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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF
PUBLIC WORKS • TENDERS • ADVANCE INFORMATION • AND MUNICIPAL PROGRESS

EVERY SATURDAY

Vol. 3. Toronto and Montreal, Canada, September 17, 1892. No. 32

THE CANADIAN CONTRACT RECORD,
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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, 1890, 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 Mr. 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 eleven o'clock a.m. on TUESDAY, SEPT. 20th, 1892, for the following work:

GEDAR BLOCK PAVEMENT
On Shaw street, from College street to Bloor street.

On lane first east from Simcoe street and south of Pearl street.

STONE SIDEWALK
On Victoria street, both sides, from King street. Specifications and forms of tender may be obtained on and after Sept. 13th 1892, 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 \$1000, 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.

JOHN SHAW,
Chairman of Committee on Works.
Committee Room, Toronto, Sept. 6th, 1892.

TENDERS

Will be received until SEPTEMBER 27TH, for the erection of a FRAME HOUSE in North Toronto.

CHAS. GIBSON, Architect.
93 Adelaide St. East, Toronto.

TO BUILDERS.

Sealed tenders will be received until the 27th inst. for the several works required in the erection of PRESBYTERIAN CHURCH, London, Ont., of pressed brick and Ohio stone dressings.

Plans may be seen at offices of McBride & Jones, Architects, 215 Dundas street, London, or Smith & Gemmill, Bank of Commerce, Toronto.

The lowest or any tender will not of necessity be accepted.

Notice to Plumbers and Builders.

The time for delivering tenders for the purchase of the Stock in Trade of W. H. Hewlett & Co., Insolvents, of 419 College Street, Toronto, Plumbers, was extended until the 20TH OF SEPTEMBER INSTANT, and all tenders must be in not later than that date.

Dated the 12th day of September, 1892.
GEO. H. D. LEE, Assignee,
18 and 20 King St. West.

TENDERS

Will be received by the undersigned, for the corporation of the township of York, for Grading and Macadamizing, &c., MacKenzie Avenue, from Davenport Road southerly to the C. P. railway. MacKenzie Avenue is a short distance east of Davenport station.

Plans, specifications, &c., can be seen at the office of the undersigned, and tenders will be received up to 5 o'clock p.m. on Saturday, the 1st day of October, 1892. The lowest or any tender not necessarily accepted.

PETER S. GIBSON, C. E.,
York Tp. Engineer.
Willowdale, 16th Sept., 1892.

Electric and Gas Fixtures.

Sealed tenders addressed to the undersigned and marked "Tenders for Fixtures," will be received until TUESDAY, THE 27TH INST., for the supply of Combination Gas and Electric Fixtures for the New Court House at Woodstock.

Specifications and conditions may be seen and all information obtained from the Architects, Messrs. Cuthbertson & Fowler, at their office in Woodstock, or they may be had on application by mail from the undersigned.

JAMES WHITE,
County Clerk.
Woodstock, 7th Sept., 1892.

Steam Heating.

Sealed tenders addressed to the undersigned and marked "Tenders for Steam Heating," will be received until

Tuesday, the 20th September next, for heating the County of Oxford House of Refuge, in accordance with plans and specifications prepared for the purpose by the Architects, Messrs. Cuthbertson & Fowler.

Plans, specifications and conditions may be seen and all information obtained from the Architects at their office in Woodstock.

JAMES WHITE,
County Clerk.
Woodstock, Aug. 27th, 1892.

CONTRACTS OPEN.

HALIFAX, N. S.—The City Treasurer will receive tenders until the 21st inst. for a loan of \$10,000.

MINNEBOSA, MAN.—The Royal Templars have decided to erect a temperance hotel on Main street, to cost \$5,000.

HESPELKE, ONT.—The Church of England congregation contemplate the erection of a new church next summer, to cost \$2,000.

WINDSOR, ONT.—Mr. Willis Chipman, C. E., of Toronto, has been engaged by the water Commissioners to improve the water supply.

