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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF CONTRACTS

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.

SEPTEMBER 14, 1893

No. 30

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

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CONFEDERATION LIFE BUILDING, TORONTO.
Telephone 2362.
64 Temple Building - Montreal.
Bell Telephone 2199.

ADVERTISING RATES ON APPLICATION.

At its convention held in Toronto, Nov. 20 and 21, 1889, 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. 20th and 21st, 1890: "Moved by M. Ferrault, 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."

TENDERS

Will be received by the undersigned at his office, No. 53 King Street East, Toronto, until MONDAY, SEPTEMBER 25TH, for the erection of a Stone and Brick Residence and Stable on Spencer avenue, Parkdale. The lowest or any tender not necessarily accepted.

S. H. TOWNSEND, Architect.

Drawings and specifications may be seen at the above office on and after Monday, 16th inst.



Notice to Contractors.

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on THURSDAY, SEPT. 21ST, 1893, for the construction of Brick Pavements on Concrete Foundation, upon the following track allowances, viz:

College street, from Bathurst street to Clinton street.
College street, from Clinton street to Concord avenue.
College street, from Concord avenue to Dufferin street.

Specifications may be seen and forms of tender obtained on and after Saturday, September 16th, 1893, at the office of the City Engineer.

A deposit in the form of a marked check, 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 2 1/2 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, Sept. 12, 1893.

TORONTO PUBLIC LIBRARY

TO PAINTERS AND DECORATORS

Tenders will be received up to 12 o'clock at noon on WEDNESDAY, THE 20TH INSTANT, for Painting and Paper Hanging at the four Branches. Particulars and forms for tenders may be obtained at the Secretary's Office, Public Library, corner of Church and Adelaide streets.

JOHN DAVY, Secretary. **MILES VOKES,** Chairman of Building Committee.



Notice to Contractors

Tenders will be received by registered post, addressed to the City Engineer, Toronto, up to 11 o'clock a.m. on WEDNESDAY, SEPTEMBER 20TH, 1893, for the construction of the following works:

PAVEMENTS ON TRACK ALLOWANCES.

Church street, from Queen street to Bloor street, stone sets on concrete.

Bloor street, from Yonge street to Spadina avenue, stone sets on concrete.

Bathurst street, from Queen street to Bloor street, brick on concrete.

Bathurst street, from Bloor street to the C. P. Railway, stone sets on concrete.

Plans and specifications may be seen and forms of tender obtained on and after Wednesday, 13th September, 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 2 1/2 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, Sept. 5th, 1893.

Notice to Contractors

CANADIAN CONTRACTORS' HAND-BOOK

A new and thoroughly revised edition of the *Canadian Contractors' Hand-Book*, consisting of 150 pages of the most carefully selected material, is now ready, and will be sent post-paid to any address in Canada on receipt of price. This book should be in the hands of every architect, builder and contractor who desires to have readily accessible and properly authenticated information on a wide variety of subjects adapted to his daily requirements.

Price, \$1.50; to subscribers of the CANADIAN ARCHITECT AND BUILDER, \$1.00. Address

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Confederation Life Building, TORONTO.
Montreal Office:
64 Temple Building.

CONTRACTS OPEN.

STRATFORD, ONT.—Mr. Blatchford, of Clinton, is considering the establishment of an organ factory in this town.

KALSO, B. C.—The Methodist and Church of England congregations are preparing to build new churches.

PAPINEAUVILLE, ONT.—Archbishop Duhamel is endeavoring to secure the erection of a new Roman Catholic church.

NORWICH, ONT.—The sum of \$10,000 has been subscribed towards forming a joint stock company to rebuild the flour mills.

BRANTFORD, ONT.—The Brantford Electric Power Co. intend to construct a dam on the Grand River below their present dam.

BEETON, ONT.—A by-law was carried by the ratepayers on Saturday last authorizing the construction of a system of waterworks.

WARSAW, ONT.—J. A. Couch, M. D., will receive tenders until to-morrow (Friday), for the erection of a Methodist church in this village.

