cultivation, Canadians have learned that it is teeming with undeveloped resources. An average of 100,000,000 bushels of wheat, beside other grain comes from beyond Lake Superior each year, some of it from as far as 1,000 miles north of Edmonton. In Cobalt are the richest silver mines in the world and in every province of the Dominion were vast areas of rich mineral land, the development of which had only begun. It was a good thing to be a Canadian in the twentieth century, for this century belongs to Canada.

Mr. Geo. May, M.P.P., struck a note which won instant and sympathetic response in responding to the toast "The Province of Ontario." One of the great needs of Canada he declared, was a more general system of technical education. Ottawa was beautiful because it had architects who knew how to prepare good plans and brick makers who knew how to make a good standard of brick. But Canada needs a more general diffusion of technical knowledge. It should train its young men to occupy the high places in the industrial life of the nation. He thought the cause of technical education would be an advantage if the various provincial governments would relinquish that department of education and let the Dominion Government take it up for the benefit of every section of the country.

The toast "Ottawa" was ably responded to by Mr. J. R. Reid, president of the Board of Trade. After emphasizing its water-powers and railway connections, he pointed out that lumber, brick and cement for buildings are made in the city, where nearby are extensive deposits of

It is furthermore, a city of homes; of beautiful streets and delightful driveways and parks. Its position was one of great natural beauty, which the Civic Improvement Commission had done much to make more attractive to visitors. It has abundance

of pure water and a perfect drainage system in fact, every thing necessary to make it an ideal place to live in and an ideal centre for many kinds of industries.

The toast "Our Guests," was responded to briefly by president McCannell and past president Millar.

Mr. J. S. McCannell expressed the appreciation of all visiting clay-workers of the efforts which had been made to make the convention a success and the visit of each delegate a delight. Then he declared that the citizens of Ottawa had no exclusive right to be proud of that city. All Canadians were proud of the "Capital." For natural charm it was not exceeded by any city in the world, and his wish was that it might grow and expand with the development of Canada, that future generations would point to it as the grand capital of the fairest country in the world.

President Millar seconded Mr. McCannell's appreciative words and expressed his particular satisfaction with the drive about the city. He doubted if any city in America could boast so many streets, one after another, of such beautiful and well built

THE CONVENTION GROUP

We have prepared a splendid engraving from the group photograph of the members of the Canadian Clay Products Manufacturers at Ottawa last week.

Copies of this, printed on fine coated paper, will be sent to all subscribers of THE CANADIAN MANUFACTURER.

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houses. Incidentally he paid a compliment to the brick makers of Ottawa, for he declared that the common brick made in that city was as beautiful and uniform as he had ever seen anywhere.

Mr. Watts, president of the Ottawa Architects' Association, thought there was no place in the world where better bricks were made than in Canada. When the applause had died out, he added, and no place in the world where worse bricks are made. He believed the association would do incalculable good in bringing the poorer qualities of brick up to a higher standard—by educating the clay-workers to better methods. There is too, he added, a need of a standardization of the size of brick made in Ottawa.

Mr. H. de Joannis, of "Brick," delighted all present with a solo, "The Sea is My Sweetheart."

Mr. Geo. Crain, of The Builders' Association, spoke briefly on behalf of that body.

Messrs. Cain, Ballantyne and Mulligan made brief but happy speeches expressing their joy in being hosts to such a good delegation of representative clay products manufacturing, and their pleasure in knowing that everyone had enjoyed their visit to Ottawa and had realized what a fine city it was.

Mr. D. O. McKinnon of THE CANADIAN MANUFACTURER, replied to the toast of "The Press," inviting the brick makers of Canada to use the columns of this paper freely to secure any information desired.

Mr. Harry de Joannis, of "Brick," proved himself a witty speaker as well as a good singer in his reply to the toast, "The Ladies."

After cheers for the Ottawa Reception Committee, "Auld Lang Syne" was sung.

THURSDAY SESSION.

President-elect McCannell took the chair.

Thursday morning was largely devoted to a paper read by Mr. E. L. Richardson, of the Richardson-Lovejoy Engineering Co., Columbus, O., on "Controlling the Burning of Clay Products." This paper, with the subsequent discussion proved most educative as well as interesting and will be given, with necessary illustrations, in a later issue.

Following this came a paper by the retiring president, Mr. Millar, on "the Mining and Preparation of Minerals."

TECHNICAL EDUCATION.

The report of the Committee on Technical Schools was called for.

Mr. McCREDIE spoke first as follows: "Some three years ago, at Waterloo, the question of technical education was brought up at our convention. The convention seemed to be interested in the question and expressed that interest by appointing a committee. And, fortunately or unfortunately, I was made chairman of that committee. We have been pursuing our duties as best we know how from that time to the present. This is a very important question as any one who has attended these conventions from time to time since then will know. The present convention seems more particularly to demonstrate the fact that we want more technical knowledge. This is a serious question, also because of the fact that it is a huge problem to introduce and bring into effect any proposed change of this kind. While your Committee has not succeeded as it would have wished to do, yet we are not in any manner discouraged with our work. We think we have made some progress. We think we have been enabled to get things in shape for ultimate success. And, perhaps, it would be as well for me to give a very brief synopsis of what we have done. I think we have reported progress at each Convention from the time of our appointment until now. But since our last convention, I think we have made some material progress. Last year, at the convention, when we reported, we had not very much to report. But, meeting in the city of Toronto, at the seat of the local government, we were in a position to bring the matter more prominently before the provincial authorities. We used our best endeavors to bring the matter before the department to which it belongs; and I may say that we have met with very much encouragement as I shall endeavor to show you directly. At our convention in Toronto we had at our banquet—that memorable occasion—Hon. Mr. St. John, shortly afterwards deceased and Hon. Dr. Pyne, the Minister of Education. On that occasion we did not lose sight of your wishes in regard to this matter, but tried to draw the attention of these gentlemen to the subject, and I think we did succeed in interesting them in the matter. Hon. Dr. Pyne, at that meeting, told us

that if we would appoint a committee to confer with them they would try to help us. The result was that a committee was appointed to go to Columbus, Ohio, and there make an examination of the technical school presided over by Professor Orton, whom we all held in honor and who was with us last year. The committee named to undertake that work consisted of Professor Ellis, representing the Board of Governors of the University and the School of Practical Science, Mr. S. J. Fox, to represent the government, while I had the honor of being named as the party to represent you. We went to Columbus, Ohio, and made a thorough examination of the plans there in use and the courses they were teaching. And I think I can safely say that we did very much interest Professor Ellis—which was our great object, as he was the representative of the University. I think we have him as a firm believer in the necessity of the course, and I think we can rely upon him to help us in the future in any way he can. We made our report as a Committee. It is not necessary nor would it really be in place that I should give you that report; it was for the use of the government and the board of Governors of Toronto University. There is a problem connected with it which, no doubt, has occurred to you at once. When it is shown and admitted that this course is a necessary one and one that will help and benefit all the clay-working industries not only in this province but throughout the Dominion, the problem that faces us is the problem of ways and means. And, while we are all rich at home, I suppose, still we do not feel like establishing a fund for a great enterprise like this under our association. In order to carry on such a work it is absolutely necessary to have a good deal of means, means to bring the matter before the proper authorities, means to get the thing going, and then after all, means to provide and install the necessary equipment. Mr. Fox will follow me and will make up anything that my statement lacks. I speak from memory, and, I fear, not with such close connection with the ideas as to make sure of having everything in its place. As I have said, the great problem now is to get the means to start. I think we have fully converted the faculty of the University of Toronto and the Board of Governors. Am I not correct in that, Mr. Fox?

Mr. Fox. I think that is quite correct.

Mr. McCREDIE. If we have not done anything more than that, we have done quite a work. We are taking means whereby we can bring this matter more prominently before the public and the proper authorities, and we want your help and co-operation. We may ask your financial aid. We have not a cent in the treasury of our Association beyond what is really necessary. In fact, in our meeting here some of the men who represent firms, very cheerfully agreed to subscribe towards a fund to carry on this work. Of course, this is hardly fair. It is not for Mr. Fox, or Mr. McCannel, or Mr. Millar, or myself, to put our hands in our pockets to help run an institution of this kind. Yet, these gentlemen are willing to do it. I think you can safely say that you have a committee that are determined to make this thing a success, and they are doing it from a sense of loyalty to the country and to the profession to which we belong.

May I say "profession" of brick-making? (Hear, hear). I guess that is right. In order to further the object we have in view we have drawn up a resolution. I am very glad that we have as our secretary the publisher of a paper who will, in the future, I have no doubt, be of great help to us in this work. We drew him up to the scratch just before going to dinner, told him our cares and troubles, put the harness on him and intimated to him that we were going to put him to work. He did not kick, and I think he will help us very materially. Now, I am going to ask you to agree to this resolution of which I have spoken. You will understand that, before the means necessary to this enterprise can be raised, there has got to be a lot of lobbying and presenting of our claims and that sort of thing—you can understand that better than I can explain it to you. I am introducing this resolution in order to secure your help. From this and by reading THE CANADIAN MANUFACTURER you will see how we are progressing:

which occurred to me while I was reading the resolution and which I would like to mention. I knew we had felspar somewhere in the surrounding country, and I had learned that we had kalion somewhere in the west. I was agreeably surprised last night at the banquet to hear one of the speakers make the statement that felspar was to be had right here at Ottawa. These two things felspar and kalion are the materials that go to make the body of these finer wares. It does seem a pity that, when we have the brains, the hands and the material to make these wares we should lack the "know how" to do it. But we have not any one to teach us. When we were on our trip over to Columbus, we took Professor Ellis to the encostic tile works at Zanerville. And yesterday as some of us went about the Parliament Buildings here I have no doubt that we were walking on some of this material imported from Zanerville. In these works they employ 700 hands. Would it not be grand if we could have at Ottawa or Toronto such

OTTAWA, Nov. 21, 1907

RESOLUTION CONCERNING THE URGENT NECESSITY OF TECHNICAL INVESTIGATION AND TEACHING IN THE FIELDS OF NON-METALLIC MINERALS :: :: :: :: :: :: ::

WHEREAS—The non-metallic mineral resources of the Dominion, though vast, are at present but in a crude state of development.

WHEREAS—Any development made so far has been considerably retarded by the lack of investigation of the possibilities of such minerals and by the absence of technical knowledge necessary to their progressive manufacture.

WHEREAS—The development of the clays, shales, and marls of the Dominion of Canada is of greater importance than that of any other minerals, because of their intimate association with Canadian domestic and social needs.

WHEREAS—The establishment of individual enterprises for the utilization of these mineral deposits will result from such investigative technical effort and in the opening up of many avenues for the employment of home labor,

WHEREAS—The manufacture of such products from Canadian minerals will diminish the quantity of imported products into the Dominion,

WHEREAS—Owing to the growing scarcity and consequent increased cost of lumber, the demand for building materials made from non-metallic minerals has been largely increased.

