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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, Purchasers of Municipal Debentures and leading Contractors in all lines throughout Canada.

VOL. 7. JUNE 11, 1896 No. 19.

THE CANADIAN CONTRACT RECORD,
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 Advertising Rates on application.

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.



Sealed Tenders addressed to the undersigned, and endorsed "Tender for Hot Water Heating Apparatus, Victoria, B. C.," will be received until Friday, 10th July, for the construction of a Hot Water Heating Apparatus at the Victoria, B. C., Public Building.
 Plans and specifications can be seen and form of tender and all necessary information obtained at this Department, and at the office of F. C. Gamble, C. E., Victoria, on and after Wednesday, 10th June next.
 Persons are notified that tenders will not be considered unless made on the printed form supplied, and signed with their actual signatures.
 Each tender must be accompanied by an accepted bank cheque, made payable to the order of the Honourable the Minister of Public Works, equal to FIVE PER CENT. OF AMOUNT OF THE TENDER, which will be forfeited if the party decline to enter into a contract when called upon to do so, or if he fail to complete the work contracted for. If the tender be not accepted the cheque will be returned.
 The Department does not bind itself to accept the lowest or any tender.

By order,
E. F. E. ROY,
 Secretary.

Department of Public Works,
 Ottawa, 27th May, 1896.

TENDERS

Will be received for the various trades necessary for the
ERECTION OF A RESIDENCE
 in Elmsley Place. Plans and specifications may be seen on and after the 15th Day of June, at the office of
Messrs DARING & PARSONS, Architects,
 Mail Building, Toronto.
 The lowest or any tender not necessarily accepted.

CEMENT WALKS

The Council of the Town of Waterloo will receive tenders by registered post, addressed to the Town Clerk, up to noon of **JUNE 17TH NEXT** for the laying of cement walks in 1896.
 Specifications and forms of tender may be obtained from the undersigned. The lowest or any tender not necessarily accepted.

FRED'K. COLQUHOUN,
 Town Clerk.
HERBERT J. BOWMAN,
 Civil Engineer.

TENDERS

Tenders will be received by the undersigned up to **JUNE 24TH**, for the different trades required in the erection of a house in Parkdale.
 The lowest or any tender not necessarily accepted.
GEO. M. MILLER & CO., Architects,
 18 King St. E., Toronto.

TENDERS WANTED

Separate Tenders will be received up to **NOON, FRIDAY, JUNE 17TH**, for the
Enlargement of a Brick Church
 in Parkdale.
 Plans and specifications can be seen at the office of Mr. E. Terry, 31 to 41 George St., Toronto, on and after Monday, June 15th.
 Tenders to be addressed to Mr. Chas. Sneath, 161 St. Lawrence Avenue, Toronto.
 The lowest or any tender not necessarily accepted.

NOTICE TO CONTRACTORS

Tenders for Sewer and Pavements

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, up to 5 o'clock p. m. on **WEDNESDAY, JUNE 17TH, 1896**, for the construction of the following works:

- BRICK AND CEDAR BLOCK PAVEMENTS**
- On Dundas Street (track allowance), from Floor Street to Humberstone Avenue.
 - On Henry Street, from College Street to Baldwin Street.
 - On Prince Arthur Avenue, from Avenue Road to a point 628 feet westerly.
 - On Yorkville Avenue (brick on tracks and cedar block on sides), from Yonge Street to Avenue Road.
 - On Simcoe Street, from Front Street to Station Street, (cedar blocks).

A SEWER

On Manchester Avenue, from Shaw Street to Ossington Avenue.
 Specifications may be seen and forms of tender obtained at the office of the City Engineer, Toronto, on and after Wednesday, June 10, 1896.
 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 up to \$1,000, and 2½ per cent. on the value of the work tendered for over that amount, must accompany each and every tender, otherwise they will not be entertained.
 Tenders must bear the bona fide signature of the contractor and his sureties, or they will be ruled out as informal.
 Lowest or any tender not necessarily accepted.

BERNARD SAUNDERS,
 Chairman Committee on Works.
R. J. FLEMING,
 Chairman Board of Control.
 Toronto, May 29, 1896.

Notice to Contractors

Sealed Tenders for the whole or separate trades will be received by the undersigned for the erection of a new Jeffrey Hales Hospital at Quebec, not later than **MONDAY, JUNE 15TH**.
 Plans and specifications may be seen at the offices of the architects, Messrs. Taylor & Gordon, 43 St. Francois Xavier Street, Montreal, and also at Mr. Staveley's office, 92 St. Peters Street, Quebec.
 It is not guaranteed that the lowest or any tender will be accepted.
 Satisfactory sureties to be given if required.
TAYLOR & GORDON, Architects,
 Montreal, Que.

TENDERS FOR WATER METERS

The City of Vancouver, B. C., are prepared to receive offers for about
150 WATER METERS
 from ¾ in. up to 4 in., delivered at their shops on Hastings Street free of all charges.
 Full particulars of meters offered to be sent to the City Engineer, Col. T. H. Tracy, as soon as practicable.
 Tenders to be in the hands of the undersigned on or before Wednesday, June 24th.
T. F. McGUIGAN, City Clerk.

TENDERS

Sealed Tenders will be received by the Secretary up to noon of **JUNE 24TH** for the
Erection of a Frame Building in Barrie,
 80 ft. by 205 ft., for an exhibition building and curling and hockey rink.
 The lowest or any tender not necessarily accepted. Plans, etc., may be seen at the offices of
KENNEDY, McVITTIE & CO., Architects,
 Barrie and Orillia.
J. L. G. McCARTHY, President,
JOHN DICKENSON, Secretary.

Notice to Contractors

TENDERS FOR STONE CRUSHER AND CARTAGE OF COAL.

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, up to 5 o'clock p. m. on **WEDNESDAY, JUNE 17TH, 1896**, for

A STONE CRUSHER AND THE CARTAGE OF COAL

Specifications may be seen and forms of tender obtained at the office of the City Engineer, Toronto, on and after Wednesday, June 11, 1896.
 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 up to \$1,000, and 2½ per cent. on the value of the work tendered for over that amount, must accompany each and every tender, otherwise they will not be entertained.
 Tenders must bear the bona fide signature of the contractor and his sureties, or they will be ruled out as informal.
 Lowest or any tender not necessarily accepted.
BERNARD SAUNDERS,
 Chairman Committee on Works.
R. J. FLEMING,
 Chairman Board of Control.
 Toronto, June 9, 1896.

