

# 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—AUGUST 28, 1907—WINNIPEG, VANCOUVER

NO. 26

## THE CANADIAN CONTRACT RECORD

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Architect and Builder.

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## Classified Index of Advertisers, Page 15.

## DEPARTMENT OF RAILWAYS AND CANALS, CANADA

### TRENT CANAL

#### ONTARIO-RICE LAKE DIVISION

SECTION NO. 1

## NOTICE TO CONTRACTORS

Sealed Tenders addressed to Alex. J. Grant,  
Superintending Engineer, Trent Canal, Peterboro,  
and endorsed "Tender for Trent Canal, will be  
received until 16 o'clock on THURSDAY, 10TH  
OCTOBER, 1907, for the works connected with the  
construction of Section No. 1, Ontario-Rice Lake  
Division of the Canal.

Plans and specifications of the work can be seen  
on and after this date at the office of the Chief En-  
gineer of the Department of Railways and Canals,  
Ottawa, at the office of the Superintending En-  
gineer, Trent Canal, Peterboro, Ont., and at the  
office of Mr. J. B. Brophy, Division Engineer,  
Trenton, Ont., at which places forms of tender may  
be obtained.

The lowest or any tender not necessarily accepted.

By order,  
L. K. JONES,

Secretary,  
Department of Railways and Canals,  
Ottawa, 10th August, 1907.

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

## City of Stratford

Sealed tenders addressed to Ald H. Pauli, Chair-  
man of the Board of Works, and endorsed "Tenders  
for Concrete Walks," will be received up till 12  
o'clock noon MONDAY, SEPTEMBER 27th, for  
the construction of approximately forty thousand  
(40,000) square feet of concrete walks.

Specifications may be seen at the City Engineer's  
office and forms of tender obtained upon application.  
Each tender must be accompanied by a marked  
cheque payable to the City Treasurer for the amount  
called for in form of tender. The lowest or any  
tender not necessarily accepted.

L. MALCOLM,  
City Engineer.

## CITY OF FERNIE, B.C.

## To Sewer Contractors and Builders

Sealed tenders will be received by the undersigned  
until 8 p.m., 5TH DAY SEPTEMBER, for the  
construction of a Septic Tank and Filter Beds in  
connection with the City Sewerage System.

Plans and specifications can be seen and forms of  
tender obtained at the City Engineer's office on and  
after 1st day August.

The lowest or any offer not necessarily accepted.

R. POTTER, C.E.,  
City Engineer.

City Engineer's Office, 17th August, 1907.

## CITY OF WINNIPEG

## Point du Bois Hydro- Electric Development

## Tender for Tramway Supplies

Tenders will be received up to noon of TUES-  
DAY, OCTOBER 1ST, 1907, for the following  
supplies:

ONE new or second hand, saddle tank locomotive;  
same to be about forty tons, all on drivers and not  
more than 200 lbs. per lineal foot of track; to be  
wood or coal burning and equipped with Haggis or  
other approved water lifter.

SIX new or second hand, standard gauge, 30,000  
or 40,000 lbs. Flat Cars.

ONE new or second hand steam tug, 50 to 60  
Horse Power, about fifty feet long and ten feet  
beam.

Tenderers shall give full description of apparatus,  
stating also duration of previous service, name of  
maker and date of earliest delivery. All material  
shall be subject to inspection. Prices to be f. o. b.  
Lac du Bonnet, C.P.R., Manitoba.  
M. PETERSON,  
Secretary.

Office of the Board of Control,  
Winnipeg, August 23rd, 1907.

## 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 particular item or items as below),  
will be received at the office of the undersigned up to  
noon of TUESDAY, 1ST DAY OF OCTOBER,  
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, Spec-  
ifications and Forms of Tender may be obtained at  
the Power Engineer's Office, Carnegie Library  
Building, Winnipeg.

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 "Instruc-  
tion to Bidders", which cheque will become forfeit to  
the Corporation in the event of the successful tender-  
er refusing or neglecting to sign a satisfactory  
contract when called upon to do so.

Individual tenders will be received for:

- (1) Telephone System.
- (4) General Works at Point du Bois.
- (5) 4,000 H. P. Turbines (five).
- (6) 450 H. P. Turbines (two).
- (7) 3,000 K. W. Generators (five).
- (8) 250 K. W. Generators (two).
- (9) Indicating Motor (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) Fraction of Transmission System (75 miles).
- (15) Steel Tower.
- (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 System.
- (22) Terminal Station, Oil and Air System.
- (23) Testing Transformers and Apparatus.
- (24) Electric Travelling Cranes (three).
- (25) Turbine Governors (seven).
- (27) Auxiliary Apparatus.
- (28) Repair Shops.

An alternate, lump-sum tender will be received  
for the entire work, including all of the above  
mentioned items, together with additional work and  
equipment necessary to install a complete working  
plant. As a further alternative tenderer may  
include 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 accept any tender which shall appear  
advantageous to the City of Winnipeg.

M. PETERSON,  
Secretary.

The Office of the Board of Control,  
Winnipeg, Aug. 24th, 1907.

\*These numbers are those of the different volume  
of Specifications

[FOR ADDITIONAL ADVERTISEMENTS FOR TENDERS SEE NEXT PAGE]

## Tender for Sewer

Tenders are requested for the entire work of excavating, laying pipe and back fill for 350 feet of 18" tile sewer. Extending from a point 40 feet south of C.P.R. crossing on Christie Street at City manhole to a point 350 feet north of said manhole.  
Construction to be for Messrs. Clark & Clark, Limited. Profile of same may be seen at offices of Pitt & Robinson, Contracting Engineers, 411 Manning Chambers, Toronto, and Christie Street, north of C.P.R.

### CONTRACTS OPEN.

**BRANTFORD, ONT.**—The Bank of Montreal will erect new premises at a cost of \$30,000.

**DIDSBURY, ALTA.**—A pork packing industry will shortly be established here by A. F. Maley.

**GLEICHEN, ALTA.**—W. Rose wants tenders for \$6,000 5 per cent. 20 year school district debentures.

**MONTREAL, QUE.**—H. M. Marier has just obtained a permit to erect an \$18,000 residence on Peel street.

**PINCHER CREEK, ALTA.**—The construction of the new Methodist church will be commenced in the near future.

**OLDS, ALTA.**—The ratepayers have defeated a by-law to provide \$12,000 for fire protection and public improvements.

**HILLCREST, ALTA.**—Plans are being prepared in Pittsburg for the erection of a million dollar steel rail plant here.

**GODERICH, ONT.**—The ratepayers recently defeated the by-law granting a bonus of \$150,000 to the Maitland River Power Co.

**GRACEFIELD, QUE.**—The ratepayers have approved of an expenditure of \$3,000 for the installation of a waterworks system.

**PORT DALHOUSIE, ONT.**—The erection of a new dry dock large enough to accommodate the big lake steamers is in contemplation.

**CARBERRY, MAN.**—The ratepayers recently approved of the following by-laws: \$2,000, Municipal building; \$8,000, fire system.

**BRADFORD, ONT.**—Tenders will be taken up to August 29th by Robert Stewart for the construction of cement walks in the village.

**WEYBURN, SASK.**—The ratepayers have decided in favor of a by-law to issue debentures for \$50,000 to cover the cost of the waterworks system.

**MOOSE JAW, SASK.**—A by-law to provide \$90,000 for extensions to electric light plant will likely be submitted to the ratepayers at an early date.

**WAPPELLA, SASK.**—Thomas F. Ferry, Secretary-Treasurer, will receive tenders up to September 9th for the purchase of \$4,000 6 per cent. 20 year town debentures.

**PORT ARTHUR, ONT.**—A large warehouse will probably be erected in this town next spring by Fitzsimmons, Palmour Co., wholesale commission agents of Duluth.

**RENFREW, ONT.**—Tenders will be taken by John D. McNichol, architect, up to August 24th for the erection of a new hospital. Plans at architect's office, Bonnechere Hotel.

**AYLMER, ONT.**—A proposition made by the Canadian Condensed Milk Co. will shortly be submitted to the ratepayers. The terms include the erection of a \$50,000 plant.

**OWEN SOUND, ONT.**—It has been decided to purchase a new boiler for the electric department at an approximate cost of \$1,400. Tenders will be taken at an early date.