WHEREAS—The means of supplying this demand is limited by the restricted facilities for the manufacture of such products, largely due to the sparse technical knowledge of these resources,

WHEREAS—In consequence of this lack, foreign importations of such products must necessarily largely increase to supply this demand.

WHEREAS—The Dominion of Canada possesses within its bounds all the materials necessary to meet the demands of the home market, if such technical assistance is furnished to the workers.

WHEREAS—Such technical investigation will result in the establishment of enterprises for the manufacture of building brick, face brick, paving brick and block, hollow block, fire-proofing, conduits, drain tile, sewerpipes, roofing tile, enameled brick, mosaic tile, floor tile, fire brick, retorts and kindred refractory products, pottery, art and electric porcelains, faience and decorative tiles, glass and glass wares, cements and kindred products, limes and plaster of paris, (all of which products are in growing demand),

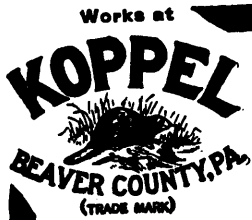
THEREFORE BE IT RESOLVED

That the Canadian Clay Products Manufacturers in convention assembled at Ottawa, urge upon the Dominion and Provincial Governments, the immediate necessity of an appropriation of sufficient magnitude for the successful establishment of a technical department and school by means of which technical investigations may be made along the lines outlined above and the knowledge thus obtained imparted to the workers in these respective fields.

Now, I have very much pleasure in moving the adoption of this resolution which, I understand, will be seconded and spoken to by Mr. Fox.

Before I resume my seat there is one matter

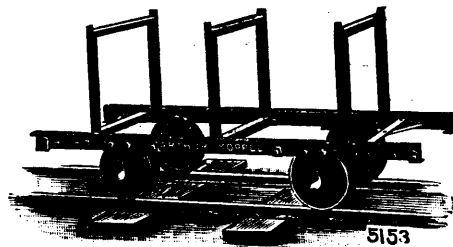
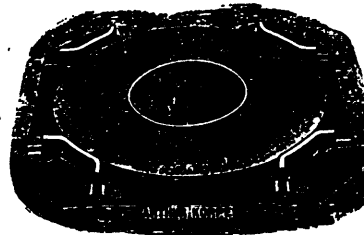
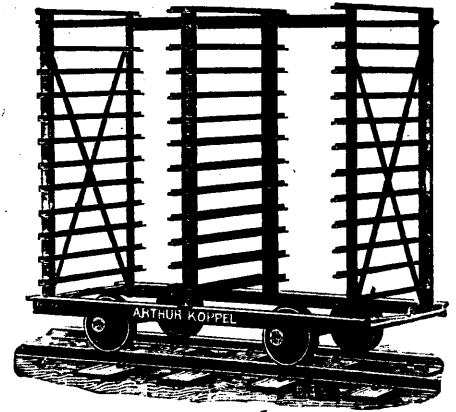
an institution. Since coming to this convention I have been told by Mr. DeJoannis and some of the other men from the other side, that they have nearly doubled the workmen in that institution since last spring.



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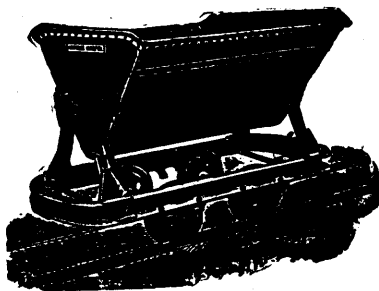
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This is a great illustration of what can be done and so I urge your co-operation and help so that we can help to develop our Canadian industries in this direction.

Mr. Fox. After the able speech you have heard from Mr. McCredie, it is not necessary for me to speak at great length. He has outlined the courses that has been followed, and I am glad to be able to say that we have made some progress. Last year, at the banquet, I think we did convert Hon. Dr. Pyne to the necessity of having something done in this way. We so completely satisfied him that the government of which he is a member were ready to pay the expense of three of us on this trip of which Mr. McCredie has spoken. I can assure you that we all enjoyed the trip—not from the fact that our expenses were paid but from the knowledge we gained. Mr. McCredie has spoken about felspar. You do not have to go far from Ottawa to find that bed of felspar the best on the North American continent. It is in the township of Bedford, in the county of Frontenac, just back of Kingston. From that bed they are shipping felspar as far as St. Louis. It is an old saying that you must go from home to learn news. Professor Orton told us that this felspar is shipped from Canada to St. Louis, where it is ground and distributed. And in Toronto we find this same material in manufactured form brought back by the carload and distributed to the Canadian trade. This should not be so, because there is a large amount of freight being paid in carrying it out and bringing it back—to say nothing about the duties. As to kalion, I would like to give one of my experiences. I think it was about the year 1900 I was coming from Toronto one Friday night. On the same car was a man who had come down from Moose Jaw. He had a sample of clay which he said he wanted me to test. He had it in his grip and he went and got it and showed it to me. As soon as I got my hands on it, I said, "I think this is kalion." Some years before, my brother had been in Florida and from there he had brought back some specimens of kalion. If we have these materials in our country why should we not use them. We do not want the Government money for ourselves we want the money so that we may have schools in which the rising generation will be taught the knowledge which is necessary for the best work and be enabled to put that knowledge into their manufactured products. Our progress seems to be slow, but I think the time will come when we shall have that school. And it may not be so far in the future as we are now apt to think. We must continue to put forth our best efforts. I was not at the banquet, unfortunately, but I have heard some of the rumors of what was said there. I heard, for instance, that Mr. May, the member of the local legislature for Ottawa was converted to the belief that there should be a technical school established. Every man that we convert to that idea is going to be of assistance to our cause. When you go home, and as you move about in different parts of the Dominion talk with the local and Dominion members and talk about this cause if you have faith in it—and if you haven't don't talk. When we were on the trip of which Mr. McCredie has spoken, and after we had spent two days in going through the Ceramic School, under Professor Orton,

who gave us all the information we required, I said to Professor Ellis, "Now, you have seen the theoretical part but what I would like you to see is the practical part—I would like you to see the goods actually being made." I asked Professor Orton if there were any good works in the vicinity. So he gave us letters of introduction to five or six different firms, brick, encaustic tile, arch pottery, chinaware and stoneware. We went to these places, and after going through the whole of them, on our return trip I said to Professor Ellis, "Well, how did you like the trip." He said, "I would not have missed the last part of it for anything. He was overjoyed to think that he had the privilege of going over these institutions and seeing how the work was done. When he returned he joined in sending in the report to the Government. That report, of course, is Government property and is for the Government's information. He also reported on his own behalf to the faculty of the university, and the professors approved of the course after looking into it. Then it was handed to the board of trustees and they also approved it. Then it passed on to the higher body of the university, the governors,

CLAY WORKERS

The various papers read at the convention of the Canadian Clay Products Manufacturers in Ottawa, with discussion of same, will appear in later issues of this paper.

Every brick and tile manufacturer in Canada should read these papers.

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and Professor Coleman told me when I met him some time later that it had taken him and Professor Ellis about half an hour to explain just what the ceramic course was. But when they got the information required, they also approved of the course. But the question with them was, Where is the money to come from? They said: We are already taxed to the utmost to furnish room for the existing courses. You all know the new building of the School of Practical Science in Toronto. When it was laid out it was estimated that for fifteen or twenty years they would not have to add to it. But the building was not completed before it was crowded with students. And now, inside of five years from that time they want another building as big as the one they have in order to accommodate the students who wish to attend. At the last meeting of the Legislature, the Government empowered them to borrow \$2,000,000. Practically this meant that the province guaranteed the repayment of the money, the board of governors being empowered to borrow it, and the university to-day is not under Government control but under the control of the board of governors—it used to be more under the control of the Minister of Education and the Legislature. When Professor Coleman told me about the

difficulty I said, "But the Legislature has empowered you to borrow \$2,000,000. Can't you use some of that?" "Oh," he said, "the courses already laid out will take up every dollar of it." Later on I spoke to the Minister of Education about this point and he said, "Let them spend the money they have got, and then if they can show good cause why they require more we will assist them." But this may mean four or five years waiting. We do not want to wait too long but would like to see this thing in operation. For that reason I have the greatest pleasure in seconding this resolution. It is not necessary for me to say anything in advocacy of it for I think you all agree with the idea. What we are here for is to better our conditions, to have a knowledge of our own business, so that we may advance just as fast as the other trades and professions of the country are advancing. I do not think that we should lag behind, merely waiting for something to turn up, but should keep up with the march of the times and advance with the advancement of the whole country.

Resolution carried unanimously.

The president next called for report from the committee on resolution of which Mr. Fox is chairman.

Mr. Fox presented the report of the committee in the form of a series of resolution as follows:—

REPORT OF COMMITTEE ON RESOLUTIONS.

Resolved, That the hearty thanks of the association be tendered to the Ottawa manufacturers, both as manufacturers and as members of the Ottawa Supply Co., for the unstinted hospitality which has been displayed during our pleasant visit in Ottawa. These entertaining features having been brought to a perfect consummation under the able management of W. S. Odell.

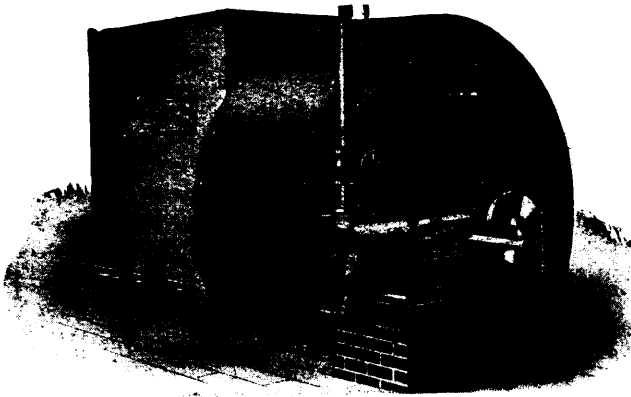
Resolved, That the association voices its sincere appreciation of the good will and expressions of welcome presented to it by the civic officials and government representatives, who co-operated so willingly with the local manufacturers in making our stay pleasant.

Resolved, That the thanks of the association be expressed for the faithful services of its officers during the past year, especially to the retiring secretary, C. H. Bechtel, who has served the association to such advantage during the past four years or more, and also to those who presented papers to and otherwise contributed to the success of the convention program.

Resolved, That the association convey to W. D. Richardson, of Columbus, Ohio, its deep sense of appreciation of the services rendered to it in his especially able contribution on "The Control of the Burning of Clay Products," and his valuable participation in the discussions that took place during our sessions. The association extends to him a cordial invitation to be with us at future meetings.