VANCOUVER B. C.—A charter has been applied for to build a railway from Nelson to some point near the mouth of the Lardoux river.

PICTON, ONT.—Tenders will be received until October 1st for rebuilding the Methodist church. Plans at office of Mills & Mills, bankers, Clarence street, Kingston.

ST. JOHN, N. B.—As a result of recent inspection the Government has been requested to have the hospital buildings on Partridge island repaired.

CORNWALL, ONT.—After a recent inspection the Minister of Railways and Canals is said to favor the proposed plan of building a dam at the head of Sheik's island.

PEMBROKE, ONT.—The by-law to raise the sum of \$55,000 for the construction of a system of waterworks was carried by the ratepayers on Friday of last week.

WOODSTOCK, ONT.—A by-law has passed its third reading in council to raise the sum of \$10,000 for a new fire hall, electric alarm, fire hose, and other necessities to improve the fire system. The ratepayers will vote on the question at an early date.

LONDON, ONT.—Engineer Newman has submitted plans for draining Pelee Island. The cost is estimated at \$22,500.—The City Engineer has been instructed to prepare plans and specifications for heating and ventilation, Princess avenue school with hot air.

PERTH, ONT.—The Roman Catholic congregation purpose erecting a convent on their property adjoining the church. The new building will cost about \$14,000.—At the last meeting of the Town Council a committee was appointed to look into the advisability of establishing a system of waterworks.

AMHERSTBURG, ONT.—At a meeting of citizens held last week, it was decided to give the Sandwich, Windsor & Amherstburg Electric Railway Company a bonus of \$25,000 if they will extend the line to this place; also to give the Michigan Central Railroad \$5,000 if they will extend their road down town and build a depot.

KINGSTON, ONT.—The Board of Health has passed a resolution recommending the extension of the waterworks suction pipe.—Mr. Newlands, architect will receive tenders until Tuesday, the 20th inst., for the erection of a brick and stone residence on the corner of King and Simcoe streets for Mr. James Swift.—A syndicate is being formed in the west with a capital of \$150,000 to build a summer hotel here.—Arthur Ellis, architect, will receive tenders until Thursday, the 22nd

inst., for additions and alterations to a residence on West street for Mr. J. A. Hendry.

WINNIPEG, MAN.—It is currently reported here that the Great Northern Railway will next year build a line of railway from Dakota to Brandon and another from Neche, Dakota, to this city.—Mr. Hanby has purchased a lot on Young street on which he will build in the spring.—The Young Men's Liberal Club are forming themselves into a joint stock company. It is proposed to erect a building suitable for their purposes.—The construction department of the Great Northern Railway is about to undertake the boring of a tunnel through the Cascade Mountains. The tunnel will be two miles in length and will take about two years to complete.

HAMILTON, ONT.—Building permits have been granted as follows: George E. Luckett, alteration to store on King street, between Bay and Park streets, cost \$12,200; Robt. Lord, two-story bk. house on Gore street, between John and Catharine streets, cost \$900; Benjamin Lewis, two-story bk. house on Gore street, between John and Catharine streets, \$900; W. J. McFadden, two two-story bk. dwellings on James street, corner of Wo d street, cost \$1,500.—T. Beasley, City Clerk will receive tenders until Monday, the 19th inst., for heating the Maternity Hospital with hot water.—The City Clerk invites tenders for the construction of pipe sewers on Chatham street and Ferguson avenue.

OTTAWA, ONT.—The Department of Railways and Canals is about to issue a call for tenders for steel rails. Eight hundred tons are to be delivered on Prince Edward island for the Government railway there, and 3,300 are for use on the Intercolonial. The tenders are to be sent to either Mr. Haggart or St. Charles Tupper.—The City Engineer has presented to Council the following estimate of proposed waterworks extensions: Spruce street, \$1,352; Preston \$7,718; Concession, \$1,042; Pine #87; Centre, \$930; Chapel, \$2,271; Isabella \$1,000; Foyence, \$770, and twelve services from the main, \$72.—E. F. E. Roy Secretary Department of Public Works, will receive tenders until Wednesday, the 23rd inst., for heating the hospital at Fort Osborne, Man. Specifications at above office, in this city, and at office of D. Smith, Post Office building Winnipeg, Man.