TENDERS

For Wharf Building at Saint John, N.B., Sand Point, (West Side).

Tenders will be received by the Department of Public Works of the City of Saint John, N. B., at their office in the said city, until **TUESDAY, THE 30TH DAY OF JUNE, INSTANT, AT 12 O'CLOCK NOON**, for all the work in connection with the proposed wharf building at Sand Point, including dredging, according to plans and specifications prepared by Hurd Peters, Esq., C.E., City Engineer, and J. H. Barbour, Esq., C.E., Engineer for C.P.R., and which may be seen at office, City Building.

Each tender must be accompanied by a certified bank cheque, payable to the order of the director of the Department of Public Works, Saint John, N. B., for \$500, or a deposit of money for the same amount. Said amount to be forfeited should the party or parties to whom the work is awarded decline to enter into contract. And a further deposit equal to five per centum on the estimated full value of the contract, at pricing into contract, will be required to be made on entering into contract—this deposit to be forfeited should the party or parties receiving the contract refuse to proceed therewith, or fail to complete the works as required by plans and specifications.

Separate tenders may be made for the dredging and wharf building.

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

Copies of specifications may be had on application to the City Engineer or Director.

(Signed) A. CHIPMAN SMITH,
Director,

Department of Public Works, Saint John, N. B.

CONTRACTS OPEN.

OTTERVILLE, ONT.—Mr. A. T. Ball will erect a butter factory.

MAIDSTONE, ONT.—George Cronmiller proposes erecting a residence.

FORT WILLIAM, ONT.—Messrs. Hogan Bros. will erect a planing mill.

GALI, ONT.—It is proposed to construct an addition to the public hospital building.

STURGEON FALLS, ONT.—A. O. Wright intends to erect a pulp mill at this place.

DASHWOOD, ONT.—The Lutheran congregation propose to erect a parsonage this summer.

ST. CROIX, N. B.—Mr. Leonard Markee is preparing plans for a residence for the Rev. Father Dollard.

NANAIMO, B. C.—The City Council will shortly be petitioned to erect a new bridge across the mill stream.

BRIDGENORTH, ONT.—As a result of the recent fire at this place, the citizens are talking of purchasing a fire engine.

BRANDON MILLS, MAN.—Money is being raised with which to erect a church for the use of the various denominations.

NORWICH, ONT.—The town clerk has been instructed to purchase 8,000 feet of oak scantling to be used in sidewalk construction.

GREENWOOD, B. C.—The Greenwood City Water & Power Co. is being incorporated to construct waterworks and supply power.

PRESCOTT, ONT.—It is reported to be the intention of the C. P. R. to erect a grain elevator at this point with a capacity of 2,000,000 bushels.

REVELSTOKE, B. C.—C. B. Hume & Co. are preparing to enlarge their store building.—H. McPherson is having plans prepared for a residence.

IROQUOIS, ONT.—An extension of time until the 26th inst. has been announced for receiving tenders for the Galops Canal improvement work.

EAST HANTS, N. S.—Nelson Weir, Municipal Clerk, invites tenders until the 27th inst. from parties desirous of loaning \$1,500 to the municipality.

SARNIA, ONT.—Owing to the inefficient working of the waterworks system an agitation has arisen for improvement and a change of the location of the waterworks to the head of the river.

PRINCE ALBERT, N. W. T.—The Department of Public Works, Ottawa, invite tenders until the 19th inst. for the erection of a court house at this place.

FORT WILLIAM, ONT.—It is reported that all the arrangements have been made necessary to insure the carrying out of the waterworks and pulp mill scheme.

BERLIN, ONT.—A new addition will be made to the Model school for sanitary purposes. Plans and specifications can be had from the Town Engineer only.

PICTOU, N. S.—J. McG. Stewart, County Clerk of Pictou, will receive tenders until noon on the 20th inst. for the purchase of \$4,000 worth of debentures.

NEW WESTMINSTER, B. C.—Mr. J. J. Nickson is endeavoring to obtain permission from the City Council to connect by steel pipes with the city water system.

ORILLIA, ONT.—Plans have been prepared by W. H. Croker, architect, for a new fire hall to be constructed of brick with a frontage of 36 feet and a depth of 66 feet.

KAMLOOPS, B. C.—The Provincial Secretary invites tenders until noon of the 15th inst. for the supply of clothing, food and fuel for the Provincial Home at this place.

ST. JOHNS, QUE.—Arthur Leger, Secretary Treasurer of the St. Johns Yacht Club, will receive tenders until 8 p. m. today, the 11th inst., for earth filling under the club house.

WHITEFIELD, ONT.—Mr. George Laking will receive tenders until the 27th inst. for repairing, plastering and painting in the school house in section No. 4, Mulmur township.

BURNBRAE, ONT.—Rev. John Moore will receive tenders until the 13th inst. for the construction of a stone basement and brick auditorium for the Presbyterian church at this place.

TILBURY, ONT.—The Town Council propose to expend \$25,000 to secure a domestic water supply from St. Clair.—Mr. Dusseau is arranging for the erection of a brick business block.

MONCTON, N. B.—D. Pottinger, general superintendent of the Intercolonial railway, will receive tenders until the 15th inst., for the construction of a brick or stone passenger station at this place.

RENFREW, ONT.—Plans are being prepared for the remodelling of the Merchant's bank building on King street, which it is proposed to convert into a Roman Catholic Theological College.

WINNIPEG, MAN.—Arthur Stewart, 451 Main street, invites tenders for earth filling and sodding.—A city wholesale firm is said to be having plans prepared for a five storey brick and stone building.

NORTH SYDNEY, N. S.—J. N. Armstrong, Town Clerk, will receive tenders until the 20th inst. for the supply of 6 miles of cast iron water pipe of the following dimensions: 4, 6, 8 and 10 inches.