AYLMER, QUE.—Mr. H. H. Labelle will receive tenders until the 15th inst. for heating the Catholic church and presbytery with hot-air, steam or hot-water.

EGANVILLE, ONT.—At a recent public meeting Messrs. McCann, Mills and Gorman were appointed a committee to select a suitable site for a new town hall.

HINTONBURGH, ONT.—Mr. F. W. Harmer, Municipal Clerk, will receive tenders until Thursday, the 21st inst., for the construction of a bridge over Blair's Creek.

NAPANEE, ONT.—A by-law has been introduced in Council providing for the issue of debentures to the amount of \$10,000 for the purpose of constructing sewers.

CHATHAM, ONT.—The Town Council has decided to call for new tenders for the construction of the Queen street drain. This work is estimated to cost about \$5,000.

TILBURY CENTRE, ONT.—The ratepayers will vote on a by-law on the 2nd of October authorizing the Council to raise the sum of \$1,800 for purchasing an electric light plant.

QUEBEC, QUE.—The Government is about to build an extension to the post-office in this city.—An American company is looking for a site on which to erect a large tannery.

HALIFAX, N. S.—Tenders are invited by W. B. McNutt, Clerk of works, until Monday, the 18th inst., for lighting the streets of the city for three years with arc and incandescent lights.

HULL, QUE.—The question of building a bridge across the Gatineau river near Wakefield will be discussed at a meeting of the Ottawa County Council to be held during the present week.

DARTMOUTH, N. S.—A local company has made a proposition to the Town

Council to build a branch railway from this place to Windsor Junction. Mr. Ross, C. E., is advancing the claims of the company.

WELLAND, ONT.—Tenders will be received until Saturday next by M. B. Barnhard, Chairman Road and Bridge Committee, for building the White Pigeon bridge.—By-laws have been read in Council authorizing the construction of a number of sewers.

KINGSTON, ONT.—The question of purchasing a new engine for the pumping station is being discussed by the Waterworks Committee of the City Council.—Col. Anderson, chief engineer of the Department of Marine, recently made surveys for the erection of a fog horn at Five Mile Point.

RICHMOND, QUE.—Messrs Green shields and Boas, who own the water-power of the Yamaska river around St. Hyacinthe, have a project on foot to connect that river with the Richelieu by means of a canal ten miles in length. The enterprise is in connection with the Drummond County railway. Mr. Henry C. Cleveland is the engineer.

PORT ARTHUR, ONT.—Mr. Wm. Kennedy, who was engaged to examine the water power of the Current river with a view to its improvement and utilization for electric railway, electric lighting and other purposes, has recommended the building of a new power house suitable for steam or water power, at a cost of \$3,500, the laying of 770 lineal feet of steel pipe, 4 ft. 8 in diameter x 1/2 in. plate, cost \$7,007, and the purchase of the necessary water wheels, pulleys, etc.

WINNIPEG, MAN.—The City Council has given notice of its intention to construct a sewer on Seventeenth avenue, from Sixth street north to Tenth street north, and on Tenth street north, from Seventeenth avenue north to Fifteenth avenue north, at an estimated cost of \$16,000.—The Winnipeg Water works Company has secured the services of Mr. Howells, water works engineer, of Chicago to make an examination of the system, and report as to the best means of improving the works.

MONTREAL, QUE.—The municipality of Maisonneuve is endeavoring to secure the erection of the proposed new works of the Empire Tobacco Company.—The Road Committee has decided to lay new sidewalks on University, Bleury McCord and Murray streets.—The by-law authorizing the municipality of Cote St Antoine to borrow the sum of \$250,000 for streets, drains, town hall and other general improvements will be voted on by the ratepayers on the 15th and 16th instants.

HAMILTON, ONT.—Building permits have been granted as follows; John G. Hahnen, two-story brick house on Augusta street, between John and Catherine streets, cost \$3,400; Robert Buscard, alterations and additions to 14 Bay street north, cost \$1,000; Thomas Lester, two three-story brick stores, corner of Walnut and King streets, cost \$6,000; J. Wallace

& Son, one three-story brick store on King street, between Walnut and Catharine streets, cost \$2,400.—Wm. Stuart & Son, architects, invite tenders until the 18th inst. for the erection of a house on Bay street north.