MONTREAL, QUE.—Mr. L. H. Senechal, Secretary-Treasurer of the Montreal Turnpike Trust, will receive tenders at their office, 18 St. James street, until the 26th inst., for the delivery along the roads of the Trust of about 850 tons of stone.—A deputation from St. Brigid's parish recently waited on the Catholic School Commissioners to urge the erection of a new school. The matter was referred to the Building Committee.—The St. Cunegonde Council has decided to proceed with the erection of a crematory for the destruction of garbage. The cost is estimated at \$10,000.—The St. Heart Council has decided to construct drains on Maria and St. Margaret streets.—The Road Committee of the City Council has given notice of its intention to construct permanent pavements on the following streets: Ontario street, from St. Lawrence street to Bleury street; Laval avenue, from Sherbrooke street to Lenest street; Anna street, from St.

Denis street to Laval avenue; Ernest street, from St. Denis street to Laval avenue.

BRANTFORD, ONT.—The contracts for a new steel bridge across the river for the Toronto, Hamilton & Buffalo railway will probably be let next week.

TORONTO, ONT.—Mr. Alexander Manning is said to contemplate the erection of an opera house on the lot to the south of the present Grand opera house on Adelaide street. The cost will be in the neighborhood of \$200,000. It is said the architect will prepare the plans at once, and that building operations will commence in the spring, the theatre to be completed by 1st September, 1893.—A meeting of the Directors of the Toronto and Scarboro Electric Railway was held on Wednesday last, when it was decided to proceed with the construction of the road along Kingston road and through the centre of East Toronto village. The route will be finally decided on at a meeting to be held on 3rd October.—The excavating has been commenced for a new building to be erected for the congregation of St. Thomas Episcopal church. The site is on Huron street opposite Washington avenue. Mr. Eden Smith is the architect.—The following building permits have been granted: G. B. Smith, 454 Sherbourne st., alterations to residence, and two-story bk. stable in rear, cost \$3,500. Wm. Wood, 722 Dufferin st. three-story bk. store and dwelling, s.w. cor. College and Dufferin sts., cost \$3,000; Toronto Athletic Association, five-story bk. and stone club house, s. side College st., w. of Queen st. ave., cost \$80,000; Christie, Brown & Co., large five-story bk. add. to factory s. side Duke st., cost \$45,000. Alex. Manning, 3 story bk. add. to warehouses, s. side Front st., e. of Church st., cost \$6,900. John Bruce, alterations to houses, 29 and 41 Sussex ave., cost \$1,200.

FIRES.

The Grand Central hotel at Ridgeway, Ont., owned by Mr. William Baby, was completely destroyed by fire on Tuesday last. Loss \$18,000. Insurance, \$10,000.—The Lotbiniere hotel at Verdun station, Que., was totally destroyed by fire on the 10th inst. The loss is estimated at \$5,000, on which there is an insurance of \$219,000.—Miller Bros., planing mill at St. John, N. B., together with several dwelling houses adjoining, were burned on Saturday of last week. No insurance.—Buildings were destroyed by fire in the village of H. Jeyville, Que., last week.—Dr. Caudier's residence at Merrickville, Ont., was burned to the ground a few days ago.—The mills of the Parkin Lumber Company at Lindsay, Ont., including dry kilns, storage sheds and electric light plant, were totally destroyed by fire on Monday last. Loss \$27,500 insurance \$13,000.—The hotel at Montreal was damaged by fire to the extent of \$10,000 on the 12th inst.—The residence of Wm. Gauer of Minden, Ont., was destroyed by fire on Thursday last. Loss, \$1,400.—F. H. Terry's dwelling house at Ingersoll, Ont., was burned recently.

