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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL

PUBLIC WORKS • TENDERS • ADVANCE INFORMATION • AND MUNICIPAL PROGRESS

EVERY THURSDAY

THIS PAPER REACHES EVERY WEEK THE TOWN AND CITY CLERKS, TOWN AND CITY ENGINEERS, COUNTY CLERKS AND COUNTY ENGINEERS THROUGHOUT CANADA.

Vol. 4. NOVEMBER 30, 1893 No. 41

THE CANADIAN CONTRACT RECORD,
PUBLISHED EVERY THURSDAY
As an Intermediate Edition of the "Canadian Architect and Builder."

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G. H. MORTIMER, Publisher,
CONFEDERATION LIFE BUILDING, TORONTO.
Telephone 2362.
64 Temple Building - Montreal.
Bell Telephone 2299.

Information solicited from any part of the Dominion regarding contracts open to tender.

ADVERTISING RATES ON APPLICATION.

At its Convention held in Toronto, Nov. 30 and 31, 1893, the Ontario Association of Architects signified its approval of the CANADIAN CONTRACT RECORD, and pledged its members to use this journal as their medium of communication with contractors with respect to advertisements for tenders.

The following resolution was unanimously adopted at the First Annual Meeting of the Province of Quebec Association of Architects, held in Montreal, Oct. 10th and 11th, 1890: "Moved by M. Perrault, seconded by A. F. Dunlop, that we the Architects of the Province of Quebec now assembled in Convention being satisfied that the CANADIAN CONTRACT RECORD affords us a direct communication with the Contractors, Resolved, that we pledge our support to it by using its columns when calling for Tenders."

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publisher of any irregularity in delivery of paper.



Notice to Contractors

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on SATURDAY, DECEMBER 9TH, 1893, for the following:

A FIVE-FOOT STEEL PIPE

for the Extension of the Yonge Street Sewer.

Tenders will also be received in the same manner, and on the above date, for the necessary Piling and Laying of the Said Pipe.

Plans and specifications may be seen and forms of tender obtained on and after Saturday December 2nd, 1893, at the office of the City Engineer.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for under \$1,000, and 2½ per cent. on the value of the work tendered for over that amount, must accompany each and every tender, otherwise it will not be entertained.

All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications) or they will be ruled out as informal. The committee do not bind themselves to accept the lowest or any tender.

DANIEL LAMB,
Chairman Committee on Works.
Committee Room, Toronto, Nov. 22, 1893.

TO CONTRACTORS

Tenders will be received by the undersigned until 5 o'clock on

MONDAY, DECEMBER 4TH,

for bricklayer's, carpenter's (including plastering), plumber's, painter's and tinsmith's work required in making sundry alterations to Warehouse at 7 Wellington Street West.

The lowest or any tender not necessarily accepted.

Work to be done at once and with speed. Specifications now ready at the office of
W. A. LANGTON,
Canada Life Building, Toronto.

WINDSOR WATER WORKS

NOTICE TO MANUFACTURERS OF
CAST IRON WATER PIPE.

Sealed Tenders will be received by the Secretary of the Board of Water Commissioners, Windsor, until 6 p.m. on the 10TH DAY OF DECEMBER, 1893, to be endorsed "Tender for Cast Iron Pipe," for furnishing, approximately: 1,800 Tons of 30-inch Cast Iron Pipe and Necessary Specials.

Specifications may be seen at the office of the Board at Windsor, and at the office of the Engineer at Toronto.

For blank forms of tender and other information apply to the Secretary of the Board.

C. J. REID,
Sec., Board of Water Commissioners,
Windsor, Ont.
WILLIS CHIPMAN,
Engineer, 103 Bay Street, Toronto.
November 22nd, 1893.



NOTICE TO CONTRACTORS

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on SATURDAY, DECEMBER 9TH, 1893, for the following work:

A Brick Sewer on Montray Street.

