

# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF THE PUBLIC WORKS AND MUNICIPAL PROGRESS

EVERY WEDNESDAY

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. 12.

DECEMBER 25, 1901

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**THE CANADIAN CONTRACT RECORD,**  
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Advertising Rates on application.

## Notice to Contractors

Combined Traffic and Railway  
Bridge for Fraser River, at  
New Westminster, British  
Columbia Canada.

SEALED, SEPARATE OR WHOLE TENDERS, properly superscribed, as the case may be, "Tender for Substructure, Fraser River Bridge," "Tender for Superstructure, Fraser River Bridge," "Tender for Fraser River Bridge," will be received by the undersigned up to and including 8TH DAY OF JANUARY, 1902, for the manufacture, erection and completion of the bridge in accordance with the drawings and specifications to be seen on application at the Lands and Works Department, Victoria, B. C., at the Government Office, New Westminster, B. C., and at the office of Messrs. Waddell & Hedrick, Consulting Engineers, New Nelson Building, Kansas City, Mo., on and after the 5th Day of December, 1901.

Intending Tenderers, upon application at any of the above named offices, may obtain, upon payment of ten (\$10) dollars, copies of drawings and specifications for either substructure or superstructure, or twenty (\$20) dollars for both.

Each tender must be made out on the form supplied, and must be accompanied by an accepted bank cheque or certificate of deposit on a chartered bank of Canada or National Bank of the United States, made payable to the undersigned, or by gold, in the sum of five thousand dollars, (\$5,000) which will be forfeited if the party tendering decline to enter into contract when called upon to do so.

The cheques or cash deposits, as the case may be, of unsuccessful tenderers will be returned when contract is awarded.

The agreement on the form of tender to furnish a bond for \$50,000, or equivalent satisfactory security, for the due fulfilment of the work, must be signed by the tenderer and his sureties.

The Department is not bound to accept the lowest or any tender.

W. S. GORE,  
Deputy Commissioner of Lands and Works,  
Lands and Works Department,  
Victoria, B.C., 2nd November, 1901.

## NOTICE TO CONTRACTORS

Combined Traffic and Railway Bridge for Fraser River, at New Westminster, British Columbia, Canada.

### Extension of Time for Receiving Tenders

The time for receiving tenders for the above bridge has been extended to SATURDAY, INCLUSIVE, THE 25TH JANUARY, 1902.

W. S. GORE,  
Deputy Commissioner of Lands and Works,  
Lands and Works Department,  
Victoria, B.C., 13th December, 1901.

## Municipal Debentures

Tenders will be received by the undersigned up to the evening of WEDNESDAY, THE 8TH DAY OF JANUARY, 1902, for the purchase of \$2,000 of Debentures of the Village of Fergus, payable in ten yearly payments of principal and interest amounting to \$246.58 each, payable at the office of the Treasurer of said Village on 31st day of December each year; the first of said payments becoming due 31st day of December, 1902.

WILLIAM ROSS,  
Treasurer Village of Fergus.

### CONTRACTS OPEN.

LEBANON, ONT.—The ratepayers of this section intend building a new school.

BRUSSELS, ONT.—C. Zilliox purposes building a brick barn in the early spring.

LEBANON, ONT.—The ratepayers of this section will build a new school next year.

WATERFORD, ONT.—Tenders have been taken for erection of new town hall.

WINCHESTER, ONT.—A. Sweet & Co. will build an addition to their store next spring.

BLYTH, ONT.—Fraser & Logan purpose rebuilding their brick and tile yard next spring.

SOURIS, MAN.—The question of having the town lighted by electricity is under consideration.

ROSSLAND, B. C.—It is reported that the Chapleau Mining Co. will erect a refinery next spring.

WIARTON, ONT. A. A. Hackett will build a new steamer here this winter, to cost about \$12,000.

MONCTON, N.B.—It is expected that the Moncton Curling Club will erect a new building next summer.

MELBOURNE, ONT.—W. E. Tolson has offered a free site on which to build a new Methodist church.

SYDNEY, N.S.—The management of the Intercolonial Railway have decided to install an electric light plant here.

TILSONBURG, ONT.—C. F. Burkholder has made a proposition to the town to build a machine shop and residence.

WATERFORD, ONT.—The council has given notice of its intention to construct a number of concrete sidewalks next spring.

PERTH, ONT.—A by-law to provide \$15,000 for construction of sewers will be submitted to the ratepayers on January 6th.

COLLINGWOOD, ONT.—The council have not yet accepted the offer of T. Long & Brother of a site for a new library.

FREDERICTON, N.B.—The Department of Public Works will shortly call for tenders for construction of bridges at

Emerson Creek, Mayo, Osborne, and South Pisarino, in St. John county.

ST. MARY'S, ONT.—G. Carter, Son & Co. are the chief movers in a project for the building of a new flour mill in this town.

ST. CATHARINES, ONT.—The city council has passed a by-law providing for the purchase of a site for a new armoury.

WOODSTOCK, ONT.—The Medical Health Officer, in his annual report, recommends the building of an isolation hospital.

CHATHAM, ONT.—The Canada Flour Mills Co. propose enlarging their premises and have asked for a fixed assessment.

BUCKINGHAM, QUE.—McLaren & Co., who are building a pulp mill here, intend putting up a large brick paper mill at an early date.

ROCKPORT, ONT.—It is rumored that George Boldt, of New York, owner of Heart Island, will erect a large summer hotel on the island.

AMHERST, N.S.—The ratepayers, on the 20th inst., voted in favor of the construction of a sewerage system; estimated cost, \$50,000.

REVELSTOKE, B. C.—A. F. Cummins, C. E., is preparing plans for the extension of the waterworks system of the Water, Light & Power Co.