CONTRACTS AWARDED.

WINNIPEG, MAN.—Mr. McDermid is the successful contractor for the new barracks to be erected here.

BRANTFORD, ONT.—Messrs. Jones & Co., of Toronto, have been awarded the contract for the erection of the power house for the electric street railway.

VANCOUVER, B. C.—Messrs. William Rennie and D. K. Campbell have been awarded the contract for building the Government bridge across the Squamish River.

PERTH, ONT.—Messrs. Gemmill & Co., to whom the town granted a bonus of \$12,000 for their woollen factory, have awarded the contract for the erection of their building to Matthew Ryan, of Smith's Falls.

OTTAWA, ONT.—Messrs. Garson & Begg, of St. Catharines, and A. Stewart, of Ottawa, are the two lowest tenderers for sections one and two of the Soulages Canal. It is understood that the contract will be awarded to Mr. Stewart, whose tender is \$960,000, the works to be constructed in concrete. The contract for section 13 will be given to Mr. Randolph Macdonald of Toronto.

TORONTO, ONT.—Messrs. Keith & Fitzsimons have been given the contract for gas and electric fixtures for Victoria College, Central Presbyterian Church, Jarvis Street Baptist Church and Public Library, Toronto.—At a meeting of the Board of Works held on Tuesday last, the following contracts were awarded: Charles Farquhar, cedar block paving Royce avenue, \$4,469; block paving Perth avenue, \$6,745; cedar and granite on Howard Park avenue, \$3,085; John Hartnett, O'Hara avenue, \$591; W. H. Cathro, Edmund street, \$2,177. Construction and Paving Company, Herrick street, \$1,640; Robert Forsyth, granolithic pavement on Queen street, north side, from Yonge to John, \$2.40 a running foot.

BRICK GABLES.

The gable has been made one of the strongest features of brick architecture, and has been treated in a variety of ways. The broken outline in which curves are united with straight lines, and pediments are combined with curvilinear copings, is essentially a type of gable developed from brick, for we see that in all brick countries the ornamental gable has been the pronounced feature in the architecture. In Belgium and Holland the forms that are found are, as all architects know, of the most varied description, from the plain stepped or cow's-foot design, to the most "rococo" form of curvilinear outline. The curves are sometimes seen reversed like the Louis Quatorze or Quinze period, and terminate in twists, scrolls, or points of the most elaborate design. In England the Elizabethan or Queen Anne buildings show a less profuse and wanton arrangement; the gables are generally made up of simple curves placed with their convex sides outwardly in one place and inwardly another, or of ogee curves terminated by a straight string with a pediment superimposed. Very little cutting is necessary in designs of this character; the bricks to the curved portions can be moulded or plain rectangular shape. The coping bricks may be perfectly plain, set up on a thin moulded course, projecting $2\frac{1}{2}$ inches on the face, or be quite flush with the work below, only a double tile course projecting under it. In more ornamental designs the bricks are moulded on the under edge, specially made for the purpose, or the upper fillet is formed of two courses of tiles in cement. The pedimental portions are composed of bricks with ovolo and square members and ogee for the top member of the pediment, and, of course, project on each face of the gable wall so covered. The upper course ought to be made of large, purposely moulded bricks, with close joints and set in cement.

Considerable care is required in forming these coping courses. The joints should properly break bond; the bricks themselves should be hard and well burned, and be well grouted in cement mortar. Owing to the porosity of the bricks or joints, lead is sometimes used as a covering to the top course; but this expedient ought to be avoided if possible. The plain flush coping, cut to the contour of the gable, and having two or three projecting courses of tiles laid beneath in cement mortar, is one of the most effectual modes of keeping the rain from penetrating the gable wall, as the projecting tile course, or "tile creasing" as it is called technically, throws off the water like a drip moulding from the faces of wall. For a moulded brick coping two courses may be used: the lower course may have a