TILSONBURG, ONT.—The ratepayers will vote on the 15th inst. on a by-law authorizing the expenditure of \$8,000 for the erection of a town hall, council chamber, market building, and fire hall combined.

DUNDAS, ONT.—A committee appointed by the township of Ancaster to enquire into the advisability of granting aid to the proposed Hamilton, Chedoke & Ancaster electric railway, has reported in favor of a bonus of \$30,000.

BELLEVILLE, ONT.—A recommendation has passed the Public School Board for the appropriation of \$8,000 for improvements to the High School. Tenders for the work will be immediately invited. Thomas Hanley is the architect.

QUEBEC, QUE.—The Quebec Steamship Co. will make application to parliament for power to purchase, build or lease

hotel property.—The assistant city inspector invites tenders until 4 p. m. on the 17th inst. for 650 tons of coal.

HINTONBURGH, ONT.—Tenders are invited by J. Bullman, Chairman Public School Board, until 6 p. m. on the 15th inst., for the erection of a brick addition to the public school. Mr. C. Edey, 51 Sparks street, Ottawa, is the architect.

USBORNE, ONT.—The trustees of the Eden school have purchased a site on lot 6, concession 3, for a new brick school building to be erected next spring. It is proposed that the new building shall be thoroughly modern in its appointments.

EDMONTON, N. W. T.—On May 26th a majority of the ratepayers voted in favor of a by-law to raise \$50,000 to purchase shares in the Edmonton district railway and traffic bridge. This will ensure government aid and the carrying out of the enterprise.

ROND EAU, ONT.—Charles Gerow, chairman, invites tenders until the 24th inst., at noon, for the erection of a brick veneer school house in school section No. 13½, township of Harwich. The architects are Messrs. Jas. L. Wilson & Son, of Chatham.

HALIFAX, N. S.—R. J. Wilson, secretary board of school commissioners, will receive tenders until 4 p. m. on Friday the 29th inst., for the enlargement of the Lemarchant street school building in accordance with plans prepared by Mr. H. S. Tremaine, architect.

WOODSTOCK, ONT.—William Lazenby and James Virtue invite tenders until the 20th inst. for the construction of a bridge 40 feet in length across the stream on the 4th concession of the township of Oxford. Plans and specifications may be seen at the office of James Virtue, this town.

LONDON, ONT.—It is reported that the erection of the G. T. R. car shops will be commenced very shortly.—Herbert Matthews, of the Board of Education, will receive tenders until 5 p. m. of the 16th inst. for all trades in connection with the erection of an addition to St. George's school and Lorne avenue school.

GODERICH, ONT.—William Holmes, county treasurer of Huron, will receive tenders until the 25th inst. for the purchase of \$75,000 worth of twenty year debentures of the county of Huron, bearing interest at 4 per cent. payable half-yearly, and \$175,000 worth of township debentures and mortgages guaranteed by the county of Huron.

PERTH, ONT.—Thomas Thornton will erect a grain warehouse.—The arrangement made by the town with the Stadacona Water Works Co., for the construction of a system of water works, has been declared off. The feeling of the citizens now is in favor of the town owning the works, and it is suggested that a public meeting should be held to consider what steps should be taken.

ST. MARVS, ONT.—A sub-committee has been appointed by the council to obtain from Messrs. Carter, Son & Co., their price for water privilege for the town from Trout Creek. It was also decided to obtain from Mr. Moore, engineer of London, an estimate of the cost of the proposed waterworks scheme.—Plans are being prepared for the remodelling of the Methodist church. Work on the building is to be commenced about the 1st of July and completed before the 1st of October.

PORTAGE LA PRAIRIE, MAN.—Application will be made to the Dominion parliament at its next session to incorporate a company to construct and operate a railway, either steam or electric, from this town to a crossing of the Saskatchewan river, at or near Grand Rapids, thence to deep water navigation on Hudson bay with branch lines running in a northerly or northwesterly direction, also

with power to construct and operate telegraph and telephone lines on the line of the proposed railway, to build and purchase, elevators, etc.

WOODSTOCK, N. B.—Donald Munro, superintendent of waterworks, will receive tenders until 6 p. m. on the 25th inst. for the construction of a steel bridge over the Maduxnkeag river, on abutments furnished by the town, to carry water main, and for removal of present wooden structure. Superstructure to consist of one span each, 40 ft., 57 ft. 11 in., 50 ft. 5 in.—R. B. Jones, Chairman Finance Committee, will receive tenders until the 12th inst. for \$10,000 worth of sewerage debentures.—The Independent Order of Foresters propose to erect a hall.

CHATHAM, ONT.—The Council has decided to construct asphalt sidewalks on a number of the principal streets, and also a large number of wooden sidewalks on resident streets.—Mr. O. A. Graydon, City Engineer of London, was in town recently looking over the ground and preparing estimates of cost in connection with the proposed electric street railway.—The Young Men's Christian Association have decided to erect a building suited to their requirements, at a cost of about \$9,000. The plan of the Y. M. C. A. building at Peterborough is to be adopted for the new building here.

ST. JOHN, N. B.—The Board of Management of the City Council recommend the construction of sewers as follows: Elm street at a cost of \$1,150; Water street at a cost of \$1,250; Charlotte and Brittan streets, at a cost of \$2,800.—Conferences have recently been held between the C. P. R. authorities and the city council with regard to harbor improvements to be carried out in this city. The cost of the work is estimated at \$110,000, of which sum the C. P. R. will contribute \$40,000, and the city \$70,000.—John H. McRobbie, chairman city treasury board, will receive tenders until noon of the 18th inst., for the purchase of city debentures to the amount of \$7,000.

