

# CANADIAN CONTRACT RECORD

*A Weekly Journal of Engineering, Public Works,  
Tenders, Advance Information and Municipal Progress*

This Paper Reaches Every Week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers, Leading Civil Engineers and Contractors throughout Canada, and Purchasers of Municipal Debentures.

VOL. 18

TORONTO, MONTREAL — JULY 10, 1907 — WINNIPEG, VANCOUVER

No. 19

## THE CANADIAN CONTRACT RECORD PUBLISHED EVERY WEDNESDAY

As an intermediate Edition of the Canadian Architect and Builder.

## THE C. H. MORTIMER PUBLISHING COMPANY of Toronto, Limited,

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in advance,  
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## Classified Index of Advertisers, Page 15.

## TO BUILDERS AND CONTRACTORS, ETC.

Manager or assistant (age 36) seeks appointment,  
well up in general management, measuring, quanti-  
ties, adjusting variations and general routine, or  
travel for builders' merchants. Excellent English  
references. Apply Box 258, Fort William, Ont.

## NORTH BATTLEFORD (SASKATCHEWAN)

## Notice to Contractors

## WATERWORKS, SEWERAGE AND ELECTRIC LIGHT AND POWER EQUIPMENT.

Sealed tenders will be received by the Secretary-  
Treasurer of the Town up to 8 p. m. on WEDNES-  
DAY, 31ST JULY, 1907, for the following works:

- Contract "A"—Labour, pipe laying;
- "C"—Water Tower;
- "D"—Water Pipes and Specials;
- "E"—Fire Hydrants, Valves, etc.
- "F"—Sewer Pipes;
- "H"—Two Boilers.

Tenders for Buildings, Machinery and Electric  
Equipment will be called for during August.

For further information address the Engineer,  
Plans and specifications on file after 12th July, 1907.

J. A. GREGORY, Esq., WILLIS CHIPMAN,  
Mayor, Engineer,  
S. COOKSON, 103 Bay St., Toronto.  
Sec.-Treas.

## CITY OF WINNIPEG

## Point du Bois Hydro- Electric Development

## TENDERS FOR CONSTRUCTION AND EQUIPMENT

Sealed tenders, on prescribed forms, addressed to  
the Chairman of the Board of Control, Winnipeg,  
Canada, and marked on the envelope "Point du  
Bois Hydro-Electric Development, tender for....."  
(here add the particu-  
lar item or items as below), will be received at the  
office of the undersigned up to noon of

**Tuesday, 3rd Day of September, 1907,**

for the construction of the General Works, and for  
the supply and erection of the various portions of the  
equipment for the Hydro-Electric Works and Station  
at Point du Bois, for a Transmission Line between  
Point du Bois and Winnipeg, and for a Receiving  
Transformer Station in Winnipeg.

Copies of the instructions to bidders, plans, speci-  
fications and forms of tender, may be obtained at  
the Power Engineer's office, Carnegie Library Building,  
Winnipeg, or may be seen at the offices of Messrs.  
Smith, Kerry & Chace, 124-6 Confederation Life  
Building, Toronto.

Each tender must be accompanied by a certified  
cheque payable to the order of the City Treasurer  
for the sum called for in the corresponding "In-  
structions to Bidders," which cheque will become  
forfeit to the Corporation in the event of the suc-  
cessful tenderer refusing or neglecting to sign a  
satisfactory contract when called upon to do so.

Individual tenders will be received for:

- \* (3) Telephone System.
- (4) General Works at Point du Bois.
- (5) 4,000 H. P. Turbines (five).
- (6) 480 H. P. Turbines (two).
- (7) 3,000 K. W. Generators (five).
- (8) 220 K. W. Generators (two).
- (9) Induction Motors (one).
- (10) Step-up Transformers (five).
- (11) Generating Station, Switching and Accessory  
Apparatus.
- (12) Generating Station, Light, Heat and Power  
Systems.
- (13) Generating Station, Oil and Air Systems.
- (14) Erection of Transmission System (75 miles).
- (15) Steel Towers.
- (16) High Tension Insulators.
- (17) Electric Transmission Cable.
- (18) Terminal Station.
- (19) Step-Down Transformers (five).
- (20) Terminal Station, Switching and Accessory  
Apparatus.
- (21) Terminal Station, Light, Heat and Power  
Systems.
- (22) Terminal Station, Oil and Air Systems.
- (23) Testing Transformers and Apparatus.
- (24) Electric Travelling Cranes (three).
- (25) Turbine Governors (seven).
- (27) Auxiliary Apparatus.
- (28) Repair Shops.

An alternative lump-sum tender will be received  
for the entire work, including all of the above men-  
tioned items together with additional work and  
equipment necessary to install a complete working  
plant. As a further alternative, tenderers may in-  
clude or group together one or more of the above  
items providing that they have also tendered for the  
individual items of such group.

The Board reserves the right to reject any or all  
tenders, or to acc. at any tender which shall appear  
advantageous to the City of Winnipeg.

M. PETERSON,  
Secretary.

The Office of the Board of Control,  
Winnipeg, June 9, 1907.

\*The numbers are those of the different volumes  
of specifications.

## POSITION WANTED

First class salesman open for engagement 1st  
August; good connection with architects and builders  
all over Ontario; familiar with building lines. Box  
111, CONTRACT RECORD, Toronto.

## CITY OF WINNIPEG

## Point du Bois Hydro- Electric Development

## Tenders for Rails

Sealed tenders, addressed to the Chairman of the  
Board of Control, will be received up to noon of  
**TUESDAY, JULY 16TH, 1907,** for 200 tons of standard  
45 pound new or relaying rails with fastenings.  
Tenders shall state general particulars, including  
make and date of rails, place used, and length of  
time, and condition, etc., and give price f.o.b. Lac  
Du Bonnet Station C.P.R. Each bid must be  
accompanied by deposit of sum equal to 5 per cent.  
of the total amount of the tender. The lowest or  
any tender not necessarily accepted.

M. PETERSON,  
Secretary.

Board of Control Office,  
Winnipeg, July 3rd, 1907.



## Temiskaming and North- ern Ontario Railway Commission

## TENDERS FOR Blacksmith Shop

Sealed tenders, addressed to the undersigned and  
endorsed "Tender for Blacksmith Shop," will be re-  
ceived up to 5 p. m. on the 28TH DAY OF JULY,  
1907, for the erection of a Blacksmith Shop at North  
Bay, Ontario.

Plans and specifications may be seen at the office  
of the Commission, 25 Toronto Street, Toronto, and  
at the office of the Chief Engineer, North Bay.

A certified cheque for \$50.00 must accompany  
each tender.

The successful tenderer must enter promptly into  
a contract and furnish security for the amount of  
\$1,000.00 for the due completion of same.

Cheques of unsuccessful tenderers will be returned  
to them.

The lowest or any tender not necessarily accepted.  
A. J. McGEE,  
Secretary-Treasurer.

Toronto, June 28th, 1907.

Papers inserting this advertisement without  
authority will not be paid for same.

[FOR ADDITIONAL ADVERTISEMENTS FOR TENDERS SEE NEXT PAGE]

**SEALED TENDERS**

will be received until noon, AUGUST 1, 1907, for a  
**BRICK AND STONE CHURCH**

of "Our Lady of the Lake," Rev. Father Beaudoin,  
of Walkerville, (in trust).

Plans, specifications and full particulars may be  
had by applying to

WILLIAMS BROS., Architects,  
Curry Block, Windsor, Ont.

The right is reserved to reject any or all bids.

**TENDERS FOR  
CEMENT SIDEWALKS**

Sealed tenders will be received at the Town Clerk's  
office, Whitby, for the construction of about 18,000  
feet Cement Walks to be completed not later than  
the 15th September, 1907.

Specifications may be seen at Clerk's office,  
Whitby.

JOSEPH WHITE,  
Town Clerk.

**TENDERS**

Tenders, addressed to the undersigned, will be  
received until noon, FRIDAY, THE 19TH INST.,  
for the building of Reinforced Concrete Abutments  
and concrete floor for a bridge to be erected over  
Bear Creek on the town line between the Town of  
Petrola and the Township of Enniskillen, for the  
County of Lambton. Plans and specifications can  
be seen at the home of the undersigned, or at the  
office of Bell & McCubbin, Civil Engineers, St.  
Thomas, Ont. A deposit of \$200.00 must accompany  
each tender as a guarantee of good faith. The  
committee reserves the right to reject any or all  
tenders.

THOMAS ACTON,  
Reeve of Enniskillen,  
Petrola, Ont.