**MASSEY, ONT.**—Robert Wright, Town Clerk, wants tenders up to September 15th for town debentures amounting to \$10,000, 5 per cent. 20 year, issued for waterworks purposes.

**GUELPH, ONT.**—The work of constructing a permanent roadway for the main street will likely be undertaken in the near future. Plans and specifications are being prepared by the City Engineer.

**ESTEVAN, SASK.**—Engineer Chipman's scheme for a model water system, to cost \$97,000, has met with the unanimous approval of the Council. The sanction of the citizens will shortly be asked for.

**VERMILION, ALTA.**—Negotiations are under way for the erection of a new \$8,000 hospital.—A Government creamery, for which plans have been prepared, will likely be undertaken in the near future.

**LONDON, ONT.**—A report is current that a cut glass factory will shortly be established in this city.—The Board of Works are considering the suggestion to construct a sewer to White & Sons' works on Rectory street. Estimated cost \$3,000.

**CALGARY, ALTA.**—It is reported that Thomas Steele, of Ridgetown, Ont., is going to establish a large grain business in Alberta, and that he will make this city his headquarters and erect a large elevator here.

**MINNEDOSA, MAN.**—In connection with the Water Power Co.'s scheme an effort will be made to lay the foundation of the dam this fall. Several manufacturing firms have already made application for power.

**HAMILTON, ONT.**—Recommendations have recently been passed by the Fire and Water Committee for the purchase of new electric pumps, and it is probable that a by-law will shortly be submitted to the ratepayers.

**PEMBROKE, ONT.**—The by-law to raise \$32,000 for improvements to roadways and drains was recently defeated by a large adverse vote.—It is reported that the G.T.R. are going to erect a new station in the centre of the town.

**CENTREVILLE, N. E.**—Tenders are invited by Hiram J. Clark up to August 29th for the erection of a public school building. Plans may be seen at offices of H. J. Clark, Secretary of Trustees, this city, and H. H. Mott, architect, St. John.

**HOUGHTON, ONT.**—We hear that the Innes-Sutherland Co., of Liverpool, England, are contemplating the erection of a large factory in this township. They manufacture all kinds of co-operative supplies, and the Canadian headquarters are at Chatham, Ont.

**ESSEX, ONT.**—Amongst the heaviest losers in the recent disaster were: J. J. Jackson, \$2,076; J. McDougall, \$2,265; Wm. Trimble, \$2,000; G. J. Thomas, exclusive of Royal Hotel, \$1,000; Lang Ritchie Co., \$5,000; Naylor's grist mill, \$4,000.

**AYLMER, QUE.**—Votes of the ratepayers will be taken on September 4th on a by-law to raise \$123,000 in connection with sewerage, waterworks improvements &c.—In our last issue we inadvertently referred to the above by-law as being connected with Aylmer, Ont.

**SAINTE ROMAULD D'ETCHIMIN, QUE.**—The Corporation offer to any manufacturer who will establish an industry here two and one-half per cent. yearly of the salaries paid out, ten thousand dollars towards the construction of the building and an exemption of taxes during twenty-five years.

**SALMON ARM, B. C.**—F. C. Gamble, Public Works' Engineer, Vic-

toria, wants tenders up to August 29th for the erection of a school house at Canoe Creek North. Plans at office of Government agent, Kamloops; with W. McKay, secretary of School Board, Salmon Arm, and at the Lands and Works Department, Victoria.

**NEW WESTMINSTER, B.C.**—The Tacoma Construction Co. have purchased a site at Sapperton and will shortly establish an interlocking brick works in this city.—The Royal Columbia Hospital have decided to proceed at once with the erection of the new Maternity cottage and nurses' home. The buildings will cost about \$16,000.

**REVELSTOKE, B.C.**—The City Clerk wants tenders up to September 9th for labor and material required for additional equipment of the Civic Hydroelectric plant, comprising 500 B.H.P. producer gas plant and gas engines, generators and exciters, transmission machinery, switchboards, wiring and rearrangement of present plant. Plans at City Clerk's office, or at office of Chief Engineer, Winnipeg.

**EDMONTON, ALTA.**—A corner site has been purchased at Syndicate avenue and Morris street upon which it is intended to erect a new Baptist church.—Plans are being prepared by William Fingland, architect, of Winnipeg, for the new Parliament buildings. It is expected that the contracts will be let this fall.—Recent building permits include: Sisters of Charity, Victoria, home, \$4,000; M. Jackson, Fifth avenue, dwelling, \$1,000.

**BRANDON MAN.**—At a recent meeting of the Board of Works, W. H. Shillinglaw, City Engineer, in submitting plans for the proposed bridge over the Assiniboine river, recommended a structure of reinforced concrete, with concrete piers and wood block floor on concrete, to cost \$40,000. The alternative is a two span steel bridge which would cost \$38,750. The Aldermen unanimously approved of the concrete model.

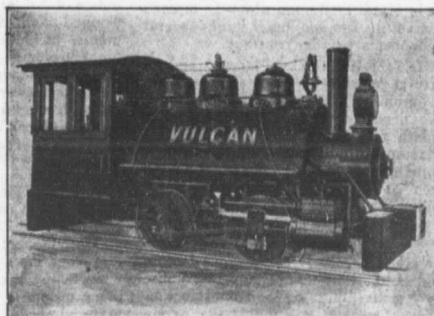
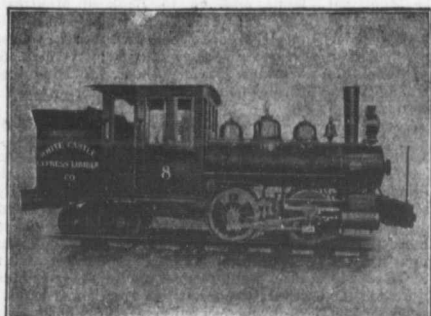
**PETERBOROUGH, ONT.**—The Bishop of Peterborough invites tenders up to September 4th for the erection of a surgical ward to St. Joseph's hospital. Plans at office of Belcher & Heathcote, architects.—Recent building permits include: George Maitland, dwelling, Maitland avenue, \$1,700; C. E. Heffernan, dwelling, Boswell avenue, \$1,550; William McMaster, dwelling, Park street, \$1,000.

**DALHOUSIE, N.B.**—Fred. Gelinias, Secretary Department of Public Works, Ottawa, will take tenders up to September 16th for the rebuilding and enlargement of the ferry wharf. Plans at offices of E.T.P. Shewan, resident engineer, St. John, N.B.; Jeffrey Stead, resident engineer, Chatham, N.B.; and Department of Public Works, Ottawa.—The Montgomery land and water front were recently surveyed by H. D. Turner, civil engineer, on behalf of Senator Edwards, prior to the erection of large mills.

**OTTAWA, ONT.**—F. Gelinias, Secretary, Department of Public Works, wants tenders up to August 31st for dredging at Port Hope. Specifications at offices of Department.—The City Engineer is preparing plans for the proposed new reservoir at Bayswater, estimated cost, \$150,000.—P. E. Ryan, Secretary to the Commissioners of the Transcontinental Railway, invites tenders up to September 5th for construction and erection of steel superstructures, etc. for certain bridges in the Province of Quebec. Plans at Chief Engineer's office.—Plans for the new G. T. R. hotel as designed by Mr. Gilbert, of New York, and to be erected on Major's Hill Park, have been approved by the Gov-

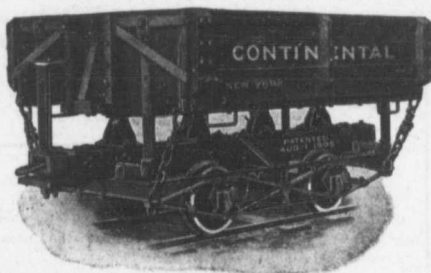
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ernment.—It is reported that the Government will erect a permanent official residence for the Premier. The site of the old Currier residence near the entrance to the Vice Regal grounds has been suggested. The property at present belongs to Senator Edwards.

ARGYLE, MAN.—Votes of the ratepayers will be taken on September 2nd on a by-law for raising \$3,000 by debentures for school building.

PRINCE ALBERT, SASK.—A building boom is being experienced here consequent upon the closing of arrangements for a joint railway and traffic bridge. P. J. Flanigan has purchased a site in Hasel Dell upon which he intends to erect a \$30,000 hotel, and several residences are under contract.