cavetto, or cyma reversa, worked on the edge, either placed flatwise or, if greater boldness is desired, on edge, and above this a plain course of bricks on edge, or three courses of tile can be laid as a fillet. The aim of the designer of brick mouldings for this purpose should be to produce one or more sharp lines of shadow, not too large or deep, or it will look heavy to the eye. The mouldings ought to be simple and effective with bold squares, instead of divided into several members which would never be seen below. We have seen gables finished with moulded cement copings than which nothing looks worse or more patchy. If brick is used for the gable wall, let it appear as the finish, do not shirk the trouble of a coping, or the art of the brick setter will be compromised just where it should be evident. For pediments the moulded bricks may consist of the cymatum, in the oblique slides, with fillet underneath, the horizontal members will be a fillet and corona, and beneath this a fillet and echinus, or quarter round. With these few members the effect will be bold. The corona, with its fillet joined with a small cavetto, throws a deep shadow, which is relieved by the lowest member, or quarter round.

To obviate the exposed coping the roof is often carried over the gable, the latter being finished by a series of mouldings in purpose made bricks. The upper member may be a cyma recta with fillet, the second row a plain square profile and the underneath a cavetto or cyma reversa. Of course this kind of finishing does not admit of ornamental outlines; the sides are straight so as to allow the roofing to be continued over the gables. We wish to call attention to the necessity of obtaining moulded angle or apex, and return bricks for the gables so as to insure sharp mitres at these points. It was mainly the difficulty of getting moulded bricks made for gables that induced our forefathers to employ stone and cement for copings, both of which materials required often to be painted to prevent the absorption of moisture.

We do not say anything against a stone coping when a durable material can be obtained that will weather well. Many of our modern Tudor buildings of brick and stone may be mentioned in which the two materials are combined. But if good moulded brick or terra-cotta can be had, why should stone be employed, as it adds to the cost and is less durable than good brick. The effect has had something to do with the matter. A brick edifice with stone dressings is more showy, and the relief of the two colors is preferred by many people. The architect must be the judge in every case. If a good weather stone can be had at a moderate cost, the relief is of some value; but our experience of many modern buildings in which a soft freestone has been used for dressings has proved to us the value of moulded brick and terra-cotta when it can be obtained of good quality.—*Building News*.

In 1845, say the *Scientific American*, Peter Cooper erected the largest rolling mill at that time in the United States for making railroad iron, and at this mill he was the first soon afterward to roll wrought-iron beams for fire-proof buildings. In the building of the Cooper Institute, in New York city, in 1857, he was the first to employ such beams with brick arches to support the floors, in a large structure designed to be fireproof.

MUNICIPAL DEPARTMENT.

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

Chief Justice Galt gave judgment at Osgoode Hall recently in the case in which John Hanlan sought an order prohibiting the police magistrate for the city of Toronto from adjudicating upon a charge of an offence under the Liquor License Act, on the ground that the police magistrate had no jurisdiction. The charge was that of selling liquor without a license at Hanlan's hotel at the west end of the Island. The applicant alleges that the Island is not within the limits of the city of Toronto. The learned chief justice holds that whether the Island was or was not within the original limits of the city is immaterial. By sec. 22 of R. S. O., chap. 184, "The Lieutenant-Governor may by proclamation divide the city or town into wards as may seem expedient, and may add to the city or town any part of the adjacent township or townships which the Lieutenant-Governor in council considers it necessary to attach thereto." The Lieutenant-Governor on 25th September, 1891, issued a proclamation affirming the expediency of a new division into wards being made of the city of Toronto, and in that proclamation ward No. 4 is expressly declared to comprise the "Island lying in front of said city." It appeared to the learned chief justice that under the express provision of the Act the Island is now within the limits of the city of Toronto, and that the police magistrate has jurisdiction. He attached no importance to the other grounds taken. The motion was dismissed without costs.