RICHMOND, QUE.—The council has appointed a committee to confer with other municipalities in regard to building a bridge over the St. Francis river.

GRAND MANAN, N.B.—The Dominion Government contemplates the construction of a breakwater at this place, for which surveys have been made.

LISTOWEL, ONT.—A project is on foot among the citizens to establish a gymnasium, reading room, swimming baths, etc., at a cost of about \$8,000.

PORT STANLEY, ONT.—The Port Stanley Navigation Co., in which W. L. Wickett is interested, have decided to build a boat here, at a cost of \$8,000.

SAULT STE. MARIE, ONT.—An official of the Public Works Department, Ottawa, was here last week looking at the available sites for a new post office.

QUEBEC, QUE.—It is the intention of the Quebec & Lake St. John Railway Co. to erect in this city two large buildings for the repairing and painting of cars.

NORTH SYDNEY, N. S.—The first pile in the construction of the new pier of the Nova Scotia Steel & Coal Co. has been driven. The pier will cost \$120,000.

WELLAND, ONT.—The county council has authorized the Roads and Bridges Committee to obtain plans for a steel swing and a single steel span bridge over the Welland River at Montrose.

**FLESHERTON, ONT.**—A movement is on foot here to form a joint stock company to install an electric light plant at Eugenia, to be operated by Thompson Wilson.

**MEDICINE HAT, N.W.T.**—A company is seeking incorporation for the purpose of constructing a railway from Medicine Hat to Victoria, in northern Alberta.

**MANIOTA, MAN.**—The municipality is taking steps towards the erection of a new bridge across the Assiniboine river, to consist of two 80-foot spans and to cost \$3,000.

**OWEN SOUND, ONT.**—A company is about to be formed for the purpose of building a railway from the Grand Trunk line at Shallow Lake to McNab Lake, in township of Keppel.

**NANAIMO, B.C.**—William Thompson, consulting engineer for the Tye Mining Co., has selected a site north of this town for the new smelter to be built by the company.

**DRESDEN, ONT.**—It is said that an arrangement has been made with the American Construction Co., of New York, for the erection of a sugar factory here, to cost \$600,000.

**BROCKVILLE, ONT.**—The vote on the by-law to raise \$50,000 by debentures for improvements to the gas and electric light plants will take place on February 3rd.

**GRAND FORKS, B.C.**—Two by-laws were passed here last week granting financial aid to the Vancouver, Victoria and Esquimalt Railway and the Republic and Grand Forks Railway.

**MONCTON, N. B.**—Captain R. C. Bacon, of this place, has purchased a block of 800 acres of timber lands in the vicinity of Grand Lake and will likely build a large saw mill there.

**NEWCASTLE, N. B.**—The town clerk is in communication with Willis Chipman, C. E., of Toronto, regarding the preparation of plans for electric light, waterworks and sewerage systems.

**CARP, ONT.**—At a meeting of the county and township councillors held here last week, the question of road improvements was discussed. Councillor Rothwell advocated the purchase of road machinery.

**WOLFE ISLAND, ONT.**—The township council of Wolfe Island are considering plans for a new ferry steamer to cost \$15,000. A by-law may be submitted to the ratepayers on January 6th to provide the funds.

**TRURO, N. S.**—A survey has recently been completed of the route of the proposed Midland Railway between this place and Windsor, in the interests of the provincial and Dominion governments.

**STAYNER, ONT.**—Charles H. Mitchell, civil and hydraulic engineer, of Niagara Falls, Ont., is preparing plans for the hydraulic development to be undertaken by Joseph Knox. The Notawasaga river will furnish the water power.

**GODERICH, ONT.**—J. A. Fowler, architect, of this town, is preparing plans for a new brick church for the Presbyterian congregation at Bayfield and for a similar church for the Methodists of Hackett's appointment, near Belfast.

**HULL, QUE.**—In connection with a sewerage system, the city engineer favors a plan calling for the construction of a 6-foot circular sewer from Lake Flora to the Ottawa River. An expenditure of \$50,000 would be involved.

**GLACE BAY, N.S.**—A public meeting will be held on January 17th to consider the question of constructing a water-

works system. Mr. Odell, town engineer, has advised that the water be obtained from McDonald Lake, six miles distant from the centre of the town.

**PARRY SOUND, ONT.**—A deputation from this vicinity, including W. L. Haight and Walter Foote, interviewed the Minister of Crown Lands last week with a view to securing for the town the rights to a water power on the Magnetawan river, in connection with which a pulp mill may be built.

**LONDON, ONT.**—A syndicate has just completed the purchase of 12 acres of land in the east end, which will be laid out into building lots and residences built thereon. The rumor is again revived that the Grand Trunk Railway intend building a new round-house here.

**GRANBY, QUE.**—The Granby Rubber Co. contemplate building an industrial railway system in connection with their works, for which purpose plans are now being prepared. The railway will be narrow gauge and the motive power electricity.

**PARRSBORO, N. S.**—It is the intention of the Commercial Bank of Windsor to erect a large office building here, of pressed brick and stone. The enlargement of the Cumberland Hotel has been decided upon.—D. A. Huntley will build a large tug next summer for use in Minas Basin.

**KINGSTON, ONT.**—Henry McIntosh has purchased property on Clergy street on which he will build a brick residence in the spring. It is reported that the C.P.R. are considering the location of a coal distributing station here.—So far the students of Queen's University have raised over \$5,000 towards the proposed Grant convocation hall. In all \$20,000 is needed.