VICTORIA, B. C.—Plans of the new Victoria West school, as submitted by the architect, W. Ridgeway Wilson, have been adopted. They call for a modern two-storey red brick building with stone and cement dressings, to cost approximately \$30,000. Tenders will be taken at once.—Quite a number of buildings have been condemned by the City Assessor and notices of demolition have been sent to the owners.

WINNIPEG, MAN.—Wm. Pearce & Co. Ltd. want tenders up to August 31st for the plumbing and construction of sewer and water connections to six houses on Alexander avenue west.—The Board of Control will likely purchase at an early date, for use in bridge construction over the Winnipeg river, a second hand tug, 50 or 60 h.p., about 50 feet in length with 10 foot beams; also a new or second hand 40 ton wood or coal burning saddle double tank locomotive, with small drivers weighing not over 3,000 pounds per lineal foot of track, and 6 second-hand standard gauge flat cars.—J. H. Putnam, wants tenders up to October 15th for the construction of a steel highway bridge upon concrete and boulder masonry across the Souris river. Plans at Mr. Putnam's office at Dunrea, Man., or at Department of Public

Works, Winnipeg.—The Chairman of the Board of Control invites tenders up to October 1st for certain construction and supplies at 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. Specifications and further details at Power Engineer's office, Carnegie Library Building.—Tenders are invited up to September 5th by Stewart Mulvey for installation of heating and ventilating plant in Luxton school. Specifications with J. B. Mitchell, Building Inspector, School Board office.—C. J. Brown, City Clerk, gives notice of the intention of the Municipal Council to effect extensive local improvements, including: Plank walks, cedar block pavement, boulevarding and tree planting, macadam pavement, granolithic walks and sewers, the cost of same to be assessed upon frontage properties.—The Massey-Harris Co. have taken out a permit for the construction of a \$21,000 warehouse.

VANCOUVER, B. C.—The construction of the Coughlan Co.'s steel plant will shortly be commenced. Big girders and other steel used in the erection of large buildings will be manufactured.—The B. C. Electric Railway Co. will place orders in the near future for the material needed in the overhead work of the proposed line between Eburne and New Westminster.—Building in the Japanese quarter is growing apace. Ikeda and Hori have just applied for a permit to erect an \$8,500 building on Powell street.—The following by-laws will be submitted to the ratepayers on September 14th: to raise \$100,000 by debentures for roadway improvements, \$3,000 for sewer improvements and extensions, and \$45,000 for completion of school buildings.—The amalgamation of the coal and iron interests is being arranged by J. T. Shadforth, of Newcastle-on-Tyne, one of the organisers of the North Pacific Iron & Steel Corporation. A company will likely be registered

for \$15,000,000, of which \$2,000,000 will be expended upon the erection of a steel works.—The following building permits have been issued: George J. Armstrong, two frame dwelling houses, Fir street, \$3,000; J. H. Griffiths, frame dwelling, Seventh avenue, \$6,000; J. G. Rauch, frame dwelling, Campbell street \$1,800; O. Johnston, frame tenement, Fifth street, \$5,050; V. W. Haywood, frame store, Granville street, \$7,000; Joseph Reynolds, frame dwelling, Hastings street, \$2,000; C. F. Perry, frame apartment building, \$8,000; F. Ikeda, store and rooming house, Powell street, \$8,500; McDonald & Wilson, brick and stone addition to Bank of Montreal, \$40,000; T. T. Grimmer, frame dwelling, Eleventh avenue, \$2,500; L. Jones, frame dwelling, \$2,500; Hooper & Watkins, David Spencer, Ltd., building, Cordova street, \$240,000.

TORONTO, ONT.—The new \$53,000 church which the Methodists are going to build at Toronto Junction will be erected on the corner of High Park avenue and Annette street.—The City Engineer has been instructed to proceed with the restoration of the Ferry wharf at the foot of Bay street.—The Aluminum Crown Stopper Co., 106 Front street east, want tenders up to Aug. 24, for several trades in the erection of a five-storey factory building on the north-east corner of Parliament and King streets. Specifications at the office of Henry Simpson, architect, 17 Toronto street.—At the expiration of their present lease of the College and Yonge branch building, the Canadian Bank of Commerce will erect new premises on property recently acquired on the opposite corner.—The following building permits have been issued:—Love Bros. Ltd., 3 attached 2-storey rough cast dwellings, Euclid Avenue, 3,000; Love Bros., Ltd., 4 attached 2-storey rough cast dwellings, Dufferin St., \$4,000; J. McBrien, 2-storey brick dwelling, Geoffrey street, \$3,100; C. Parliby, 3 attached 2-storey brick veneered front rough cast dwellings,



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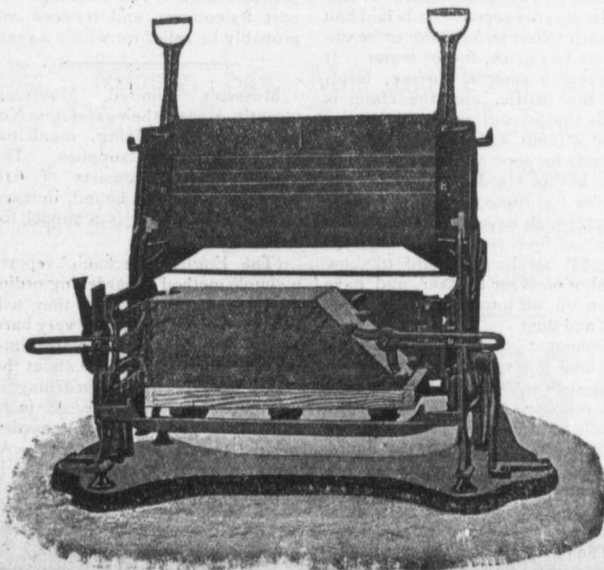
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MONTREAL.

Morse street, \$4,000; R. J. Hill, 2½-storey brick dwelling, Victor avenue, \$3,500; Hudson Bros., 2 pair 2-storey semi-detached brick dwellings, Clarence avenue, \$12,000; G. Frost, pair 2½-storey semi-detached brick dwellings, Palmerston and Olive, \$6,000; Jas. H. Locke, pair semi-detached 2-storey brick veneered rough cast dwellings, Crawford street, \$3,600; D. Muirhead, 2½-storey brick dwelling, Amelia street, \$2,500; Love Bros. Ltd., 10 detached 2½-storey brick dwellings, Woolfrey avenue, \$37,000; S. E. Van Camp, 2 detached 2½-storey brick veneered front rough cast dwellings, Riverdale avenue, \$3,500; Chas. Gibbons, pair 2-storey semi-detached rough cast dwellings, Symington avenue, \$4,000; C. Couts, pair 2-storey and attic semi-detached brick dwellings, Wright avenue, \$5,000; Geo. Anderson, pair 2½-storey semi-detached brick dwellings, Roxborough street, \$10,000; Ed. Howell, pair 2-storey brick veneered front rough cast dwellings, Shaw and Dupont, \$2,500; Love Bros., Ltd., 3 pair 2-storey semi-detached brick dwellings, Riverdale avenue, \$12,000; Love Bros. Ltd., 2 pair 2-storey semi-detached brick dwellings, Langley avenue, \$8,000; W. W. Hiltz, pair 2½-storey semi-detached brick dwellings, Simpson avenue, \$5,000; Brittle Bros., pair 2-storey and attic semi-detached brick dwellings, Rusholme Road, \$6,000; J. F. Austin, 2½-storey brick dwelling, Oriole road, \$7,500; H. Dorenwend, 3-storey brick apartment house, George street, \$20,000; R. J. Lightle, pair 2½-storey semi-detached brick dwellings, Victor avenue, \$5,000; E. J. Gidler, pair 2-storey semi-detached brick veneered and roughcast dwellings, Wardell avenue, \$2,800; H. Hazellhurst, pair 2-storey semi-detached brick dwellings, Clinton street, \$3,750; John Kee, pair 2-storey semi-detached brick dwellings, Callendar street, \$4,000.

#### CONTRACTS AWARDED.

**FORT WILLIAM, ONT.**—Two-storey building northeast corner May street and Victoria avenue: M. H. Braden.

**PETERBORO, ONT.**—The Ontario Wind Engine & Pump Co., of Toronto, have secured the contract for a new wind mill for the House of Refuge.