HAMILTON, ONT.—The city will shortly offer for sale \$200,000 worth of debentures.—The cost for repairs on the bridges, etc., on the Dundas and Binkley roads will amount to \$1,000.—J. W. Tyrrell, county engineer, has instructed the Hamilton & Milton Road Co. to have one branch repaired by July 1st and the other by Sept. 1st.—The H. G. & B. Electric Railway Co. will extend their line from Grimsby Park to Beamsville as soon as difficulties with the council as to right of way can be overcome.—The police call system is under discussion in the City Council, and the contract will shortly be awarded.—Mr. M. W. Hopkins, the engineer for the International railway is making the survey which will go through Waterdown, Carlisle, Freulton and other towns, terminating at Guelph.—Building permits have been issued since June 1st as follows: John Lung, an addition to a house on Robinson st.; Thos. Stow, a frame building on Garth st.; Thos Allen, three 2 storey bk. residences cor. King and Pearl sts., \$3,000 each; Robt. Sommerville, alterations and additions to a brick house cor. Stinson and Victoria ave., for Mr. Bowes.

MONTREAL, QUE.—Mr. J. W. Balet, a New York engineer, has recently been in the city looking over the ground for the proposed bridge between Montreal and Longueuil. It is stated that he will report favorably to the capitalists who have the scheme in hand. Mr. Henry Hogan, of the St. Lawrence Hall, is president of the company.—The Chamber of Commerce has appointed a deputation to interview the Dominion government regarding the government's intention in the matter of the proposed dry docks at Hochelaga.—The Dominion cabinet has appointed by order-in-council commis-

sioners to act with the mayor of Montreal and the president of the Board of Trade, in considering the project of an International Exposition for this city.—Messrs. Gamelin & Huot, architects, are preparing plans for two houses on Oliver street for Mr. Hutchins. Tenders will be invited this week.—Building permits have been granted as follows: alterations at the St. Giles Presbyterian church, corner of St. Denis and Carriere street, cost \$2,000. Phaneuf & Dorie, contractors; electrical manufactory, 152 x 116 feet, pressed brick, for the Montreal Street Railway Co., estimated cost, \$30,000; college, 190 feet front on Sherbrooke street for Sir Donald F. Smith, estimated cost, \$203,000. Architect, Bruce Price, New York.

OTTAWA, ONT.—Tenders are being invited for alterations to the armouries.—Application is to be made to parliament at its next session to incorporate a company to build a bridge for general traffic and electric cars from a point within the limits of Montreal to the south shore.—A. M. Calderon, architect, will receive tenders until 6 p. m. to-morrow, the 11th inst., for the various trades required in an addition to the Rideau skating rink.—No definite action has as yet been taken regarding the proposed Protestant hospital. A resolution has been passed that the plans of Messrs Arnoldi & Ewart be purchased and that an outside architect be engaged to superintend the work, but as yet nothing has been done. Action is looked for at an early date.—Mr. Young, of the Toronto Rubber Co., was in town recently looking for a suitable site for a factory which it is proposed to erect here, if sufficient inducement, in the way of rebate of taxes, etc., can be obtained.—William Rae, secretary City Public Schools, will receive tenders until the 18th inst. for coal and wood required for heating the schools.—D. O'Connor is preparing to erect three store buildings at the corner of Bank and Somerset streets.—The following towns are considering the construction of waterworks: Arnprior, Campbellton, Cardinal, Cardwell, Creemore, Deseronto, Grimsby, Paisley, Perth, Simcoe, Smith's Falls, Thessalon, Thorold and Wallaceburg, Ontario.

forming part of their consolidated debt, for which a good figure was received.

TORONTO, ONT.—The Board of Control have awarded the contract for the new six foot steel water conduit, together with tank, to the Collins Bay Rafting Co., at \$24,500, and the contract for gates in connection therewith to John Perkins at \$5,345.

BROCKVILLE, ONT.—The Public School Board have accepted the plans of Mr. Ellis, architect, for the new school building to cost \$6,000. The contract has been awarded to W. P. Driscoll for the sum stated.—The Board of Works has accepted the tender of Messrs. A. S. Ault & Co., for sewer pipe.

PETROLEA, ONT.—The Rogers Electric Co., of London, have been awarded the contract for electric light wiring and return call bell system in Johnson Bros. new hotel.—The tender of Messrs. O'Hara & Co., of Toronto, for town debentures amounting to \$172,000 has been accepted. The debentures sold at a considerable premium.

STRATFORD, ONT.—The tender of Mr. G. A. Stimson of Toronto, has been accepted by the township of Mornington for the Stratford and Lake Huron railway debentures to the amount of \$32,000, bearing interest at 4 per cent., payable half yearly for a period of 20 years. The The Stratford Bridge Co. have been given the contract for the new iron bridge across Kettle Creek, St. Thomas, at \$349.

WINNIPEG, MAN.—Tenders have been accepted as follows for the erection of exhibition buildings: Main building, Kelly Bros. & Co., \$4,240; horse stables, Chamberlain & Co., \$4,750; speed stables, Chamberlain & Co., \$1,800; cattle stables, Andrews & Robinson, \$754 each; sheep pens, Thompson & Co., \$3,985; pig pens, Andrews & Robinson, \$581; grand stand, Thompson & Co., \$1,160; judges' stand, Andrews & Robinson, \$90; machinery hall, McLeod & Murray, \$2,425.

MONTREAL, QUE.—The Chanteloup Mfg. Co., of this city, have been awarded the contract for gas and electric fixtures and counter railings for the new city hall, Quebec.—Mr. C. E. Fournier, architect, has awarded contracts as follows for six houses on Dorchester street for Mr. Jos. Lamoureux; Masonry, Coté & Ugeon; carpenter and joiner's work, A. Magnan; roofing, Lespeance & Terriault.—W. McLea Walbank, architect, has awarded the contract for a stable and coach house at St. Ann, for M. R. Stevenson to W. Brunet, also for store and tenement on St. Charles Borrome st., for Messrs. Christie township obtained a premium of \$561.—Brown & Co., as follows: painting and glazing, Lz. Mathieu; plastering, W. G. Cooke; plumbing and gas fitting, J. W. Hughes; roofing, Drapeau & Savignac.

CONTRACTS AWARDED.


BUCKINGHAM, QUE.—Mr. Fauteaux has been awarded the contract for building the "Brothers" College at this place.

DUNDAS, ONT.—Jos. Bowman & Son have been awarded the contract of supplying the town with plank for sidewalks and bridges.

DESERONTO, ONT.—The Rathbun Co. have received the contract for 14,000 barrels of portland cement for the Trent Valley canal works.