Plans and specifications may be seen and forms of tender obtained on and after December 4th, 1893, at the office of the City Engineer.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the work tendered for under \$1,000, and 2½ per cent. for the value of the work tendered for over that amount, must accompany each and every tender, otherwise it will not be entertained. All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications), or they will be ruled out as informal.

The Committee do not bind themselves to accept the lowest or any tender.

DANIEL LAMB,
Chairman Committee on Works.
Committee Room, Toronto, Nov. 24, 1893.

CITY PUBLIC SCHOOLS

TO BUILDERS AND CONTRACTORS.

Tenders, whole or separate, are requested for the several works, consisting of Carpenter, Plasterer, Painter and Plumber's work required to complete unfinished rooms at Leslie street school.

Plans and specifications may be seen and all information obtained at the office of Mr. C. H. Bishop, Superintendent of School Buildings.

Tenders on forms to be supplied by the Superintendent of School Buildings to be delivered at the office of the Secretary-Treasurer of the Public School Board on or before

Monday noon, December 4th, 1893.

Each tender must be accompanied by an accepted bank cheque for 5 per cent. of the amount of tender as per regulation of the Board.

The lowest or any tender will not necessarily be accepted.

W. W. HODGSON,
W. C. WILKINSON, Chairman Committee.
Sec.-Treasurer P. S. Board.



Notice to Contractors

TENDERS FOR ANNUAL SUPPLIES.

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on SATURDAY, DECEMBER 9TH, 1893, for the following supplies for the year ending 31st December, 1894:

Sewer Pipe, Iron Work, Lumber, Cedar Posts, Horse Feed, etc., Wires Nails, Hardware, etc., Gravel and Sand.

Specifications may be seen and forms of tender obtained on and after Saturday, December 2nd, 1893, at the office of the City Engineer.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent. on the value of the material tendered for under \$1,000, and 2½ per cent. on the value of the material tendered for over that amount, must accompany each and every tender, otherwise it will not be entertained.

All tenders must bear the bona fide signatures of the contractor and his sureties (see specifications) or they will be ruled out as informal.

The Committee do not bind themselves to accept the lowest or any tender.

DANIEL LAMB,
Chairman Committee on Works.
Committee Room, Toronto, Nov. 27, 1893.

Cast-iron paving blocks are to be used in Pans in a competitive trial with wood and stone blocks for use alongside tramway rails. These iron blocks are 9½ inches long, 7 inches broad and 6 inches deep, and are cast hollow, the interior space being filled with concrete. The upper and lower surfaces are grooved; when one surface is worn smooth the block can be turned over so as to expose the other.

CONTRACTS OPEN.

LANARK, ONT.—Mr. W. C. Caldwell proposes building a flour mill next summer.

CARP, ONT.—Mr. T. C. Argue intends building a mammoth elevator next spring.

NICOLET, QUE.—The reconstruction of the Catholic Cathedral here is under consideration.

BEAUMONT, QUE.—Rev. Abbe Leclerc is endeavoring to secure the erection of a new church.

GRAND MERE, QUE.—A new iron bridge will be constructed across the St. Maurice river.

DAVISVILLE, ONT.—Messrs. John Davis & Son contemplate erecting new premises in the spring.

PARIS, ONT.—Messrs. Redher & McCosh will shortly let the contract for the erection of their new electro plating factory.

BERLIN, ONT.—I. D. Bowman, Town Clerk, will receive tenders until the 11th of December for the purchase of \$22,000 of local improvement debentures.

GANANOQUE, ONT.—A petition will be presented to the Minister of Militia asking for the removal of the drill shed from its present site on Market street.

CHARLOTTETOWN, P. E. I.—The City Council is considering the purchase of an electric light plant and the construction of an improved system of sewerage.

VANCOUVER, B. C.—It is announced that the British Columbia Cooperaage and Jute company will commence the erection of a larger cooperaage factory than the one recently burned.