**ST. JOHN, N. B.**—At a meeting of the New Brunswick Coal & Railway Co. held in this city on 19th inst. it was decided to invite tenders for construction of the thirty miles of railway from Newcastle to Fredericton.—The waterworks superintendent has submitted a report to council in reference to a water supply for saw mills at Pleasant Point. He estimates the cost for a 12-inch pipe at \$12,000. The work will likely be done.

**GUELPH, ONT.**—Morlock Bros. will rebuild their upholstery factory immediately, as it was the intention to erect an addition to the factory next spring, at a cost of \$25,000.—The ratepayers will vote on January 6th on the question of assuming control of the electric light plant.—The Nature Study School, to be established through the generosity of Sir W. C. MacDonald, will probably be built in connection with the Ontario Agricultural College in this city. Two buildings will be erected, for which plans have been prepared.

**VANCOUVER, B. C.**—By-laws will be submitted to the ratepayers on January 9th to raise \$20,500 for the purchase of Gamble street recreation grounds and \$5,000 for the improvement thereof. Mr. Wood, proprietor of the Strand Hotel, purposes making extensive alterations and additions to the building, which will be commenced as soon as the plans are approved of by the owners of the site.—Dalton & Eveleigh, architects, have taken tenders for new boiler house for British Columbia Electric Railway Co.—At a meeting of citizens held last week it was decided that it was desirable to proceed at once with the erection of a new city hospital.

**HAMILTON, ONT.**—W. & W. Stewart, architects, are preparing plans for a club house to be built at the Forks of the Credit by the Caledon Mountain Trout Co. Work will commence early

in the spring. J. K. Osborne, of Toronto, is president of the company.—City officials are negotiating with chief engineer Hobson, of the G. T. R., regarding plans for the proposed bridge at Burlington Heights. It is expected that work on the approaches will be commenced before long.—It is rumored that the American Steel & Wire Co., of New York, has secured the premises of the Volta Storage Battery Co. for a Canadian branch, and that a new factory will be built later.

**WINNIPEG, MAN.**—Tenders are invited by the city up to the 26th inst. for construction of sewers, granolithic walks and macadam and cedar block pavements.—The city has given notice of its intention to construct the following works: Macadam pavement on Euclid avenue, from Point Douglas avenue to Main street, cost \$7,317; on Sargent avenue, from Balmoral street to Yonge street, cost \$1,263; on Pembina street, from Corydon avenue to Arnold street, cost \$11,109; asphalt pavement on Sargent avenue, from Edmonton street to Balmoral street, cost \$6,000; on Qu'Appelle avenue, from Hargrave street to Balmoral street, cost \$12,480.—By-laws have been passed in council providing for the issue of \$40,000 of waterworks debentures.—It is said that McKenzie & Mann have given up the idea of building a large hotel in this city.

**VICTORIA, B.C.**—Tenders are about to be called for the construction at Banfield Creek of the building for the new cable line to Australia. The main building will be 100 x 120 feet, and in addition there will be separate laundry buildings and a bungalow for the manager. They will be heated by hot water, lighted by electricity, and equipped with open fire places. They will be built on stone foundation, with red shingle walls and cream trimming.—The by-law to provide funds for extension of sewerage system will again be submitted to the ratepayers on December 30th.—The difficulty with the customs authorities regarding the plans for the Fraser river bridge has been satisfactorily settled, and the plans are now on view. The time for receiving tenders has been extended to January 25th.—It is said that nearly 1,000,000 brick will be required in the erection of the new smelter at Osborne Bay.

**OTTAWA, ONT.**—Building permits were last week granted as follows:—A. Luciano, dwelling and shop, Preston street, cost \$800; James Havey, three brick veneer dwellings, Maria street, cost \$6,000; Henry Nitzka, brick veneer dwelling, O'Connor street, cost \$2,800; Fred Schornherr, brick veneer dwelling, Blackburn avenue, cost \$800.—D. A. Davidson, of Kingston, has made a proposition to the council to locate a large cigar factory here.—F. Gelinis, secretary department of public works, invites tenders up to January 24th for the construction of a court house at Carnduff, N. W. T. Plans at above department and at post office at Carnduff.—A company has been incorporated by Sir Charles Ross to build a large factory in Canada for the manufacture of fire arms.—N. W. Rowell, of Toronto, has given notice of application to incorporate the Canada Western Railroad Co. to construct a railway from Fort Frances northerly by way of Rat Portage to Port Nelson, in Hudson Bay.—Ald. Taggart has suggested the dredging of Patterson's creek and the placing of a swing bridge at Elgin street.—The Trustee Board of Bell street Methodist church are considering the advisability of purchasing or erecting a parsonage.—The ratepayers of Gatineau Point have carried a by-law to establish a system of street and house lighting. Arrangements will also be made for a water works pumping station.