WHITBY, ONT.—The town has just delivered to Messrs. G. A. Stimson & Co., of Toronto, \$22,850 4% 40 year debentures,

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BELLEVILLE, ONT.

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Depth of Beam.	Breadth of Beam.	Reputed Weight per Lineal Foot.
16	5 1/2	62
14	5	60
12	6	56
12	5	47
10	4 1/2	36
9 1/2	3 3/4	24
8	5 1/2	39
8	4	21
8	3 1/2	15
7	3 3/4	19
7	2 1/2	14
6	5	30
4	3	12
4	2	8
3	2	5 1/2

Mr. Clark, from whose tables we quote, gives some results of experiments on four solid rolled joists tested by Mr. Kirkcaldy, in which the observed elastic strength and breaking weights and the calculated breaking weights are given, which we may summarize. These results, as far as the shorter spans tried go, indicate that the observed breaking weights approach very nearly the calculated, but in the case of long, unsupported spans, the observed breaking weight was considerably under the calculated. In every case the failure took place by buckling, showing that little reliance can be placed on calculated results for long, unsupported beams. Thus we take the first case: The depth of girder was 11.75in., its breadth 5.70in., web .60in. thick, and span 20ft. Its observed elastic strength is given at 10,714 tons, the calculated breaking weight at 20,390 tons, and the observed at 14,319 tons. Here we have a difference between calculated and observed strength of nearly twenty-five per cent.

THE MORTICE AND TENON.

The mainstay of constructive wood-work is the mortise and tenon. A piece of woodwork which can be put together without glue, nails or screws, and serves its purpose, is an ideal work of construction. But this is not always possible. Another principle of construction is that every piece of wood should be so placed that it can swell or shrink without injuring itself or displacing any other piece. This is maintained in an ordinary panelled door, provided no mouldings are inserted. Still another principle is that mitre joints

should be avoided, whether for moulded work or not, for the reason that shrinkage causes all mitres to open. No piece of wood should be used unless the straight grain of wood can be seen through its full length. Inserted mouldings should be avoided as far as possible, and all moulds for panel work should be worked on the stiles and rails. It is a general principle observed in the best Medieval joinery that all mouldings on rails (which are horizontal) should butt against the stiles, and that stiles should be either plain or should have mouldings stopped before reaching the joints with the rails. In practice, all rail mouldings may be worked the length of the stuff used; and if muntion (which are the middle stiles) are used, the moulding may be cut away to the square wood before the mortise is cut which is to receive the tenon or the muntion. Thus the mouldings will butt against the square sides of the muntion.

All the parts for a door thus made can now be got out by machinery, and the door will be fully constructive in every sense of the word. There is no obstacle to this in the way of cost. The dovetail is a constructive device, and the dowel is admissible in places as a substitute for the mortise and tenon. Tongue and grooving is a legitimate device, both for ends and sides of boards. Beveling the edges of the pieces just joined is better than beading. The best way to construct large panels is to make them of narrow strips tongued and grooved, and bevelled at the joining edges. Such panels will never "draw". The shrinkage will be divided

between all the joints. Solid table tops should never be fastened with glue or screws, but should be secured with buttons fastened to the under side of the top, which travel in grooves cut in the framework to allow for expansion and shrinkage. These are but a few of the principles to be observed in doing the best wood-work.

In all kinds of timber the heart should be rejected. All boards cut out on a radius from the centre of the periphery of a tree will remain true, while all others have a tendency to warp or check. The first are called "quarter-sawn." It is a peculiarity of oak that the best grain is found in quarter-sawn boards. It is only in these that the "silver grain" is seen. This consists of a ribbon of very hard substance which grows out from the centre of the tree. It is for this reason that oak is the most enduring wood; it has a grain two ways. All woods check in the direction of a radius from the centre. Quarter-sawn oak cannot check.

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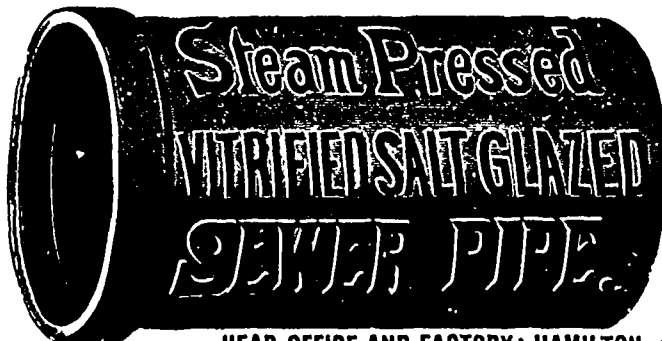
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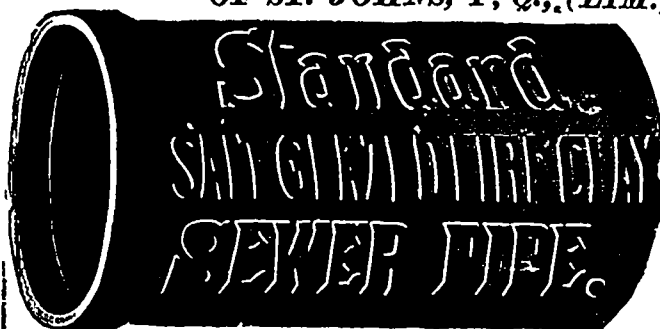
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AN ELECTRIC SELF-LOADING CAR.

Mr. A. Jackson Reynolds, of Montreal, has patented an electric self-loading car for street cleaning purposes which is claimed to possess great mechanical ingenuity, and which promises to result in a large saving in the cost of cleaning city streets. The first car manufactured under his patents was turned out of the Rathbun Company's works at Deseronto a fortnight ago, and is shewn in the accompanying illustration.