ORILLIA, ONT.—The plans of Messrs. Gordon & Helliwell, of Toronto, for a new market building have at last been chosen. The cost of erection will be about \$15,000.

KINGSTON, ONT.—A representative of a wealthy Chicago firm was in the city recently looking for a site for a large canning factory. Messrs. Folger Bros. are said to be interested in the enterprise.

NIAGARA FALLS, ONT.—Mr. G. W. Hawley proposes to erect a fine five-storey brick building at the Canadian end of the upper suspension bridge this winter for which plans are now being prepared.

KINGVILLE, ONT.—A by-law to raise the sum of \$18,600 for the construction of waterworks and fire appliances has been passed by the Council and will be voted on by the ratepayers on the first of January.

WOODSTOCK, ONT.—At a recent meeting of the subscribers to the proposed hospital building it was decided to get out plans at once and proceed with the erection of the building next spring.

ST. JOHN, N. B.—Messrs. James Harris & Co. will in all probability build an addition this winter to their rolling mill on the Strait Shore.—A piano factory is

to be started here by a Mr. Davis; capital stock \$25,000.

TOTTENHAM, ONT.—Messrs. James Barton, G. P. Hughes and others have been granted letters patent for the incorporation of the Tottenham Elevator Co., the object of the company being to build a grain elevator.

LONDON, ONT.—Mr. Geo. Heaman will erect a \$1,000 carriage factory on Dundas street east—A. M. McEvoy, County Treasurer, will receive proposals until the 8th of December for the purchase of \$45,000 worth of debentures.

PARRY SOUND, ONT.—A deputation from this place recently interviewed the Provincial Government asking permission to issue debentures for \$6,000 to improve and extend the waterworks system. An answer was promised at an early date.

SHERBROOKE, QUE.—A deputation recently waited on the Provincial Legislature urging the Government to erect an agricultural school for the eastern townships in this town. It was promised that the matter would be considered at a later date.

OWEN SOUND, ONT.—The North Grey Agricultural Society have appointed a committee consisting of Dr. McCulloch and Messrs. James McLauchlan and Wm. Masson to arrange with the Town Council for the erection of new buildings on the exhibition grounds.

WELLINGTON, B. C.—The Wellington Investment and Improvement Company is applying for incorporation. The directors are J. A. Thompson, A. J. McMurtrie, E. Patten and R. McManus. The company propose erecting a hotel, theatre, brewery and other buildings.

WINNIPEG, MAN.—The City Council proposes to spend the sum of \$115,000 in replacing Main and Osborne street bridges and erecting a third bridge further east on the Assiniboine river. Debentures for \$80,000 of this amount will be issued, subject to approval of the electors.

WINCHESTER, ONT.—A committee has been appointed by the Presbyterian congregation to select plans for a new church.—A petition is in circulation for presentation to the township council to deepen and enlarge the Annable creek drain and its branches, and also to open up the Castore river as an outlet.

NANAIMO, B. C.—Mr. Kelly, architect, is preparing plans for a large three-story hotel to be erected by the new Improvement and Investment Company. It will be 100 feet by 44 feet, and will be fitted with modern improvements. The same architect is also preparing plans for a two-story frame building for the Wellington Advocate, with dwelling on second floor.

OTTAWA, ONT.—The Geological Museum in this city has been closed for temporary repairs. The Government has had in contemplation for some time the erection of a new building, and it is learned from a highly reliable source that the chief architect of the Public Works Department has been instructed to prepare plans for the same at once.—An agitation has been commenced to secure the erection of a new building for the Home for Friendless Women, towards which the sum of \$1,000 was donated by Mrs. Wadsworth, of Hull.

PORT ELGIN, ONT.—A deputation composed of Reeve Munroe, Deputy Reeve M. A. Cassidy and Councillors M. A. Eby, J. A. Darling and Joseph McArthur recently waited upon Sir Oliver Mowat asking for Government aid towards a proposal to connect by rail the Wellington, Grey & Bruce Railway with the harbor, about a mile distant, and build a railway dock at the waterfront. The municipality's share of the cost of this work would be \$5,000. The premier held out some encouragement that something might be done to assist in the construction of the dock.