S. J. Fox, Chairman.

Mr. President. Gentlemen, you have all heard the motion. We have had a very pleasant meeting in this good city of Ottawa, thanks to the efforts put forth by the committee. If ever a committee excelled itself it is the one that has had charge of the affairs of this convention. They may not have been very strong in numbers but judged



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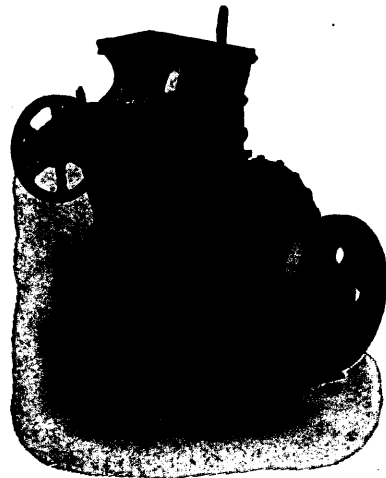
**The GUTTA PERCHA & RUBBER MFG. CO.
OF TORONTO, LIMITED**

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BRANCHES—Montreal, Winnipeg, Vancouver.

JEFFREY SWING HAMMER Pulverizer



Equipped with Automatic Feed, Worm Gear and Screw Lowering Device. Fully described in Catalog No. 31, Mailed Free.

Also Makers of Elevating, Conveying, Screening, Mining, Drilling Machinery.

The Jeffrey Man'g. Company,

COLUMBUS, OHIO, U.S.A.

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by what they have done they are wonders. I am sure that we will all go away from Ottawa feeling that everything that could be done to make our gathering successful has been done by this committee. I would like to see included in these resolutions one to the press. The newspapers have given us reports that are very full and I am sure they are well entitled to our thanks for what they have done in reporting this meeting.

Resolutions carried unanimously by a rising vote.

Mr. President. This brings our convention to a close. Now, when we return to our homes we have a duty ahead of us. We want to make this association one of the great institutions of our country. We have no axes to grind, but are associated merely to help one another and to advance the cause of the clay industry. We have a country, which in the near future will have double and more than double, its present population. We have our part to play in the development of that country by improving the industry with which we happen to be connected. Every one of us should get to work and try to increase the membership of this convention. Bring a member with you next year. Drum him up and bring him along. Or, if he will not come, send his name to the secretary or myself and we will send a body guard after him. We will try to do everything we can to further the interest of the institution with which we are connected.

Now, before we adjourn let us give three cheers for the Ottawa men who have done so much to make this meeting a success.

Three cheers were heartily given.

Mr. President. The meeting is adjourned to the call of the chair which will be given after accepting the invitation from some other city for our next meeting.

Adjourned.

Publications Worth Reading.

Any Manufacturer or Dealer in Supplies for this Column is invited to send Books on Business Topics for Review or Booklets, Pamphlets, etc., for Reference.

LIGHTNING ARRESTORS.—Circular No. 1146 describing in detail with illustrations, the Westinghouse electrolytic lightning arrestors, type E—Canadian Westinghouse Co., Limited, Hamilton, Ont.

ELECTROSTATIC VOLTMETER—Circular No. 1130, describing in detail with illustrations the Westinghouse Electrostatic Voltmeter. Canadian Westinghouse Co., Limited, Hamilton, Ont.

OIL SWITCHES AND CIRCUIT BREAKERS.—Circular No. 1096, describing in detail with illustrations Westinghouse oil switches and circuit breakers. Canadian Westinghouse Co., Limited, Hamilton, Ont.

IMMEDIATE BRILLIANT GREEN G EXTRA.—Supplement 29 to "Cotton Dyeing." This supplement's group of green immediate colors and combines with their other excellent properties the advantage of yielding a particularly bright, yellowish green shade. Cassella Color Co., Montreal and New York.

DIAMINE FAST BROWN G AND R.—Supplement 30 to "Cotton Dyeing." This refers

to two new brands of Diamine colors, remarkable for their particularly bright shades, combined with excellent fastness to washing and light and good fastness to coloring. Cassella Color Co., Montreal and New York.

ESCO STEEL COATING—is the title of a folder issued by Eadie-Douglas Co., Montreal. It is described as a natural paint that does not contain any oils, greases, dryers, oxides or leads to prevent rust or corrosion under the most severe conditions. It is especially recommended for structural steel, cold storage plants, bridges, breweries, metal shingles and siding, iron smoke stacks, gas plants, water pipes, contractors and city plants, etc.

SASKATOON, Sask., is to many residents of Eastern Canada the most typical of our Western cities. Its most striking characteristics are energy and optimism. Both these qualities are manifest in every page of the "Harvest Number, 1907" of the Saskatoon Daily Phoenix. The paper tells in twenty-eight pages, by description and illustration a marvelous story of progress, of development of an enterprising city and of several almost equally aggressive towns, and the cultivation of rich areas of wheat lands where a few years ago were the homes of only a few scattered pioneer settlers. Eastern Canada rejoices in the prosperity of the West. May every hope of the Saskatoon enthusiast be realized.

A. S. M. E. Proceedings—Mid-November issue of the proceedings of the American Society of Mechanical Engineers. The papers contained are:

Control of Internal Combustion for Gas Engines, by Prof. C. E. Lucke.

A Volumetric Study of Cast Iron, by Mr. H. M. Lane.

Duty Test on Gas Power Plant, by Mr. J. R. Bibbins.

Some Limitations of Moulding Machines, by Mr. E. H. Mumford.

Readers of CANADIAN MANUFACTURER desiring to secure this publication should apply to Calvin W. Rice, Secretary A. S. M. E., 29 W. 39th Street, New York City.

MONTREAL WITNESS INDUSTRIAL EDITION.

The November 26 issue of the Montreal Witness had as its outstanding feature a business proclamation on behalf of Montreal, signed by the leading captains of finance and industry in the city, whose signatures are reproduced in fac-simile. The unique transportation facilities of Montreal, the city's financial and commercial interests, and its numerous important industries, are described in concise and readable form. Such editions as these do much to emphasize the industrial and commercial importance of Montreal.

Thomas O. Curtiss and John B. Marcon have registered as proprietors of the American Machinery Co., Montreal.

The Atlantic Soap Co., Limited, soap manufacturers, Toronto, have assigned and winding-up order has been granted. O. Wade has been appointed provisional liquidator.

PERSONAL.

Mr. H. P. Douglas, of the Eadie-Douglas Co., 22 St. John St., Montreal, left on Friday, November 15, for England. His trip is a business one, the main object of which is the placing of a British agency for Esco steel coating, being a preservative for metals and wood, of which Eadie-Douglas Co., are sole manufacturers.

Mr. Eusebe Tougas, of P. D. Dods & Co., manufacturers and wholesale dealers of paints and oils, Montreal, died last week.

Among the representatives of the American Clay Machinery Co., Bucyrus, O., was Mr. R. R. McArthur, of Brantford, Ont. Mr. McArthur will permanently represent this company in Canada, making the King Edward Hotel, Toronto, his headquarters.

Mr. John C. McNynn has resigned his connection with Robert W. Hunt & Co., Chicago, taking effect, December 1, 1907.

Portable Industrial Railways

Mr. H. Clifford Kraft, representing the Arthur Koppel Co., of New York and Pittsburg, is visiting the leading industrial centres of Canada, introducing a very interesting system of portable track and industrial railway. This system is known throughout the world as the Koppel system.

The American works of the Arthur Koppel Co. are located at Koppel, Pa., and are the largest for the manufacturing of this type of material in the United States. The product is portable railway system comprising steel cars of various capacities and types and a system of portable track and switches. It appears to be a remarkably good thing for contractors, cement and brick manufacturers, quarries, and others whose work entails removal or transportation of materials such as dirt, sand, rock, clay, etc. The product is rapidly displacing the use of wheel barrows, scrapers, and carts for such work both in the United States and abroad because of its economy, ease of operation and elasticity.

The track is made up of light rails permanently fastened to a specially constructed steel tie and the straight track, curves and switches are made up in 15 foot lengths complete with joints and ready to lay, thereby eliminating the labor of laying track on wooden sleepers and of the trouble incident to such work by inexperienced hands.

Koppel cars are built for every conceivable purpose and are made of steel throughout even good cast steel wheels being used. The cars are equipped with patent roller bearings which reduce expense to buyer 40 per cent. for haulage.

This concern also make a specialty of complete foundry and machine shop installations using their narrow gauge track and specially adapted cars for handling raw materials throughout the plant.

Full details of this up-to-date system are given in a 24 page booklet entitled, "Portable Industrial Railways," which is issued by the Arthur Koppel Co., and can be had by applying to their New York office at 66 Broad Street, New York city.

The Canadian Time Recording Co., Limited, Toronto, have suffered loss by fire; fully insured.

WHAT'S IN A NAME?

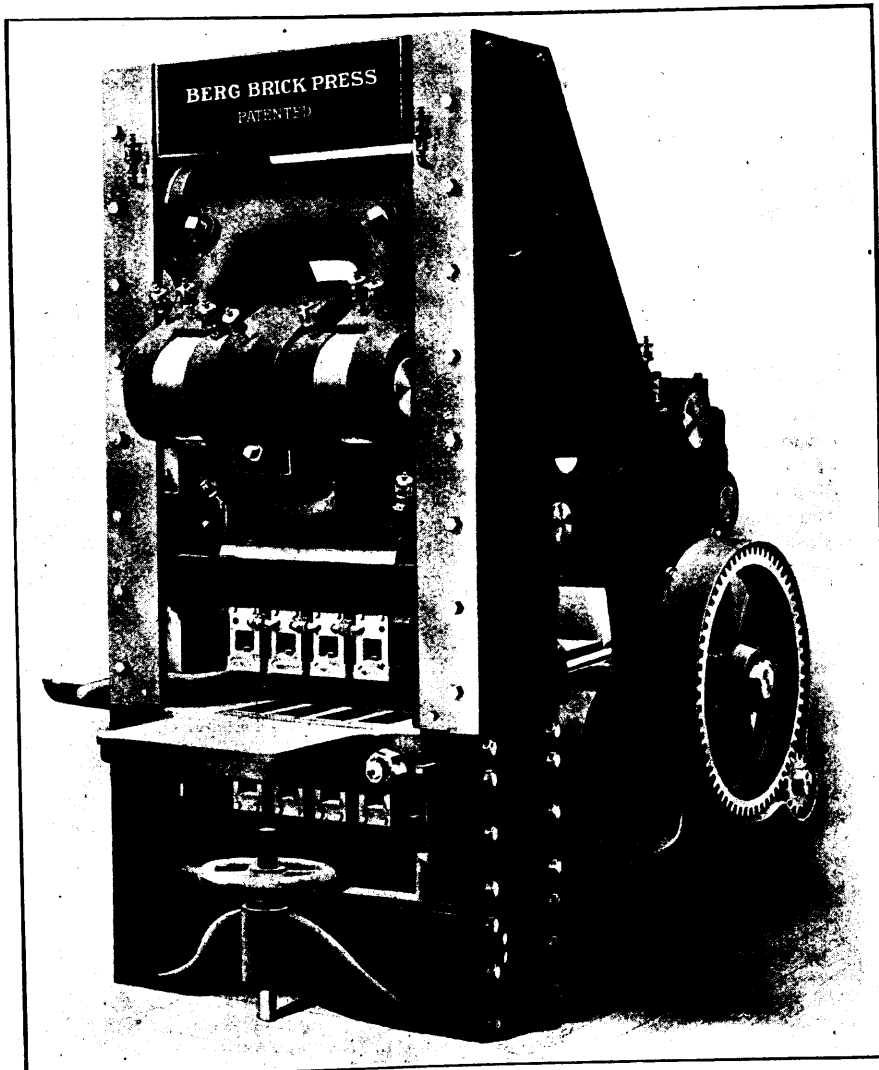
SIMPLICITY
TRENGTH
DURABILITY

ACCES
S TO ALL
PARTS

CREATEST
PRESSURE

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PRODUCT

The "Berg Press" is The Highest Development in the Art of Brick-making Machinery, so Pronounced by the U.S. Government.