**OGDENSBURG, QUE.**—The elevator contract in connection with Frank & Son's new store has been awarded to the Otis Elevator Co. at \$3,000; heating, Hackett Hardware Co., \$3,100.

**OWEN SOUND, ONT.**—Eight tenders were received for the new concrete bridge to be built across the Pottawatamie river. The award was given to Frost & Nickle, of Brooke, Ont., at \$3,650.

**ORILLIA, ONT.**—The contract for the work of converting the Dunn residence into a hospital has been awarded to H. W. Switzer at \$7,900; heating and ventilating, Orillia Hardware Co., \$1,625; plumbing, same company, \$1,025.

**BRANDON, MAN.**—It is announced that Dumas & Lochrane, Ottawa, have secured the contract for the new armoury; approximate cost, \$50,000.—The Canadian Northern Railway have let the contracts for their new roundhouses to the May-Sharp Construction Co., of Winnipeg.

**CALGARY, ALTA.**—The authorities have awarded the contract for the proposed city hall to the Alberta Building Co. at \$147,124. Others who tendered were: McNeill & Burns, \$166,028; Smith, Bros. & Wilson, \$156,700; Thomas Underwood, \$183,000 and D. J. McLachlin, \$148,800.—The Waterworks Committee have recommended the acceptance of the Allis-Chalmers-Bullock tender for turbine pump at \$1,885.

**WINNIPEG, MAN.**—Erection of addition to south fire hall, for all traces: H.

Milord, \$19,600.—The City Engineer submitted the only tender for sewerage work in Bird's Hill road, Gurney avenue and Montcalm street. The contract was accordingly awarded to him at \$29,667.—The Jackson Building Co. have secured the contract for building the new Anglican church in Elmwood at \$4,500.

**VANCOUVER, B. C.**—David Spencer Limited have awarded the contract for the erection of an eight-storey and basement brick building on Cordova street to Smith & Sherborne, whose price was \$120,000.—The British Columbia Contract Co. have obtained the contract for the new ocean wharf of C. Gardner Johnston & Co.

#### FIRES.

Buildings of Dr. Brown, Messrs. Wagner, Hawforneil, Hammer, Dunoman & Weber, also bridge over Saugenee river, at Neustadt, Ont., loss \$10,000.—Hotel building of George Court, Warton, Ont., loss \$5,000.—Lumber mills of Morin Bros., St. Louis, Du Mile End, Montreal, loss \$10,000.—Building, machinery and lumber at Wood & Sons' mills, Dundalk, Ont., loss \$6,000.—Warehouse and lumber of S. Hill & Son, Saskatoon, Sask., loss \$15,000.—Warehouses and buildings of C. H. Clarke & Co., H. P. W. McFarlane and others at Niagara Falls, Ont., loss \$8,000.—Flower mill and elevator, Russell, Man., loss \$25,000.—Buildings of Caverhill & Learmont, Montreal, loss \$15,000.

#### NEW FLOORING FOR COVERING CONCRETE.

There has been introduced into Canada a flooring material which promises to work in well with the use of cement. This material is called "Doloment," a German invention, and is said to be practically a perfect flooring. It is laid in two parts—a thick under insulating layer and an upper finishing or decorative layer. The lower layer is composed of a mixture of cork, asbestos, india rubber,  $\frac{5}{8}$  to  $\frac{3}{4}$  inch thick, forming a soft, elastic bed and a non-conductor of temperature and sound. In Canada, sawdust and wood flour are largely used in the composition, with good results. The composition of the upper layer is secret. It is laid half an inch thick, and is said to be unaffected by acids, fire or water. It presents a smooth surface, hard, yet not brittle, and the claim is made that it will contract and expand without cracking. It is also suitable for tops of tables or counters, or for larder shelving and similar purposes. Large floor areas, which have been laid for upwards of four years, and subjected to great strains, are said to show no sign of wear or tear, and have not worn off into fine particles of grit and dust.

Doloment was introduced into England a few years ago, where it gave such satisfaction that when it was proposed to form a company to handle the Canadian field, the capital was subscribed in a few hours, this method of forming an English company for the sole purpose of exploiting a Canadian enterprise being somewhat unusual.

The company is called the Cana-

dian Doloment Company, and Mr. E. H. Turnbull, formerly of New Brunswick, has been appointed managing director, with headquarters in Montreal. Business was begun in April, and already the flooring has been introduced into several places, such as the Montreal Light, Heat and Power Company's new building, exhibition bathrooms, in the Henry Morgan & Company's department store, and in doctors' laboratories. As it can be laid at a cost of 20 to 30 cents per square foot, doloment should meet a popular demand in Canada. It is laid on any kind of bed, but in Montreal has largely been placed on reinforced concrete flooring.

#### ARCHITECTURAL HONORS.

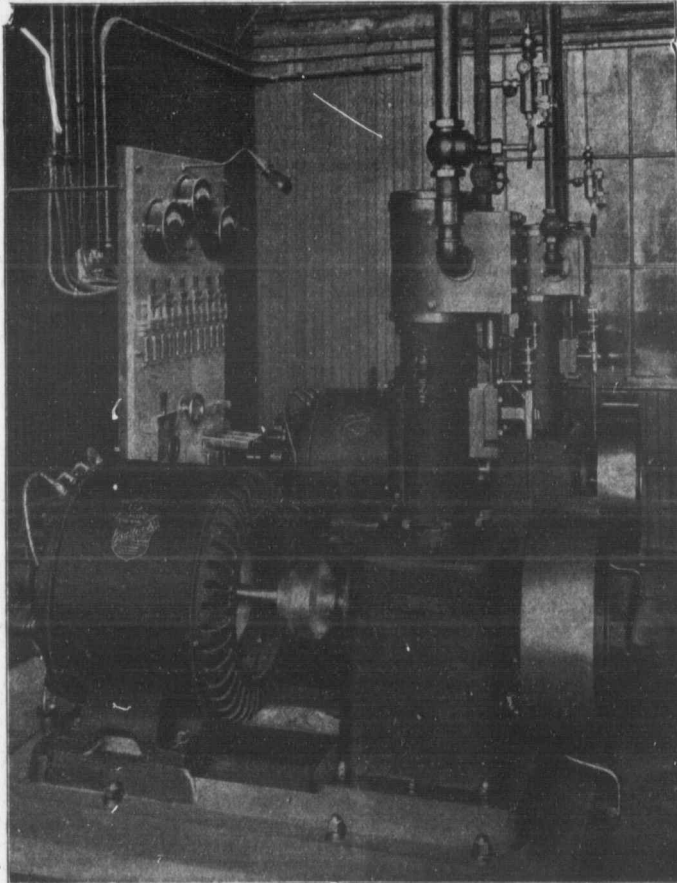
An announcement of great interest and importance to architect and others interested in building has just been made. We refer to the competitions for designs for the new Departmental block and Justice building in Ottawa. The Assessors were President Burke of the Ontario Architectural Association; President Chausse, of the Quebec Architectural Association, and David Ewart, Chief Architect of the Dominion. Twenty nine designs from all parts of Canada were sent in. The place of honor and \$8,000 goes to Edward W. S. Maxwell, Montreal. Darling & Pearson, Toronto, obtain the second prize of \$4,000; the third award of \$2,000 falls to Saxe & Archibald, and the fourth, 1,000, to D. R. Brown and Hugh Vallance, also of Montreal. It is worthy of note that the plans of the prize winners follow the Gothic style of the present buildings on Parliament Hill. Mr. Maxwell's design will not be exclusively followed, the government intending to incorporate into one plan the best features of the several competitors' work. The buildings will cost \$3,000,000, and tenders will probably be called for within a year.

Mussen's Limited, Montreal, recently issued their catalogue No. 15 of railway, mining, municipal and contractor's supplies. The volume, which consists of 640 pages, is admirably bound, indexed and illustrated, and is a model for speedy reference.

'The English Mechanic' reports a simple method of hardening ordinary twist drills, so that they will cut into tempered steel or very hard rock. Sulphuric acid is placed into a flat-bottomed vessel to about the depth that the extra hardening is desired, as for instance,  $\frac{1}{8}$  inch. Should the drill break off, reharden in acid that is of less depth. Above the hardened end the metal is soft. The object of placing only a fixed depth of acid in a flat pan is to have the pan bottom limit the extent of the hardening.