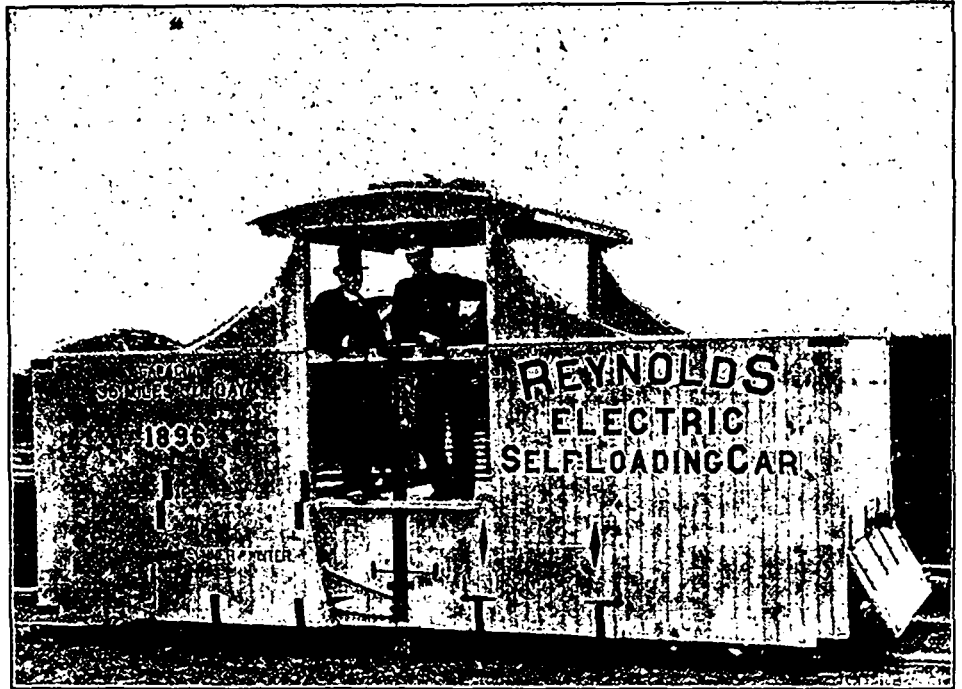
The system of cleaning is as follows. About one-third of the surface of the street is swept from the curb inwardly towards the railway tracks by the ordinary horse sweepers, driven in the opposite direction from the usual way of sweeping from the centre to the outside. The refuse is then taken up by the self-loading car at any desired speed and conveyed to the desired location.

The car shown herewith is 22 feet in length, 8 feet wide and 9½ feet high, very compactly and strongly built in every section. It is fitted with all the appliances for electricity common to a regular trolley car. Contrary to general use the brake-motors, etc., are all situated above the wheels and axles so as not to impede the full action of the brush. The operating platform on which the persons stand while directing the motion of the car and broom is 8x5 feet, and so placed as to protect them from being touched by the dust thrown from the revolving brush or broom.

The results are accomplished mainly by placing a large rotary brush across the centre of a moving car, said brushes being covered with steel casings, with proper outlets for discharging the sweepings into the body of the car, and covering the brushes with said steel plates, having rubber aprons fitting the pavements. The high speed of the brush forms a powerful suction, which takes up all the itemized matter and deposits it over the brush into the body of the car, which is provided with pivoted dump floors for dropping the load instantly at any point desired. The brushes, steel casings, and rubber aprons are so constructed as to work in either direction automatically. The cars are driven preferably by a stationary motor placed directly over the brushes on the operating platform of the car, the brush being operated from a counter-shaft by sprocket wheels and chain.

The brush, which has been specially manufactured for the purpose, makes five revolutions to each one of a car wheel. It works much on the same principle as a carpet sweeper, and will throw the dust a distance of twenty-five feet. Its capacity is about twenty-eight car loads. The broom, which is fastened to solid heavy axles, is so arranged that it always fills the case in which it is contained, a simple but ingenious device changing the size of the latter to suit the changes made by the wear of material. The broom acts as well one way as another, steel deflectors being so arranged that it can be run backward without any change of machinery or even without touching it. By a change of the trolley the action may be reversed instantly so as to throw the dust one way or the other as may be desired. The broom may be extended so as to cover the whole street outside the car-track if necessary. For removing snow in winter the car may be constructed

per cent. The curve plotted from the average daily per capita consumptions of the period stated is concave upward, showing that the consumption is increasing at an increasing rate, threatening to go much higher than the present figure of 160 gallons. In 1862 Philadelphia's rate was only about one half that of New York or Boston, but at present it exceeds the rates of those cities by about 60 per cent. Measurements made in 1892 showed that one of the districts in the center was consuming 252 gallons per capita daily. More recent tests in one of the residence districts showed a rate of 222 gallons. A house-to-house inspection of 142 houses in the district showed that out of the 782 appliances 32 were running continually and 22 leaking, and that all but 30 of these 222 gallons were being wasted. Meters have been objected to on the ground that large manufacturing interests promoting the general interests of the city would be unduly taxed and also for



as long or wide as may be required. The car may be unloaded in thirty seconds, one man doing the whole work by manipulating a lever.

The cost of operating this electric sweeper is claimed to be about \$3.00 per mile. The side sweeping by horse machines can be done for \$1.50 per mile, which makes the total cost \$4.50 per mile.

WASTE OF WATER.

Some excellent arguments for the adoption of the meter system are presented in a report by John C. Trautwine, Jr., Chief of the Philadelphia, Pa., Bureau of Water, on the necessity of checking the waste of water in that city. In the past 22 years the number of buildings in Philadelphia has increased 83 per cent., the population 90 per cent., the number of appliances for using water 340 per cent., the pumping capacity 268 per cent., and the daily per capita consumption 158

fear that economy would drive small consumers to reduce their use of water below sanitary limits. There are also those who think water should be as free as air. Mr. Trautwine quotes the reports of his predecessors to show that rates can be reduced to large consumers and a minimum set for small consumers. The difference between free air and free water is that air does not have to be pumped and costs nothing to supply. The present law making meters voluntary is unjust to the city, as only those use them who expect to cut down their water tax, the wasteful consumers paying annual rates. To check computations of water used, derived from plunger displacement at the pumping engines, experiments have been made with a 6-inch Venturi meter. This having worked successfully, three more Venturi meters have been ordered for use on 12-inch, 20-inch and 48-inch mains respectively. Experiments are also being made with the Pilot tube.