Improved Berg Brick Press.

Cut Gearing, and many other steps forward in Improvements, and built of the Highest Grade of Material and Workmanship. Fully Guaranteed as to its Success.

Manufactured by its inventor in Toronto, Canada, exclusively. Also all equipments for Pressed Brick Plants to make Sand-Lime Brick, Sand-Cement Brick, Shale Brick, Clay Brick and Fire Brick. Correspondence solicited.

THE BERG PRESS EXCELS
for
Shale Pressed Brick.
Clay Pressed Brick.
Sand-Lime Pressed Brick.
Sand-Cement Pressed Brick.
Fire Brick.

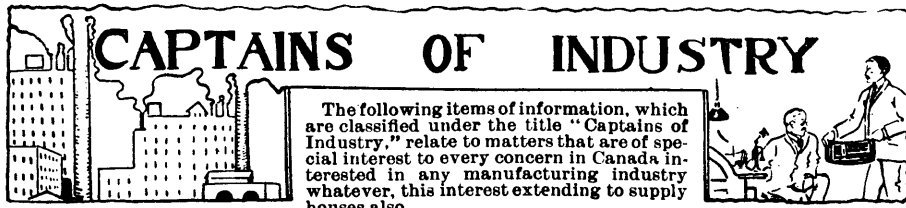
THE BERG PRESS
Gives THREE Distinct PRESSURES :
Result is,
No Granulated Centers.

THE BERG PRESS
HAS ALL WORKING PARTS ABOVE
Clay Line.

THE BERG PRESS
is fitted with "THE BERG PATENTED
MOLD BOX"—the DELIGHT of brick
makers, and which many OTHERS
have tried to IMITATE.

All Sizes and Shapes
Can be Made.
Molds Can be Changed in a
Few Minutes,
Owing to the
SIMPLE
MECHANICAL
CONSTRUCTION.

A. BERG & SONS, Manning Chambers
TORONTO, CANADA



The Canada Webbing Co., Toronto, have been incorporated with a capital of \$100,000, to manufacture webbing, insulating tapes, elastic bands, etc. The provisional directors include F. H. Lytle, R. W. Hart and O. H. King, Toronto.

The Brantford Street Railway, Brantford, Ont., will be overhauled, new rails laid, and loop lines extended to Eagle Place and Terrace Hills. In addition the line will be run to Cainesville, three miles east. To the south a new road will be built 30 miles to Port Dover on Lake Erie. The road from Brantford and Galt will be reconstructed, shortened and new rails laid. A spur will be built to St. George, Ont.

The ratepayers of Welland, Ont., will vote on a by-law at the next municipal elections to provide for a trunk sewer to drain the district east of the canal.

A by-law will be submitted to the ratepayers of Woodstock, Ont., at the municipal elections for the expenditure of \$27,000 for a distributing plant for Niagara power, and to provide a new motor and an electric pump, so that the electric power may be utilized for street lighting and in the waterworks system.

The Georgian Bay Power Co., have offered Owen Sound, Ont., 3,000 h.p. per year at \$20 per h.p. on the condition that the town build the power line to the company's plant at Eugenia Falls. As the right-of-way has already been purchased, it is estimated that the total cost would not exceed \$60,000.

The Holden Silver Mining Co., Cobalt, Ont., have been incorporated with a capital of \$650,000, to carry on a mining, milling and reduction business. The provisional directors include R. H. Hall, W. C. Clarke and W. R. Graham, Cobalt, Ont.

T. W. Sotham, chief engineer of the Hydro-Electric Power Commission, has completed specifications for the two new six million gallon electric pumps to be installed in Hamilton, Ont. The estimated cost is \$30,000.

The Michigan Central Railway Co. will erect a new roundhouse at St. Thomas, Ont., The Niagara, St. Catharines & Toronto Railway Co. have under construction in Toronto, a brick transformer house.

The Harwick Oil & Gas Co., Chatham, Ont., have been incorporated with a capital of \$100,000, to manufacture oil, gas, etc. The provisional directors include F. T. Merrill, Chatham; J. W. Cuthbertson, Tillsonburg, Ont., and G. H. Scriber, Detroit, Mich.

The waterworks system, Collingwood, Ont., will be extended at a cost of about \$3,800.

The ratepayers of Kingston, Ont., will vote on a by-law to raise \$15,000, for the purpose of buying a complete stone crushing outfit.

A number of new sewers will be installed in Windsor, Ont.

Messrs. Purdy, Mansell & Co., Toronto,

have been awarded the contracts for the heating, plumbing and ventilating of the new Normal School at Hamilton, Stratford, Peterboro and North Bay, Ont. The contracts for the electric wiring in the same buildings have been awarded to Fred. Armstrong & Co., also of Toronto. The aggregate amount of the contracts is about \$62,000.

A large rink is being erected in Orillia, Ont.

A post office will be erected in Kincardine, Ont., at a cost of about \$17,000.

Messrs. Fleck Bros., Ottawa, have been incorporated with a capital of \$49,500, to manufacture poles, ties, furniture, doors, sashes, pulp wood, etc. The provisional directors include A. W. Fleck, B. W. Fleck and W. Greene, Ottawa.

The A. F. MacLaren Cheese Cutting Machine Co., Ottawa, have been incorporated with a capital of \$60,000, to manufacture cheese cutting machines, cheese boxes, etc. The provisional directors include A. F. MacLaren, W. C. McCully, Stratford, Ont., and G. W. Hunt, Ottawa.

The Standard Automobile Co., Toronto, Ont., have been incorporated with a capital of \$40,000, to manufacture automobiles, bicycles, motors, engines, carriages, etc. The provisional directors include A. R. Bickerstaff, T. A. Silverthorn and N. Corcoran, Toronto.

The ratepayers of Chesley, Ont., voted favorably on a by-law to raise \$38,000 to expend on a waterworks system.

The cheese and butter factory at Kohler, near Cayuga, Ont., was destroyed by fire, November 24. Loss about \$1,500. The factory was owned by A. E. Drennan, of Brandon, Man.

The Geo. H. Rundle & Son Co., Windsor, Ont., have been incorporated with a capital of \$200,000 to manufacture drugs, chemicals, etc. The provisional directors include G. H. Rundle, A. G. Rundle and L. Frazier, Piqua, Ohio.

The premises of the Roman Catholic school, Belleville, Ont., were destroyed by fire, November 24. Loss about \$25,000.

The premises of the Canada Neckwear Co., and the National Stationery Co., Toronto, were damaged by fire, November 26. Loss about \$16,000.

The management of the Canadian Pacific Railway Soo line have announced their intention of building a new railway to be called the Duluth and Thunder Bay to connect their line to Duluth with the Canadian Pacific main line at Fort William, Ont. About half of this branch, which would be about 200 miles in length has already been built by lumbermen, but the Soo Co. means now to carry the enterprise to completion.

Big Pete Canadian Mines, New Liskeard, Ont., have been incorporated with a capital of \$2,000,000, to carry on a mining, milling

and reduction business. The provisional directors include K. Farah, W. S. Hallett, and E. F. Snelgrove, New Liskeard, Ont.

The Bice Regulator Co., London, Ont., have been incorporated with a capital of \$70,000, to manufacture boiler feeds, regulators, valves, etc. The provisional directors include A. W. Bice, J. Bice, and M. Owen, London, Ont.

The large water tank on the building of Geo. H. Hees, Sons & Co., Toronto, collapsed, November 20, doing damage to the extent of about \$35,000.

The A. McCall Co., Toronto, have been incorporated with a capital of \$20,000, to carry on a contracting and constructing business. The provisional director include F. Rielly, A. McCall and D. F. Hannigan, Toronto.

It is announced that a foreign syndicate will take over the \$1,200,000 bond issue of the Fort William Car Co., Fort William, Ont., and that operation on the plant, which is to cost \$500,000, will be begun at once. The plant will have an output of 125 freight cars a day and will employ from 1,200 to 2,000 men.

During a severe wind storm the new \$50,000 collegiate institute being erected in Belleville, Ont., was badly wrecked doing damage to the extent of about \$2,000.

The Peabody's Co., Windsor, Ont., have been incorporated with a capital of \$20,000, to manufacture jackets, clothing, etc. The provisional directors include H. B. Peabody, Windsor, Ont.; S. A. Griggs, Walkerville, Ont., and W. J. Peabody, Detroit, Mich.

The large evaporating plant of F. B. Mahler, Ridgeway, Ont., was destroyed by fire, November 14. Loss about \$10,000.

The asphalt plant of Messrs. Bellhouse, Dillon & Co., Ottawa, Ont., was damaged by fire, November 18. Loss about \$700.

The premises of Lyman Bros. & Co., Toronto, were damaged by fire, November 19. Loss about \$3,000.

The North Star Oil & Gas Co., Chatham, Ont., have been incorporated with a capital of \$36,000, to manufacture oil, gas, etc. The provisional directors include F. T. Merrill, Chatham, Ont.; E. C. Jackson, and J. H. Teall, Tillsonburg, Ont.

The factory of the Seaman Kent Co., hardwood flooring manufacturers, Meaford, Ont., was destroyed by fire, November 19.

The foundry of the Stevenson Boiler Works, Petrolia, Ont., was destroyed by fire, recently.

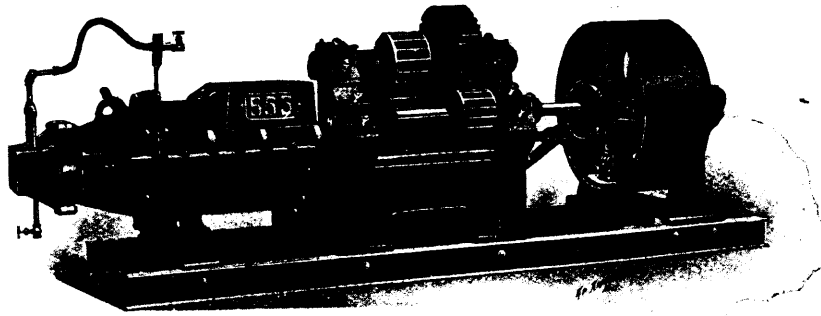
The sub-station of the Cataract Power Co., at Dundas, Ont., was damaged by fire, recently.

Messrs. Nagle & Mills, Ingersoll, Ont., have been awarded the contract for the erection of the new armouries at Strathroy, Ont., the price being \$13,000.

