

CANADIAN Contract Record

*A Weekly Journal of Public Works, Tenders,
Advance Information and Municipal Progress*

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. 15.

TORONTO, MONTREAL AND WINNIPEG, DECEMBER 7, 1904

No. 43

THE CANADIAN CONTRACT RECORD

PUBLISHED EVERY WEDNESDAY

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TENDERS

will be received by the undersigned up to SATURDAY, JANUARY 29, 1905, for the repair of the Waddell Creek drain in the Township of Sarnia, a distance of about 146 rods.

Plans and specifications can be seen at the Clerk's office.

The lowest or any tender not necessarily accepted.

MAGGIE LOWRIE, Township Clerk,
Box 245, Sarnia.

TENDERS WANTED

Tenders will be received by the Council of the Township of Hullett up to 1 p. m. on THURSDAY, THE 15TH DECEMBER, 1904, for the erection of Concrete Abutments to support two steel bridges, also for a concrete arch four feet in diameter and eighteen feet long.

At the same time and place tenders will be received for the steel superstructure of the said two bridges, length between abutments being 80 feet and 16 feet and 14 feet roadway.

The lowest or any tender not necessarily accepted. Specifications for the Concrete work can be seen at the Clerk's office, Londonboro.

JAMES CAMPBELL, Clerk.

TENDERS

FOR THE SUPPLY OF

CAST IRON PIPE

Sealed tenders marked "Tenders for the supply of Cast Iron Pipe" and addressed to M. W. Flannery, Town Clerk, will be received by the Corporation of the Town of North Bay, Ontario, Canada, not later than 12 o'clock, noon, of the 16TH DAY OF DECEMBER, 1904, for the supply of 15,000 ft. of 10" Cast Iron Pipe, together with valves and specials.

Plans, specifications, bill of quantities, and form of proposal may be seen at the office of the Town Engineer, from whom copies may be obtained.

The lowest or any tender not necessarily accepted.

M. W. FLANNERY, Town Clerk,
North Bay, Ontario, 26th November, 1904.

DEBENTURES FOR SALE

Tenders are invited by the undersigned until DECEMBER 31ST NEXT, for the purchase of fifteen thousand dollars worth of water works debentures of the Town of Red Deer, N.W.T.

L. C. FULMER,
Secretary-Treasurer.

TENDERS

Tenders addressed to the undersigned will be received until noon THURSDAY, THE 22ND DECEMBER, 1904, for the labor and material required for the proposed West End Trunk Sewer and Watermains in the City of Edmonton.

LABOR—Excavation, Pipelaying and Back-filling on 13,200 lin. ft. Sewer and Watermains.
Building Manholes, Valve Chambers and Catchbasins.
Setting Hydrants.

MATERIAL—Cast Iron Pipe and Specials, 4 inch to 12 inch diameter.
Hydrants, 8 ft. Trench, 2 way and steamer Gate Valves, 4 inch to 12 inch.
Brass Goods, Service Boxes, Galvanized and Lead Pipe.
Vitrified Pipe from 6 inch to 24 inch diameter with bends and junctions.

Prices for material to be F. O. B. Edmonton in carload lots, delivered in city yard not later than April 1st, 1905.

Plans and specifications may be seen and forms of tender and other information obtained at the office of the undersigned. The lowest or any tender not necessarily accepted.

A. J. McLEAN,
City Engineer.

CONTRACTS OPEN

SWAN LAKE, MAN. — Hawkins & Scott will erect a large warehouse here.

NEWMARKET, ONT.—John Savage intends building a residence next spring.

GOLDEN, B. C.—The Presbyterian congregation have decided to build a new manse.

WALTON, ONT.—A new brick residence will be built next summer by John Bennett.

AYER'S CLIFF, QUE.—Mrs. James Libby has bought a building site on Main street.

GALT, ONT.—The question of erecting a new Y. M. C. A. building is under consideration.

CARTWRIGHT, MAN.—The Ogilvie Milling Co. intend building an elevator here next summer.

LEAMINGTON, ONT.—J. D. Fraser is erecting two large greenhouses, which will be steam heated.