**MONTREAL, QUE.**—A movement is on foot to form a joint stock company to build a speedway for the accommodation of citizens who own fast trotting horses. The cost is estimated at \$10,000. E. J. Sheppard, president of the Arena Co., is one of the promoters. — The Finance Committee has voted the sum of \$393,000 for maintenance of the city streets during next year. — The C.P.R. steamship Athabasca will undergo extensive repairs this winter, including a new steel deck. — The ratepayers of the municipality of DeLormier have approved of the by-law granting a bonus of \$16,000 to the James McCredy Co. to erect a boot and shoe factory in that town, at a cost of \$50,000. — The William Strachan Co. have purchased a block of real estate in rear of their factory on St. Timothee street, which will be utilized at a later date for factory purposes. — The chief of the fire brigade will again bring to the attention of the Fire Committee the necessity of having more fire engines. — It is now definitely announced that the council of the Board of Trade have entered into an agreement with P. Lyall & Son to undertake both the financing and the reconstruction of the Board of Trade building. The accepted plans were prepared by David Brown, architect. The new building will cost in the neighborhood of \$400,000, and will be of Indiana limestone. The contractors agree to turn over the building to the board on the first day of May, 1903. — By the sudden rising of the Richelieu river at Sorel the tugs of the Sincennes-McNaughton Co. were damaged to the extent of \$50,000. The steamers of the Richelieu & Ontario Navigation Co. suffered a loss of \$3,000. — The president of the harbor commissioners has been empowered to obtain from elevator experts plans for an elevator of 1,000,000 bushels capacity, and of fire-proof construction. — Building permits have been granted as follows: Dominion Tobacco Co., alterations to three storey house, 80 Papineau st., cost \$1,500; P. H. Bartholomeau, alterations to house, 137 Mansfield st., cost \$1,500 (J. C. Hague, contractor); E. Tremblay, three storey house and store, Ontario st., cost \$2,500 (Charles Reeves, architect); Arthur Bissonnette, two storey house, 240 Murray st., cost \$2,000 (E. Marsau, contractor); H. Lamontagne & Co., five storey hotel and eight stores, Notre Dams st., cost \$15,000 (Hutchinson & Wood, architects, James Shearer & Co., contractors)

**TORONTO, ONT.**—It is understood that the building at the south-east corner of Shuter and Yonge streets has been purchased by Crawford Bros., who will erect a new structure on the site. — Early next spring work will be commenced on the new building to be built on St. Joseph street in connection with St. Michael's college. The cost will be between \$75,000 and \$100,000. — Tenders are wanted at 653 Brock avenue for brick work on residence. — The Canadian Express Co. have purchased the old McMurrich homestead at the corner of Peter and Front streets and intend building new stables on the property at once. — Building permits have been granted as follows: James Dale, pair semi-detached, two storey and attic brick dwellings, 13 and 15 Withrow avenue, cost \$3,000; Corporation of Toronto, two storey brick stable, north side Front street, near Cypress street, cost \$7,000; James McDonald, two storey brick-clad dwelling, north side Dovercourt road, near Northumberland avenue; Henry T. Smith, two storey and attic brick resi-

dence, Brunswick avenue, near Wells street, cost \$2,600 (H. G. Paul, architect); Scott & Cross, two pair semi-detached brick dwellings, west side Euclid avenue, near Bloor street, cost \$7,000; Patterson Mfg Co., one storey frame factory, with corrugated galvanized iron roof, corner Berkeley and Lake streets, cost \$1,800, (J. P. Hynes, architect, Brown & Cooper, contractors); Toronto Hotel Co., six storey hotel on King street, opposite Victoria, of granite, stone, brick and terra cotta, cost \$1,000,000 (E. J. Lennox, architect, Wesley & Horn, contractors); William and J. B. Smith, two residences, 361 and 363 Brunswick avenue, cost \$4,700 each. — The directors of the Toronto Hotel Co. have decided to make the new hotel eight storeys, instead of six as first proposed, and to provide extra ornamentation for the large rotunda. The additional work will increase the cost by about \$218,000.

#### FIRES.

General Hospital at Mattawa, Ont., heavily damaged; insurance, \$5,000. — Residences of Mrs. Thomas Walker and Mrs. G. Veitch, on the Huron road, near Waterloo, Ont., totally destroyed; insurance, \$3,000. — Upholstering factory of Morlock Bros., at Guelph, Ont., damaged to extent of \$15,000. — Excelsior and veneer factory of Rider & Kitchener at Lindsay, Ont., partially destroyed; loss covered by insurance.

#### CONTRACTS AWARDED.

**HULL, QUE.**—The council has decided to purchase \$1,200 worth of waterworks pipes and valves from John McDougall, of Montreal.

**ARNPRIOR, ONT.**—Waterworks and sewerage bonds have been sold to the Standard Life Assurance Co. at par; amount, \$75,000.

**NORTH SYDNEY, N. S.**—Reed & Archibald, of Halifax, have been awarded the contract for pile driving for the Nova Scotia Steel & Coal Co.'s pier.

**PEMBROKE, ONT.**—Edward Carswell, of Ross, has secured the contract for erection of new school house in S. S. No. 12, Westmeath; price \$850.

**WINNIPEG, MAN.**—The Public School Board have accepted the tender of the

Canadian Bank of Commerce for \$50,000 debentures, at par, with allowance for accrued interest. — The tender of the Canada Sewer Pipe Co. for the supply of sewer pipe, at \$728.99, has been accepted by the council.

**VANCOUVER, B. C.**—Work will shortly be commenced on the improvements to the C. P. R. Hotel Vancouver. The architect is F. M. Rattenbury, of Victoria, and the contract for building the western wing has been awarded to Robertson & Hackett, at the price of \$100,000. When the new wing is completed all the old portion of the hotel will be torn down and the new hotel erected in its place.

**TORONTO, ONT.**—Wood fiber plaster is being used on the new palace hotel Upper Canada College, and J. W. Flavell's residence in Toronto, the opera house in Kingston, and the buildings of the Coppe Cliff Co. at Copper Cliff, Ont. — Contract for new office building at the cattle market was awarded last week by the Board of Control as follows: Masonry, Henry Lucas, \$3,946; carpenter work, A. B. Coleman, \$2,850; plumbing, James Sherlock, \$1,559. The lowest tender for the caretaker's house was \$2,335, which was not accepted.