The Dominion Pharmacal Co., Toronto, have been incorporated with a capital of \$500,000, to manufacture drugs, chemicals, etc. The provisional directors include T. M. Higgins, W. Douglas and B. Place, Toronto.

Frank H. Fler & Co., Toronto, will erect a two story factory of reinforced concrete on Stirling Road at a cost of about \$65,000.

Listowel, Ont., are calling for tenders for the lighting of the town by electricity, arc and incandescent.

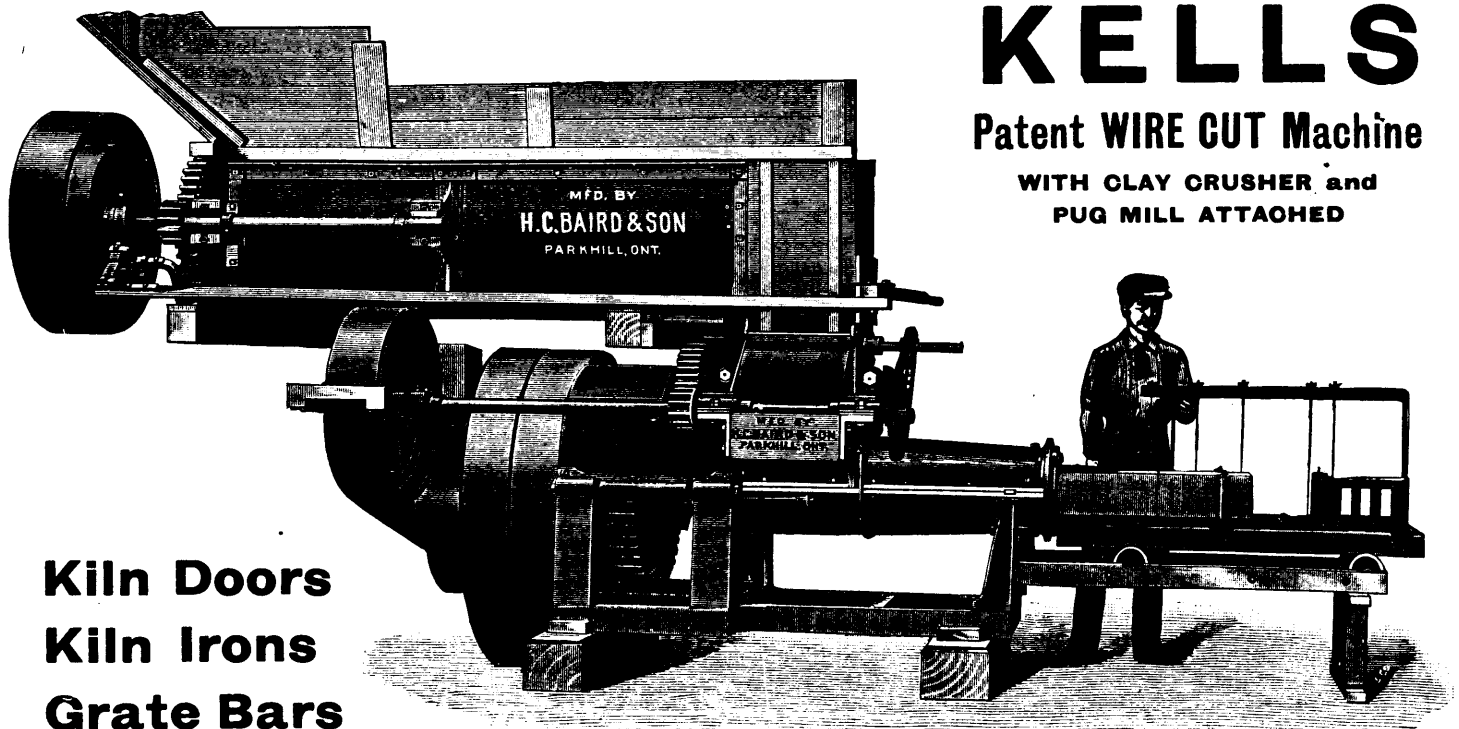


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This machine embodies the best ideas in the construction of Brick Machinery. Its capacity is large, only a question of the power you put behind. Without doubt this is the **STRONGEST** and **MOST SERVICEABLE BRICK MACHINE BUILT IN THE DOMINION**. It is also adapted to the manufacture of tile, fire proofing, conduits, and hollow blocks.

We install COMPLETE CLAY WORKING PLANTS. Let us send you our NEW CATALOGUE

BECHTELS, LIMITED, Waterloo, Ont., Can.



KELLS

Patent WIRE CUT Machine

WITH CLAY CRUSHER and
PUG MILL ATTACHED

**Kiln Doors
Kiln Irons
Grate Bars**

FULL LINE OF BRICK AND TILE MAKING MACHINERY AND YARD SUPPLIES OF ALL KINDS

H. C. BAIRD, SON & CO., Limited, Parkhill, Ont.

The Dominion Government are considering the erection of an armory in Welland, Ont.

The Daisy Mining Co., Ottawa, have been incorporated with a capital of \$20,000, to carry on a mining, milling and reduction business. The provisional directors include J. B. Lewis, V. V. Rogers, and F. J. Merrick, Ottawa.

A concrete arch bridge will be erected by the town of Dunnville, Ont., near Moulton Station.

The ratepayers of London, Ont., will be asked to vote on a by-law in January, providing for the expenditure of \$235,000, for transmission of Niagara power to the city.

The Canadian Pacific Railway Co. will shortly commence the construction of a bridge across the Grand Trunk tracks at Hanover, Ont., at a cost of about \$18,000.

The Bloom Lake Mines Co., Sandwich, Ont., have been incorporated with a capital of \$100,000, to carry on a mining, milling and reduction business. The provisional directors include W. J. Burns, Sandwich, Ont.; F. S. Dean, Detroit, Mich., and W. W. Bishop, Wyandotte, Mich.

The Grand Trunk Railway station, grain elevator, many thousand feet of lumber and a coal pile at Caledonia, Ont., were destroyed by fire, November 14. Loss about \$15,000.

The depot and freight sheds of the Grand Trunk Railway Co., Londesboro, near Clinton, Ont., were destroyed by fire, recently.

J. S. Crawford, Ottawa, has secured a site in Haileybury, Ont., on which he will erect a foundry.

The North Cobalt Mines, Limited, Cobalt, Ont., have been incorporated with a capital of \$1,000,000, to carry on a mining, milling and reduction business. The provisional directors include S. W. Parsons, J. J. Klein and G. B. Harris, Cleveland, Ohio.

Messrs. Taylor & Lackay have been awarded the contract for the erection of the collegiate institute in Ottawa, at a cost of about \$225,000.

The Stark, T. L. & P., System, Toronto Junction, Ont., have been awarded the contract for lighting the town for three years.

The Burrow, Stewart & Milne Co., Limited, manufacturers stoves, etc., Hamilton, Ont., have suffered loss by fire; insured.

The assets of the Canada Boiler & Radiator Co., Limited, Hastings, Ont., are advertised for sale by tender.

The Smiths' Falls Malleable Castings Co., Smiths' Falls, Ont., now have their new plant in operation. This will increase their capacity from 4,000 tons yearly to 8,000 tons.

The Caledonia Milling Co., Caledonia, Ont., have suffered loss by fire.

The London & Western Trusts Co. have been appointed liquidators of the Wilcox Mfg. Co. of Ontario.

The American Pants & Overalls Co., Ottawa, are asking for an extension of time.

Humberstone township, near Welland, Ont., have passed a by-law fixing stated assessment of new cement works which the Canadian Portland Cement Co. are building there. These works, which are partially erected, will be one of the largest of the kind in Canada.

The business of the Campbell & Tough Stock Scale Co., Arnprior, Ont., is being wound up.

The Dominion Radiator Co., Toronto, have secured judgment against A. C. Waltz & Co., Port Arthur, for \$953.

The creditors of Wm. Mallock & Co., manufacturers elevators, London, Ont., met in London on the 2nd inst.

The Parry Sound Furniture Staples Co., Parry Sound, Ont., have been incorporated with a capital of \$100,000, to manufacture lumber, timber, furniture, etc. The provisional directors include W. R. Bird, F. A. Mulholland and A. H. Badgerow, Toronto.

Estimates submitted to the city council, St. Thomas, Ont., by Engineer Richards, of the hydro-electric power commission, provide for a distribution plant costing \$42,493, making a total annual charge of \$4.46 per h.p., and provides for the construction of two branch lines through the city.

The congregation of Charlotte Street Methodist church, Peterboro, Ont., will erect an edifice at a cost of about \$30,000.

Messrs. Tolton Bros., Guelph, Ont., will erect a new box factory.

R. Beach, Winchester, Ont., will establish a mattress factory in that town.

The electric light plant, Wingham, Ont., will be repaired at a cost of about \$10,000.

The waterworks system will be installed in Elmira, Ont., at a cost of about \$25,000.

An addition will be erected to the Armoury gun shed, Guelph, Ont.

A new school will be erected in Guelph, Ont., at a cost of about \$13,000.

The Westmount Silver Mining Co., Toronto, have been incorporated with a capital of \$60,000, to carry on a mining, milling and reduction business. The provisional directors include J. Mackay, V. R. Smith and R. N. Scheffey, Toronto.

Messrs. Fortier & Thivierge Co., Clarence Creek, Ont., have been incorporated with a capital of \$40,000, to manufacture wool, woolen articles, etc. The provisional directors include D. Racine, Casselman, Ont.; S. Pilon, Rockland, Ont., and W. Thivierge, Clarence Creek, Ont.

The Minster Myles Shoe Co., Toronto, will erect a factory at a cost of about \$30,000.

The Bissell Carpet Sweeper Co. have removed from Toronto to Niagara Falls, Ont. They have secured a large factory which will admit of considerable expansion.

The Jackson L. Little Co., Toronto, have been incorporated with a capital of \$40,000, to manufacture barber chairs, furniture, drugs, chemicals, etc. The provisional directors include J. L. Little, A. B. Moyer and A. Wallace, Toronto.

Larder Gold Fields, Limited, Toronto, have been incorporated with a capital of \$1,500,000, to carry on a mining, milling and reduction business. The provisional directors include J. Hawes, E. G. Gibson and J. D. Pringle, Toronto.

The ratepayers of Hamilton, Ont., will vote on a by-law to raise \$225,000, for a lighting plant.

The Canadian Pacific Railway Co. intend having their line double-tracked between Toronto and Montreal by December, 1908.

Indiana Cobalt Silver Mining Co., Toronto, have been incorporated with a capital of \$250,000, to carry on a mining, milling and reduction business. The provisional directors include J. E. Day, J. M. Ferguson and E. V. O'Sullivan, Toronto.

The Grand Trunk Railway Co. will establish shops at Barrie, Ont.

A new post office will be erected at Welland, Ont.

G. Henry, Toronto, has been awarded the contract for the alterations to the Toronto post office, the price being \$20,000.