OWEN SOUND, ONT.—Maitland, Rixon & Co. will build a saw mill on Manitoulin Island next year.

MANIWAKI, QUE.—Proposals have been invited by N. J. Nault for purchase of \$10,000 village debentures.

AMHERST, N.S.—At a public meeting held last week, it was decided to take steps to improve the streets.

WALKERVILLE, ONT.—The proposal to expend \$50,000 for a new school will be submitted to the electors December 19.

QUEBEC, QUE.—J. P. Ouellet, architect, of this city, has prepared plans for an addition to the Seminary at Rimouski.

FORT FRANCIS, ONT. — A Minneapolis gentleman intends building a large hotel at this place, to cost about \$25,000.

BOISSEVAIN, MAN.—The Council have passed a by-law to raise \$6,000 for the purpose of providing increased fire protection.

CORNWALL, ONT. — The High School Board will ask the Town Council to provide \$8,000 with which to enlarge the school.

ALMONTE, ONT.—Tenders will be received by George F. Cooke up to 15th inst. for erection of a brick bakery, store and dwelling.

EAST TORONTO, ONT. — W. H. Clay, Town Treasurer, is receiving bids until to-day for purchase of \$55,000 5 per cent. debentures.

PICTOU, N.S.—Tenders are invited by W. B. Ives, up to December 28th, for the erection of a cottage hospital building at this place.

MOUNT PLEASANT, B. C.—James Harford has purchased a lot on Thirteenth Ave. on which he will build a residence next spring.

JACKSON'S POINT, ONT. — It is again reported that plans have been prepared for an expensive summer hotel to be built here next spring.

SANDWICH, ONT.—Plans are being prepared at Ottawa for the new post office building to be built here, which is estimated to cost \$14,000.

GRAND MERE, QUE.—The Laurentide Paper Co. are issuing \$1,200,000 of preferred shares, part of the money to be used for improvements to plant.

MANITOU, MAN.—Bids for the purchase of \$5,250 5 per cent. debentures will be received by G. F. Bradley, Village Treasurer, up to December 15.

WESTMOUNT, QUE.—The rate-payers on Saturday last decided by a large majority in favor of installing a municipal electric light and incineration plant.

OKANAGAN, B.C.—Engineers have been making surveys with the object of lowering the level of Okanagan lake, a project which may be carried out next summer.

ST. CATHARINES, ONT.—A by-law to raise \$10,000 for sewerage and drainage purposes will be submitted to the ratepayers at the municipal elections.

NORTH TORONTO, ONT.—Dr. Bond has purchased a lot at corner of Roehampton ave. and Yonge street and intends building a residence thereon at a later date.

RAINY RIVER, ONT.—The Town has for sale \$13,000 of debentures.—It is understood that the Canadian Northern Railway will build an addition to their hotel here.

BARRIE, ONT.—The County Council have appointed a committee to obtain plans and estimates for a steel bridge to be built over the Nottawasaga river near Van Vlack.

WETASKIWIN, N. W. T.—The Northwest Gas & Oil Co., of which H. W. Dingman is the promoter, have asked for an extension of time for the commencement of operations.

CHIPPEWA HILL, ONT.—John Scofield, Indian Agent, of this place, will receive tenders up to Saturday, 17th inst., for erection of a church at French Bay, Saugeen Indian Reserve.

GODERICH, ONT.—At the County Council meeting this week the question of issuing debentures for the addition to the House of Refuge and for the new County buildings will be considered.

WHITE LAKE, ONT.—J. D. McNab, Township Clerk, will receive tenders up to 17th inst. for the building of a wooden bridge across the Madawaska river on the White Lake and Annprior road.

ST. BONIFACE, MAN.—Ground has been broken for the foundation of the new terminal elevator to be built by the Colonial Elevator and Andrew Gage Grain Co. The working house only will be completed this year.

STRATFORD, ONT.—The City Council has definitely decided to submit a by-law to the ratepayers in January to provide \$50,000 for the extension of the waterworks plant and \$3,000 for a mortuary chapel in the cemetery.