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### MOST EXPENSIVE WALL PAPER.

What is believed to be the most expensively papered room in the world is an apartment in the residence of Charles Whitfield King, of Ipswich, England. It is papered with unused postage stamps with a face value of \$4,000 and an actual commercial value of about \$25,000.

Mr. King is a dealer in postage stamps at Ipswich, having begun to collect stamps when but a lad thirteen years old. His business has grown to such proportions that it is declared he is able from his stock of 300,000,000 to supply at a single order twenty tons of stamps.

For many years Mr. King devoted considerable time to the culture of orchids, having at one time over 1500 rare specimens. Then he turned his attention to calla lilies, crossing many species and developing some most wonderful varieties.

It is in his country home, "Morpeth," that his most unique conception in the form of a room papered with unused postage stamps is to be found. China covered with stamps and rooms papered with used stamps are not unknown, although quite rare, but Mr. King's library is the only apartment on earth decorated with stamps never used for postage.

The room is about fifteen feet square and of the usual height. The stamps extend from floor to ceiling, forming even the border. The work of transferring the stamps to the walls occupied the time of an expert decorator eleven hours each day for nearly 100 days. Approximately 50,000 stamps were used, their being forty-eight varieties and many denominations. The stamps were not merely stuck on the walls in blocks or strips with only the purpose in view of covering up the white walls, but according to plans and designs worked out by Mr. King, were arranged with a view to producing an artistic and pleasing effect.

Most beautiful and elaborate designs of an imitation mosaic have been produced by the employment of stamps of certain colors, which, remembering the fineness of the designs and engravings and the delicacy of the shadings, have produced a result exquisitely beyond the power of words to adequately portray.

Some idea of the beauty of a wall wrought in bright stamps, each a type of the highest skill of the engraver, may be obtained by an inspection of the frames showing samples of stamps and United States paper money in the Treasury building in Washington. These two frames are divided into panels produced by the arrangement of revenue and postage stamps fresh from the Bureau of Engraving and Printing.

The stamps used by Mr. King in the decoration of his library were from the Argentine Republic, Samoa, Bergedorf, Lubeck, Hanover, Serbia, Cuba, Roman States, Philippines, Alsace and Loraine, and the United Kingdom. Of the famous stamps of the Roman States, with the crossed keys and tiara, emblematic of the authority of the Pope of Rome, which are of wonderfully brilliant coloring, no less than 13,000 copies were used.

The actual face value of the stamps, \$4,000, represents only a fraction of the commercial value of the stamps. Many of them are worth ten times their face value, having become rare since they were pasted on the walls fourteen years ago, and it is conservatively estimated that the stamps on the walls, if removed and placed in saleable condition, would net the owner the tidy sum of \$25,000. If Mr. King would weary of his costly decorations, and desire to convert his expensive wall-paper into cash, he would find himself possessed of a comfortable fortune by reason of the fact that his "philatelic" treasures have been where he could not sell them. Thus is presented the curious spectacle of the most beautifully decorated room in the world, adding annually to the wealth of the owner through the increasing rarity of the paper of which the decorations are composed.

This is, perhaps, no more surprising than the statement of stamp collectors that a person may accumulate a collection of stamps during the year 1907, lay it away and forget it, and in 1915, and probably in 1912, it will have doubled in value; in fact, it is not infrequent for stamps to quadruple in value in a single year, and a decline in value is almost unheard of. A shrewd financier of New York who has followed stamp collecting as a recreation since boyhood, declares that stamps are a better investment, to say nothing of the pleasure of collecting, than diamonds of equal value.—Wall Paper News and Interior Decorator.

### A WATER MAIN PRESSURE SCRAPER.

An unique invention, in the shape of a water main pressure scraper, employed by many British municipalities, is being sent from Scotland to Victoria, B.C., and will shortly be used in that city for the removal of extraneous matter from the 12-inch main, which has been laid for more than 30 years. The machine consists of two distinct portions connected by a swivel joint, the front portion carrying the steel scrapers, and the rear the wrought iron or steel propelling pistons. The latter are somewhat smaller in diameter than the bore of the pipe, for the pistons will not cut the cor-

rosion and the water must be allowed to pass them. Leather discs intersected by radial cuts, and stiffened at the back by lead plates, are placed behind each piston. The springs, with steel cutting edges, are arranged in two sets of four each, the set behind breaking joint with that in front, so as to effectively scrape the whole internal circumference of the pipe. The cutting edges are set in such a way that, should the scraper encounter anything in the shape of a projection, such as a ferrule screwed into a pipe, the whole machine will slew or turn round, and thus pass the obstruction without getting blocked; while the leather packings behind the pistons will fold back and pass any obstruction that can be passed by the pistons themselves.

### NOTES.

It is reported that the Mitchell Electric & Machinery Company, of Winnipeg, have assigned to James Sinclair.

Mr. E. H. Keating and Mr. Wm. H. Breithaupt have announced the formation of an engineering partnership under the name of Keating & Breithaupt, with offices in the Aberdeen Chambers, Victoria street, Toronto. They will carry on business as civil engineers, taking up all branches of railway and municipal work, power developments, bridges, etc.

The Niagara, St. Catharines & Toronto Electric Railway Company have achieved a triumph in the line of railway construction by building, at Merriton, Ont., a cement bridge capable of sustaining 350,000 pounds to the square foot. 1,500 yards of cement were used, and 58 steel rods, 1¼ inches thick, were employed for re-inforcement. It is claimed that the Merriton bridge is the only one of its kind in this country.

### TO OUR READERS.

We wish to make the **CONTRACT RECORD** of the greatest possible value to subscribers, and to that end we ask their co-operation. Each subscriber is requested to consider himself a correspondent of the paper and to send us intelligence regarding proposed works of construction and contracts awarded in his vicinity.

We cannot hope to learn, through our regular channels of information, of all work contemplated throughout this vast Dominion, but by the co-operation of our readers we may more nearly approach the maximum efficiency in the service given.

Correspondence sent to our head office at Toronto or to our branches at Montreal, Winnipeg or Vancouver, will receive due attention and be much appreciated.



**ERRATUM.**

Through an unfortunate oversight, it was stated in the CONTRACT RECORD of August 14th, that the generator at the East Toronto municipal plant was furnished by the Canadian Westinghouse Company. The contractors for the generator were Allis-Chambers-Bullock, Limited, of Montreal, to whom credit should have been given.

**A STAIRWAY OF CONCRETE.**

One of the most novel uses to which cement has been put in interior construction is the hanging concrete stairway. In its construction no structural iron whatever is used, only small channel bars one-quarter inch by three-quarter inch spaced about four inches and covered with expanded metal lathing. The false work can be removed in two weeks. The stairway supports not only its own weight, but, in addition, 7,500 pounds of marble, and a load of 2,000 pounds has been carried up the stairs without injury or deflection.

**CEMENT-COATED NAILS.**

Cement has not yet run its course, new uses being constantly found for this remarkable compound. The latest application, and that a peculiar one, of Portland cement, is in the production of "cement-coated nails." The coating on the nails is designed for protecting the goods in boxes into which they may be driven. Where ordinary nails, either of the wire or cut variety, are employed, they can be easily removed and replaced without marring the box, after removing some portion of the contents. Now comes the inventor with the cement-coated nail, which is simply a wire nail covered with a very thin coating of material that makes the nail, once driven, stick so tightly that not only does it hole more securely, but it can't be drawn without marring or breaking the box.

**NEW COMPANIES.**

Wine & Spirit Vaults Company, Limited, Winnipeg, Man., incorporated, capital \$300,000. Directors, G. F. Galt, John Galt, J. G. Carroll, W. Jackson and H. T. Rensick, all of Winnipeg.

Canadian Condensing Company, Limited, Chesterville, Ont., incorporated, capital \$500,000. Incorporators, J. L. McKenzie, D. P. Russell, H. C. Harvey, Joseph Coat and Henri Gerin-Lavoie K.C.

Monterey Plumbing Company, Limited, Toronto, incorporated, capital \$50,000. Incorporators, Gerard Ruel, Geo. MacDonald, A. J. Mitchell, F. C. Annesley and R. P. Ormsby, all of Toronto.