**TENDERS FOR BRIDGES**

Sealed tenders, with plans, strain sheets and  
specifications, are requested by the undersigned up to  
noon of FRIDAY, THE 26TH JULY, 1907, for two  
steel highway bridges for the County of Hastings.

Each bridge will be of two spans, and each span  
84.90 feet and bridge 94 feet long, 16 feet wide in  
the clear, with reinforced concrete floor on steel  
joists. Bridges to be completed by 15th October,  
1907, on concrete piers which will be ready for super-  
structure by 1st September next.

Each bridge must be strong enough to carry a  
moving load of 125 lbs. to a square foot of floor.  
One bridge is to be at Poucher's Mill, in Thurlow,  
about eleven miles from Belleville; the other bridge  
at Sherry's old bridge, in Hungerford, about ten  
miles from Tweed.

Payment when bridge is completed and accepted.  
The lowest or any tender not necessarily accepted.

WM. R. AYLSWORTH,  
County Clerk,  
Belleville, Ont.

June 26th, 1907.



**DEPARTMENT OF RAILWAYS  
AND CANALS.**

**QUEBEC CANALS****NOTICE TO DEALERS  
IN CEMENT**

Sealed tenders, endorsed "Tender for Cement,"  
will be received by the undersigned, at 16 o'clock on  
Monday, the 15th July, 1907, for the supply of  
10,000 barrels of Portland Cement for the use of the  
Quebec Canals.

Specifications and forms of tender can be procured  
at the office of the Superintendent Engineer of the  
Quebec Canals, No. 2 Place d'Armes Square,  
Montreal, and at the office of the Chief Engineer of  
the Department of Railways and Canals, Ottawa,  
on and after the 3rd instant.

The Department does not bind itself to accept the  
lowest or any tender.

By order,  
L. K. JONES,  
Secretary.

Department of Railways and Canals,  
Ottawa, 3rd July, 1907.

Newspapers inserting this advertisement without  
authority from the Department will not be paid for it.

**CITY OF FREDERICTON  
DEBENTURES**

The holders of "Fredericton Water Debentures,"  
and "City of Fredericton Debt Debentures," falling  
due on July 20th and August 1st next, who wish to  
continue their securities, may renew same with the  
re-issue of City Bonds authorized at the last Session  
of the Legislature, running for forty years at 4%  
payable half yearly.

Persons wishing to continue their loans, as above,  
are requested to notify the undersigned without  
delay, stating the amount of the new bonds they are  
prepared to take.

I. R. GOLDING,  
City Treasurer.

Fredericton, N.B., June 14th, 1907.

**CONTRACTS OPEN.**

ALBERNI, B.C.—A modern water-  
works system is being agitated.

BRANTFORD, ONT.—Ham & Nott  
will erect a new factory costing about  
\$40,000.

BERLIN, ONT.—The Town Clerk  
has been instructed to offer \$27,000 of  
debentures for sale.

RICHMOND, QUE.—A double  
tenement house will be built on Bridge  
street by A. J. Cross.

GLACE BAY, N.S.—The old post  
office building is to be sold prior to the  
erection of a new building.

WARDNER, B. C.—It is reported  
that Mr. Graham intends building a new  
hotel, to cost about \$50,000.

OWEN SOUND, ONT.—R. Mc-  
Dowall has prepared plans for a bridge  
over the Pottawatamie river.

DIDSBURY, ALTA.—The Council  
will likely purchase a chemical engine  
and other fire fighting apparatus.

WEST LORNE, ONT.—N. F.  
Campbell and D. Graham will erect two  
dwellings on the skating rink property.

TABER, ALTA.—J. A. Macdonald  
has taken tenders for construction of a  
three storey hotel building in this town.

HASTINGS, ONT.—Valentine &  
Fisher, Waterloo, Ont., are considering  
the erection of a shoe factory in this  
town.

LADNER, B. C.—J. H. Hutchinson  
is planning to build a waterworks system  
through Delta Municipality and a portion  
of Surrey.

LIVERPOOL, N.S.—The Sable  
Lumber Co. will build six miles of rail-  
way, from Lake Wilkins Siding to Tid-  
ney Lake.

PORT CREDIT, ONT.—W. M.  
Shaw will receive tenders up to 20th inst.  
for building an addition to the public  
school here.

DALHOUSIE, N.B.—It is reported  
that the Dalhousie Lumber Co. are con-  
sidering the rebuilding of their sawmill at  
Campbellton.

CHATHAM, ONT.—Arnold & Rut-  
ley, architects, have prepared plans for  
a new front and stairway for the Grand  
Central Hotel.

WOODBRIDGE, ONT.—A. W.  
Farr wants tenders up to July 20th for  
redecorating the interior of Woodbridge  
Methodist church.

ST. CATHARINES, ONT.—Peter  
Nicholson has just taken tenders for  
erection of a two storey brick residence  
on St. Paul street.

SASKATOON, SASK.—Gordon &  
Sparling have had plans prepared for a  
new abattoir and retail meat depot, to  
cost about \$40,000.

HAMIOTA, MAN.—It is proposed  
to submit a by-law to the ratepayers to  
raise \$4,000 for erection of a firehall and  
purchase of fire engine.

MORDEN, MAN.—C. McCorquon-  
dale, Town Clerk, is taking tenders up

till to-day for construction of cement  
sidewalks in this town.

ST. BONIFACE, MAN.—V. W.  
Horwood, architect, Winnipeg, is pre-  
paring plans for a fire hall to be erected  
here at a cost of \$20,000.

NELSON, B.C.—G. D. Curtis has  
prepared plans for the new St. Saviour's  
church, which is estimated to cost in the  
neighborhood of \$60,000.

WELLAND, ONT.—The Council are  
considering the question of building a  
large sewer for the Canada Forge Co.  
and Supreme Heating Co.

FORT WILLIAM, ONT.—The Fort  
William Building & Realty Company  
want tenders up to July 15th for erection  
of from 20 to 40 dwelling houses.

WALKERVILLE, ONT.—The new  
church to replace the Roman Catholic  
church which was destroyed by fire some  
months ago is estimated to cost \$30,000.

VERNON, B.C.—F. N. Rattenbury,  
architect, Victoria, wants bids up to July  
15th for erection of frame residence for  
H. W. Husband. Plans at architect's  
office.

BROCKVILLE, ONT.—C. S. Cossitt,  
Chairman Board of Works, will receive  
tenders up to 11th inst. for construction  
of sewers on King, Ormond and Chislett  
streets.

LONDON, ONT.—A. O. Graydon,  
City Engineer, will receive tenders up to  
11th inst. for construction of sewers on  
King street, Woodman avenue and  
Wuttley road.

BRACEBRIDGE, ONT.—The Town  
Council have rejected all tenders received  
for the macadamizing of Manitoba street,  
owing to the high figures submitted by  
the tenderers.

WOODSTOCK, ONT.—C. Otterbein  
is this week taking tenders on erection of  
a hotel on Graham street.—The School  
Board will ask for funds to erect a new  
west end school.

WAWANESA, MAN.—W. T. Johns-  
ton, Secretary-Treasurer, will receive  
tenders up to July 20th for the construc-  
tion of a steel bridge on concrete founda-  
tion at this place.

THREE RIVERS, QUE.—T. Pringle  
& Son, Coristine Building, Montreal, are  
this week taking tenders for the con-  
struction of buildings at this place for the  
Wabasso Cotton Co.

ROSTHERN, SASK.—F. Kroll is  
about to build a new brick block.—It is  
expected that work will be commenced  
immediately on the mill for the Rosthern  
Flour Mills Limited.

CARLYLE, SASK.—T. Jarrott,  
secretary treasurer Carlyle S. D. No.  
276, wants bids up to July 15th for pur-  
chase of \$3,500, twenty year, six per cent.,  
school district debentures.

QUEBEC, QUE.—Contracts will  
likely be awarded this week for the pav-  
ing of Dalhousie and other streets.

ST. JOHN, N.B.—The management  
of the Seaman's Institute have decided  
to purchase the necessary property for  
their proposed building and commence  
building operations in the near future.

AMHERST, N.S.—The ratepayers  
have authorized the Town Council to  
borrow \$25,000 for further extension of  
permanent streets.

HAMILTON, ONT.—Plans have  
been prepared for a new church for Knox  
congregation, to cost about \$18,000.—It  
is reported that the Grand Trunk Rail-  
way intend building a new passenger  
depot.

CHALOTTETOWN, P. E. I.—The  
Department of Public Works wants ten-  
ders up to July 23rd, for erection of goal

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-V. W. is pre-erected

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The Fort Company r erection is.