SYDNEY, N. S.—The Cape Breton Coal, Iron & Railway Co. have purchased two water-front properties here on which they intend to erect a shipping pier. They will build a line of railway from their coal mines at Cockran's Lake.

CHILLIWACK, B. C.—The Chilliwack Power & Light Co. have not yet awarded any contracts in connection with their proposed power development and electric railway, but expect to begin the work of construction early next spring.

PALMERSTON, ONT.—Bids will be received by H. Hyndman, jr., up to December 12, for purchase of \$10,954.96 local improvement debentures, \$2,500 electric light debentures, and \$1,200 public library debentures, all 4½ per cent.

CHATHAM, ONT.—It is proposed to submit a by-law to the ratepayers to grant a loan of \$20,000 to the Defiance Iron Works to establish works here.—A decision will likely be made this week as to plans for the new market building.

EMERSON, MAN.—The announcement is made that four railroads, the Canadian Pacific, Canadian Northern, Great Northern, and Minneapolis, St. Paul and Sault Ste. Marie, will construct a union depot at the border where the four lines intersect.

ST. JOHN, N.B.—The Canadian Pacific Railway have had surveys made to determine the feasibility of building a bridge across the St. John harbor to the company's new yard near Rodney wharf, Carleton. A two span bridge is projected.

FORT WILLIAM, ONT.—H. M. Holt, C. R. Hosmer and F. W. Thompson, of Montreal, have purchased the Kakabeka Falls, with the intention, it is said, of developing 30,000 horse power.—The Fort William Curling Co. are this week taking tenders for the erection of a curling and skating rink.

SARNIA, ONT.—The Ontario & Quebec Railway Co., otherwise the Canadian Pacific Railway, has applied to the Dominion Parliament for authority to build a branch line from a point near London to some point on the St. Clair river between Sarnia and Lake St. Clair.

BROCKVILLE, ONT.—A. J. Small, of Toronto, has made a proposition to Manager Ritchie to acquire and improve the opera house in this city.—The James Smart Manufacturing Co. have purchased the site of the Wringer Works, which will be used for an extension of their manufacturing premises.

MONCTON, N.B.—D. Pottinger, manager Intercolonial Railway, will receive tenders up to the 14th inst. for repairing 700 feet of cribwork between Levis and Point Levis, Que.—P. N. Hamm, of the firm of Hamm Bros., biscuit manufacturers, St. John, N.B., has decided to build a large biscuit factory in this city.

MORRISBURG, ONT.—W. McLea Walbank, C. E., of Montreal, has reported to the council that the best location for a power house would be in the vicinity of the present pumping plant, the walls, flumes, etc., to be built of concrete and steel, with a brick turbine shed and power house containing five 60-inch wheels, one 45 h.p. exciter wheel, generator and switchboard.

OTTAWA, ONT.—At a meeting of the directors of the Old Men's Home held 1st week, a committee was appointed to consider the erection of an addition to the building.—The Ottawa and New York Railway has been acquired by the New York Central Railway. The new owners will improve the roadbed and replace the wooden bridges by iron structures.

GRAND FALLS, N. B.—It is expected that work will be commenced in the spring on the pulp and paper mills to be built here by the syndicate which recently purchased the timber limits from F. H. Todd & Sons.—Work on the Grand Trunk Pacific surveys between this place and Woodstock is proceeding rapidly and will be completed by the end of the year.

NELSON, B. C.—The Board of Trustees will ask the City to erect a twelve roomed brick school, at a cost of about \$25,000.—The School Board have instructed Carrie & Cain, architects, to prepare plans and estimates for a new twelve-roomed school building, also for remodelling the present structure, and upon their report will depend which plan will be adopted for providing increased accommodation.

VICTORIA, B. C.—The Canadian Pacific Railway Company have just purchased Laurel Point, Victoria Harbor, a rocky promontory, the existence of which has restricted shipping in this harbor, and will blast it out at a cost of \$100,000. The company will apply immediately to the Dominion Government for a substantial subsidy in this undertaking. Wharves to cost another \$100,000 are to be erected at once.