In Georgia, according to a recent decision of the Supreme Court in the case of *The Cartersville Improvement, Gas and Water Company vs. Mayor and aldermen of Cartersville*, while a city cannot exempt a gas company from municipal taxation, it can contract to pay for gas a stipulated sum per lamp, and in addition thereto a sum for all the lamps supplied equivalent to the amount of taxes imposed upon the company, provided this additional sum is a fair and just allowance to compensate for the actual value of the light service, and the stipulation is bona fide and not in the nature of an evasion of the law prohibiting exemption from taxes. The court further held that without the preliminary sanction for a popular vote, as required by the constitution, a municipal corporation cannot contract for a supply of gas on the credit of the city for a longer period than one year, and a contract which by its terms is to run for twenty years, each year's supply to be paid for quarterly during the year, is operative from year to year only so long as neither of the parties renounces or repudiates it.

DATES TO BE REMEMBERED.

September 15—Last day for receiving appeals against the High School primary and leaving examinations. County selectors of Jurors meet.—Jurors Act, Sec. 13.

September 20—Clerk of the Peace to give notice to Municipal Clerks of number of Jurymen required from the municipality.—Jurors Act, Section 16.

October 1—Last day for returning Assessment Roll to clerk, in cities, towns and incorporated villages, where assessment is taken between 1st July and 30th September.—Assessment Act, Section 52.

October 1—Last day for delivery by Clerks of Municipality to Collectors of the Collectors' Rolls, unless some other day be prescribed by by-law of the Local Municipality.—Assessment Act, Section 120.

October 1—Notice by Trustees of cities, towns, incorporated villages and township boards to Municipal Clerks to hold Trustee elections on same day as Municipal elections due.—P. S. Act, Section 103, (1)

MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

FOUNDATIONS FOR BRIDGES.*

By P. MOGENSEN

Probably one of the most varied subjects submitted to the consideration of civil engineers, is the design and construction of bridge piers. From the simple wooden trestle and the equally simple crib built of ties and used for temporary purposes, to the gigantic pier of the fifth of both bridge-unnecessary gradations are found and in many cases the engineer is called upon to overcome seemingly insurmountable difficulties in connection with such works. It is far beyond my power to treat of any part of the more intricate structures, my object is merely to call attention to a few simple details in the construction of masonry foundations in shallow rivers where underground water is encountered, or in other words, where pumping is required.

The surface water is often a source of great trouble, and claims the attention of the constraining engineer as soon as the location of a bridge has been fixed, especially if a stream is found running where excavations are to be commenced. To make the position of one or more piers accessible, it will generally be found convenient to divert any such stream. It is not essential that the diversion be made close to the bridge, it may be effected where it can be done at least expense. However, as such diversions generally require dams, it should be within a reasonable distance for easy inspection.

When the river bed consists of sand, a secure foundation may be made by sinking cylindrical wells to a depth of say twenty feet, but in all cases lower than any underground current that might be met with. The depth to which the wells must be sunk, naturally depends upon the resistance offered by the sand, the number of wells employed, the weight they are required to support, and other considerations.

Where a large pump is required, the inside diameter of a well should not be less than six feet or large enough to enable two men to work alongside the suction-tube. The wells should be built of bricks and cement mortar to a height of about ten feet above ground before the sinking of them is commenced. A strong wooden frame should be placed under each well and another on the top of the section built, both being firmly fastened by strong bolts passing through the brick work. The top frame may be removed when it is required to add to the well.

Whatever the number of wells in a pier, they should be sunk simultaneously. This is done by laying the top frames with long, heavy objects such as rails, girders, etc., for the purpose of forcing the wells down when the material underneath the bottom frames has been removed. If the amount of water flowing into two or three wells does not exceed the capacity of one pump, the water should be drawn from a well sunk somewhat deeper than those adjoining, which are by this means drained. The excavated material is taken out with a small windlass.