HALIFAX, N. S.—A large deputation representing the city of Halifax and the counties of Queens and Lunenburg recently waited upon the provincial government in connection with the proposed railway

scheme of the Nova Scotia Southern Railway company of which Mr. R. G. Hervey is president. The proposal of the company was to build a railway from New Germany, on the Nova Scotia Central, to Sand Point in Shelburne, for which a provincial subsidy of \$3,200 per mile was asked. It was also proposed to build a branch from Indian Gardens to main line to Liverpool, to extend the line from New Germany to a point at or near Halifax in the early future if both Dominion and local subsidies were obtained.

MONTREAL, QUE.—It is stated that Mr. Shaughnessy, of the C. P. R. is having plans prepared for a new station to be erected in the east end. It is also rumored that the erection of a mammoth hotel is contemplated by the company.—The Grand Trunk Railway Company is said to be considering the extension of the Bonaventure depot to Notre Dame street. Plans for the new building for the Canada Life Assurance Company are almost completed. It is not probable, however, that work will be commenced before the spring.—The Road Committee has decided to recommend to Council that Subways be constructed at St. James and St. Lawrence streets.—The Canadian Rubber Company have written to the City Council asking permission to erect a brick warehouse on Notre Dame street, near Papineau road.

TORONTO, ONT.—The one-storey brick and frame dwelling on Jarvis street, adjoining the Toronto Shoe Company's premises, is now being torn down to make room for a substantial three-storey brick building, which will be faced with pressed brick.—The Toronto Radiator Company have secured the property adjoining their present works, and will erect a new foundry 300 feet by 35 feet, and will then have a machine shop 132 feet by 67 feet, additional.—The City Engineer has asked the Council for permission to purchase \$3,000 worth of new water meters. The sum of \$1,800 is also asked to repair the Sorauen avenue sewer.—At a meeting of the Technical School Board held on Tuesday last, it was decided to expend the sum of \$480 in the purchase of electrical apparatus.—Building permits have been granted as follows: Jas. Thompson, 217 Dunn ave., 2 story and attic bk. and stone front extension, cost \$2,000; S. F. McKinnon, six story bk. warehouse, s. w. cor. Jordan and Melinda sts., cost \$50,000; Glover Harrison Estate, alterations to building, King st. e., cost \$3,800.

HAMILTON, ONT.—The directors of the Hamilton, Grimsby and Beamsville Railway will shortly let the contract for the erection of their power house.—The representatives of the Hamilton Association the Wentworth Historical Society and the Canadian Club have a scheme under consideration involving an expenditure of from \$50,000 to \$60,000. Should the Government accept their tender for the old post-office building it is proposed to convert the ground floor of the present building into a museum for the Hamilton Association and Wentworth Historical Society, the second floor into a hall for the Canadian Club, and the top storey into private compartments or reading rooms. In rear of the present building it is proposed to build an auditorium a brick structure, 93 x 81 feet, to seat from 1,500 to 1,800 people. In rear of this building it is proposed to have a large athletic room, fitted up in the very latest style, on the ground floor, with baths in the basement and club rooms over the athletic hall. Mr. W. A. Edwards will be the architect.—Mr. J. A. Ouimet in reply to the request for a bridge over the canal at the Beach states that the proposition will be submitted to the Government, and if favorably entertained, an appropriation will be asked for that purpose at the next session of Parliament.—The members of the Ministerial Association are discussing the establishment of a University for ladies in this city, the cost of a suitable building being estimated at \$100,000 and a committee has been formed to further the scheme and secure a site.

FIRES.