PENETANGUISHENE, ONT.—The Georgian Bay & Seaboard Railway Co. is seeking incorporation to construct a railway from a point on Georgian Bay between Port Severn and Penetanguishene in a southerly direction through the counties of Simcoe, Ontario, Victoria,

Peterboro, Hastings, Lennox, Addington, and Frontenac, to connect with the Ontario and Quebec railway between Cavanville and Moberly.

AROOSTOOK JUNCTION, N.B.—The New Brunswick Electrical Power Co., incorporated at the last session of Parliament, have had surveys made with the object of developing the power of the Aroostook Falls. It is estimated that 4,000 horse power can be obtained with a comparatively moderate expenditure of capital. The power will be used, it is said, for the operation of an electric railroad to be built from Presque Isle to Washburn and Perham, and for furnishing electric light and power.

EDMONTON, N. W. T.—A. J. McLean, City Engineer, is asking for tenders by Thursday, 22nd inst., for the labor and material required for the proposed West End trunk sewer and water mains. The materials include cast iron pipe and specials, hydrants, gas valves, vitrified pipe, galvanized and lead pipe, brass goods and service boxes, to be delivered not later than April 1st, 1905.—Thomas Bellaway will build a warehouse 82 x 42 feet.—Extensive alterations will be made to the post office in this city when the new addition now under way is completed.

VANCOUVER, B.C.—The Hudson's Bay Co. are having plans prepared for a large brick and stone addition to their stores at the corner of Granville and Georgia streets, the work to be commenced next spring.—Capitalists of Ballard, Wash., are said to have decided to build a large saw mill on Clayquet Sound, on the west coast of Vancouver Island.—At a meeting of the British Columbia Copper Co., held in New York on November 25, the directors authorized the preparation of plans for two additional 400 tons smelting furnaces.

BRAINTFORD, ONT.—John Milton has purchased property on Market street, which he will utilize next spring for an extension of his hotel.—The Department of Public Works, Ottawa, are asking for tenders up to Thursday, 15th inst., for the construction of a hot water heating system in the Armouries in this city. Plans on application to L. H. Taylor, architect.—A proposal to issue \$15,000 debentures for civic improvements will be submitted to the electors.—It is unofficially reported that the Canadian Pacific Railway contemplate an extension of their main line from Woodstock to Brantford.

HAMILTON, ONT.—Laurence Munro, architect, 10 Main street east, has prepared plans for a House of Industry to be built at Dunnville, for the erection of which tenders will be received by T. H. Snider, Cayuga, Ont., up to December 19.—The Orangemen of this city have decided to erect a \$15,000 building on their property on west side of James street, between Mulberry and Cannon streets, to be three-stories, with two stores in front on the first floor and public hall in the rear.—The Markets Committee have decided to ask the City Council to submit a by-law to the ratepayers to raise \$15,000 for market improvements.

—The following building permits were granted last week: Truscott Bros., residence on Tisdale street, between Wilson and Cannon streets, cost \$1,800; H. C. Gummo, alterations to buildings, 53-57 North John street, cost \$1,000; Cornudum Wheel Co., addition to works, East Barton street, cost \$1,500; R. & J. Poag, two residences, corner Park and Mulberry street, cost \$2,200.

LONDON, ONT.—The City Engineer will receive tenders up to December 22 for construction of a brick pavement on King street, between Ridout and Wellington streets, the city supplying the brick.—A by-law will be submitted to the