The Stratford Mfg. Co., Stratford, Ont., have been incorporated with a capital of \$40,000, to manufacture articles of wood and iron. The provisional directors include W. E. Swartz, Stratford, Ont.; A. P. Boyer and G. M. Richardson, Goshen, Ind.

The Crown Bank have opened a branch at Florence, Ont.

The Canadian Concrete Machinery Co., Board of Trade Bldg., Toronto, have decided not to open a branch in Winnipeg, Man., until spring.

The Dominion Government will construct a new wharf at Rosspoint, Ont.

The P. L. Robertson Mfg. Co., Hamilton, Ont., have been incorporated with a capital of \$250,000, to manufacture screws, nails, tacks, drivers, etc. The provisional directors include P. L. Robertson, W. G. Reid and A. E. Guidal, Hamilton, Ont.

The Trade Publishing Co., Toronto, have been incorporated with a capital of \$40,000, to carry on a printing and publishing business. The provisional directors include W. M. Wallace, W. Worthington and J. D. Pringle, Toronto.

The premises of the St. Thomas Pork Packing Co., St. Thomas, Ont., were damaged by fire, November 28. Loss about \$2,500.

Alex. Desmarreau has been appointed curator of the Canada Radiator Co., Lachine, Que.

The Canada Electric Co., Montreal, have removed their offices, formerly at 55 St. Francois Xavier St., and factory, formerly at Delorimier Ave., to 230 Dorchester St. west, the premises formerly occupied by Ness, McLaren & Bate.

The Asbestos Shingle, Slate & Sheeting Co., proprietors of Bell's Asbestos Mines, Thetford, P.Q., are considering the erection in Canada of a plant for the manufacture of asbestos century shingles and sheeting, asbestos reinforced corrugated and flat lumber and mill boards under Hatscheks patents, the same as are made in their plant at Ambler, Pa.

The Armstrong Cork Co., Montreal, are fitting up new stock cellars for the Amiot Brewing Co., Quebec, John H. R. Molson & Bros., brewery, Montreal, and the Capital Brewing Co., Ottawa.

Messrs. Collyer & Brock, electrical engineers, Montreal, are contractors for the electrical work of the new McGill University buildings, the Windsor Hotel, and the Canadian Express building.

An interesting piece of iron work was comprised in the new Williams & Wilson building, Montreal. There are four window frames, each 33 ft. in height and 8 ft. wide,

HARBISON-WALKER REFRACTORIES CO.

PITTSBURGH, PA.

Makers
Highest Grade
Refractories

Importers
Chrome Ore

Sole Agents
Carl Spaeter Magnesite

Fire Clay, Silica,
Magnesia, Chrome
BRICK

Blast Furnace Linings, Stove Brick and Shapes. Open Hearth Furnace Refractories, Cupola Linings, Brick for Rolling Mill Furnaces. Brick for Copper, Nickel, Brass and other Smelting Furnaces.

Rotary Cement Kiln Linings, Lime Kiln Brick. Beehive & by-product Coke Oven Brick. Locomotive Tile.

7,500 Regular Customers

Write for Booklet K

1,200,000 Daily Capacity

FRANCIS HYDE & CO.,

Montreal Representatives



If you could get a concensus of opinion from all the greatest founders in America, the result would show McCullough-Dalzell Crucibles most economical, durable and profitable. Write for prices.



McCULLOUGH-DALZELL CRUCIBLE COMPANY, PITTSBURG, PA.

The Stone-Flux Co.
CLEVELAND, O.

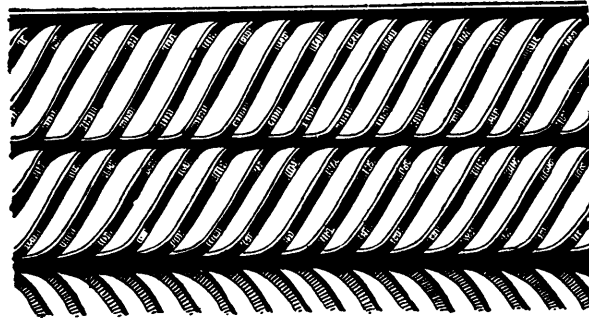
FIRE BRICK

SILICA FIRE CLAY
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SILICA CEMENT

MAGNESITE BURNT MAGNESITE

Our factories are the most complete in the country. Located in Pennsylvania, Ohio, and Kentucky—and controlling the largest known bodies of Refractory materials for different work. Operated by experienced managers. We manufacture material for all heat work—second to none. Capacity over 200,000 Brick and Special Shapes per day. Write for catalogue.

“Herringbone” Lath and the Housing Problem



Almost everywhere in Canada there is a scarcity of houses. The high cost of building materials also keeps down the construction of new dwellings. With many manufacturers the “housing problem” has become a serious one. It is solved by

“HERRINGBONE” LATH AND CEMENT SIDING

It's the cheapest DURABLE construction known.

Is fire-proof and everlasting—warm in winter, cool in summer.

Requires no painting, and is very handsome.

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MONTREAL, Cor. St. Catherine St. and Delorimier Ave.

TORONTO, 100 Esplanade St. East.

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and each contains 37 pieces, or 148 castings in all. L. H. Gaudry & Co., Montreal, were the contractors.

Mr. C. Donohue, manager of L. H. Gaudry & Co., Montreal, was recently in Western Ontario in connection with several large contracts in Montreal. Deliveries have been later as has been the case with all in the ornamental iron lines, but the work is expected to be complete before winter sets in. The contracts referred to include ornamental iron work for the new Turkish bath on Dorchester St., on the addition to the Coristine building, the new building of the Standard Shirt Co., Montreal, for the Wabasso Cotton Mills at Three Rivers, Que., new warehouse of Williams & Wilson, Montreal, and a number of smaller local contracts.

A meeting of the creditors of Jos. Decaire & Fils, brick manufacturers, Montreal, was held on the 30th ult.

A large block occupied by D. Kushner, furniture, and Yaphe & Frere, dry goods, St. John's, Que., was damaged by fire November 29. Loss about \$40,000.

The temporary quarters occupied by the Quebec Daily Telegraph, Quebec city, were destroyed by fire, November 28. Loss about \$30,000.

The premises of Messrs. Wm. M. Hall & Co., Montreal, agents for the Smith Premier Typewriter Co., were damaged by fire, November 27, to the extent of about \$2,500.

The directors of the Montreal Dominion Park Co. have decided to start at once the rebuilding of that portion of their amusement buildings recently destroyed by fire.

The congregation of the Temple of Solomon, Montreal, will erect an edifice on Ontario Street, at a cost of about \$52,000.

The Quebec & Levis Ferry Co., Quebec city, have decided to establish a car ferry service between the two towns.

The premises of the Canadian Wadding Co., Montreal, were damaged by fire, November 27. Loss about \$2,000.

Ernest W. Sayer, president, registered The King Electrical Works, Limited, Montreal.

The assets of the French Lady Corset Mfg. Co., Quebec, Que., were to be sold on the 5th inst.

Warden K. Lowden has registered the Utica Shale Brick & Pipe Co., St. Lambert, Que.

Mr. Joseph R. Henderson, president, has registered the Brandram-Henderson Co., Limited, manufacturers paints, Montreal.

Mr. W. C. McIntyre, president, has registered the Mount Royal Spinning Co., Limited, Montreal.

Mr. W. Alex. McKay, president, has registered the International Steel Co., Limited, Montreal.

The Rugg Ball Mfg. Co., Waterville, Que., have been incorporated with a capital of \$20,000, to manufacture rakes, shovels, implement handles, axe handles, etc. The charter members include J. R. Ball, Waterville, Que.; F. A. Rugg, Greenfield, Mass. and A. F. Plant, Sherbrooke, Que.

The St. John Foundries, Limited, St. Johns, Que., have been incorporated with a capital of \$30,000, to manufacture cast iron, steel, stoves, furnaces, etc. The charter

members include G. C. Paulin, J. A. Gagnon and G. Guillet, St. Johns, Que.

The Canada Tool Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture tools, electrical supplies, machinery, articles, etc. The charter members include W. R. Hitchcock, C. H. Cline and R. S. Cline, Cornwall, Ont.

The grand stand of the Baseball Club, Montreal, was destroyed by fire recently. Loss, about \$4,000.

The premises of H. R. Ives & Co., bedstead manufacturers, Montreal, were damaged by fire, November 16. Loss about \$50,000.

It is stated in financial circles that within a comparatively short time the Union Bank of Canada and the Quebec Bank, will be amalgamated.

The Dominion Oil Cloth Co., Limited, Montreal, are erecting a two story brick building, 60x40 feet, to increase their cork grinding facilities.

The Dominion Sand & Stone Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture cement, sand, stone, brick, etc. The charter members include T. Craig, W. B. Powell and J. A. Burnett, Montreal.

The Magog Woolen Mills, Sherbrooke, Que., have been incorporated with a capital of \$49,000, to manufacture cotton, woolen, worsted, yarns, etc. The charter members include A. P. Lomas, C. D. White and J. P. Wells, Sherbrooke, Que.

The H. Bourgie Co., Montreal, have been incorporated with a capital of \$125,000, to manufacture undertakers' supplies, etc. The charter members include H. Bourgie, J. A. Chagnon and P. Lavigne, Montreal.

The new machine shop of the Canadian Rand Co., Sherbrooke, Que., has been completed and part of the machinery installed and running.

The Auto-Strop Safety Razor Co., Montreal, have been incorporated with a capital of \$20,000, to manufacture razors, blades, cutlery, tools, hardware, electrical appliances, etc. The charter members include H. K. S. Hemming, Montreal; J. F. O'Rourke and W. R. Innis, New York city.

The premises of the Tombyll Upholstering & Frame Mfg. Co., St. James Street, Montreal, were destroyed by fire, November 30. Loss about \$60,000.

The New Brunswick Southern Railway Co. are seeking power to build a bridge over the St. Croix River at St. Croix or St. Stephen, N.B.

The city council, Moncton, N.B., have decided to grant to the Higgins Shoe Co., a bonus of \$15,000, in four per cent. bonds at par, free water for the factory, exemption from taxation, \$1,000 per year for twenty years for light and power, in the event of their removal from Yarmouth to Moncton. The company for these concessions are required to erect a factory within the city limits.

The Simeon Jones Co., St. John, N.B., will erect an addition to their brewery.

The Drummond Mining Co., of Montreal, who have recently acquired very valuable mining leases in Gloucester County, N.B., intend establishing a large smelting works at the mines, and will develop power to operate them from the falls on the Nipisiquoit River.

The Dorchester Woodworking Co., Dorchester, N.B., have been incorporated with a capital of \$12,000, to manufacture lumber, doors, sashes, blinds, carriages, vehicles, etc. The provisional directors include W. F. Tait, G. F. Atkinson and C. L. Hanington, Dorchester, N.B.

The Union Foundry & Machine Co., St. John, N.B., are making extensive improvements to their plant.