**QUEBEC, QUE.**—Five tenders were received by the city council for construction of sewer in St. Sauveur, as follows: Walter Sharpe, \$21,389; J. B. Jinchereau, \$23,380; Ign. Bilodeau, \$12,412; P. Boulanger, \$19,650; Emile Cote, \$12,054. The tender of Emile Cote was accepted. The following tenders were received by the council for construction of a new fire station in Montcalm ward: For the entire work—Fred Devarences, \$15,501; J. B. Jinchereau, \$14,022; Emile Cote, \$13,936; Paul Breton, \$12,222. The latter's tender did not include heating, plumbing, painting and glazing. For Masonry—Chas. C. Cote & Cie, \$7,450; Frs. Parent, \$7,330; Ign. Bilodeau, \$6,375. Painting and glazing—Gauthier & Frere, \$511.75; J. Copeman, \$466. Joiners work—P. E. Lamonde, \$7,600; P. Decourcy, \$7,492; (including painting and glazing)—Ls. Richard, \$7,075; Ed. Nadeau, \$6,595. Plumbing and heating—E. Simard & Cie, \$1,736; Vaudry & Matte, \$1,696; P. Paradis, \$1,663; O. Samson, \$1,490; O. Picard & Fils, \$1,486; J. Maguire, \$1,365. The bulk tender of Emile Cote was accepted. The architects are Staveley & Staveley.

**MONTREAL, QUE.**—The Harbor

## Good Roads Machinery Co. (Limited.)

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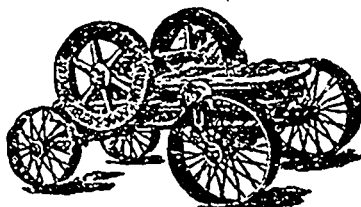
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SAWYER & MASSEY COMPANY, Limited - Hamilton, Canada

## MUNICIPAL DEBENTURES BOUGHT

ÆMILIUS JARVIS & CO. (Toronto Stock Exchange)

Commissioners have awarded contracts for annual supply of timber and stone as follows: Broken stone for macadamizing, delivery, Mr. Kirk, 95 cents a ton; for delivery, Mr. Marlineau, 94 cents a ton; Banc Rouge stone, Mr. Kirk, at average of 65 cents a ton. For the supply of the timber J. & B. Grier were awarded at \$60,884, and Shearer, Brown & Co. were next at \$65,581. The Commissioners decided, however, to let the contract out in parts, awarding each to the lowest tenderers. For round hemlock contract was awarded to Owen Bros. at 12 cents; flat hemlock, Mr. Brown & Co., 12 cents; other hemlock, J & B Grier, 16 cents; round hemlock, 12 cents; square pine, \$22, Smith & Brennan; red pine piles, Brunneau & Co., 16 cents; red pine coping, J & B Grier, \$24; rock elm, Smith & McLennan, \$24; pine planks, Montreal Lumber Company, \$15.90; hemlock planks, Montreal Lumber Company, for 50 per cent at \$12.90, and J & B Grier at \$13 per cent; spruce planks, \$14.90, Montreal Lumber Company.

**BIDS.**

**STOWEL, ONT.** — The following bids were received by the corporation for \$10,000 four per cent. debentures: The Life Assurance Co., Toronto, \$10,000; Central Canada Loan & Savings Co., Toronto, \$9,887; H. O'Hara & Co., Toronto, \$9,705; G. A. Stimson & Co., Toronto, \$9,601.50; Bank of Hamilton, Toronto. No tender has been accepted, as the council are of the opinion that the debentures should sell at par.

**WINCHESTER, ONT.** — Winchester ship drainage debentures of the following sums were offered for sale: (1) \$16.49; (2) \$1,530.46; (3) \$982; (4) \$92; (5) \$1,876.50. The tenders received were: W. D. Meikle, Morrisburg, \$1,546; (3) \$991.50; (4) \$860.50; (5) \$50. Molsons Bank, Morrisburg—\$4% with a bonus of \$250. Henry H. Hara, Toronto—\$50,663.50 and accrued interest, bearing 5% yearly; (2) \$1,515.50 accrued interest, bearing 4%; (3) \$100 and accrued interest, bearing 4%; (4) \$5.92 and accrued interest, bearing 4%; (5) \$1854.00 and accrued interest, bearing 4%. S. F. Bingham, Chesterville—\$1,150 for the five lots of debentures. J. C. Casselman, Chesterville—Nos. 1 and 4 money furnished at par. Corbett Cross, Chesterville—(2), (3) and (4) \$100. G. A. Stimson & Co., Toronto—(2), (3), (4) and (5), \$56,128. Emilius & Co., Toronto—(1), (2), (3), (4) and (5), \$53,734. Jas. T. Smith, Canaan—(3) at 3.90%. A. W. Harrison, Toronto, also tendered.

**BRIDGE PLAN SEIZED.**

The plans for the New Westminster bridge, for which the Government is calling for tenders, were seized recently by the Collector of Customs for duty. They were prepared at Kansas City by Mr. Tidell, the bridge expert, and the collector contends that they are liable to duty for duty, this being 20 per cent. of the estimated cost of the bridge. The plans of the Lugent Sound bridge and the proposed bridge at Point Ellice were

seized for the same reason. The Provincial Government is appealing to Ottawa.

**DATE OF PUBLICATION.**

Architects, engineers, municipal authorities and others are reminded that the CONTRACT RECORD is printed every Tuesday afternoon, and that advertisements should reach the office of publication not later than 2 o'clock p.m. on that day to insure insertion in the issue of the current week. Advertisements are frequently received too late for insertion, to avoid which special attention is directed to this announcement.

A new school house has been completed at Chatham, N.B., at a cost of \$43,000, from plans prepared by Mr. R. C. John Dunn, architect, of St. John. Mr. John McDonald, of Chatham, was the contractor. [The building is of freestone from the quarry of E. C. Fish. It is 104x76 feet, two and one-half storeys, with base-

ment. The main building has three entrances and contains ten class rooms, nearly all of which are 32x25 feet. There are also cloak rooms and an assembly hall 51 x 31 feet, with folding doors. The floors are birch and the wainscoting spruce, oiled and polished.