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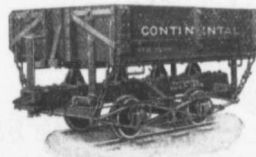
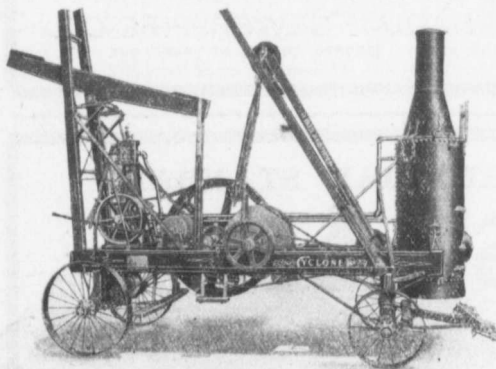
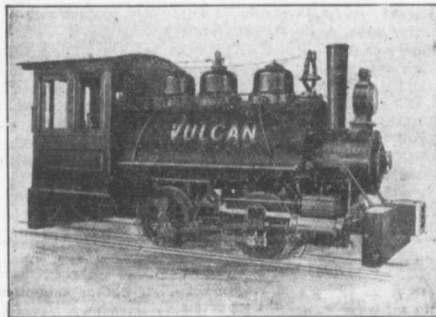
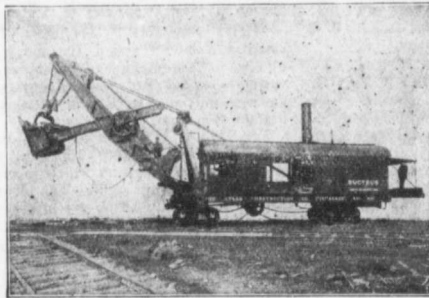
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Plans have urch for Knox \$18,000.—It Trunk Rail- w passenger

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building in Queen's county. Plans at office of the architect, C. B. Chappell, this city.

**ST. THOMAS, ONT.**—N. R. Darach, architect, is this week taking tenders for remodelling Dewar school, section No. 24, Yarmouth.—Plans have been completed and tenders will shortly be called for erection of church building for St. John's congregation.

**YORKTON, SASK.**—Work will be begun immediately on the waterworks and sewerage systems, the by-law for which was carried recently.—F. R. Evans, architect, Winnipeg, wants bids up to July 13th for erection of brick hotel building in this town. Plans at the office of the architect.

**ST. MARY'S, N.B.**—The Fire and Water Commissioners have invited tenders for cast iron pipe, hydrants, valves, etc., and all supplies necessary for construction of a water works system.—The corporation is offering for sale \$10,000 4½ per cent. debentures. Particulars from Peter J. Hughes, Fredericton, N.B.

**SHELLMOUTH, MAN.**—F. Gelinas, Secretary Department of Public Works, Ottawa, wants tenders up to August 3rd for construction of a steel superstructure for a bridge over the Assiniboine river at this point, according to plans at offices of J. G. Sng, Toronto; A. R. Dufresne, Winnipeg; C. Desjardins, Montreal; Postmasters at Hamilton, Ont., and this village, and also at the Department of Public Works, Ottawa.

**NEW WESTMINSTER, B. C.**—A petition is being circulated requesting the Council to proceed with the construction of cement sidewalks on Columbia street.—Edward Falch, proprietor of the Royal City Hotel, is having plans prepared for a new three-storey brick building.—A. P. Gilis, of Seattle, has made a proposition to the City Council here for the erection of a combination hotel and theatre.—The Vulcan Iron Works are making arrangements to secure new capital and extend their plant.

**CALGARY, ALTA.**—Plans for a hospital, consisting of main building and maternity hospital, isolation hospital and nurses' home to be constructed of red brick with stone trimmings, to cost about \$140,000, will be received by H. R. Dudley Smith, Secretary-Treasurer,

up to August 1st.—F. Gelinas, Secretary Department of Public Works, Ottawa, wants tenders up to August 2nd for construction of electric elevator in the public building in this city. Plans with J. J. O Gara, architect, this city, and at office of the above named department.

**OTTAWA, ONT.**—N. J. Ker, City Engineer, is this week taking tenders on construction of an asphalt and stone set pavement on Sussex street, between St. Patrick and Pine streets.—Tenders have been taken by the Public Works Department of Ontario for alterations to the Normal school in this city.

**BRANDON, MAN.**—The Manson, Campbell Fanning Mill Co. and William Gray & Sons, of Chatham, Ont., are about to erect a four-storey warehouse here, 120 x 80 ft., frame, concrete foundation.

**LINDSAY, ONT.**—G. Smith, County Engineer, wants tenders up to July 17th for work to be done at the Swing Bridge on the Scugog river, near this town. Plans with J. R. McNeile, County Clerk, this town.

**PORTAGE LA PRAIRIE, MAN.**—E. W. B. Snider, President of the Waterloo Threshing Co., was here last week looking over the ground with a view to selecting a site for a large warehouse and repair shops.

**STRATHCONA, ALTA.**—A. T. Mude, Secretary-Treasurer Strathcona Public School District of Alberta, wants tenders up to August 1st for purchase of \$50,000 five per cent. thirty year school district debentures.

**GRAND VIEW, MAN.**—E. G. Pel-

tier has acquired an interest in the Empire Hotel, which will be enlarged and remodelled, at an approximate cost of \$40,000. Two stories will be added and an elevator installed.

**MEDICINE HAT, ALTA.**—The ratepayers have carried the following by-laws: Extension of waterworks system, cost \$25,000; improving natural gas system, cost \$20,000; installation of fire alarm system, cost \$5,000.

**WESTON, ONT.**—The Watts Milling Company, Toronto Junction, are negotiating for a site on which to erect flour and planing mills.—The Evans Rotary Engine Company are also seeking a location for their proposed plant.

**OSHAWA, ONT.**—T. Hawker, Public School Board, wants tenders up to July 15th, for erection of addition, installation of heating and ventilating plant and other improvements to the Centre street school. Plans with L. G. Cassels.

**CALABOGIE, ONT.**—F. Conway, Acting General Superintendent Kingston & Pembroke Railway, Kingston, wants tenders up to July 15th for erection of station in this village. Plans at office of the above named official and with J. G. Barnett, Renfrew.

**CARDSTON, ALTA.**—The Northern Empire Railroad Co. has been organized for the purpose of building a railroad into Canada. It will cross the International boundary near this place and run north to Fort McMurray. J. B. T. Caron, an Ottawa solicitor, is acting for the capitalists.

**REGINA, SASK.**—Tenders have just been taken for erection of brick and stone

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Those requiring sewer pipe should see that they get the best. It is the cheapest in the end.

We manufacture the best and cheapest. It is steam pressed, salt glazed, vitrified, absolutely non-absorbent and once laid will last forever.

### THE CANADIAN SEWER PIPE CO.

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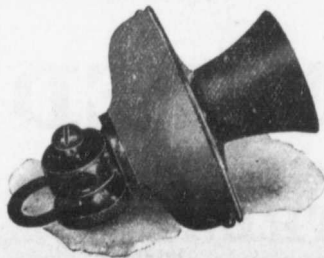
THE CANADIAN STANDARD

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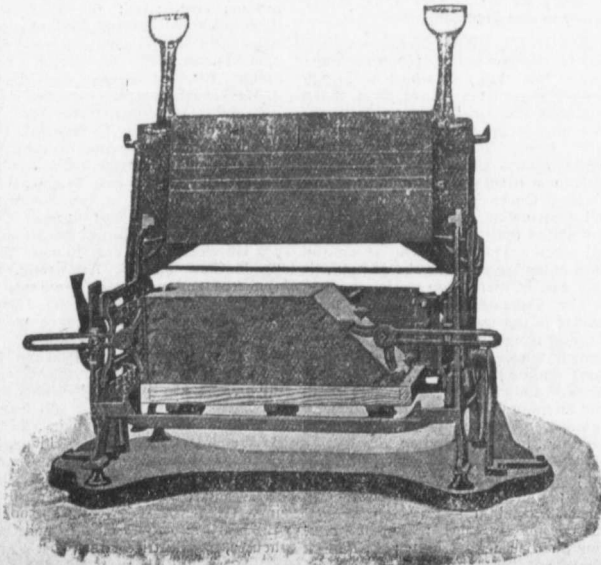
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This Machine makes all blocks face down—"the only practical way"—allowing of a richer and finer facing, producing blocks that are perfect in appearance and impervious to moisture.

Let us tell you how the "Miles" will pay for itself over any other machine in three months' operation.

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**M'fg. Co.**

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MONTREAL.