The International Automatic Lifeboat Co. have been organized at Rexton, N.B., with a capital of \$350,000, and will manufacture lifeboats.

A second seam of coal has been located at Big Marsh, near Antigonish, N.S. There are now two seams of six and eight feet, and experts say the quality is excellent. A company has been formed and it is announced that operations will begin immediately.

S. M. Brookfield, Limited, Halifax, N.S., have been awarded the contract for the erection of the Church of England cathedral, at a cost of about \$125,000.

The ratepayers of Portage la Prairie, Man., will vote on a by-law to raise \$75,000 for waterworks completion.

The new town hall in progress of erection at Rosthern, Man., will be completed this month.

The Canadian Pacific Railway Co. are installing their own water pumping plant at Brandon, Man.

The Canadian Northern Railway Co. will erect a foundry and power house in connection with their shops at Fort Rouge, Man., at a cost of about \$50,000.

The Winnipeg Safe Works, Winnipeg, Man., have been incorporated with a capital of \$50,000, to manufacture safes, vault doors, time locks, etc. The provisional directors include F. H. Robinson, W. Pace and D. R. White, Winnipeg, Man.

The large wholesale furniture house of Messrs. Campbell & Campbell, Brandon, Man., was destroyed by fire, November 20. Loss about \$25,000.

The sash and door factory of the Rat Portage Lumber Co., the warehouse of Merrick & Anderson, wholesale hardware merchants; the pickle factory of the Dyson Co., and the old warehouse of Frost & Wood, Winnipeg, Man., were destroyed by fire, November 21. Loss about \$150,000.

The planing mill and storehouse of James White, Carberry, Man., were destroyed by fire, November 18. Loss about \$5,000.

The city of Brandon, Man., are installing an electric lighting plant of their own at the pumping station for lighting the buildings there, and it is probable that in the near future the plant may be increased sufficiently to do all the municipal lighting. A turbine dynamo, using steam as a generating power, has been imported from England. The capacity is 200 lights, 16 candle power.

A rifle gallery will be erected in connection with the new armoury in Brandon, Man.

The International Heating & Lighting Co., Cleveland, Ohio, will shortly commence work on the construction of their gas producing plant in Brandon, Man.

The Canadian Pacific Railway hotel at Banff, Alta., will be enlarged at a cost of about \$200,000.

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MR. CONSUMER

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FACTORIES IN OHIO

TORONTO, CANADA

The Battleford Furniture Co., North Battleford, Sask., have assigned to D. S. Walker of same place.

The Canadian Northern Railway Co. have thirty miles graded on a line south-west of Saskatoon, Sask.

The ratepayers of Langham, Sask., voted favorably on a by-law to borrow \$6,500 for fire protection purposes.

The Minneapolis Street & Town Lighting Co., Minneapolis, Minn., are seeking a franchise to supply Carnduff, Sask., with electric light.

A large curling rink will be erected in Prince Albert, Sask.

Work will be commenced immediately on the erection of 2,000 miles of wire fence between Winnipeg and Edmonton, Alta., along both sides of the right of way of the Grand Trunk Pacific Railway. The Canadian Steel & Wire Co., Hamilton, Ont., have been awarded the contract.

The large factory of the Griffin Packing Co., Edmonton, Alta., is nearing completion.

The American-Canadian Oil Co., Morinville, Alta., want to supply that town and Edmonton, with natural gas.

Weyburn, Sask., are considering the question of a water supply system.

Tenders have been called for the erection of a courthouse at Battleford, Sask.

The ratepayers of Vonda, Sask., voted favorably on a by-law to raise \$15,000 for a waterworks system.

The Canadian Pacific Railway Co. have decided to build six more stalls in connection with the roundhouse at Neudorf, Sask.

The sewerage and waterworks systems, Edmonton, Alta., will be erected at a cost of about \$96,000.

The Massey-Harris Co. are erecting a large distributing warehouse in Vermilion, Alta.

The Merchants Bank of Canada are opening a branch in Lethbridge, Alta.

The North American Lumber & Supply Co. have established a branch in Nokomis, and Waterous, Sask.

The Canadian Northern Telegraph Co. have opened an office in Battleford, Sask.

The new roundhouse and station being erected for the Canadian Pacific Railway Co., at Swift Current, Sask., is nearing completion.

The Tisdale Telephone Co., Tisdale, Sask., have been organized to build a line from that town to New Osgoode, a distance of eighteen miles.

The Canada Life Assurance Co. intend establishing a branch at Saskatoon, Sask.

The new building of the Canadian Bank of Commerce at Lanigan, Sask., is nearing completion.

The ratepayers of Glenboro, Alta., are petitioning the Dominion Government for a bridge across the Bow River.

The Winnipeg Safe Works, Winnipeg, Man., have opened a branch in Vancouver, B.C.

The Ogilvie Flour Mills Co. have opened a branch in Vancouver, B.C.

The Lamb-Watson Lumber Co., Arrowhead, B.C., are increasing their electric lighting equipment.

The Nelson Cement Works, of Nelson, B.C., have promise of being a large industry. This company, who have a capitalization of \$25,000, will manufacture hollow concrete blocks for building purposes. C. W. Bourke and W. F. Mawdsley, the gentlemen interested, have purchased a site, and it is expected that the industry will be in operation shortly.

The Nanaimo Electric Light, Heat & Power Co., Nanaimo, B.C., will construct a large dam at Westwood's swamp, about three miles from the city, to increase the water capacity for the electric plant.

The Victoria Machinery Depot, Victoria, B.C., has been awarded the contract for repairing the Canadian Pacific Railway steamer "Tartar," the price being \$10,000.

B. Wheeldon's mill at Vancouver, B.C., has commenced operations. A shingle machine has been installed with a capacity of 30,000 shingles per day. A 25 h.p. electric motor furnishes the power.

The Fairview Cedar Lumber Co., Vancouver, B.C., have commenced operations after being shut down for repairs.

The Bowman Lumber Co. have purchased from the Canadian General Electric Co., a 700 light electric plant, consisting of a 35 k.w. direct current generator, with panel switchboard equipment for their mill at Comaplix, B.C.

The Schaaque Machine Works, Limited, of New Westminster, B.C., recently supplied a 72 inch by 18 foot horizontal return tubular boiler, made by the Canada Foundry Co., to the Brunette Saw Mills, Limited, Sapperton, B.C. They are also supplying two boilers of similar size and make to the North Arm Lumber Co., Eburne, B.C.

A waterworks system will be installed in Port Moody, B.C.

Messrs. D. Spencer, Limited, Vancouver, B.C., will erect a new store and arcade at a cost of about \$240,000.

Additions will be erected to the car shops of the British Columbia Electric Railway Co., in Victoria, B.C., at a cost of about \$10,000.

VERY ODD STRIKE.

An extraordinary dispute has arisen at the Daimler motor car works in Coventry, England, the tin-smiths employed there having struck because the company insisted on paying them too much money.

All the workmen are paid on the bonus system, under which they receive bonuses in addition to their regular wages. This appears to be against the principles of trade unionism, though the arrangement worked out so well for the men that, with the exception of the tinsmiths, the unions did not object.

The Tinsmiths' Union remained true to its principles and did not allow its members to accept the bonuses. The firm meanwhile continued to credit the men with the bonuses to which they were entitled, and went so far as to open a separate banking account for each, so that the men could have the money at any time if permitted by the union.

At last, says the "Autocar," the accumulated funds presented too strong a temptation and two-thirds of the men decided to have their portion regardless of consequences.

They were at once expelled from the union, and the rest of the tinsmiths called out of the works.

The men who took the bonus, however, started a little union of their own, and are now finding good tinsmiths to replace those who have preferred to stick to the union and refuse the extra money.

Patents Issued in Canada.

ANY INFORMATION GIVEN UNDER THIS HEAD IS SUPPLIED BY PATENT ATTORNEYS, TO WHOM READERS SHOULD REFER FOR MORE DETAILED INFORMATION.

FETHERSTONHAUGH & CO.

Below will be found complete list of patents recently granted to Canadian inventors in Canada, which is furnished by Messrs. Fetherstonhaugh & Co., barristers and solicitors, head office, Bank of Commerce Bldg., Toronto.

O. R. Durrant, Oshawa, Ont., cinder sifters.

W. G. Beatty, Fergus, Ont., binding pulleys.

J. Moreau, Germain de Grantham, Que., potatoes diggers.

P. Scott, Montreal, Que., roasting pans.

H. Y. Renous, Renous Bridge, N.B., stone surfacing machines.

N. Gilbert, Alexandria, Ont., carriage-bodies.

W. Stuckey, Toronto Junction, building construction.

J. H. Hirst, Toronto, Ont., envelopes and wrappers.

C. L. Benedict, Toronto, Ont., loose leaf binders.

E. Fournier, Hyacinthe, Que., loose leaf binders.

P. MacGregorio, Ottawa, Ont., combined temporary binder and arch files.

E. J. O'Reilly, Ottawa, Ont., combined pack bags and camp beds.

A. E. Brown, Teeswater, Ont., display stand.

J. Ducrest, Victoria, B.C., machines for pulling stumps.

MARION & MARION.

The following Canadian patents have been recently secured through the agency of Messrs. Marion & Marion, patent attorneys, Montreal.

108,259. Albert Hiorth, Christiania, Norway, induction furnace.

108,290. Gustav A. Walser, Neugasse, Switzerland, perforating device for automatic embroidery machine.

108,296. Messrs. Ernest & Marcel Lamort, Paris, France, insulating products, having a cellulose base, and process for obtaining the same.

108,331. Benjamin Cerutti, Havana, Cuba composite building structure.

108,414. Eugenio Cantono, Rome, Italy, automatic starting device for explosion motor.

108,476. George Ed. Humphries, Wellington, N. Zealand scaffolding.

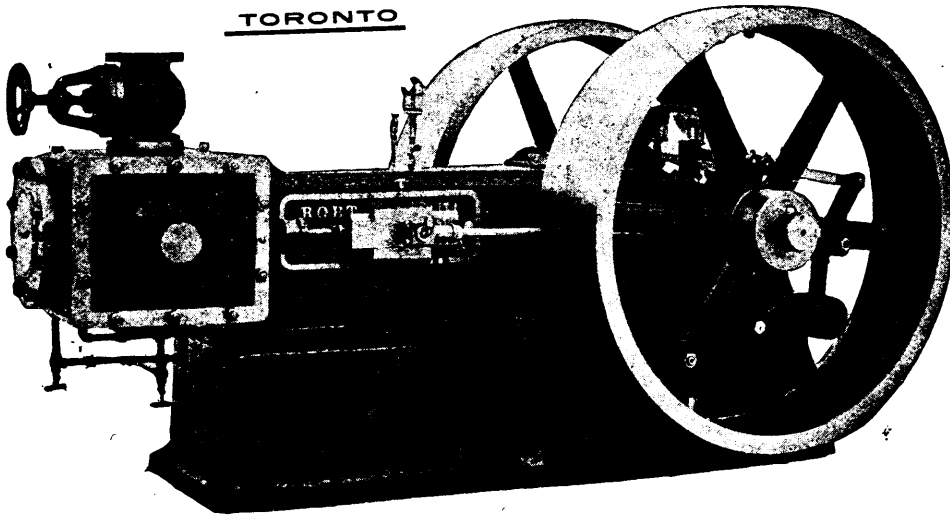
108,483. George F. Jaubert, Paris France, the purification of acetylene gas.