The Harrietsville, Telephone Association Limited, Harrietsville, Ont., incorporated, capital \$25,000. Incorporators, W. Doan, S. E. Facey, John McNiven and others.

Dominion Telephone Manufacturing Company, Limited, Toronto, Ont., incorporated, capital \$250,000. Directors, A. W. Briggs, H. R. Frost, H. G. Meir, H. H. Phillips and A. J. Savage.

Woods Improved Cushion Tire Limited, Toronto, Ont., incorporated, capital \$50,000. Incorporators C. M. Colquhoun, H. E. Irwin, and others.

Hall & Halcomb Limited, Ottawa, Ont., incorporated to take over the

business of Hall and Halcomb at the canal basin Ottawa, and to manufacture and deal in cement, bricks and other building material.

Standard Sanitary Manufacturing Company of Pittsburg, Limited, Montreal, Que., incorporated, capital \$25,000. Incorporators, T. C. Collins, J. N. Collins, F. J. Collins, Phillip Robertson, and Henry Drihey, all of Montreal.

Wiarion Steamboat Company, Limited, Wiarion, Ont., incorporated, capital \$20,000. Incorporators, J. W. Rutherford, T. C. Allan, J. J. Acres and others.

**NOTES.**

It is announced that, in accordance with the Companies' Act, the Peterborough Boiler & Radiator Company, Limited, will henceforth be known as the Canadian Boiler & Radiator Company, Limited, and the Standard Sanitary Manufacturing Company of Canada Limited, as the Sanitary Manufacturing Company of Canada.

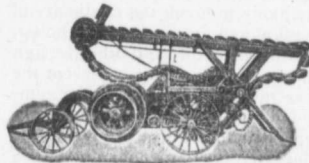
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### THE PROPER CONDITION OF SURFACES TO RECEIVE WATERPROOFING.

By CLIFFORD B. MOORE, C.E.

One of the many difficulties which waterproofing contractors encounter in the execution of their work is the defective condition of the surfaces to be treated. These defective conditions are due either to over-hasty construction or to the saturation of the work by water used in the mortar or absorbed during rainstorms. The saturation, of course, cannot be avoided, and injurious results likely to follow can only be guarded against by permitting the work to dry thoroughly before the waterproofing is applied.

The work must be dry, not merely on the surface, but in the interior to a considerable distance, for, to imprison water in the wall decreases its value as an insulator or as a conductor of heat, and may give rise to vapor-pressure, which would act injuriously upon the waterproofing or other surface coatings.

These phenomena are usually well understood by the waterproofing contractor, and, unless he is compelled to do so by the authorities in charge of the work, he will usually prefer to undertake his part of the contract only when he knows the masonry to be so thoroughly dry as to leave him no apprehensions of the results of his work.

The defective conditions due to the lack of proper care on the part of the masons is usually the more troublesome question.

The character of surface defects are:

Blow-holes or air-holes.

Exposed stones and other projections.

Dirt, mortar and efflorescence adhering to the work.

Excessive roughness.

In the case of brickwork additional causes of trouble are: Loose mortar in joints, or joints entirely devoid of mortar. Rubble walls are often left very much too rough.

In a large majority of cases the defective conditions are found in the upper stories of buildings, and this may generally be attributed to the speed madness which often develops when the completion of the work is in sight.

It is usually false economy to leave the surfaces in poor condition, as the defects will only have to be remedied later, and at an increased expense. The waterproofing contractor is well aware of the condition of the surfaces which he may expect in work done by different masons and contractors, and he will add a percentage for contingencies in his estimate of cost where he has reason to believe he will encounter such difficulties.

In about 10 per cent. of sub-surface work the surfaces are left in such condition as would endanger the success of the best waterproofing. Under such conditions the

mason contractor must smooth up his surfaces at his own expense or have the waterproofing done at his own risk, as the contractor will usually refuse to guarantee an absolutely water-tight structure where the defects of the surfaces preclude the possibility of good work on his part.

A concrete example of this is furnished in the case of one of the leading theatres in Manhattan. The surfaces of the foundation walls were so rough that the waterproofing contractor would only proceed with the work at the risk of the owner. When the inevitable happened, and water found its way into the cellar, the indignation of the owner was promptly turned upon the waterproofing contractor, who produced his contract, the terms of which clearly and distinctly released him from all responsibility as to defective work. The increased expense entailed in doing the work all over, besides the delays and annoyances incident thereto was an experience costly enough to produce an impression, and goes to show that to rush precipitately into the work of waterproofing poor surfaces proves an expensive policy in the long run.

The reason that defective surfaces can be waterproofed only with difficulty is almost self-evident, as it is impossible to apply the material so as to entirely close all holes, obtain complete continuity of the waterproofing, or remove all places where water might collect. Projections are to be avoided, the objection to these being that where scaffolding is employed, or the damp-proofing work is followed by painting there is danger of puncturing the film. Empty mortar joints are likely to break the continuity of the film and give rise to air-holes; efflorescence, dirt and other foreign matter on the surfaces prevent the penetration of damp-proofing compound into the pores of the masonry superstructure work, or prevent the adhesion of waterproofing materials in sub-surface work, which are essential requirements in the success of waterproofing.

In applying damp-resisting materials to the masonry surfaces, therefore, see that these surfaces are thoroughly clean, as smooth as necessary and thoroughly dry. Also, in the application, see that no air-holes are to be found in the surfaces. These same remarks, doubtless apply, generally, to painting and work of a similar nature. The writer believes that the exercise of proper care in this respect will result in increased economy and durability of waterproofing work.—Waterproofing.

It is reported that at their first meeting, to be held in September, the council of London, Ont. will appoint Mr. Thos. Jones, of Jones Bros., contractors of that city, to the position of building inspector.

### TARRED MACADAM ROADS.

By THOS. AITKEN.

The application of tar to macadamized roads has occupied the author's attention for many years, and various methods of applying it have been tried with, generally speaking, beneficial results, but in a manner and at a cost which would not warrant its general introduction. Further consideration of the matter showed that if tar could be applied in the form of a fine spray in re-coating operations, the object aimed at would be attained. By such means the ordinary method of applying water and some form of earthy binding material would be dispensed with, and a practically waterproof road formed which would reduce mud and dust to a minimum. The results of these experiments, favorable in most particulars, led the author to devise an apparatus for spraying tar, either in a hot or cold state, into the newly-spread coating, and so act as a matrix or binder instead of using water and a binding material.

In operating this apparatus it is necessary, in the first place, to pump air into the receiver to a pressure of from 100 lbs. to 150 lbs. per square inch, depending on the viscosity of the tar, before forcing the tar into it from the tank. The outlet valve may be regulated to give an exceedingly fine spray, or a larger quantity may be applied by opening it to three-quarters or full cock. The supply-regulating valve must be so adjusted that the quantity of tar pumped into the receiver will equal the amount of tar being sprayed on to the road. The metalling is not rolled in the first instance, as in the ordinary system of consolidating the material, the object being to cover all the surfaces of the roadstone with a film of tar previous to consolidation. This is carried out by passing the spraying machine over the loose metal once in either direction, which, combined with the great pressure exerted in forcing the tar through fine spraying nipples, ensures the whole mass of stones, to a depth varying from 3 ins. to 5 ins., being equally treated. The fineness of the spray secures equal distribution, and the pressure forces it well into the metal coating. After a length of from 30 yds. to 50 yds. of full width coating has been sprayed with tar, a light layer of small chips is applied to assist in filling the interstices, especially at the surface. The author, in using 2-in. to 2¼-inch. gage roadstone, finds this necessary to make a solid and homogeneous mass. With roadstones of a smaller size—1-in. gage for instance—the necessity of applying chips is not essential for efficient consolidation. The main point is to use as little tar as is consistent with proper binding and to apply chips, if necessary, so that the interstitial



vacant spaces will be filled with as much hard material as possible. When the coat of metalling has been thoroughly rolled the spraying machine traverses the road and sprays the surface, one turn generally being sufficient. A thin coating of very fine chips and dust from a stone-breaking machine is then spread uniformly over the surface and finished by further rolling. No sweeping is necessary by this method of construction, therefore a considerable saving is effected in labor and the cost of brooms.