The Ottawa Car Company has just finished for the Imperial War Office the construction of a pontoon bridge for the use of the army in South Africa. It was the first order for these conveniences of war ever placed in Canada. The pontoons are ready for shipment awaiting orders from the Imperial Government. The pontoons are built somewhat after the fashion of a scow or bonne. Each pontoon is in two sections, so that when joined together one forms the bow and the other the stern. They are covered inside and outside with canvas and marine glue and are as perfectly watertight as it is possible to make them. The boats are 18 feet long, and the company has constructed five, which will provide for a bridge over a stream 180 feet wide for the accommodation of infantry and probably about half that width for cavalry.

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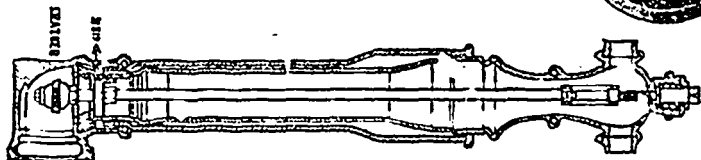
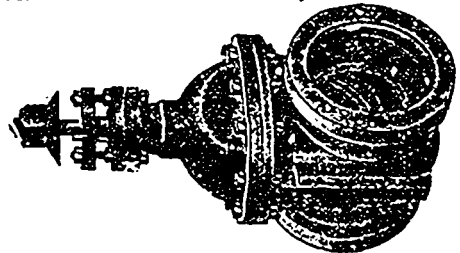
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Trees a foot in diameter have been cut down by the beavers, the branches trimmed off and the trunks, in some mysterious manner, brought to the dam and submerged. The dam is better than many on the river that have been built by men. Over 1,000 beavers have worked hard on this job for several months, and they will be allowed to remain in possession all winter.

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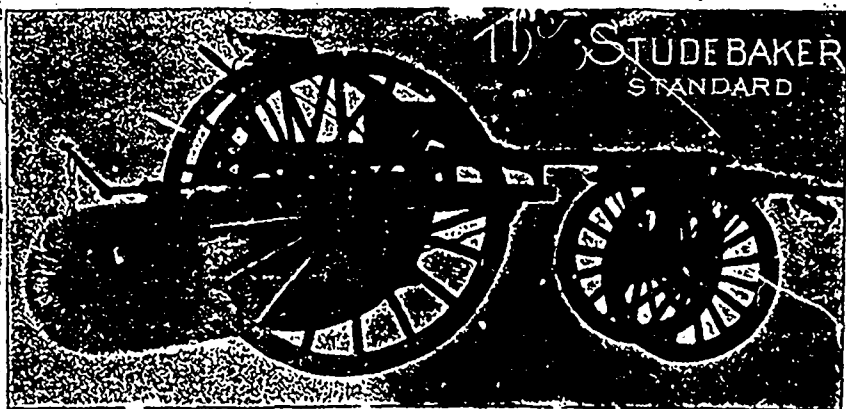
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**THE STRENGTH OF BEAMS.**

(Continued from last week.)

To find the load  $W$  (including five-eighths of the weight of the beam itself) on the centre of a rectangular beam supported at each end that will produce a deflection of 1-40 in. for every foot of length, we obtain the following rule: Divide the product of the breadth into the cube of the depth (in inches) by the square of the length (in feet), the quotient multiplied by  $E$  and divided by 17,280 will give the load,  $W$ ;  $E$   $W$  being both in tons or both in pounds. For example, let a beam of timber 10 in. square and 18 ft. long have a safe load at the middle of 3,173 lb. (including five-eighths of its own weight,) which produces a deflection of  $\frac{1}{4}$  in.; but by Tredgold's rule the deflection ought not to exceed 45 n., consequently, in order to comply with that rule, the load must be reduced in the proportion of forty-five to eighty, and must not exceed nine sixteenths of 3,173 lb., or 1,785 lb.

Suppose a beam 20 ft. long, 10 in. broad, and 15 in. deep, and weighing 625 lb. to be loaded with a weight that produces a deflection of  $\frac{1}{2}$  in., then we find  $W$  to be 8,484 lb., and deducting five eighths of 625, or 391 lb. from this, we have 8,093 lb. for the load at the middle of the beam.

If the load is uniformly distributed over the entire length of the beam, the weight which would produce  $\frac{1}{2}$  in. of deflection in the last example will be eight-fifths of 8,093, or 12,949 lb.

By applying the above rule to floor joists of fir, we can find the necessary scantlings for stiffness, if we suppose that they have to carry a load of 120 lb. per foot of length. For a bearing of 10 ft. they should be 7 in. by 2 in. or 6 in. by 3 in.; for a 14 ft. bearing the scantling should be either 10 in. by 2 in. or 9 in. by 3 in.; for 18 ft. bearing the scantling should be 10 $\frac{1}{2}$  in. by 3 in. or 9 $\frac{1}{2}$  in. by 4 in.

A rolled iron beam of I section is 10 ft. long and has a load of three and a half tons at the centre, its own weight being 1-10 ton, five weights of which is 625 ton, and the weight at the centre becomes 3-5625 tons. The deflection in the middle with this load is one-seventh of an inch, and by Tredgold's rule it should not exceed  $\frac{1}{4}$  in., so that a heavier load might have been put upon it.

A steel girder 25 ft. long, five-eighths of whose weight is 1-2 ton, is loaded at the middle with 35-4 tons, or the total load is 36-6 tons; the deflection with this load amounts to 86 in., but by Tredgold's rule it should not exceed 625 in.; consequently the load should be reduced by one-third.