108,538. Elie D. H. Lambotte, Brussels, Belgium, mattress.

108,545. Arthur Robinson, Hinckley, England, stockings and socks.

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TEMPERING SPRINGS.

From the Practical Engineer, Chicago.

There is perhaps no kind of tempering that requires so much care in manipulation as getting a good spring temper. It is necessary that the spring be carefully forged; not over-heated and not hammered too cold, as the one is as detrimental as the other. To insure a spring that will not warp in tempering, both sides must be hammered, for if it is not, the metal will compress more on one side than another and permit the spring to warp or twist.

After the spring is forged and finished up it is ready for tempering. Clean out forge and have a brisk fire using good clean charcoal. If bituminous coal is used it must be well burned to a coke so as to free it from the sulphur, which will destroy the "life" of the spring. Place spring in fire and heat very slowly and evenly throughout its entire length and through its thickness. When a light red in color plunge evenly into luke-warm water, so as not to chill the surface of the metal too quickly before the inside can harden. Allow the spring to lie in the water until it is the same temperature as the water. Animal oil (whale or lard oil) is better than water, as the oil does not chill the metal as quickly as water and is therefore less liable to crack it. Lard may be used by melting it first before plunging the spring in.

Take the spring out of the water or oil after being cooled and prepare to temper. Have a brisk fire with lots of live coals, and smear tallow over the spring. During this operation do not increase the draught with the bellows, but let the fire heat the spring very slowly. If the spring is long, move slowly over the fire so as to heat equally. The tallow will meet and then blaze for some time, and while blazing incline spring, or elevate either end that the blaze may circulate through the spring and envelope it from end to end. When blaze dies out smear again with tallow and proceed as before. If the spring is to stand a great strain or perform much work it will be well to blaze off lightly a third time.

Spiral springs, such as used in spring balances, indicators, etc., are tempered by being heated in a closed pan with animal charcoal or bone dust packed around them, and when thoroughly heated are cooled in an oil bath. The tempering is accomplished by putting a handful of them in a sheet-iron pan with tallow or oil, and the pan kept constantly moving over a brisk fire. The

tallow soon blazes and the moving causes them to heat evenly. Springs that are tempered in this manner may literally said to be "fried in oil."

A long and slender spring, requiring only a low temper, may be tempered by beating the soft forging on a smooth anvil with a "smooth-face" hammer. By this means the metal will be sufficiently compressed to form a good spring without any further tempering. A light hammer should be used and many blows struck. Such a spring should last for quite a while, providing it does not have to withstand any great strain in its action.

CARELESSNESS IN CONCRETE CONSTRUCTION.

In President Miller's address before the Canadian Clay Products Manufacturers' Association he pointed out that an advantage claimed by advocates of concrete construction was that whereas the wages paid to bricklayers was extremely high, concrete work could be done by the cheapest class of laborers.

Evidently this latter fact has been true in the United States for in the U.S. Geological Survey Report the opening paragraph reads:

"The recent collapse of a number of reinforced concrete buildings with loss of life and of several hundred thousand dollars, has brought forcibly to the attention of structural material experts the need for an immediate revision of the building regulation of the great cities of the country. It is declared that inattention to this new material on the part of the officials of municipalities and the haphazard manner in which it is being handled by some contractors have led to a most serious problem and will result in more disasters unless there is a remedy at once." In this report Mr. Richard L. Humphrey, a geological survey expert, and himself an officer of a cement company or association (and, therefore, deserving great credit for being so frank), declares "that the danger of collapse of concrete structures exists in nearly every important city in the United States."

"I have examined carefully nearly every one of the buildings that have collapsed in the past year," says this same expert, in that report handed out to the press via the United States government, "and in every instance the fall of the structure has been due to carelessness in construction. From what I have seen of other concrete buildings in process of construction I am satisfied that the same errors are being repeated

and that further collapses will surely come unless the officials of the cities take the question in hand now. This danger of careless construction confronts nearly every city of the country, and IT IS A MIRACLE TO ME THAT MORE CONCRETE BUILDINGS HAVE NOT COLLAPSED." (The capitals are mine.)

"... It is a comparatively new material, and until its properties are fully known and appreciated, the greatest safeguards should be thrown about it. There is a prevalent idea that it can be used by unskilled laborers. This is an error which has led to serious consequences. While it is true that unskilled labor can be employed to a large extent, concrete construction requires the same care and attention to details that is demanded by first class construction with other materials. . . . In order to meet this problem squarely, every city in the United States should revise its building laws in such a manner that either the owner or the contractor of a concrete building shall be compelled to employ a competent inspector, whose duty it shall be to follow every detail of the construction, from the beginning of the foundation to the completion of the roof. . . ."

AN UP-TO-DATE MACHINE SHOP.

In equipping their new plant at Montreal, the Metal Shingle & Siding Co. found it advisable to install a high class tool department which is now in operation. With a view to future expansion the firm have provided a machine shop in advance of their present needs, and they are therefore undertaking considerable outside work, in the making of accurate dies, tools, gauges, special machinery and experimental work. They are prepared to furnish estimates as to cost and delivery of such work, upon receipt of samples or blue prints.

In the manufacture of the Metal Shingle & Siding Co.'s own specialties ("Herringbone" lath and truss beam fabric for concrete reinforcement) a high degree of accuracy is required. For that reason they have in operation amongst other machinery, the latest types of Brown & Sharpe machine tools, such as a No. 3 surface grinder with magnetic chuck, and a No. 3 universal grinder and milling machine fitted with differential driving head. They also have a modern hardening and tempering plant for either carbon or high speed steels. In fact, this machine shop is undoubtedly one of the best and in many respects the most complete in Canada.

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BLUE VITRIOL.

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OUR SPECIALTIES — LIME, CEMENT, sewer pipe, plaster Paris, fire brick and fire clay. ONTARIO LIME ASSOCIATION, 118 Esplanade Street East, Toronto.

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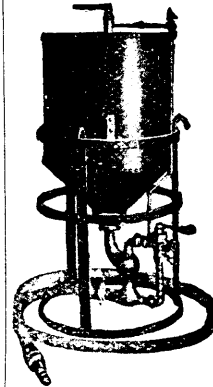
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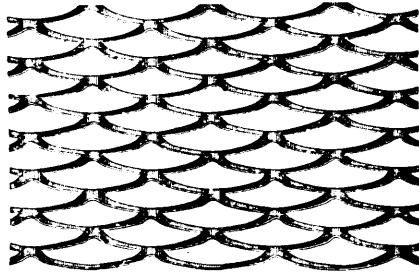
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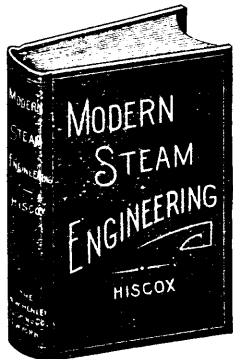
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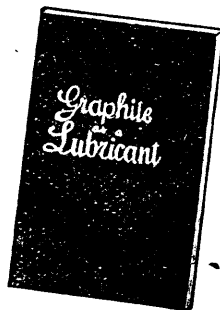
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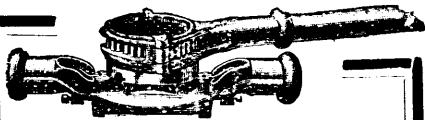
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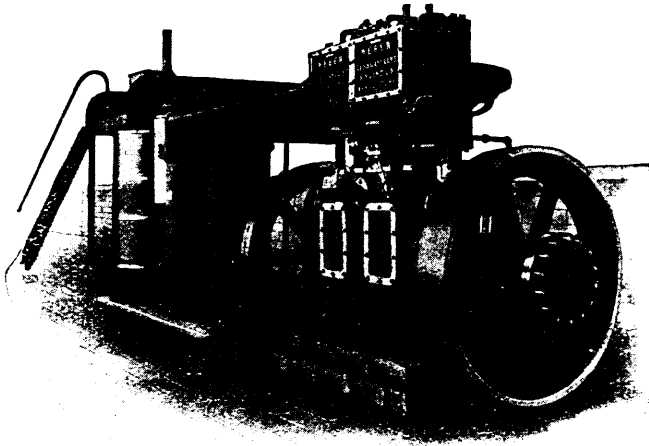


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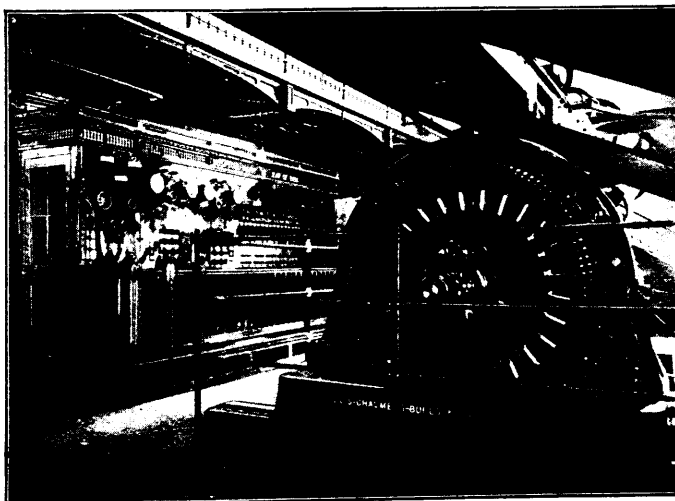
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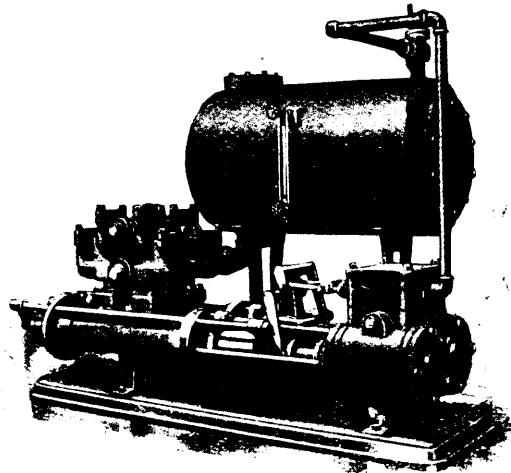
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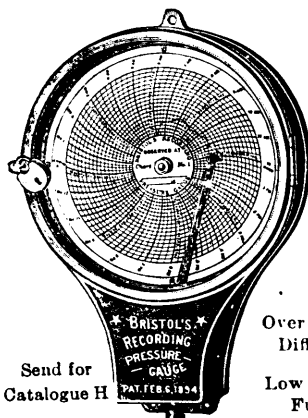
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