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One of the most interesting pieces of work in connection with building operations which has recently been called to the attention of the public is that of the rebuilding of the defective walls of a large structure in the city of Chicago, Ill. The building was finished last October at a cost of about \$100,000, and several of the floors were occupied, when one of the tenants reported to the Building Department that the walls were out of plumb. An investigation showed that he was correct in his assumption, the west wall being found to be 1 1/2 inches out of plumb. The result was that the building was condemned as unsafe, ordered vacated and to be torn down. Instead of demolishing the entire building, the floors and roof were supported on cobb piles and timbers in such a way as to remove all weight from the exterior walls. The latter were then taken down and rebuilt from the foundations. It is said that the cost of rebuilding the structure was in the neighborhood of \$30,000, and the work was done under the supervision of architect C. H. McAfee.

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1/4 to 2 three uppers, Am ins.	37	40	45	50
1/4 to 2 pickings, Am ins.	26	27	30	30
3/4 inch clear	10	10	10	10
1 x 10 and 12 dressing and 1 better	30	32	18	20
1 x 10 and 12 mill run	16	17	19	19
1 x 10 and 12 dressing	20	22	18	18
1 x 10 and 12 common	13	14	10	10
Spruce culls	10	11	8	10
1 x 10 and 12 scalls	9	10	9	9
1 inch clear and picks	28	30	35	40
1 inch dressing and better	20	20	18	20
1 inch siding, mill run	14	15	12	16
1 inch siding, common	12	13	10	13
1 inch siding, ship culls	11	12	10	11
1 inch siding, mill culls	9	10	8	9
Cull scantling	8	9	8	9
1/4 and thicker cutting up plank, 4 in to 8 in. mill run	24	26	22	25
1 inch strips, common	14	15	14	15
1/4 inch flooring	16	17	12	15
1/4 inch flooring	16	17	12	15
XXX shingles, sawn, per M 16 in.	2	2	2	2
XX shingles, sawn	1	1	1	1
Lath	2	2	1	1
YARD QUOTATIONS.				
Mill cull boards and scantling	10	10	10	12
Shipping cull boards, promiscuous widths	13	13	13	13
Shipping cull boards, stocks	16	16	16	16
Hemlock scantling and joist up to 16 ft.	11	12	12	10
Hemlock scantling and joist up to 18 ft.	12	13	12	13
Hemlock scantling and joist up to 20 ft.	13	14	13	14
Cedar for block paving, per cord	5	5		
Cedar for kerbing, 4 x 14, per M	14	14		
Scantling and joist, up to 16 ft 18 ft	14	14	14	14
" " " " 20 ft	17	17	17	17
" " " " 24 ft	19	19	19	19
" " " " 26 ft	20	20	21	21
" " " " 28 ft	22	22	23	23
" " " " 30 ft	24	24	25	25
" " " " 32 ft	27	27	27	27
" " " " 34 ft	29	29	29	29
" " " " 36 ft	31	31	31	31
" " " " 38 ft	33	33	33	33
" " " " 44 ft	34	34	36	36
Cutting up planks, 1/4 and thicker, dry	25	28	25	30
B. M.				
1/4 in. flooring, dressed, F.M.	26	30	28	31
1/4 inch flooring, rough, B.M.	18	22	18	22
1/4 " " " " dressed, F.M.	25	28	27	30
1/4 " " " " undressed, B.M.	18	19	18	19
1/4 " " " " dressed	18	20	18	20
1/4 " " " " undressed	15	15	12	15
Beaded sheeting, dressed	20	35	22	35
Clapboarding, dressed	12	12	8	12
XXX sawn shingles, per M 18 in.	2	2	3	3
Sawn lath	2	2	2	2
Cedar	2	2	2	2
Red oak	30	40	30	40
White	37	45	35	45
Basswood, No. 1 and 2	28	30	18	20
Cherry, No. 1 and 2	70	90	70	80
White ash, No. 1 and 2	24	35	30	35
Black Ash, No. 1 and 2	20	30	18	30
Dressing stocks	16	22	16	22
Picks, American inspection	30	30	40	40
Three uppers, Am. inspection	50	50	50	50

	Toronto.		Montreal.	
BRICK—M				
Common Walling	6	6	6	6
Good Facing	8	8	8	8
Sewer	8	8	8	8
Pressed Brick, Per M:				
Red, No. 1, f.o.b. Beamsville	16	16	16	16
" " " "	14	14	14	14
" " " "	9	9	9	9
Buff	21	21	21	21
Brown	24	24	24	24
Roman Red	30	30	30	30
" Buff	35	35	35	35
" Brown	40	40	40	40
Sewer	7	7	7	7
Hard Building	6	6	6	6
Roof Tiles	22	22	22	22
Hip Tile	20	20	20	20
Ridge Tile	20	20	20	20
1st quality, f.o.b. at Port Credit	14	14	18	18
2nd " " " "	12	12	15	15
3rd " " " "	8	8	12	12
Hard building brick	6	6	6	6
Ornamental, per 100	1	1	10	10

	Toronto.		Montreal.	
SAND.				
Per Load of 1 1/2 Cubic Yards	1	1	1	1
STONE.				
Common Rubble, per toise, delivered	14	14	14	14
Large flat Rubble, per toise, delivered	18	18	18	18
Foundation Blocks, per c. ft.	50	50	50	50
Kent Freestone Quarries Moncton, N. B., per cu ft., f.o.b.	1	1	1	1
River John, N. S., brown Freestone, per cu. ft., f.o.b.	95	95	95	95
Ballochmyle	80	90	65	75
New York Blue Stone			1	05
Granite (Stanstead) Ashlar, 6 in. to 12 in., rise 9 in., per ft.			60	25
Moat Freestone			75	80
Thomson's Gatelawbridge, cu. ft.			8	00
Credit Valley Rubble, per car of 15 tons, at quarry			1	75
Credit Valley Brown Coursing, up to 10 inch, per sup. yard, at quarry			3	25
Credit Valley Brown Dimension, per cu. ft. at quarry			60	75
Credit Valley Grey Coursing, per superficial yard	1	50	2	00
Credit Valley Grey Dimension, per cubic foot			60	75
Clark's N. B. Brown Stone, per cubic foot, f.o.b.	1	15	1	00
Brown Free Stone, Woodpoint, Sackville, N. B., per cu. ft.	1	15	1	00
Madoc Rubble, delivered, per toise	14	14	14	14
Madoc dimension floating, f. o. b. Toronto, per cubic ft.	30	32	30	32
Cape Bauld, N. B., Brown Freestone	90	90	70	70
Cocaigne, N. B., Gray Freestone (olive-green)	90	90	70	70