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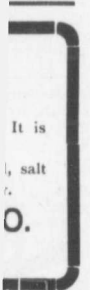
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business block for MacKenzie & Brown. Dailing & Pearson, architects.—F. J. Robinson, Deputy Commissioner of Public Works, is asking for tenders up to 15th inst. for erection of land titles office buildings at Yorkton and Battleford. Plans on application to Mr. Robinson and at the office of Dailing & Pearson, architects, Winnipeg.

VICTORIA, B.C.—Sedger & Pownall, architects, are this week taking tenders for frame residence on Burdette avenue for Cyrus Bowes.—Hooper & Watkins have prepared plans for extensive improvements and additions to the Dominion Hotel owned by S. Jones. Contracts for some of the trades have already been awarded.—W. W. Northcot, purchasing agent for the city, desires bids by 15th for supply of 5,000 electric light carbons.

PORT ARTHUR, ONT.—L. Alexander is about to let contracts for a block corner of Centre and Bay streets.—All the by-laws submitted to the ratepayers on the 3rd inst. were carried. The total expenditure thus authorized is about \$600,000, which includes the construction of two concrete and steel bridges, the erection of a police station and car barns, the establishment of an incinerating plant and improvements to the Current river.

LETHBRIDGE, ALTA.—C. N. Arnold, City Engineer, desires bids by Saturday, 13th inst., for approximately 8,000 lineal feet of cement sidewalks.—The Town Council have adopted the report of the Fire, Water and Light Committee which includes the following recommendations: Installation of a fire alarm system, purchase of hook and ladder truck, and installation of duplicate transmission line between the power and pump houses.

WINNIPEG, MAN.—Plans have been prepared by the Manitoba Public Works Department for extending the present Court House on Kenney street. Stewart Mulvey, Secretary Public School Board is this week receiving tenders for erection of a stone and brick school on the Luxton site.—Hooper & Walker, architects, have taken tenders for a new warehouse for Thomas Black on Lombard street, 62 x 62 ft., four storeys and basement, brick and stone with heavy timbers.—Plans have been completed for a church building to be erected by the members of St. Luke's Anglican church.—R. Rogers, Minister of Public Works, wants tenders up to July 16th for erection of pile bridge over the Pembina river. Plans with T. Rutherford, La Riviere, and with Chief Engineer, Department of Public Works, this city.—V. W. Horwood, architect, is preparing plans for a warehouse for the Merrick Anderson Company.—S. B. Ritchie wants bids up to July 13th for plastering required in the erection of hotel building for J. R. McKenzie.

HALIFAX, N.S.—The County Court House Commissioners have accepted the plans of H. E. Gates, architect, for an addition to the Court House, and tenders will be invited immediately. The addition will be 50 x 49 feet, two stories.—D. Pottinger, General Manager Intercolonial Railway, Moncton, N. B., wants tenders up to July 17th for installation of steam boiler plant, hot blast fan system of heating, etc., in engine house in this city. Plans at the Terminal Agent's office, this city, and with the Chief Engineer, Moncton.—The Canada Woodenware Company have been in communication with the City Council regarding the locating of their plant in this city.—G. E. Nichols, 48 Granville street, will receive tenders up to August 7th for construction of a stone cathedral church in this city. Plans with Harris & Horton, Keith Building.

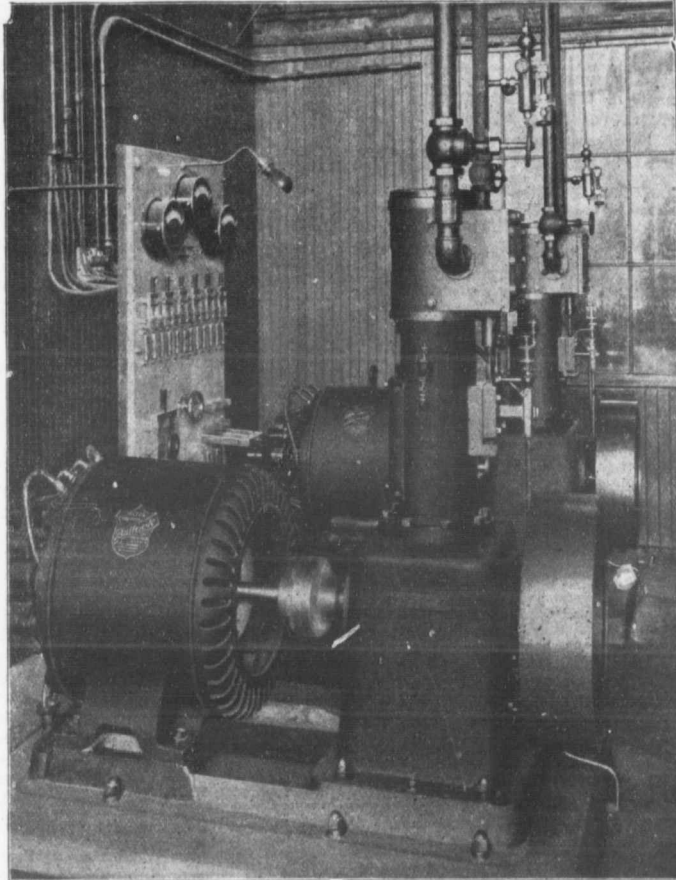
VANCOUVER, B.C.—The Imperial Shingle Co. intend building a saw mill near False Creek.—Hermon & Butwell, who were consulting engineers for the Vancouver Power Co., are understood to have made a report on the development of a large water power on the Cheakamus river, at the head of Howe Sound, the electrical energy to be transmitted to Vancouver. The promoters of the scheme are the British Columbia Power & Electric Co., among the shareholders being D. G. Marshall, J. E. Miller and F. W. Tiffman.—Recent permits include the following: A. Austin, Grand View Hotel, Cordova street, cost \$30,000; J. B. Arthur, residence, Seventh avenue, cost \$3,000; Yuen Chong, three-storey brick block, Dupont street, cost \$15,000; R. Evans, business block, Granville and Fifth avenue, cost \$9,000.—It is announced that plans have been prepared for the erection of a magnificent apartment house on the southeast corner of Burrard and Georgia streets. The architect is W. Austin Richards of Vancouver and Seattle, and the financing is in the hands of Campion & Pound. The plan shows a ten-storey structure, the parapet being 112 feet above the curb level. The cost is placed at \$350,000.

MONTREAL, QUE.—The Canadian Express Co. are putting in the foundations for a large stable on Chaboille street, to cost upwards of \$100.—Mark Workman has been granted a permit for his new six storey building on the site of the Orkney homestead, estimated to cost \$125,000.—The Finance & Market Committee last week decided to lease the eastern cattle market to the C. P.R., who will remodel the buildings at a cost of about \$180,000.—The Council have given notice of the intention to construct sewers in the following streets: Chapleau street, from Amity to Hochelega streets; Amity street, from Iberville to Chapleau streets; Beaubien street, from Labelle street about 100 feet east; Elm street, from Forsyth to Ontario streets; Dufferin street, from end of existing sewer northward about 300 feet; St. Germain street, from south of Hochelega to south of Nolan streets; Napoleon street, from Notre Dame to Duvernay streets; Boyer street, from St. Zotique to Beaubien streets; Gilford street, from west of Chambord street 60 feet.—Building permits have been granted to the Southam Company for alterations to their building on St. Alexander street, to cost \$50,000, and to the Standard Shirt Company for erection of a five-storey factory to cost \$100,000.