**REAL ESTATE TRANSFERS.**

The following transfers of vacant property in Toronto are reported since last issue:

Hepburn street, n. s., Thomas Milburn estate to Robert B. Younghusband, 108-4 132, being lots 5 and 6, block S, plan 329, assessed at \$1,083; no improvements.

Beatrice street, w. s., E. O. Bickford estate to John Robson, 22x102, being part o 132, plan 7, 48, assessed at \$264; no improvement.

Cobourg avenue, s. s., Thomas Handley to James Armstrong and John J. Cook, lot 21, plan 587, 20x120.

Roncesvalles avenue, w. s., Mary M. Barfoot to York County Loan & Savings Co., 100x150, being parts lots 10 and 11, plan 485, assessed at \$1,000; no improvements.

Sunnyside avenue, w. s., Mary McDonnell to Rich. McDonell, 35x120, being part of township lot 35, assessed at \$70.

Rusholme road, w. s., Arthur J. Husband to Annie J. Miles, 36-8x147, being parts lots 83 and 84, plan 405, assessed at \$293; no improvements.

Dupont street, n. s., Horace Thorne to John Ferling Reeve, 100x125, being lots 54 and 55, plan 698, assessed at \$700.

Kendal avenue, e. s., 50x128, being lot 66, plan 698, assessed at \$300; no improvements. total assessment of parcel \$1,000.

Victor avenue, s. s., Bristol and West of England Loan Co. to Eliza M. Millard, 50x100, being part lot 31, plan 516, assessed at \$300; no improvements.

Margueretta street, w. s., Toronto Land and Investment Corporation to Wm. H. Marks, 25x100, being south half of lot 50, plan M36, assessed at \$100.

Millicent street, n. s., John Kerr estate to Jessie Gray, 20x132, being part lot 32, plan 862, assessed at \$60; no improvements.

Avenue road, w. s., Wm. J. Bredin to Mark Bredin, 127-10x180, being block A, plan 199 E, assessed at \$4,474.

Bernard avenue, s. s., north of Scotland Canadian Mortgage Co. to Harry Ford, 45x100, being easterly portions of lots 148, 149 and 150, plan M6, assessed at \$1,154; no improvements.

Spadina road, w. s., John W. Langmuir to Isaac W. W. Plewes, 50x127, being north parts 178 and 179, plan 698, assessed at \$900.

Spencer avenue, e. s., John Joseph Walsh to Ellen Walsh, 60x200, being lot 80, plan 431, assessed at \$1,800; no improvement.

Bank street, s. s., Lucy Rankin to John A. Nesbitt, 19-10x132, being west part lot 48, plan 438, assessed at \$200.

Callender street, e. s., John A. Nesbitt to Lucy Rankin, 50x113, being lots 18 and 19, plan 397, assessed at \$750; no improvements.

Hepburn street, n. s., Robert B. Younghusband to James Nesbitt, 108-4x132, being lots 5 and 6, block S, plan 329, assessed at \$1,083; no improvements.

Oslar street, e. s., John Stark to Arthur W. Wills, 17x113, being north part lot 8, plan 797, assessed at \$51; no improvements.

The Canadian Revolving Door Company, Limited, has been incorporated in Toronto, with a capital of \$40,000. The members include J. Hillock, M. Hillock, T. VanKannel, J. W. Farrell, and D. Urquhart.

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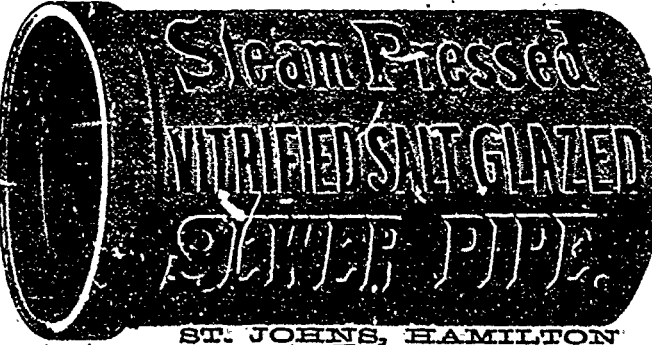
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## MUNICIPAL DEPARTMENT

### EXPERIMENTAL TESTS OF PAVING MATERIALS.

A memoir on this subject was presented to the College of Engineers and Architects of Palermo, by Mr. Salvatore Rotigliano. His work relates to the City of Palermo, but as, in addition to the experimental data referring to the materials of the Palermo district, it also contains explanations of the author's general method of investigation, we consider it deserving of the reader's attention. Mr. Rotigliano, after making some remarks about the mechanical and physical action to which street pavements are subjected, reduces them to two, viz., friction and impact. Therefore, paving materials must thoroughly resist these two actions, and also withstand crushing strains well. Knowledge of the resisting power to these two sources of wear, friction and compression, is not enough to enable a proper selection of material for paving. It is requisite also to have an idea of the degree of hardness, not exactly in the sense of the term as defined by mineralogy, but the resistance to external mechanical actions. Resistance to friction is very important, because the rapid wear of the paving, besides involving great expense for renewal, also creates dust, so inconvenient and dangerous in large cities. From the point of view of hygiene, paving materials should have but little absorbing power for liquids, which, in addition to causing ruptures by freezing, favour the rapid development of pathogenic microbes.

The natural materials tested by Mr. Rotigliano were compact dolomitic-limestone from the "Cona d'Ore," a mountain ridge surrounding the city of Palermo, lava from Etna and Vesuvius, and the bituminous limestone of Ragusa. The artificial materials were asphalt compressed in the form of small slabs and blocks from the "Compagnie Generale des Asphaltes de France," proprietors of the deposits of Seyssel (Savoie), concrete and Portland cement blocks from Casale Monferrato. Several pieces of apparatus are employed to determine the resistance to wear; amongst which were those of Deval, Siebeneicher, Bauschinger and Muller.