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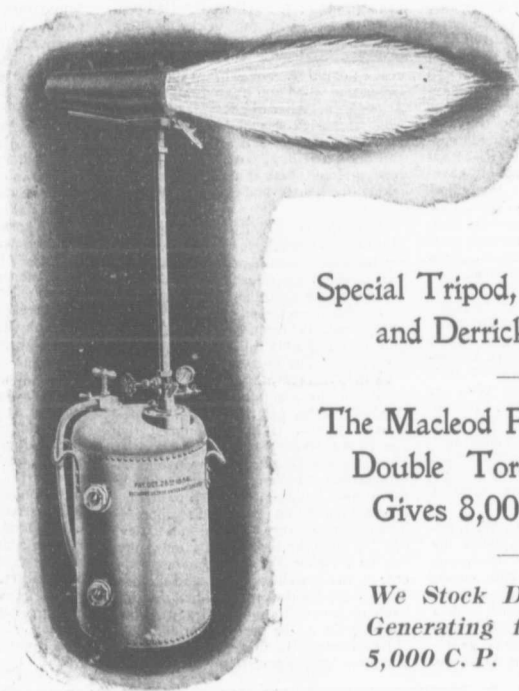
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The Light can be operated by any workman without interfering with his regular work.

W. H. C. MUSSEN & CO.

MONTREAL

ratepayers January 2 to provide \$15,000 for a garbage disposal plant.—S. Gillespie, of Quebec, is forming a company for the manufacture of automobiles and proposes to build a factory in this city.—Moore & Henry, architects, have invited tenders for alterations to the Free Press building.—F. W. Farncombe, C. E., has taken tenders for the construction of a drain on the London-Lobo town line.—The congregation of Chalmers church are raising funds for the building of a new edifice.—G. W. Murray, architect, is preparing plans for a three-storey shoe factory to be built on the corner of Richmond and Bathurst street by the Cook-Fitzgerald Co., of which J. P. Cook and Edward Cook are members. Building operations will be commenced in the spring.

WINNIPEG, MAN.—C. E. Rogers, of Indianapolis, recently purchased a valuable hotel site on Main street in this city, a short distance north of the City Hall.—At a meeting of the Executive Committee of the General Board of Missions of the Methodist Church, held last week, it was decided to build a church for the Galicians. A committee was appointed to report later.—As soon as the weather permits in the spring the City will start work on a new asphalt plant.—The following works are about to be undertaken by the City: Asphalt pavement on Sherbrooke street, from Portage ave. to Notre Dame ave., cost \$51,060; cedar block pavement on lane between Fort and Garry streets, cost \$3,375; sewer on Simcoe street, from Portage ave. to Notre Dame ave., cost \$14,654, and on Burrows ave., Sinclair street and Pritchard ave., cost \$12,540; macadam pavement on McMillan ave., from Pembina street to Hugo street, cost \$6,910.—Work is shortly to be begun on the double tracking of the C.P.R. line between this city and Fort William, a distance of 426 miles.—Mrs. Hample purposes building a business block on Portage ave., between Garry and Smith streets.—P. Hubbard, 449 Main street, is applying for the incorporation of a company to construct telephone systems throughout the province.

MONTREAL, QUE.—C. W. Lindsay, Limited, have just completed the purchase of property on St. Catherine street, immediately west of Peel street, on which he will proceed to erect a seven-storey building of steel and stone, with a clock tower, passenger and freight elevators and modern improvements generally. The cost will be about \$150,000.

—The Eastern Townships Bank will submit a proposal to their shareholders on December 7 to erect a large banking building on the north-east corner of St. James street and Victoria square. If the plan is approved it is intended to start building next May.—The Laurentian Sanatorium Co., Limited, has been incorporated to erect a hospital in this city for the treatment of tuberculosis patients. The English speaking citizens are taking steps towards the erection of a hospital for contagious diseases. The preliminary details are finished and the work requires only to be supplemented by the necessary subscriptions.—L. K. Jones, Secretary Department Railways and Canals, Ottawa, will receive tenders up to 20th inst. for construction of substructure for Atwater Ave. bridge at the Lachine Canal. Plans at office of the Superintendent Engineer, 2 Place d'Armes, this city.—The following building permits have been granted: J. F. Gayer, St. Denis st., three-storey wood and brick dwelling, cost \$3,500; J. O. Aubin, St. Andre st., pair two-storey wood and brick dwellings, cost \$3,600; H. A. Egan, Hypolite st., two-storey wood and brick dwelling, cost \$4,000; Jos. Alix, Mt. Royal, two-storey wood and brick dwelling, cost \$1,500; G. Pallerin, Dufresne st., two-storey wood and brick dwelling, cost \$1,000; Rev. Sisters Hotel Dieu, Pine Ave., improvements to house and warehouse, cost \$55,000.