The amount of tar necessary to properly coat the roadstones for every ton of metal applied varies according to the size of the material used and the quality of the tar, but from 4 to 6 gals. may be considered sufficient under ordinary circumstances. This quantity of tar would, therefore, with a 3½-in. coat of metal, be equal to 0.56 gal. per sq. yd. of road covered. The material after consolidation, however, becomes a homogeneous mass, and the internal friction or abrasion is eliminated. The prolongation of the durability of a road so made will be greater, probably doubled, compared with the ordinary method of construction, consequently ultimate economy will be promoted. The surface of a tarred road is practically waterproof, and the elimination of dust and mud, or their reduction to a minimum, would alone be sufficient to justify the general application of tarred macadam.

The reason why tarred macadam, carried out in a proper manner, is free from dust and mud and wears longer than ordinary macadam, is simply because the frictional resistance of the stones is increased to such an extent that internal motion and rubbing are prevented, and the tar and chips which fill the interstices of the metal coating prevent percolation of water and the evils resulting from that cause. Tar, no doubt, might be improved by the addition of a bituminous material, which would further increase the life of a road, but, of course, at additional cost. This fairly represents the possibilities of this form of construction or tar-macadamizing.

#### PAINTING BRIDGES IN WINTER

The following article was written by a foreman painter of one of the large railroads in the United States. This gentleman has had experience of many years in painting railroad bridges, under all kinds of conditions, and the subject of this article, "Painting Bridges in Winter," is of special interest at this time:

That experience is a good teacher, no one will deny, and after repeated warnings by different authorities on the increased cost of labor and material and the lack of durability from painting metal in winter

months, let us recall our experience of six years.

In January, 1901, a large railroad system sent a gang of painters into western Iowa to clean and paint fifty steel girder span bridges. With the force at hand, and owing to other conditions of the work, they were twenty months completing the work. During this time they were painting through the winter months of 1901 and 1902, as well as through the summer months of both years, and every precaution was taken not to paint when there was moisture in the air or when frost was on. The paint was applied on girders in February, 1902, when the thermometer registered as low as 4 degrees above zero, and there seems to be no difference now in the general condition of this work, whether it was painted in summer or winter.

At no time did the work over-run the estimate of cost, although the cost was slightly increased both for labor and material in the winter. However, this extra cost was only a trifle as compared to the care of the structures, and now after more than five years it is impossible to tell whether the structures were painted during the summer or the winter, as the general conditions are the same, and only by looking at the date painted on when finished can you tell when the work was done.

All of these bridges received exactly the same treatment, having first been coated at the factory with boiled linseed oil, which was only a detriment to the surface. The oil bound fast the mill scale, rust, grease and blisters and in the field, without a sand blast, could only be removed by hand scrapers. After the steel was erected it received two coats of paint.

The condition of the work had several advantages, by having a land climate without alkali, sea fogs or gases, which are enemies to paint; yet it has had the disadvantages of being painted, in many cases, six months after erection, the coating of linseed oil and the drippings of salt brine from meat refrigerator cars.

After experience of this kind which may occur over and over again, it only convinces one that the time to paint is just as soon as the structure is erected and before rust starts. Like filling the purse, "Little and Often" makes a good rule for painting, and the season of the year can not be considered when a structure needs paint.

#### THE MANUFACTURE OF GLASS PRODUCTS.

It has been estimated that \$65,000,000 worth of glass products were manufactured in the United States in 1905. Materials used in making these products must have

cost nearly \$18,000,000, and of this sum \$1,000,000 was spent for sand. In the last half of the eighteenth century the value of glass products increased 70 per cent for each twenty years. Their value is still increasing, and because of the remarkable development of an industry so largely dependent for its raw materials on mineral deposits the United States in 1905 began making an investigation of sand producing areas. From this report the following interesting facts have been deduced:

Of the states in which glass is listed as a manufacture Indiana and Ohio at present occupy, respectively second and third rank, the first place being held by Pennsylvania. Glass making has but recently been added to the industries of Kentucky, but factories are in operation at two points.

Indiana is producing less than 1 per cent of the glass sand used in the state, the remainder being obtained largely from the Fox River (Illinois) district and the Klondike (Missouri) district. All the sand that can be produced of sufficient purity even for green and amber bottles finds a ready market at good prices—a condition encouraging to both producers and manufacturers. Attention is called, however, to the fact that no large deposits of sand-stone are known in Indiana that have the purity of the St. Peter sandstone, so abundant farther west, and for certain grades of glass there will always be a demand for sand from beyond the state.

Ohio produces 0.937 per cent as much glass sand as is used in the state. A large part of this, however, passes from the eastern part of the state to factories in western Pennsylvania, and a corresponding amount is brought in from other states, especially from West Virginia and Illinois, at notably higher prices. Glass works are established within an area extending across the state from Toledo to Cincinnati and as far east as Steubenville. The plants are usually well situated in regard to fuel, but many have to pay excessive freight charges on their sand.

The Kentucky factories obtain their sand at Tip Top, twenty-eight miles southwest of Louisville.

#### USING CONCRETE TO REDUCE NOISE.

Largely unnecessary, city noise is one of the greatest nuisances that a long-suffering public is called upon to endure. Without presenting a bill of particulars, attention may be called to the disturbing and constant din produced by the great majority of elevated railroads. In one way and another, much of the difficulty is now overcome, but the disturbance is still very annoying, says the American Contractor.

The problem is an old one, as old

indeed as is the elevated railroad. Nearly thirty years ago, when the Gilbert elevated road, the second to be constructed in this country, was opened in New York the din produced was so great and disturbing that a large bonus was offered for a means of overcoming or decidedly reducing it. This reward was finally won by an enterprising and scientific woman, who introduced some deadening material that prevented the steel structure from acting as a huge sounding board.

With a view to overcoming, and that in advance, the noise incident to operating the Boston Elevator Railway "L" extension from the North Station to Lechmere Square, in East Cambridge, the work of construction is being delayed that a change in the system may be figured out and carried into execution.

The new proposal is that the steel structure originally shown in the plans shall be covered with concrete. The suggestion comes from the company's advisory architect, and the reason for it is that the resulting combination will be considerably more pleasing in appearance, and, with a tight floor, will decrease the noise of trains. The directors approve of the change, although the added expense will be about \$100,000, and they have requested Mr. Kimball, chief engineer of the company, to prepare new plans showing the steel structure filled and covered as suggested.

While expensive, from the standpoint of first investment, this plan will prove a money-saver in the long run and ought to find imitators, not only in elevated road construction, but in many other directions. The days when noise was a necessary evil ought to have passed by this time, and peace and quiet be given due consideration in all forms of construction work, or any other for that matter.

#### COLORING CEMENT WARE.

White cannot be produced with the ordinary Portland cement of commerce, because of the grey color which cannot be overcome.

#### JOHN S. FIELDING

CONSULTING ENGINEER  
WATER POWER DAMS, etc.  
15 TORONTO ST. — TORONTO

A lighter effect can be produced by the use of marble dust, which gives a fairly light color.

For yellow, use chrome powder, or ochre. For red, use red oxide of iron. For brown, ground iron ore or pulverized brown stone; blue, use ultramarine; for black, use the best grade of lamp black. Free lime or even hydrated lime destroys colored cement work. It

will surprise our readers when we say that the ordinary Portland cement of commerce can be made to produce a lighter finish by adding a small quantity of lamp black. All colors used in cement work should be mixed with the cement dry and brought to a uniform tint, otherwise the work will show streaks and spots. Mineral colors are the most reliable.