The two-story residence of Mr. Robert McAdams, at Sarnia, Ont., was burned on the 26th inst. Loss, \$2,000; insurance, 1,200. Six houses at St. Lin, Que., were destroyed by fire on the 22nd inst. The sufferers are S. Cormier, bakery; A. Beaudern, hotel; J. B. Robert, tailor; J. Chaput, cabman; H. Gauthier, large general store; Dame Veuve F. Foisy; Mr. Beaudern, notary; Dr. Forest, Notary La Marche. The total losses amount to about \$30,000, mostly covered by insurance.—Messrs. Rolland Bros' furniture establishment, 520 St. Paul street, Montreal, was damaged by fire last week to the extent of \$25,000. The building was owned by Mr. Vipond.—Jacob Sweeney's furniture factory and warehouses on Main street, Milton, N. S., were destroyed by fire on the 25th inst. The building and stock were insured for 10,000.—Wm. Milne's large saw mill at Ethel, Ont., was burned to the ground recently.—The Bruce block at Hamilton, Ont., owned by J. A. Bruce and F. C. Bruce, was damaged by fire last week to the extent of \$8,000, which is covered by insurance. Messrs. Bertram & Co.'s new hardware store, corner of King and McNab streets, was also badly damaged.—A lath mill at Ottawa, Ont., was burned on the 24th inst. Loss, \$13,000, covered by insurance.—The Fischer hotel at Drummondville, Ont., was burned on Tuesday last, loss \$2,000.

CONTRACTS AWARDED.

MONTREAL, QUE.—Mr. Maxwell, the architect, has awarded to the estate of Geo. Pallascio the contract for interior fittings for Birk's new jewelry store, in this city.

WOODBIDGE, ONT.—The York County Commissioners have awarded the contract for the steel superstructure of the new bridge to be erected here to the Dominion Bridge Company, of Montreal, at the price of \$1,397. The contract for abutments has been given to Mr. W. J. Hill, \$7.25 per cubic yard.

BUSINESS NOTES.

Z. Riopelle & Co. will carry on business as mason contractors in Montreal.

Beaudoin & Drolet has formed a partnership in Montreal as contractors.

F. F. Ferland & Co., contractors, Montreal, have assigned at the demand of Pierre Catelli, with liabilities of about \$15,000.

The Legal and Commercial Exchange report the following items: Duquette & Beaulieu, painters, Montreal have dissolved.—The stock of P. Hetu, plumbers, Montreal, is advertised for sale.—J. H. Larkin, builder, Hamilton, has assigned to F. H. Lamb.—N. O. Rocher & Co., painters, Montreal, have dissolved.—Lebrun & Bourgouin have formed as partnership as joiners and contractors in Montreal.

Everyone knows that when the walls of a room are papered with a light paper it looks much more cheerful, but we hardly realize the great difference between dark and light papering. Dr. Sumpner has now measured it in a systematic way, and has come to the following results. Suppose the room is covered with black cloth, and requires 100 candles to give it a certain degree of light. If you take away the black cloth, and paper the room with dark-brown paper, 87 candles give the same amount of light. With blue paper 72 candles will do; with fresh yellow paint 60 candles give as much light, and with clean deal-board walls 50 candles are sufficient. But if the room be painted in white, 15 candles make it as light as 87 candles with the dark-brown surroundings. The conclusion is evident. Not only is it bad for the eyes to have a sudden contrast of dark and light, but it is also much more expensive to light 12 candles were two or three would be sufficient.

MUNICIPAL DEPARTMENT.

THE MANUFACTURE AND USE OF PAVING BRICK.*

(Continued.)

Iron in considerable quantities has a effect with silica, and to this extent cement together and gives it strength. It is in most valuable of constituents in this regard ever, and its presence is not essential to a class paving brick. Iron, when present, usually in the form of hydrous peroxide or oxide of a yellowish or bluish color. During the burning, the water of crystallisation is expelled and the iron takes the form of the red peroxide, giving its colour to the material in proportion to the amount present. Potash and soda fuse at a lower temperature than the other constituents of clay, and their presence in suitable quantities is desirable for the manufacture of vitrified paving brick.