LONDON, ONT.—The City Engineer has issued the following building permits: C. W. Austin, brick residence on Waterloo street, cost \$1,900; W. Fairburn, brick veneer cottage on Horton street, cost \$1,000, R. Angus, brick veneer residence on Princess avenue, cost \$1,000.—Mr. Keefe, C. E., of Toronto, has presented his report to council on the water-works system. It recommends the placing of additional steam and hydraulic pumps with a capacity of 6,000,000 gallons, and the laying of a new supply main, at a cost of \$68,000.

TORONTO, ONT.—A deputation composed of Mr. Booth of the Ottawa and Arnprior Railway; Mr. W. C. Caldwell, M. P. P. for North Lanark; Mr. J. P. Whitney, M. P. P. for Dundas, and others, recently waited upon Hon. A. S. Hardy, Commissioner of Crown Lands, asking that the Ottawa and Arnprior Railway Company be permitted to build a mill upon the corner of the Algonquin National Park, through which its line passes.—Mayor Dagg and Mr. R. B. Cumming, of Selkirk, Man., are at present in the city for the purpose of floating a scheme to build an electric railway between Selkirk and Manitoba, a distance of twenty miles.—Building permits have been granted as follows: Reinhardt Brewery Co., brick addition to brewery on Mark street, cost \$10,000; Trustees Parkdale Society New Jerusalem, one story and basement church, corner Elm Grove and Melbourne ave., cost \$2,000.

OTTAWA, ONT.—It is said to be in contemplation to build crib work along both sides of the deep cut on the Rideau canal in this city during the coming winter.—The City Council is considering the question of doing its own lighting, and the fire and light committee has recommended that an expert be appointed to ascertain what available water power could be secured.—The medical faculty held a meeting last week to discuss the plans prepared for the proposed contagious disease hospital. It was decided to have new plans prepared for a cottage hospital, having a small building for each type of contagious disease.—Mr. J. H. Balderson, Secretary Department of Railways and Canals, invites tenders until Thursday, the 28th inst., for the construction of a steel bridge, composed of 1 swing span of 250 feet and a fixed span of 75 feet, over the Sault Ste. Marie canal. Plans may be seen only at the office of the Chief Engineer of Railways and Canals in this city.—Mr. E. J. Chamberlain has purchased four lots at the corner of Metcalfe and Ann streets and will erect a new brick house, to cost \$10,000. Mr. Tomlinson will prepare the plans.—J. H. Balderson, Secretary Department of Railways and Canals, invites new tenders until the 28th inst. for constructing and setting in place of five pairs of lock gates at the Sault Ste. Marie canal.—Plans are now being prepared for a new club house at Rockcliffe for the Ottawa Canoe club.

FIRES.

A planing mill at Westport, Ont., owned by W. B. Derbyshire, was destroyed by fire on Sunday morning last. Loss, \$2,500; insurance \$1,500.—P. Devine's hardware store on Main street, Renfrew, Ont., was badly gutted by fire on the 11th inst. Loss, \$15,000; partially insured.—The flour mill, elevator and engine house of the Bell farm at Indian Head, N. W. T., was destroyed by fire last week. Loss \$25,000.—A. C. Gordon's sash and door factory, Dutton, Ont., was burned to the ground recently. Loss, \$5,000; insurance \$1,000.—Mount St. Louis College on Sherbrooke street, Montreal, was damaged by fire on Sunday last. Loss, between \$50,000 and \$40,000.—Mr. Thomas Garside's residence on Briscoe street, London, was burned last week.—

Mr. W. Govenerek's elevator and engine house at Griswold, Man., was destroyed by fire on Sunday last.—The residence of R. Wiggins, at Rat Portage, Ont., was burned last week.

CONTRACTS AWARDED.

SARNIA, ONT.—The contract for building the new Caughell bridge in Elgin County has been awarded to Mr. Laing Anderson, at the price of \$1,240.