The pump should be fastened to a wooden frame, placed on the top of the objects used as weights. A derrick with blocks and tackle should be erected over the pump and kept in readiness for raising the suction tube whenever the foot-valve fails to act. If a sliding suction is used, it should hang supported in the pulleys. Sometimes the pump may be entirely dispensed with. The wells are then excavated by means of grab-winchies, the buckets fill automatically when let drop on loose material. It is needless to say that this method will be impractical when stones of considerable size, trunks of trees, or other obstructing bodies are encountered.

(To be continued.)

*Read before the Civil Engineers' Club of University of Illinois.

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THOROLD CEMENT

WELLAND CANAL ENLARGEMENT,
RESIDENT ENGINEER'S OFFICE,
WELLAND, April 17th, 1892.

JOHN BATTLE, Esq., Thorold

Dear Sir, Yours of yesterday, relative to Thorold Hydraulic Cement, is received. In reply, I beg to say that my tests of the Thorold Hydraulic Cement have extended over a period of twenty eight years and have been on a large scale, as exemplified in the locks, bridges, culverts and other masonry on the Welland Canal and Welland Railway, and that the record which has been invariably satisfactory, is to be found in examination of the structures. The necessary tearing down of masonry and concrete during the Welland Canal Enlargement has afforded abundant evidence of the reliability of the Thorold Hydraulic Cement, both in masonry and concrete, and above and under water. I desire no better cement for the class of work referred to.

I am, dear sir, yours truly,

W. G. THOMPSON
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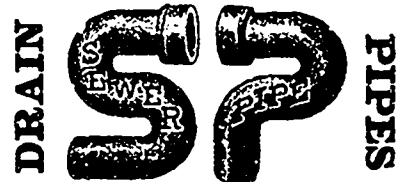
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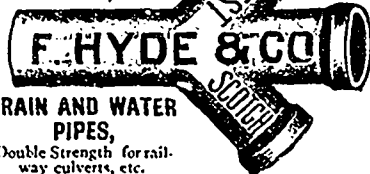
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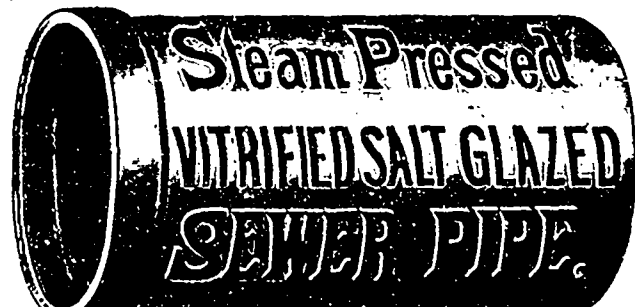
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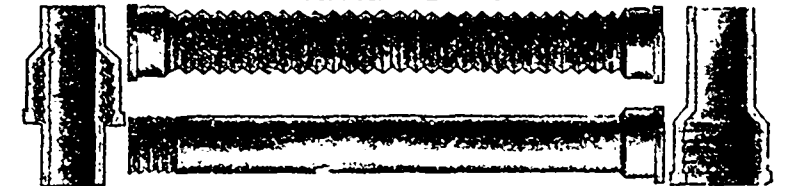
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Prices of Building Materials.

LUMBER.

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Table with columns for Toronto and Montreal prices for various lumber types like clear picks, Am. ins., etc.

YARD QUOTATIONS.

Table with columns for Toronto and Montreal prices for mill cull boards, shipping cull boards, etc.

Toronto. Montreal.

Table listing prices for various building materials like planks, cedar, flooring, etc.

Table listing prices for bricks and pressed bricks in various qualities.

STONE.

Table listing prices for various types of stone like rubble, granite, and slate.

PAINTS.

Table listing prices for various types of paint like white lead, red lead, etc.

Toronto. Montreal.

Table listing prices for various oils and putty.

CEMENT.

Table listing prices for various types of cement like Portland, etc.

HAIRWARE.

Table listing prices for various types of nails and steel.

Toronto. Montreal.

Table listing prices for various types of nails like common barrel, slating, etc.

INDEX TO ADVERTISEMENTS

Large index table listing various contractors, architects, and suppliers with their addresses.