The influence of physical condition is equally important to that of chemical character. Many of the clays from the older formations have been compressed and consolidated, and form slates and other hard argillaceous rocks; others less compact form the shales, while others exist in a plastic form. There is a marked difference in their adaptability for manufacturing use under these varying conditions, and the methods of manufacture must be largely determined by them.

If a clay is not found naturally in a plastic condition, it must be reduced to a finely divided state by mechanical means before it can be tempered and made into paving brick. While, as previously noted, the fusing of clay depends on its constituents to a great extent, yet its physical condition also modifies this quality largely. Coarse clay, even with considerable of the fluxing materials, will resist considerable heat. The more finely clay is ground the more easily it is vitrified, and the tougher, stronger and more impervious its produce becomes. Fineness in grain is an essential feature of the best paving clays.

The ingredients of the clay exist in various forms which effect the clay and its product. The uncombined silica may be more or less finely divided and its condition has its effects on the action of the fluxes. In clays derived from pathic or micaceous rocks, undecomposed spars and micas sometimes occur. Lim of being finely divided, may occur as pebbles, in which condition it will unite other ingredients only on its surface, the burning into caustic lime, disintegrating and crumbling the brick. In general, a clay does not readily melt and run, and yet one will fuse and vitrify but keep its shape, is essential to the manufacture of the best paving brick. Analysis and physical examination will point out the probability of the development of certain characteristics in the manufactured product, but, after all is done, the only thorough tests is the working of the clay by suitable methods and its proper burning.

The greatest diversity, both in the mechanical and chemical constitution of clays, renders the question of method of manufacture a difficult one, for the knowledge of the successful utilisation of one clay is not wholly applicable to another. All clays are improved by being loosely thrown up and exposed to the weather, and some clays are improved by thoroughly wetting and allowing them to lie for a day or more. The nearer homogeneous and fine grained a clay naturally occurs, the fewer processes necessary in handling it.

The soft mud process is used only to a very limited extent in the manufacture of paving brick. The dry press process of brick manufacture has not yet come widely into use for the manufacture of the paving brick, although certain clays might be worked by this method. What is known as the stiff mud process is the one usually adopted for the manufacture of paving brick and seems to be the best adapted for the present circumstances of its manufacture.

The clay, if indurated, is first reduced to a powder, usually by means of the granulator or dry pan, and then thoroughly tempered in a suitable pug mill before passing to the brick machine. As a rule the longer and more thoroughly the clay is worked or tempered, the more uniform and better will be the resulting product. The auger machine has given the best satisfaction in the manufacture of stiff mud brick, and the machine-makers of the United States have adopted this type of machine almost universally. On leaving the machine, the brick manufactured by this process are dry enough to handle, and they are placed on trucks or cars and conveyed at once to the dryhouse. Some makers re-press their brick before drying, but it is not common practice at present, although many factories furnish both common and re-pressed paving brick. Several systems of drying are in successful use among the paving brick manufacturers.—(1) By a hot floor, which may be produced by furnaces or steam pipes under the floor over which the brick are hacked to dry. (2) By slatted floors under which are steam piping, and over which the brick are hacked to dry. Sometimes a modification of this method is used in which the dryhouse has racks from floor to ceiling, on which the brick are placed for drying. (3) A system of flues or tunnels into which the brick are run on cars, which will hold about 500 brick each. These tunnels are heated by means of furnaces or steam pipes. The third method in one of its var-

MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

ious forms seems best adapted for handling large quantities of brick can usually be dried in from one to five days if dried in five to ten days if dried in ten to fifteen days. Outdoor drying is a certain for practical use in the drying of bricks. Clays vary in their plasticity with which they may be dried. Some clays must be dried with great care and often very slowly, otherwise they warp, while those with much silica will stand forced drying. Thorough drying greatly facilitates the burning of the brick.

(To be Continued.)

DEBENTURES WANTED.