TORONTO, ONT.—The lowest tenders for the new police station on Pape avenue total \$26,736, which is \$1,736 above the estimates.—Love Bros. have purchased additional property on Broadway avenue on which houses will be built.—Henry Simpson, architect, has prepared plans for a factory on the old Parliament street school site for the Aluminum & Crown Stopper Co., five storeys mill construction, cost about \$50,000.—It is stated that the Massey-Harris Co. will erect a \$30,000 warehouse on the block of land recently purchased immediately east of their King street property.—The Separate School Board have decided to proceed with their new work in connection with their schools. A four-roomed school will be built on Leslie street and improvements made to St. Baseel's and St. Mary's schools.—The Board of Control desire tenders by Tuesday, 16th inst., for construction of the following pavements: Asphalt—Gladstone avenue, from Queen to Dundas; Havelock street, from College to Bloor; Simcoe street, from King to Queen. Bitulithic—Earl street, from Sherbourne to Huntly; Linden street, from Sherbourne to Huntly; St. Patrick

street, from Bathurst to 43½ feet east of Casimir. Tenders will also be received up to same date for concrete sidewalks and sewers.—The Board of Education will ask for tenders for the enlargement of Grace street, Pape avenue and Perth avenue schools.—The City Engineer has estimated the cost of a viaduct on Bloor street, from Danforth avenue to connect with Mackenzie and Dale avenue, at \$264,000, and one to connect Danforth avenue with Bloor street at Sherbourne street at \$510,000.—The Standard Chemical Company have purchased a site on Dundas street for a \$50,000 building.—A planing mill is to be erected on Dundas street by Thomas Parker, the site for which has already been purchased.—Building permits have recently been granted as follows: D. Spence, semi detached brick dwelling, 107 Scollard street, cost \$5,000; J. Sullivan, pair semi detached brick dwellings, Wallace avenue, cost \$4,000; A. McKay, pair semi detached brick houses, Ossington avenue, cost \$5,000; Mrs. S. Derrett, brick dwelling, Dufferin street, cost \$2,800; G. H. Webb, pair semi-detached houses, 48-50 Lynd avenue, cost \$4,000; Royal Bank, 6 storey office building, 8½-12 King street east \$200,000; Joseph Greenwood, pair semi-detached dwellings, 371-373 Brock avenue, cost \$5,000; W. W. Hiltz, pair semi detached houses, 10-12 Hogarth avenue, \$5,500; W. H. Thompson, pair semi detached houses, 113 Marlborough avenue, \$5,000; Toronto Carpet Co., one storey brick shipping room, corner King street and Fraser avenue, cost \$11,000; J. V. Hunter, pair semi detached houses, 204 Havelock street, cost \$5,000; Amusement device for Travis Circle Swing Co., of New York, at Exhibition Grounds, cost \$6,600; G. E. Shaw, brick dwelling, 195 St. George street, cost \$10,000; Finnish Society, 3 storey brick club rooms, 214 Adelaide street; Estate of E. C. Tuckett, 3 brick dwellings, at Junction, cost \$6,900; P. J. Smith, 3 attached brick dwellings, 40 Boswell avenue, cost \$7,000; Geo. Westcott, brick dwelling, 111 Lansdowne avenue, cost \$4,500; Mrs. D. H. Croft, brick dwelling, Barton avenue, cost \$3,000; Fred Victor Mission, 4 storey addition; W. Atkinson, pair semi detached brick dwellings, Huron street, cost \$6,000; J. W. Milne, brick dwelling, Palmerston avenue, cost \$5,500; Mrs. Holmes, 4 pair semi detached brick houses, 176-190 Albany avenue, cost \$18,000; F. S. Baker, brick dwelling, 185 Balmoral avenue, cost \$4,500; W. W. Hiltz, 5 detached brick veneered dwellings, corner Carlaw avenue and Dingwall street, cost \$5,000; A. R. Boyle, brick house, Beatrice street, cost \$3,500; J. Mackerron, pair semi-detached dwellings and stable, corner Huron and Cecil streets, cost \$10,000; C. Humdal, brick dwelling and garage, Admiral road, cost \$5,000; James Glanville, brick dwelling, 31 Isabella street, cost \$5,500; Grip Limited, alteration to warehouse, 47 Temperance street, cost \$3,000; Chas. Jolliffe, pair semi-detached brick houses, 175 Havelock street, cost \$6,000; W. J. C. McCrew and R. Armstrong, pair veneered and roughcast dwellings, 123 Simpson avenue, cost \$3,000; Daniel Ryan, pair semi-detached brick houses, Ossington avenue, cost \$3,500; S. A. Weismiller, two pair semi-detached brick dwellings, Margueretta street, near Bloor, cost \$10,000; W. J. White, three attached brick dwellings, 166 Garden avenue, cost \$7,000; Wilkins & Co., pair semi-detached brick dwellings, Dupont street, cost \$5,000; N. J. Cannon, brick dwelling, 388 Margueretta street, cost \$3,600; Allan W. Pike, brick dwelling, Hepbourne street, cost \$3,500; T. B. Hughes, pair semi-detached brick houses, 273 Beatrice street, cost \$6,000;

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**"Allis" Mining, Saw Mill and Flour Mill Machinery, Engines' Pumps, Steam Turbines, Turbine Water Wheels.**

**"Bullock" Electric Apparatus.**

**"Ingersoll" Air Compressors, Coal Cutters and Rock Drills.**

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Wilkins & Co., pair semi-detached brick houses, Dupont street, cost \$10,000; H. G. Langley, brick dwelling, Markham street, cost \$4,000; S. S. Hallman, pair semi-detached veneered and roughcast, Westmoreland, cost \$3,000.

#### CONTRACTS AWARDED.

CHILLIWACK, B.C.—Erection of new school building: W.R. Brock, contractor.

NEW WESTMINSTER, B.C.—The contract has been let for the piling for a new dock to be erected by E. J. Fader.

THOROLD, ONT.—The Canada Foundry Co. Toronto, have been awarded the contract for supply of hydrants and valves.

LAMBTON MILLS, ONT.—Bridge across Humber river, 100 feet span: Ontario Bridge Co., successful tenderers, \$4,965.

MONTREAL, QUE.—Erection of church building for the First Baptist Church congregation: Mitchell & Creighton, contractors.

HAMILTON, ONT.—Central Presbyterian church, John M. Lyle, architect, Geo. E. Mills, general contractor. Stone supplied by Roman Stone Company, Toronto.

VANCOUVER, B.C.—Macdonnell & Gzowski have been awarded the contract for the deviation work on the main line of the C. P. R. at Rogers Pass, the price approaching \$100,000.

STRATFORD, ONT.—Contracts for the new G. T. R. shops have been awarded to the Arnold Engineering Company, Chicago, who, it is understood, have sublet the contracts to Canadian firms.

COBOURG, ONT.—Ornamental gate posts for the estate of the late Chas. Donnelly manufactured by the Roman Stone Company, Limited, Toronto. Power & Son, architects, Kingston.

SYDNEY, N.S.—The Vulcanite Paving Co. have been awarded the contract for straight curb and gutter at \$1.20 per lineal foot, and for circular curb and gutter at \$1.30. The water and sewer extensions will likely be done by day labor, the tenders received being considered to high.

ST. THOMAS, ONT.—N. R. Darrach, architect, has accepted the following tenders for remodelling Scott street school: Masonry, G. A. Ponsford; carpenter work, F. C. Bell; plumbing, J. Williams; painting, C. Loomis; slating and blackboards, C. Riddle—the total amount being \$2,400.

MONTREAL, QUE.—New apartment house for the Theo. Hart estate, Macvicar & Heriot, architects; Thos. Wand, general contractor. The Roman Stone Company, Limited, Toronto, are supplying the stone.—Houses for W. T. Rodden. Stone supplied by Roman Stone Company, Limited, Toronto. R. M. Rodden, architect.

ST. JOHN, N.B.—The Board of School Trustees have awarded contracts for erection of new school building as follows: Completion of building, with the exception of painting and plumbing, Flood & Bates, at \$39,800; heating and plumbing, J. H. Doody, at \$7,790. The above awards have been made subject to the approval of the Provincial Government in increasing the issue of bonds to cover cost of the building.

HALIFAX, N.S.—The following tenders were received for street paving: Sicily Asphaltum Paving Co., for 5 in. concrete base, 1 in. sand cushion, 2 in. asphalt wearing surface, \$2.75 square yard; Barber Asphalt Paving Co., 5 in. concrete base, 1/2 in. close binder, 2 in. asphalt wearing surface, \$2.72 sq. yd.; Warren Bituminous Paving Co., 5 in. concrete base, 2 in. wearing surface Bitulithic, \$2.75 sq. yard. Bitulithic mixture without laying, \$1.65 sq. yard. 5 in. concrete base and acme asphalt wearing

surface, \$2.53 sq. yard. The tender of the Barber Asphalt Co. was accepted.

WINNIPEG, MAN.—John Clisholm, architect, has let the contract for warehouse on Market street east for John Marrin & Co. to Kelly Bros.; four stories and basement, brick and stone, steam heated, elevators, cost \$60,000.—Erection of an addition to the Elmwood Presbyterian Church: A. J. Carson, contractor.—Erection of residence for A. H. Pulford: Carpenter work, A. M. Fraser; brick and stone masonry, Loveday & Darling; lathing and plastering, Hallgrinson & Sigurdson; heating and plumbing, Randall & Bell; tin and galvanized iron work, James A. Glasgow; painting and decorating, Thornhill & Co. Paul M. Clemens, architect.