CUELPH, ONT. The contract for tearing down the old buildings and preparing the foundations for the proposed new opera house has been awarded to Messrs. D. Kennedy & Son. The contract for the building proper will be awarded as soon as the plans are approved of.

WINNIPEG, MAN.—The City Council has accepted the tender of Kelly Bros. & Co. for the construction of a sewer on Logan street, from Ninth street to Knox street, at the price of \$26,652.50, and that of Dobson & Jackson for a sewer on Broadway street and Broadway place, at \$3,979.

MONTREAL, QUE.—The Road Committee of the City Council has awarded the following contracts for the construction of sewers: On Bourgeois, Rochelle and St. Etienne streets, to Mr. Murray, Richmond street and St. Michael's lane, to Mr. McDonald; Peel street to Messrs. Sheridan & Hefferman.

PORT ELGIN, ONT.—G. A. Allan, architect, of Brockville, has awarded the contract for seating the new Methodist church being erected here to Messrs. Pennington & Baker, of Dundas, Ont.—The plumbing for J. R. Dargavel's residence has been secured by Barsalou & Whitehill.

TORONTO, ONT.—The following contracts have been awarded by the Board of Works: Construction of the western jetty at Ashbridges Bay to Robert Grant, at \$15,000; asphalt pavement on Linden street, from Sherbourne to Huntley street Constructing and Paving Co., \$15,000; cedar block pavement on Mansfield avenue, from Bellwoods avenue to Grace street, H. M. Cathro, \$497.

BROCKVILLE, ONT.—G. A. Allan, architect, has awarded the following contracts recently: alterations to Weatherhead block, masonry and brickwork, A. Hagerty; other trades, C. Simpson; dwelling on Sherwood street for James Dnnham, all trades, A. Hagerty; brick addition to Cossit Bros. foundry, stone and brickwork, A. Price; other work being done by day labor, under the superintendence of J. Vandusen.

BIDS.

MONTREAL, QUE.—Seven tenders have been received for the construction of three incinerators, which have been handed to the sanitary engineer for a report.

OTTAWA, ONT.—The contract for ten miles of the Ottawa and Parry Sound Railway from Indian Point, Golden Lake to Killaloe, will be awarded this week. Seven tenders have been sent in.

BUSINESS NOTES.

Messrs. A. R. McKinlay & Co., window shade manufacturers, Toronto, have assigned to E. R. C. Clarkson. The assets are estimated at \$25,000, and liabilities about the same amount.

Incorporation has been granted to "The William Clendinning & Son Company, Limited," of Montreal, for the purpose of manufacturing and dealing in pipes, fittings, castings, steam boilers, plumbers' supplies, etc.

Tile-faced concrete walls are described in a late issue of *Indian Engineering*. In this case the tiles are made L-shaped. Two rows of tiles are laid parallel to each other and the thickness of the wall apart, and the space between, to the tops of the tiles, is filled with concrete. Another row of tiles is laid on each side and the filling repeated, until the wall is high enough. With superior tiles a good, strong wall is the result, with a smooth tile surface.

LEGAL DECISIONS.

IN RE SPEAR AND WOODS.—The words used in the Mechanics' Lien Act, "the price to be paid to the contractor," and other like expressions in the same section, all mean the original contract price, and not that part of the contract price to the extent of which the contractor has done work or supplied materials. And where the owner has in good faith and without notice of any lien, paid the contractor the full value of the work done and materials furnished, and the value thereof does not exceed eighty-seven and a half per cent. of the contract price, and the contractor has abandoned his contract and no money is payable to him in respect thereof, no lien can exist or be enforced against the owner in favor of any one. Wage-earners are not entitled to twelve and one-half per cent. of the contract price if it never becomes payable by the owner to the contractor; giving priority to the lien of the wage-earners is not equivalent to enact that the owner shall pay the percentage whether the contract price ever becomes payable or not. Persons who have registered liens, but have taken no proceedings to realize them, cannot have the benefit of proceedings taken by other persons to enforce liens against the same lands where the liens of such other persons are declared not to be enforceable. Judgment of Court of Queen's Bench.

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MUNICIPAL DEPARTMENT.