TORONTO, ONT.—Brereton & Manning, wholesale furriers, have purchased a lot on south side of Wellington street, near York street, on which they will erect a new warehouse.—A vacant lot on Markham street, just south of Harbour street, has recently changed hands, and the purchasers will build four houses thereon.—The Disston Saw Works, of Philadelphia, have completed arrangements for the erection of a factory on Adelaide street east, this city, to cost about \$150,000.—It is announced that the Young Men's Christian Association have received an offer of a valuable additional site on Yonge street, south of the present building, on which to erect a six-storey addition to cost \$200,000.—The Ontario Government are said to have decided upon the erection of a new physics building for Toronto University, to cost in the neighborhood of \$180,000. The money for the proposed building has been received from the Grand Trunk Railway Co. as the purchase price of the old Parliament Buildings site.—The City Engineer has reported to the Island Com-

mittee that a cement pier from the south shore of the island at Manitow road will cost between \$15,000 and \$20,000. He recommends the construction of a system of groynes from the western end of the proposed extension of the breakwater as far as the island pumping station. The following pavements and sidewalks are recommended: Commercial Lane, from Jarvis to west end, brick, \$2,076; Wascona Avenue, from Sumach 185 feet east, \$1,109; Chestnut Park Drive, from 21 feet north of Roxborough Street to portion running east and west from Cluny Avenue produced to the west limit of No. 9, tar macadam, \$4,006; Virtue Street, from Sorara Avenue 314 feet east, tar macadam, \$1,324. Cement concrete sidewalks on Barton Avenue, Howland Avenue to Albany Avenue, \$388; Charles street, Church to Jarvis, \$916; Withrow Avenue, 629 feet east of Broadview Avenue to 417 feet further east, \$525; May street, South Drive to 383½ feet north, \$510; Nanton Crescent, Dale Avenue to Elm Avenue, \$783; Mutual street, Queen to Shuter, \$931; North Lisgard street, Afton Avenue to Dundas, \$1,246; Bellwoods Avenue, Queen to Arthur, \$1,797; Rathnally Avenue, McPherson Avenue to McMaster, \$331; Jemima street, Logan Avenue to 259 feet west, \$360.—Building permits have been granted as follows: Thomas Henry, two-storey brick fronted dwelling, rough-cast sides and back, Crawford street, near Thorn, cost \$1,000; C. Mould & Co., two pair semi-detached two and one-half storey brick dwellings, stone foundations, north side Dupont street, cost \$8,000; F. Males, pair semi-detached two-storey brick and roughcast dwellings, west side Margueretta street, cost \$2,600; James M. Purvis, two-storey and attic brick-clad dwelling, 10 Saultier street, cost \$1,500; Trustees Christian Association, one-storey brick church, corner of Ontario and Carlton streets, cost \$2,500; R. T. McIntyre, one-storey stone and brick barber shop, 1226 Yonge street, cost \$1,500.—The Council have given notice of the proposed construction of the following works: Brick sewer on Queen street and Roncesvalles ave., from Lake Ontario to Constance street, cost \$36,400; tar macadam roadway on Van Horne street, from Dovercourt road to Bartlett ave., cost \$6,442, and on Dupont street, from Bathurst to Christie, cost \$9,674; asphalt pavement on each side of track allowance on Dovercourt road, from Bloor street to city limit, cost \$29,576.

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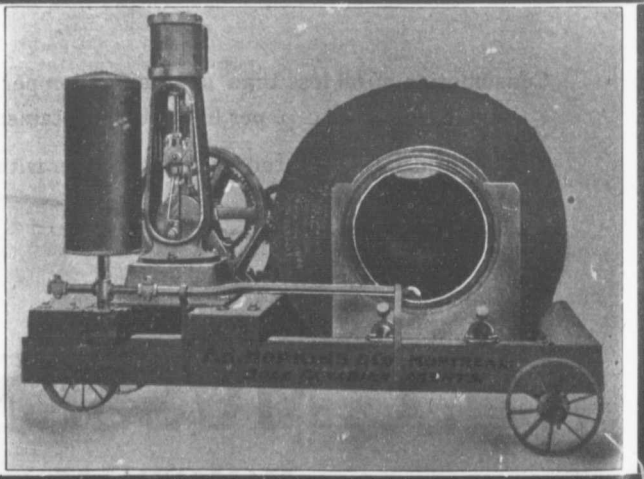
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MONTREAL, P. Q.