TORONTO, ONT.—The City Engineer has been awarded the contracts for asphalt pavements on Albert street, from Teraulay to James street, at \$4,405; and Seaton square, south, west and north branches, at \$3,751.—The contract for an asphalt pavement on Albert street, from Teraulay to Chestnut streets, has been awarded to the Barber Asphalt Company, at \$5,466, and the Warren Bituminous Paving Company secured the contract for a bitulithic pavement on Concord avenue from 712 feet north of Northumberland street to Hallam street.—The Board of Education last week awarded the following contracts for school buildings: Essex street—Six room addition, masonry, H. Lucas & Sons, \$9,200; carpenter work, Crocker & Lee Drew, \$10,900; plastering, Beaver & Co., \$1,379; painting, Thomas Barrett, \$610; roofing and tinsmith work, Forbes Roofing Co., \$907; plumbing, Fred Armstrong Co., \$1,248; heating and ventilating, W. F. Rutley Co., \$3,955; steel construction, Dominion Bridge Co., \$385—total, \$28,584. Queen Alexandra—Addition of three classrooms, masonry, to Charles Bulley, \$3,800; carpenter, Fred Armstrong, \$2,450; plastering, Thomas Blackburn, \$328; painting, T. Barrett, \$324; roofing and sheet metal, Duthie & Son, \$430; heating, Fred Armstrong, \$600; heat regulation, Johnston Temp. Reg. Co., \$182; structural steel, Dominion Bridge Co., \$160—total, \$8,283. Withrow avenue—Six room addition, masonry, Charles Bulley, \$9,950; carpenter, F. Armstrong, \$11,700; plasterers, Beaver & Co., \$1,188; painting, J. R. Robinson, \$596; roofing and tinsmith work, A. J. Moody, \$869; plumbing, F. Armstrong, \$1,240; heating and ventilating, W. F. Rutley, \$3,895; structural steel, McGregor & McIntyre, \$773—total, \$30,207. King Edward—Heat regulating system, to Johnstone Temp. Reg. Co., at \$483. Dovercourt—Repair carpenter work, to A. Coyle, at \$293. Palmerston—Repairs, to E. Hollett, \$470. Ryerson—Repairs, F. Armstrong, \$308. Shirley street—Repairs, Alf. Coyle, \$112. Givens and Gladstone—Repairs, W. Eaton, \$142. Manning avenue—Repairs, Alf. Coyle, \$207. Morse and Park—Repairs, William Eaton, \$423.—Church of St. Mary Magdalene, Darling & Pearson, architects. Exterior stone work supplied by Roman Stone Company, Limited.

#### BIDS.

THOROLD, ONT.—The City Council received the following tenders for power house: Wm. Bennett & Co., St. Catharines, grey limestone, \$4,500; brick building, \$2,000; for water wheels, Trump Manufacturing Co., Springfield, Ohio, single horizontal type turbine, 174 h.p., \$2,212; pair turbines, \$2,770; Jenckes Machine Co., Sherbrooke, Que., pair horizontal turbines, 150 h.p., \$3,400.

#### BUILDING PROGRESS.

The building permits this year in the city of Winnipeg reached the \$4,250,000 mark, as compared with \$6,800,000 at this date last year. The number of permits issued to date this year is 1,581, about 20 less than at this time last year.

A computation of the records of the Building Department of Vancouver for the first six months of the year, shows an increase of half a million over the banner record of last year. The total for this year stand at \$2,238,340, as against a figure of \$1,731,665 for the corresponding period last year. The number of permits is also greatly in excess of last year's, 1008 being noted for the 1907 term, as against 783 for 1906. This is due to the larger number of residential dwellings which have been planned.

The building work in Fort William, Ont., this year represents an expenditure of \$500,545, against \$214,260 for the first six months of 1906.

Edmonton's building total increases despite the money stringency. The total for the month of June was \$425,267, which is not only the largest in the history of the city but practically double last year's June record.

Hibbert & Perron, brick manufacturers, St. Albert, Alta., have been succeeded by the St. Albert Brick Company.

W. J. Hawes and William Bryant recently formed a partnership in Peterboro as contractors and have a large amount of work on hand.

The Pacific Coast Pipe Company, Limited, of Vancouver, is working on a contract for 10,000 feet of 14 inch pipe for the new waterworks system in the town of New Liskeard, in the Cobalt district.



**A** Large Buffalo Steel Plate Fan for mechanical draft is shown in course of erection. We undertake to design and install these fans assuming full responsibility for results.

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**NEW COMPANIES.**

George Ryan Shoe Company, Winnipeg, incorporated, capital \$50,000. Directors, George Ryan, Edmund L. Taylor and others.

Morris Brick Manufacturing Company, Morris, Man., incorporated, capital \$20,000. Directors, A. Chisholm, general merchant; John N. Phillips, hardware merchant and others.

Deloraine Milling Company, Deloraine, Man., incorporated, capital \$40,000. Directors, James Steadman, W. S. Barker, George Patterson and others.

Acme Brick Company, Winnipeg, Man., incorporated, capital \$100,000. Directors, W. F. Hull, barrister; Louis Surpan, merchant, and others.

Gurney Northwest Laundry Company, Limited, Winnipeg, Man., incorporated, capital \$250,000. Directors, Edward Gurney, W. H. Carrick, W. F. Helliwell, and others, all of Toronto.

Canada Construction & Dredging Company, Limited, Toronto, incorporated, capital \$60,000. Incorporators, J. B. Bartram, C. M. Bartram and others.

Northern Reduction Company, Limited, Toronto, incorporated, capital \$500,000 to carry on mining and smelting business. Incorporators, W. C. Mackay, F. D. Byers and others.

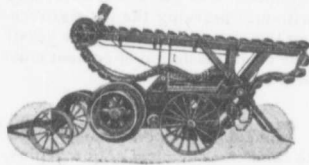
**REPAIRING BROKEN SUBMERGED WATER MAINS.**

A paper by Mr. Harry A. Lord, of Ogdensburg, N. Y., read at the recent convention of the American Waterworks Association in Toronto, told how he repaired a break in a 12 inch submerged cast iron pipe line, which had Ward flexible joints. The submerged pipe was 350 feet long, and was laid on the rock bottom of the river in a normal water depth of 8 feet. After seven years of service without mishap an ice jam broke a single length of pipe at a joint. The current was

very strong and the ends of the ruptured pipe were 15 feet apart. Following, in reverse order, the method employed by Mr. Ward in laying the pipe in 1898, the pipe was disconnected at the shore ends, and then pulled ashore by means of horses, a capstan, block and tackle. The joints were melted out with kerosene heaters as they came ashore. The disconnected pipe was cleaned, treated with waterproof metallic paint, reconnected, and then hauled back to position. A test showed that it was tight.

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is used throughout the world. Will do more work with less labor, at a less first cost than any Excavator at present in use in Canada. For particulars write G. P. WALLINGTON, Canadian Representative, 11 Front Street East, Toronto



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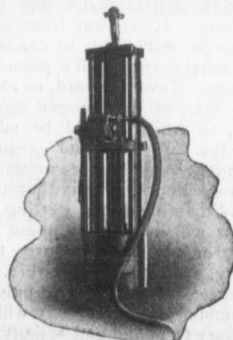
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**Reasons!**

- They drive more rapidly and more economically.
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- They do not shatter the Pile.
- They can drive pile when the drop hammer cannot.
- They are no wearing out of hoisting lines.
- They drive more piles in a day.
- They usually leave the pile so that it need not be cut off.
- They make sharpening of piles or linearly unnecessary.
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**Georgian Bay Engineering Works**  
MIDLAND, ONT.

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## Hints for Concrete Block Makers

By W. F. FISHER.

Do the manufacturers of hollow or other concrete building block follow the laws of chemical action in cement, which control the conditions and the necessary elements, so as to produce true concrete? Do our block builders study the nature of cement and comply with its demands? Refer to the so-called "concrete block" on the market for an answer.

What are those conditions? Five conditions must be observed in making true concrete block. They are:

**First: Selecting the aggregates.** They should range from fine to coarse, so as to form a solid mass. There are large voids in gravel or crushed stone and these voids should be filled with coarse sand or finer crushed stone. These aggregates only partly fill the voids, and the balance should be filled as far as possible, with still finer sand or crushed stone. The percentage of voids which yet remain should be filled with cement—gauging it so that the material will become a solid mass when mixed.