Mr. Rotigliano adopted the Dory instrument of the Palermo "School of Applications for Engineers." The quality of the sand employed in the testing apparatus has a great influence on wear. The test was made with Mazzana sand from the Vallo di Sicilia, containing about 96 per cent. of silica; it was passed through a sieve with 400 meshes per cm.<sup>2</sup>, and dried to obtain a regular flow from the funnels of the apparatus. The amount of water and sand employed, velocity of the grindstone pressure also, have an effect on wear by friction. As an index of wear by friction, the experimenter took, like Canevazzi, the height of the prismatic

layer worn from a sample under the unit pressure of 1,000 kg. per m.<sup>2</sup>, during the time required for the grindstone to travel from a point on the central circumference of the millstone for a distance of one kilometre at a speed of 0.82 m. per second. This index has not yet been adopted at Paris or Berlin, the wear being estimated by loss of weight or volume in the sample, though it would be well were it adopted generally for specifications. The index of wear was determined for all the materials mentioned in well defined conditions described in the memoir. The standard of comparison was Rocca di Falco limestone, which is the best known rock in Palermo, owing to its extensive utilization for paving. The crushing tests were made by the usual methods, without, however, interposing between the compressed surface of the sample and the prisms of the machine any yielding substance as lead plates, because it is admitted that they alter the resistance, especially with hard stones. The absorbing capacity was tested by the ordinary method. Square test pieces were made, dried naturally, and the apparent volume and weight determined. Then they were placed in a vessel filled with water, at atmospheric temperature, taking care during the first five days to make immersion gradual, so as to obtain an easy disengagement of the air contained in the pores. Submersion lasted ten days. Then the samples were taken out, wiped dry with a cloth, and again weighed. The difference between the

weights before and after submersion compared with the apparent volume, amount of water per unit of volume was taken as the hygrometric. The experimenter concludes by that it is difficult to find a stone unites to an eminent degree of ties needed for hygienic, durable materials. In any case, they must be thoroughly studied, especially by aid of accurate data the mechanical and physical properties of the materials in order to make the best selection.

Mr. Rotigliano made a number of remarks regarding the special materials, which we shall not repeat, they are only of local interest. We however, remark that it results only from his experiments that asphalt, and compressed, is, in opposition to what is commonly supposed, possesses a considerable degree of permeability. According to Dr. Bellegrini, absolute impermeability only exists in melted concrete blocks resist the wear action well, but have a great water-impregnating capacity. The memoir concludes with a series of tables with experimental results and three tables of diagrams. Politecnico.

We are informed by Mr. W. C. E. that the item published in the CANADIAN CONTRACT RECORD of December 11th, regarding the disposal of his interests in the Northern Iron Works, of Wingham, was incorrect. Mr. Bullock states that he still retains stock in the company, and that a reorganization of the company is likely to take place.

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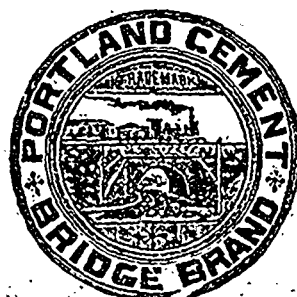
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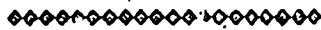


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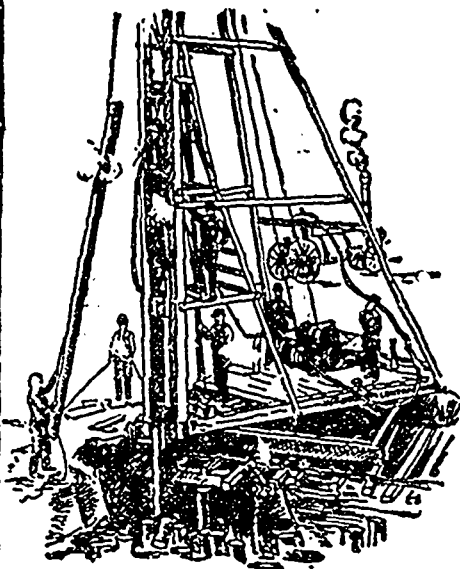
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Table listing prices for Milton Pressed Brick and Sewer Pipe Co. products, including Red No. 1, Buff No. 1, Roman Red, and Hard Building bricks.

Table listing prices for Don Valley Pressed Brick Works products, including Nos. 1 and 2 Red Pressed Bricks, Buff Pressed Bricks, and Roman Red.

Table listing prices for Toronto Pressed Brick and Terra Cotta Works products, including Red No. 1, Buff No. 1, Roman Red, and Hard Building bricks.

Table listing prices for Beamsville Brick and Terra Cotta Co. products, including Red Fearless Facing, Buff No. 1, and Roman Facing.

Large index table listing various construction services and materials such as Architects, Contractors, Builders, Bricklayers, and Roofers, with their respective names and addresses.

Table listing prices for Beamsville, Montreal, products including Red Fearless, Moulded and Ornamental Bricks, and Roofing Tiles.

Table listing prices for Stone products, including Common Rubble, Large flat Rubble, Foundation Blocks, and Granite curbing stone.

Table listing prices for Credit Valley Stone products, including Rubble, Brown Courting, and Grey Dimension stone.

Table listing prices for Slate products, including Roofing (7 square) and Terra Cotta Tiles.

Table listing prices for Cement, Lime, and Portland Cement products, including various brands like Joson and North's.

Table listing prices for Architectural Varnishes and other finishing materials, including Exterior walling body and Elastolin.