Municipalities issuing debentures, no matter for what purpose, will find a ready purchaser by applying to **A. STIMSON, 9 Toronto Street, Toronto.**—Money to loan at lowest rates on first mortgage.

Established 1841.

THOROLD CEMENT

MANUFACTURED BY
ESTATE OF JOHN BATTLE,
Thorold, Ontario.

GRAND TRUNK RAILWAY CO. OF CANADA.
CHIEF ENGINEER'S OFFICE.
HAMILTON, ONT., Oct. 17, 1893.

REPRESENTATIVES OF THE
ESTATE OF JOHN BATTLE,
THOROLD, ONT.

In reply to yours of September 27, 1893, we are pleased to inform you that the cement manufactured at the Thorold, Ontario, we have Division of the Grand Trunk Railway Co. for several years, and have found it to be most truly,
JOSEPH HOBSON,
Chief Engineer.

WILLIS CHIPMAN, B. A. Sc.,

M. Can. Soc. C. E.; M. Am. Soc. C. E.;
M. Am. W. W. Ass'n.
CIVIL AND SANITARY ENGINEER
Water Works - Sewerage
Sewage Disposal
103 BAY STREET - TORONTO.

J. McDougall, C. E.,
ENGINEER COUNTY OF YORK,
Consulting Engineer for Municipal Work.

Electric Railways and Bridges.
COURT HOUSE, - TORONTO.

JOHN GALT

C. E. AND M. E., M. CAN. SOC. C. E.,
Consulting Engineer.

20 Years' Practical Experience in England, United States and Canada in Civil, Sanitary, Hydraulic, and Mechanical Engineering.
SPECIALTIES:
WATERWORKS, SEWERAGE, ELECTRIC RAILWAYS.
Office: Rooms 99 and 100,
CANADA LIFE BUILDING, - TORONTO.

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SANITARY EARTHENWARE
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Paving and Scoria Bricks for Stables, Sidewalks, Yards, etc.
Large quantities on hand and to arrive. We handle only the best quality. Prices lower than ever.

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31 Wellington Street, - MONTREAL,
Sole Agents for
THE "GRANTRYX" SMOKE TEST AND DISINFECTING MACHINE.

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MONTREAL
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MANUFACTURERS OF

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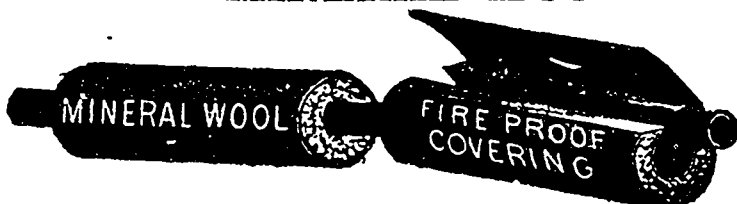
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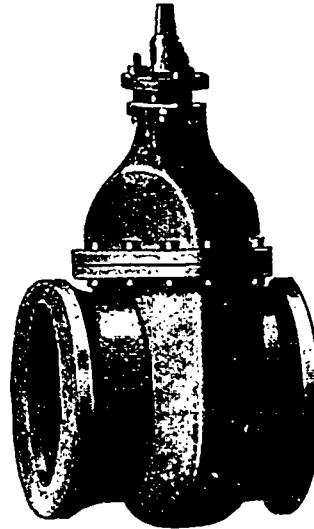
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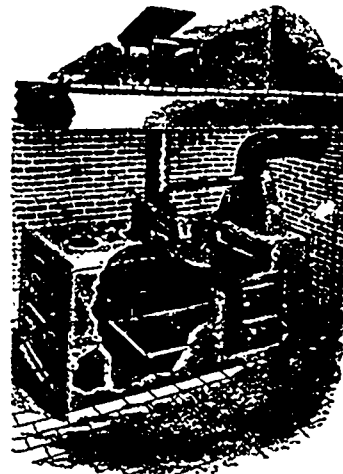
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