**Second: Mixing.** It is necessary that every piece of aggregate be coated with cement, not simply by turning, but by the employment of some method, which will, while mixing, break all the lumps of the cement. Cement, when allowed to stand, will form in lumps, some small, others large enough to be noticeable. At this point, many errors are made. The small lumps pass the mixers or the operator of the mixer, and even after the water is applied, the lumps still remain unbroken. If these lumps are not broken, they do not come in contact with the aggregates and thus do not aid in binding, but form small, sand-like particles, spending their entire strength on themselves. Therefore, while the constructor has used sufficient cement, he does not obtain its full value. A method should be employed which will not only smash all of these lumps, but also use all the cement for a thorough coating of the aggregates, and by using slightly damp, large aggregates (not wet, just moistened), the cement will pass around and among the aggregates, thus coating them. The finer aggregates should then be added, and if they are slightly damp, they will gather a coating from the cement used with the larger aggregates. This is termed a dry mix and should be continued until thoroughly mixed, when water should be added.

**Third: Water.** This is probably the strongest of the five conditions, as at this point the chemical action begins. A large amount of water must be used, as it starts the life of the cement. The writer will

attempt to illustrate by using a simile with which we are all familiar, the making of bread. A bread-maker must carefully select his flour, gauge, mix and wet the dough. He would not think of trying to make bread of unground wheat or poor material. He will carefully mix the ingredients, adding the yeast (which is the chemical), and then sufficient water to develop the chemical action and keep this chemical action going until baking has completed the operation. If the bread-maker had used an insufficient amount of water it would only have started the chemical action, the bread would have commenced raising—and then stopped. The result, when baked, would have been a flat, worthless product. Can good bread be made without observing the laws governing the chemical action of the yeast? The chemical action of cement must also be observed.

### THE INITIAL SET.

Immediately upon adding water to cement a chemical action begins, known as the initial set. The first crystallization is noticeable in about 40 minutes thereafter, gradually growing more distinct and continuing 240 minutes from the time of mixing. This final set will continue indefinitely. The life, vitality, strength and crystallization of good cement depend entirely upon the amount of water used, and it must be sufficient to keep the chemical action continually going on through the initial set and convey it to the final set. How much water? Lots of it. Wet? Yes, so wet it will almost pour—not quite pour, as pouring means an excess of water, causing the block to hair-crack, craze or slump. The operator, however, has a wide scope. The amount of water should be controlled by the natural condition of the aggregates and the elementary amount of water they contain when ready for use.

**Fourth: Condensing.** This is a condition of great value and very necessary. It requires from 20 to 25 tons per cubic foot to condense the concrete, applied in a pounding pressure. Take one yard, or about 2,800 lbs., of dry gauged aggregates, to which should be added 310 lbs. of Portland cement. Thoroughly mix these materials, add water and again mix thoroughly, and by mixing and wetting the bulk it will increase to about  $1\frac{1}{2}$  yards, or  $\frac{1}{2}$  yard more than the dry, solid gauged mixture, but not increasing the weight, only by the amount of water. It will be necessary to pound and solidify the material back to the original yard, condensing the increased bulk,

caused by mixing and wetting, to a solid mass, and thus join each and every portion of the aggregates together. They will then be cemented or crystallized as one unit.

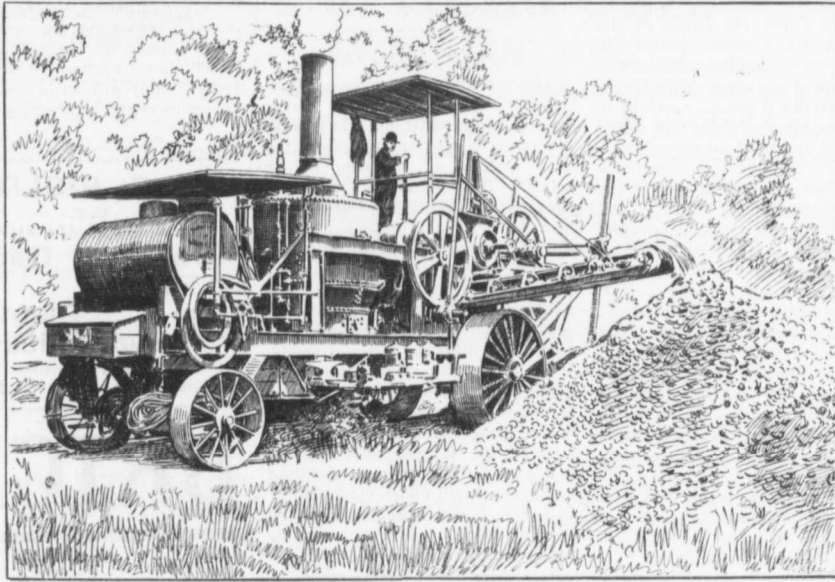
Are the cement block manufacturers employing this method? It is necessary to employ powerful blows, equal to 25 tons each to the cubic foot, and then not by a small rammer which will loosen the material on each side of the tamper, but by a ram over the entire surface, holding all of the aggregates down and not allowing them to loosen. A hand-tamped block will never be thoroughly condensed or solidified. A pneumatic tamper will not improve conditions; it only acts more rapidly. The material will also have to be very dry, or it will not stand up when the block is completed. Thereby, two important conditions are lost—wet mixture and thorough condensation. Steady compression with "screws" or "knuckle press" result as follows: Applying pressure in even and steady application causes the finer or smaller aggregates to accumulate on the surface and outer edges of the block, as they are drawn there by the pressure and the air passing out, until the outer edges are sealed and prevent the air escaping from the centre of the block. As a stronger pressure is applied, the air confined is compressed to about 15 lbs. to the square inch (the natural pressure of the air on the earth), and the heavier the pressure the greater the compression of the air, so that when the pressure is released the air returns to the natural 15 lbs. As it does so it loosens the aggregates, sometimes swelling the block or expanding—perhaps this is not observable, but it is enough to separate the elements of the aggregates. It matters not how small the space between the aggregates, the block is thereby weakened. Furthermore, a "knuckle press" or any other machine with a short travel and steady pressure is not practicable.

### THE IMPORTANCE OF CURING.

**Fifth: Curing.** How many of our block manufacturers neglect this point? They do not observe the fact that chemical action is constantly going on for an indefinite time. As soon as the initial set has been achieved and the final set begins the block should be sprinkled or wet. This will aid the final set but cannot assist the initial set, as that has been lost, if the material was not sufficiently wet at the mixing. Care should be taken not to wet too soon as the material will run, destroying the appearance and

(Continued on Page 12.)





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causing the block to slump or fall. The block should be kept from the air and sun as much as possible, as they will cause the edges of the block to dry out first and it will then become crumbling and brittle, losing the sharp edges of the block. This is a critical point, especially in dry mixed blocks, where the initial set is lost and the final set will also be lost. And this non-observance and neglect has caused one of the grandest and best building materials to be criticised and rejected.

Why is the concrete block rejected? Because it is a "so-called concrete" and not a true concrete. If the conditions above stated are followed, namely, selecting and grading the aggregates—careful attention to mixing so that all the aggregates are coated—sufficient water to produce chemical action—unity of the aggregates—proper curing—combined with machinery meeting all these requirements, will produce a true concrete block of powerful crushing strength, non-absorbent—without the use of "water proofing."—Concrete.

The writer has given his entire time to this subject and his experi-

ments have proven beyond a doubt the absolute truth of these assertions.

#### TAR FOR ROADWAYS.

The tar-spreading machine competition recently held in Great Britain demonstrated the great diversity of opinion regarding the best method of applying tar to roads. It is generally recognized that certain preparations of tar can be used to advantage in preventing dust on some roads, but sufficient experience has not yet been had to give a clear understanding of the limitations of the usefulness of such applications or the methods best suited for different types of roads. If such definite information were available, it is hardly likely some manufacturers would have entered in this competition machines which allowed the tar to pour over the roadway, while others submitted machines which distributed the tar in a fine spray, not only over the ground, but also over the wayside trees, so that it resembled a Scotch mist. Some machines ejected the tar under pressure and others

allowed it to flow by gravity; some of them soaked the roads and others merely dampened them. In due course a report on the competition will be made by the judges of the Road Improvement Association, and probably will settle some of the questions regarding tarring that are

(Continued on Page 14).

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now in dispute. It is safe to say, however, that if American experience with road oiling affords any criterion for estimating future experience with tar applications, knowledge of the subject will not be materially increased until those in charge of the experiments record all facts concerning the character of the tar used, the nature of the roads, the method of tarring and weather conditions during the progress of the work, and the nature of the traffic and the weather conditions after the treatment of the surface. The subject is seemingly simple, but actually it includes so many factors that at the present time it is impossible to know just which are most important. This knowledge will only come from experience, which makes it particularly desirable for all engineers who conduct tarring experiments to publish the results of their observations. Otherwise there will be a great and unnecessary waste of time and money in an endeavor to accomplish dust-laying by imperfect methods.

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(Continued on page 16.)