METHOD OF SOLIDIFYING QUICKSAND.

A new method of dealing with quicksand, so as to make it possible to form a firm floor on it and to sink a shaft through it has been invented by Mr. Robert L. Harris, of New York. It is a very ingenious process and has great promise. It has been applied in the construction of a sewer through the quicksand surrounding Providence, R. I., and great satisfaction has been expressed with the results.

Mr. Harris' method depends on the great permeability of confined quicksand to water and other liquids. If two pipes are forced down vertically into a stream of quicksand, at a reasonable distance from each other, and water is forced down one of them, it will find its way along the line of least resistance until it ultimately reaches the bottom of the other pipe. The current thus formed gradually carries the sand up the second pipe until eventually there is a chamber in the earth full of water instead of quicksand. The walls of this chamber, of course, are prevented from falling in on account of the hydrostatic pressure. Mr. Harris' idea is to force a cement down the first pipe after the chamber has been thus formed, and when it has filled the chamber to exert hydraulic pressure on the body of cement, and so force the cement in the chamber into the surrounding earth. In this way a hard cement is made to take the place of quicksand. If the quicksand consists of materials that could be used as a constituent of a hydraulic mortar then it would not be necessary to take it out by the water current, and the process would consist in forcing in a cementing fluid which would combine with the sand and form a solid precipitate. The proper fluid to force in depends, therefore, entirely on the character of the material of the quicksand. If it is approximately a pure sand, the best fluid would be a pure cement grout, but if the material is muddy, a proportion of sand or plaster of paris would also have to be forced in. It will be seen that by variations and extensions of this principle, solid-wall shafts can be sunk through quicksands, floors may be formed for trenches through them, foundations for buildings can be made, and in other ways the bughbear of a quicksand can be successfully combated.

This method was put in practice for the first time in March last at Providence, R. I., for the purpose of obtaining a floor for the main out-fall sewer pipes that went through the quicksands surrounding the town. This quicksand, when dry, consisted of an impalpable power. When saturated with water it is very hard and compact until disturbed. Under the pressure of a thin layer of superimposed earth it becomes apparently solid. When agitated, however, it runs like mush and is almost irresistible. All sorts of methods of excavation had been tried, but all were unsuccessful, and an excellent opportunity thus offered itself to Mr. Harris for the demonstration of the correctness of his theory. The experiment was carried out at the bottom of an excavation, just where the quicksand was reached. Four two-inch pipes were driven into the quicksand four feet apart to the distance of 17 feet below the excavated surface, or one foot below the grade of the proposed sewer. After a circulation of water had been obtained from pipe to pipe, thinner pipes were inserted in the two-inch pipes, and through them the cementing material was forced. After three weeks' time the excavations for the sewer reached this point, and it was found that the quicksand had been made solid for some distance round the lower ends of the pipes, and a solid floor had thus been made for the sewer excavation. The rock, which has been formed, showed the lines of flow of the cement, and pieces taken out of the cutting presented a streaked appearance as shown.

Mr. Otis F. Clapp, assistant city engineer of Providence, R. I., in charge of the sewer department, thus indorses the process: "At the second attempt of the first experiment in April, 1891, Mr. Harris obtained channels, as desired, at 25 feet below the surface of the ground, between pipes driven at four, ten and 14 foot distances. At a trial of the method, as a whole, made under adverse circumstances in the middle of March, 1892, in quicksand and fine sand, there was found upon excavation for construction in April that he had cemented the natural material at ten feet below the surface into fair artificial stone three to six inches thick with horizontal strata, and at a depth of 17 feet, the original bottom of four pipes, there was a thin, hard continuous floor of cemented material embracing practically the area between the pipes driven; the above was done without further disturbance of the surface of the ground than that required by the introduction of four two-inch pipes placed four feet apart in diamond shape. He has demonstrated to my satisfaction that by his method, strong floors, inclosures, monoliths, etc., can be readily formed in and of the fine earthy materials, where and as he wishes underground and below water level, without serious disturbance of the surface.—*Engineering and Mining Journal*."

IMPROVEMENTS IN SEWER PIPES.