	Toronto.		Montreal.	
OHIO FREESTONE, FROM THE GRAFTON STONE CO.'S QUARRIES.				
No. 1 Buff Promiscuous	90	1	1	00
No. 1 Buff Dimension	95	1	05	05
No. 1 Blue Promiscuous	60	60	75	75
No. 1 Blue Dimension	65	65	75	75
Sawed Ashlar, No. 1 Buff, any thickness, per cu. ft.	1	10	1	20
Sawed Ashlar, No. 1 Blue, any thickness, per cu. ft.	8	90		
Sawed Flagging, per sq. ft., for each inch in thickness.	06	07	06	07
Above prices cover cost freight and duty small lots add 5 to 10 cents per cubic foot.				
Quebec and Vermont rough granite for building purposes, per c. ft. f.o.b. quarry	33	1	50	50
For ornamental work, cu. ft.	35	2	0	0
Granite paving blocks, 8 in. to 12 in. x 6 in. x 4 1/2 in., per M	50	50	50	50
Granite curbing stone, 6 in x 20 in., per lineal foot	70	70		

	Toronto.		Montreal.	
SLATE.				
Roofing (per square)	18	18	20	20
" red	18	18	20	20
" purple	18	18	10	10
" unfading green	9	9	6	6
" black	8	8	5	5
Terra Cotta Tile, per sq.	25	25		
Ornamental Black Slate Roofing	8	8		

	Toronto.		Montreal.	
PAINTS. (In oil, per lb.)				
White lead, Can., per 100 lbs.	6	25	5	50
" zinc, Can., " "	6	50	6	50
Red lead, Eng., per 100 lbs.	4	00	4	50
" venetian, per 100 lbs.	1	60	1	75
" vermilion	90	1	00	90
" Indian, Eng.	10	12	10	12
Yellow ochre	5	10	3	5
Yellow chrome	25	20	25	20
Green, chrome	7	12	7	12
" Paris	20	25	24	20
Black lamp	15	25	12	25
Blue, ultramarine	25	20	12	28
Oil, linseed, raw, per imp. gal.	54	59	58	59
" " " " boiled	57	62	62	63
" " " " refined	78	85	75	75
Putty	2	2	2	2
Whiting, dry, per 100 lbs.	7	1	00	60
Paris white, Eng., dry	5	1	25	90
Litharge, Eng.	4	5	4	50
Sienna, burnt	10	15	12	15
Umber, " "	8	12	12	15

	Toronto.		Montreal.	
CEMENT, LIME, etc.				
Portland Cements—				
German, per bbl.	3	25	2	55
London " "	2	50	2	75

	Toronto.		Montreal.	
Portland Cements.—				
Newcastle " "	2	50	1	85
Belgian, Jossou, artificial	2	50	2	65
English, artificial, per bbl.	2	30	2	55
Belgian, natural, per bbl.	2	30	1	70
Canadian " "	2	30	2	50
Roman " "	2	50	2	50
Farian " "	4	75	5	75
Superfine " "	6	50	7	00
Hydraulic Cements.—				
Thorold, per bbl.	1	50	1	25
Queenston " "	1	50	1	50
Napanee, " "	1	50	1	50
Hull, " "	1	50	1	50
Ontario, " "	1	25		
Kerne's Coarse " Whites" "	4	50	4	50
Fire Bricks, Newcastle, per M	27	35	27	35
" " " " Scotch	27	35	27	35
Lime, Per Barrel, Grey	40	40	40	40
" " " " White	40	40	40	40
Plaster, Calcined, N. B.	2	00	2	00
" " " " N. S.	2	00	2	00
Hair, Plasterers', per bag	80	1	00	1

	Toronto.		Montreal.	
HARDWARE.				
Cut nails, 50d & 60d, per keg	2	65	2	65
Steel " " " "	2	75	2	75
CUT NAILS, FENCE AND CUT SPIKES.				
40d, hot cut, per 100 lbs	2	70	2	70
30d, " " " "	2	75	2	75
20d, 16d and 12d, hot cut, per 100 lbs.	2	80	2	80
10d, hot cut, per 100 lbs.	2	85	2	85
8d, 9d, " " " "	2	90	2	90
6d, 7d, " " " "	2	95	2	95
4d to 5d, " " " "	2	95	2	95
3d, " " " "	2	95	2	95
2d, " " " "	2	95	2	95
4d to 5d cold cut, not polished or blued, per 100 lbs.	3	75	3	75
3d to 5d cold cut, not polished or blued, per 100 lbs.	3	55	3	55

	Toronto.		Montreal.	
FINE BLUED NAILS.				
3d, per 100 lbs.	4	00	4	00
2d, " " " "	4	50	4	50
CASING AND BOX, FLOORING, SHOOK AND TOBACCO BOX NAILS.				
22d to 30d, per 100 lbs.	2	50	2	60
30d, " " " "	2	80	2	70
8d and 9d, " " " "	2	95	2	85
6d and 7d, " " " "	2	100	2	90
4d to 5d, " " " "	2	90	2	90
3d, " " " "	2	90	2	90

	Toronto.		Montreal.	
FINISHING NAILS.				
3/4 inch, per 100 lbs.	3	10	3	10
2 1/2 to 3 1/4 " " " "	3	25	3	25
2 to 2 1/2 " " " "	3	30	3	35
1 1/2 to 1 3/4 " " " "	3	40	3	45
1 1/4 " " " "	3	45	3	50

	Toronto.		Montreal.	
SLATING NAILS.				
5d, per 100 lbs.	3	35	3	35
4d, " " " "	3	35	3	35
3d, " " " "	3	35	3	35
2d, " " " "	3	45	3	45
COMMON BARREL NAILS.				
1 inch, per 100 lbs.	3	75	3	35
3/4 " " " "</				