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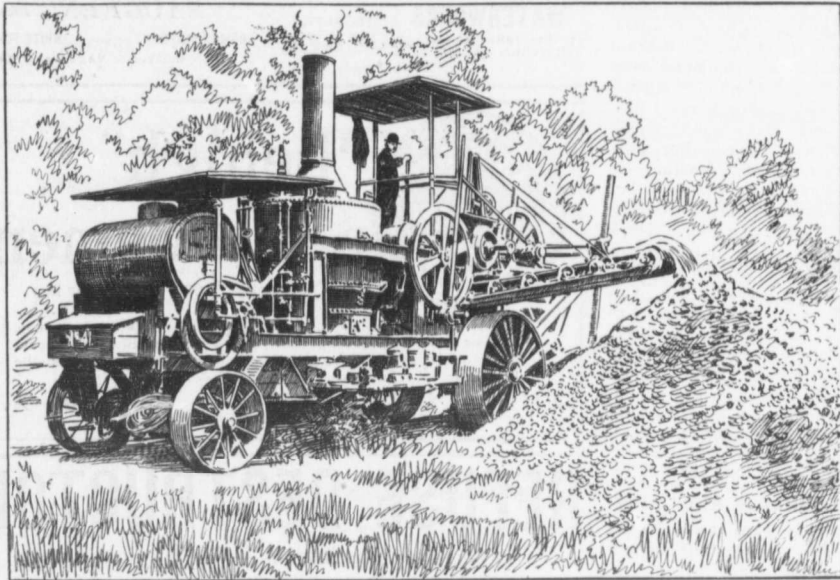
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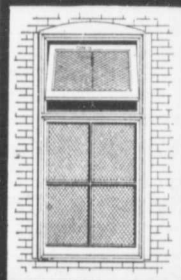
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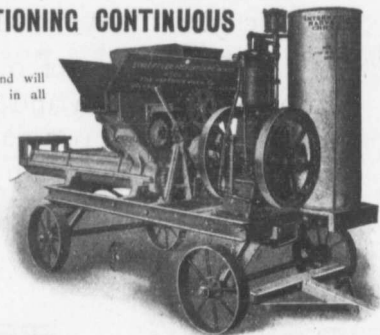
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which it was colored, and he told me red (a sort of red-chalk) and bullock's blood. This, on further inquiry, I find was an old tradition among the vergers in the Minster. A composition of red chalk and bullock's blood is still used by the farmers and villagers for coloring their doors and window shutters in a circle of twenty miles around York at the present day. They say it makes a good red paint.

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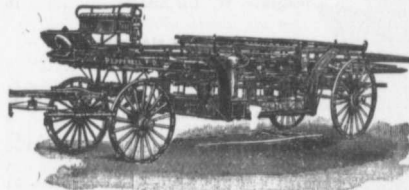
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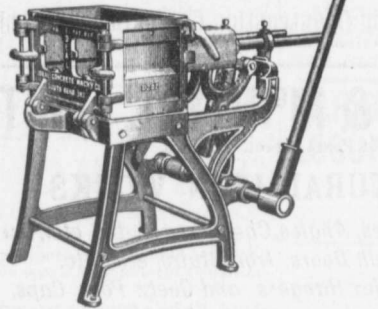
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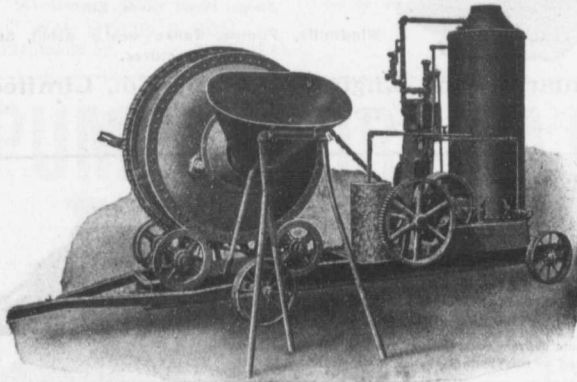
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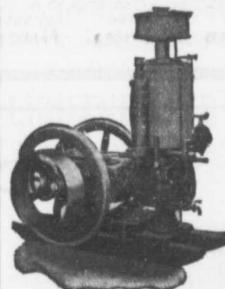
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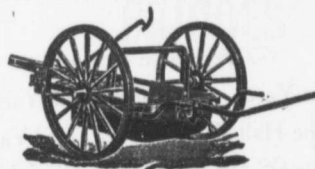
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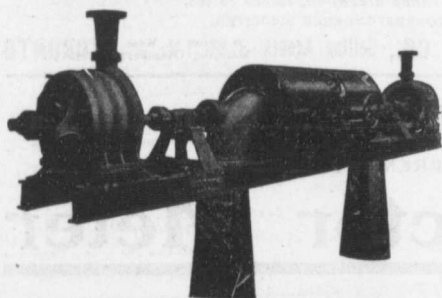
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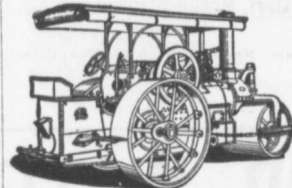
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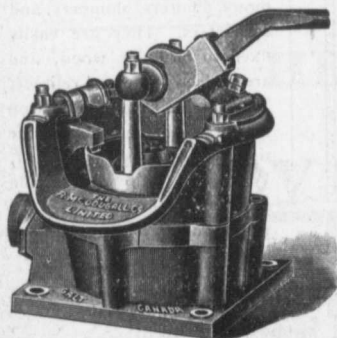


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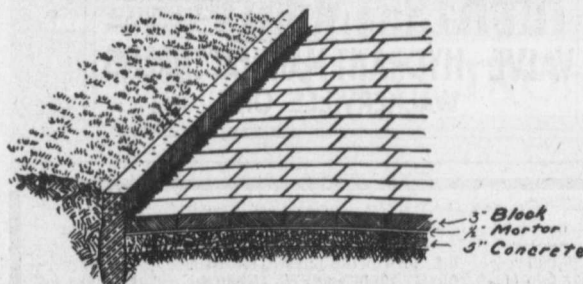
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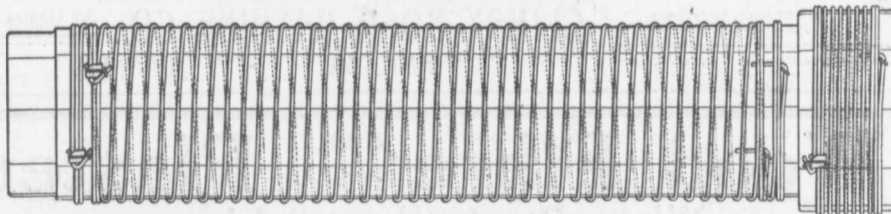
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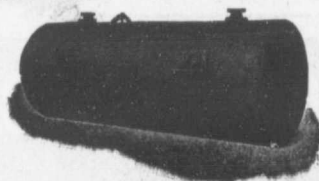
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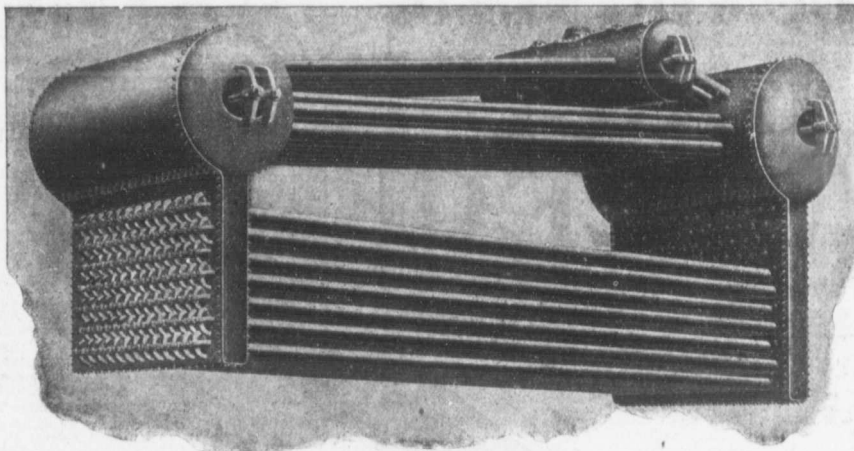
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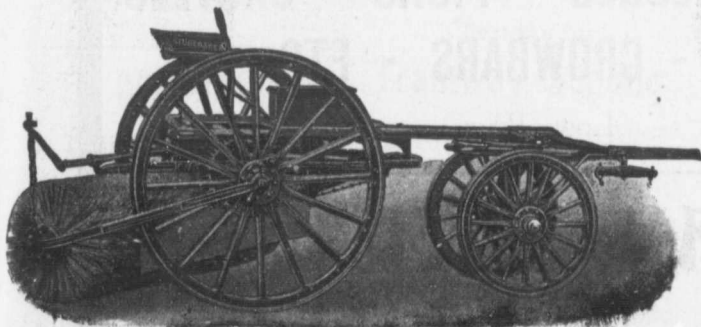
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**HAMMERS - SLEDGE - PICKS - SHOVELS  
 CHISELS - CROWBARS - ETC.**

Prompt Shipment — Low Price — Best Material