After numerous and somewhat costly experiments, a French clayworker, Mons. Laffont, has, we are informed, succeeded in producing pipes of various diameters which are quite impervious to water, and are therefore eminently suitable for sanitary purposes. They do not require any glazing, since they are of a semi-crystalline character throughout their entire mass, therefore a considerable profit is saved to the manufacturer. The pipes are made from a mixture of fire clay, mixed with some fusible clay (not marl) and a certain proportion of sand, ground slate or pulverized rock, such as syenite, basalt, obsidian, etc. The proportions are determined by preliminary experiments with the material chosen. The raw materials are finely powdered, moistened and intimately mixed; the product is then ready for being moulded into pipes, brick, slate, etc., in the usual manner. The goods are dried and heated gradually, to a temperature of 1,400° centigrade, with the result that the mass fuses slightly and becomes semi-crystalline throughout; in short, it corresponds in appearance and structure with natural igneous rock.

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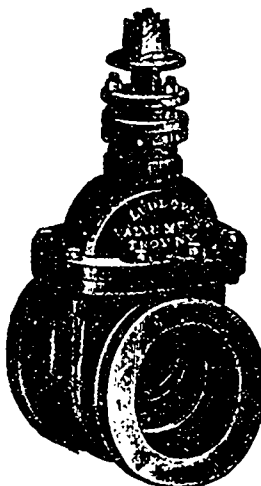
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MANUFACTURERS OF

CAST IRON WATER AND GAS PIPES

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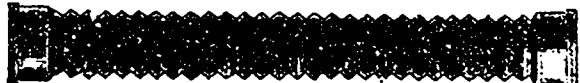
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Cast Iron Pipes and Special Castings

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This improvement marks an era in sanitary reform. Universal certificates in its favor from Architects, plumbing inspectors, master plumber associations, and others. Costs no more; more economical to use.

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To Municipal Corporations and Contractors:

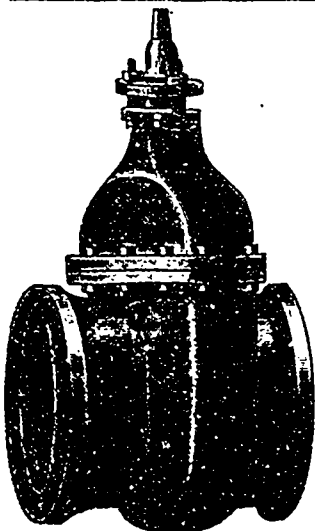
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Tools for tapping mains under pressure and Service Brass Work of all descriptions.



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Viaducts, Piers, Roofs, Turntables and Girders in Steel and Iron. Tension members forged without welds. Riveting done by hydraulic or compressed air machines. Specialties: Good workmanship and strict adherence to specifications and drawings. CAPACITY: 2,000 TONS PER ANNUM.

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Prices of Building Materials.

Table with columns for LUMBER (CAR OR CARGO LOTS) and YARD QUOTATIONS. Lists prices for various types of lumber, including mill cut boards, shipping cut boards, and various sizes of shingles and lath.

Toronto. Montreal.

Large table of construction materials prices for Toronto and Montreal. Columns include material names and prices per unit. Categories include planks, shingles, brick, lime, cement, and various hardware items.

Toronto. Montreal.

Table of construction materials prices for Toronto and Montreal. Columns include material names and prices per unit. Categories include black lamp, oil, putty, Paris white, litharge, cement, lime, and hardware.

Toronto. Montreal.

Table of construction materials prices for Toronto and Montreal. Columns include material names and prices per unit. Categories include cold cut, pink blue nails, finishing nails, common barrel nails, and structural iron.

INDEX TO ADVERTISEMENTS In the "Canadian Architect and Builder."

Index to advertisements listing various categories such as Architects, Church and School Furniture, Grates and Tiles, Pipe Covering, Roofing Materials, Roofers, Sanitary Appliances, Sliding Blinds, Stained and Decorative Glass, Terra Cotta, Wall Paper and Ceiling Decorations, Wire Manufacturers, and Wall Plaster.