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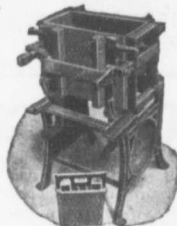
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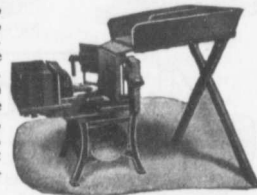
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the cement surface. The wash was applied with ordinary whitewash or calcimine brushes, and a man was kept busy playing a hose on it while the work was being done. The whole secret of success lay in keeping the wall constantly wet. A price could not well be quoted on such work, but on a scaffolding job should be worth less than a dollar a yard.

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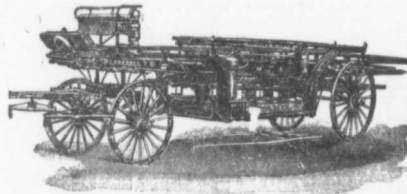
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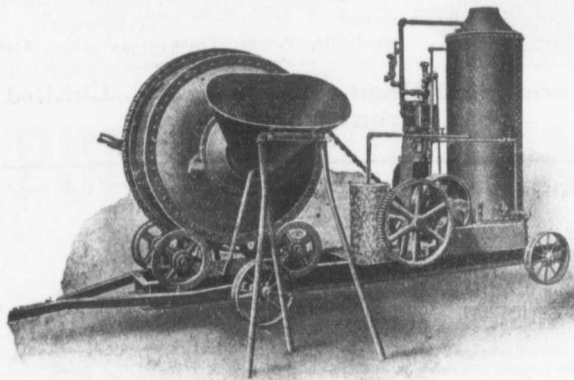
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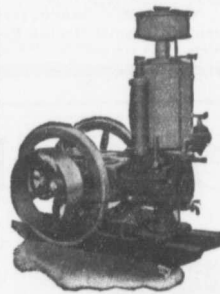
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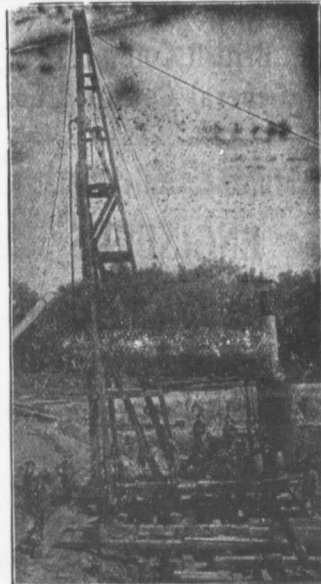
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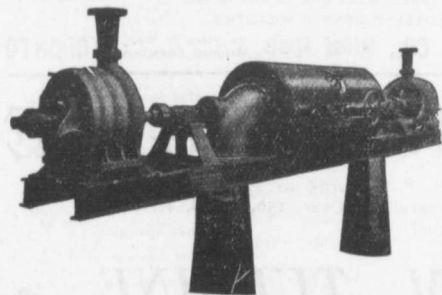
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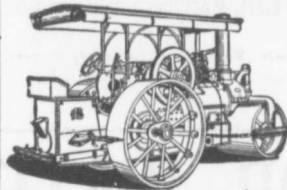
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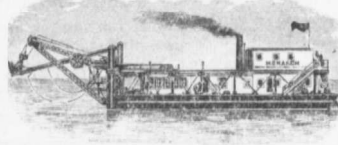
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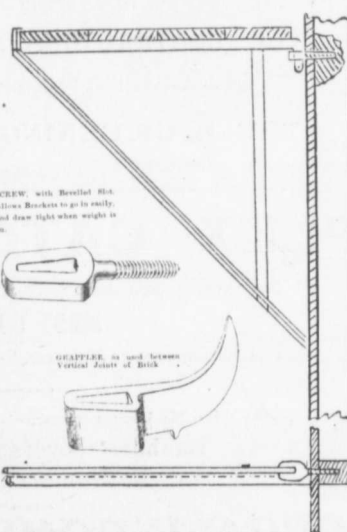
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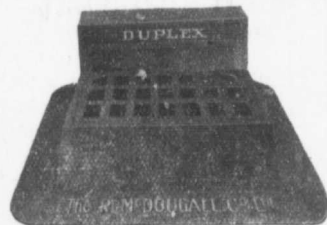
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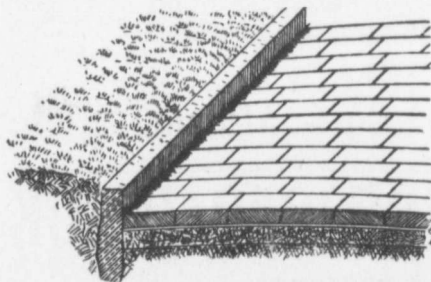
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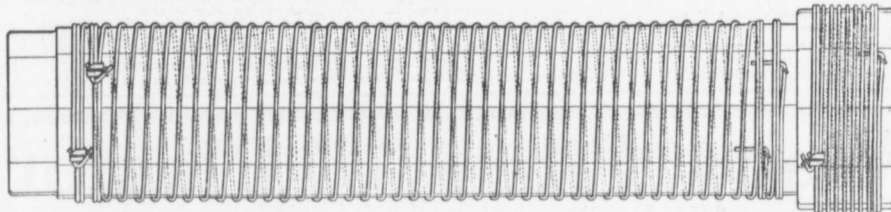
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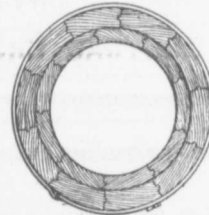
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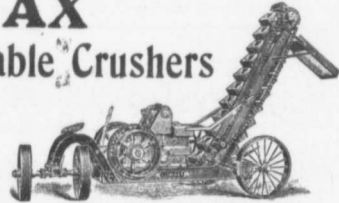
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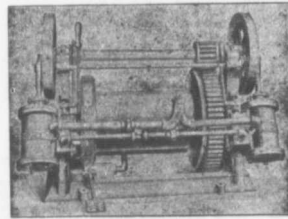
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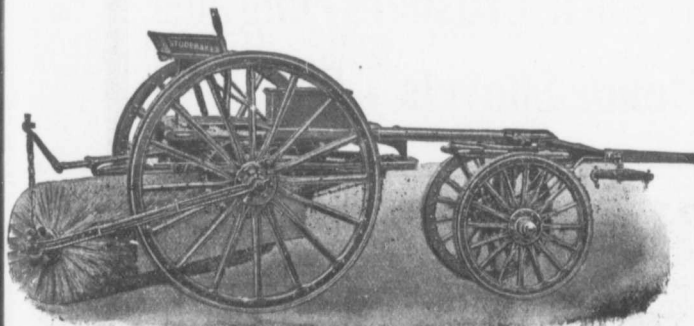
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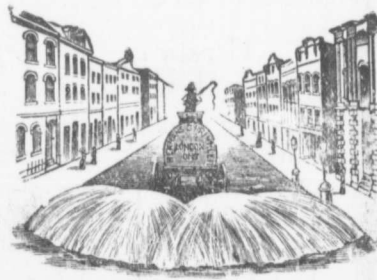


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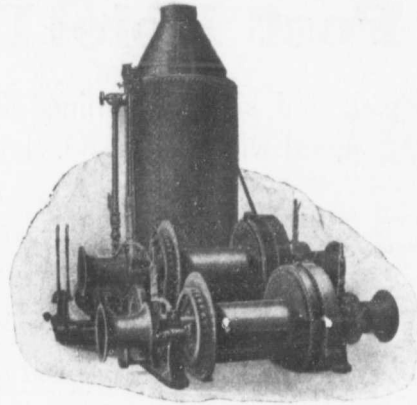
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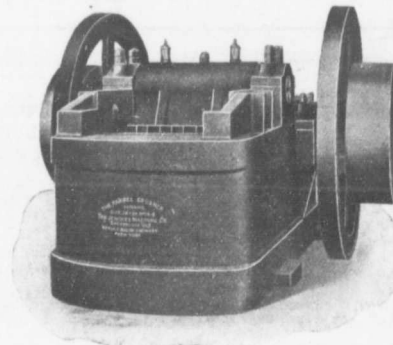
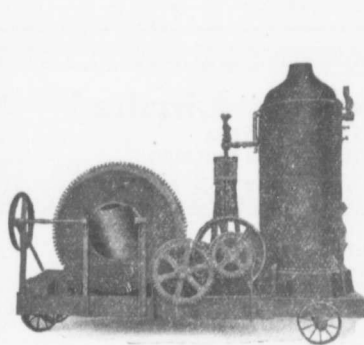
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