FIRES.

Excelsior mill of Stephen Bros., Windsor Junction, N.S., totally destroyed, loss \$5,000. — Grist mill of the John Mackay Company at Bowmanville, Ont., almost totally destroyed: loss \$15,000. — Store of B. W. Kert at Dominion City, Man. — Store of Ingle Blanchard at Minnab, Man., loss \$8,000. — Fire at Victoriaville, Que., on November 29 destroyed the stores of Langlus Bros. and Mr. Mailhoir, and the residence of R. Bourbeau. — Island Park Hotel at Summerside, P.E.I., owned by R. T. Holman, completely destroyed: loss \$45,000. — Drug store of T. Sweet, St. Catharines, Ont., damaged to extent of \$2,500.

CONTRACTS AWARDED.

WINDSOR, ONT.—\$12,000 County debentures have been purchased by Aemilius Jarvis & Co., of Toronto, at par.

PETEWAWA, ONT.—Construction of wharf for the Dominion Government: Lemoine & Fortier, of Pembroke, successful tenderers.

DUNNVILLE, ONT.—\$12,500 public school debentures have been sold to William C. Brent, of Toronto, for \$11,978 and accrued interest.

VANCOUVER, B.C.—Addition to office building of British Columbia Electric Railway Co.: Crowe & Wilson, contractors; cost about \$8,000.

BROCKVILLE, ONT.—The James Smart Co., this city, have been awarded the contract for heating the Iroquois Hotel at E'ora, Ont., and the R. C. church at Clurenceville, Que.

TEESWATER, ONT.—The Imperial Life Insurance Co. are the successful tenderers for Village debentures, as follows: \$2,000 4 per cent. debentures at \$1,905, and \$1,419.64 4 per cent. debentures at \$1,352 and accrued interest.

GRAND FURKS, B.C.—S. M. Martin has secured the sub-contract from Porter Bros. for the erection of 18 Great Northern Railway buildings, including section houses, stations and freight sheds. The largest of these buildings will be at Phoenix.

WINNIPEG, MAN.—Construction of sewers on Anderson ave. and Bricker and Bell streets: Dobson & Jackson, successful tenderers. Brown & Rutherford have secured the contract for supplying the sash and frames for the Eaton departmental store.

GODERICH, ONT.—New church for North street Methodist congregation: Masonry, cut stone work and plastering, C. A. Reid & Co., \$5,910; carpenter work, Goderich Planing Mill Co., \$4,814; plumbing, C. J. Harper, \$328; electric wiring, C. J. Harper, \$127; metal ceilings, C. C. Lee, \$632; painting, M. W. Howell, \$685; heating, making use of present furnaces, J. H. Worsell, \$60.

Contracts for seating, electric light fixtures, etc., have not yet been awarded.

THE ACTION OF SEA-WATER ON CEMENT.

An important paper on the destruction of Portland cement by sea-water was contributed by M. Le Chatelier to the proceedings of the congress on the testing of materials of construction which recently met at Budapest. M. Le Chatelier has shown that compounds of aluminum are the constituents of cement most subject to attack by sea-water. The decomposition arises from the action of calcium sulphate on the calcium aluminate of the cement, and the calcium sulphate is itself produced by a reaction between the lime of the mortar and the magnesium sulphate dissolved in the sea-water. The reaction between the sulphates and the aluminates of calcium results in the production of a sulpho-aluminate of lime, which swells considerably, and thus disintegrates the mortar. The disintegration thus arising is the greater, the greater the quantity of alumina in the cement. Thus, with cements containing only 1 to 2 per cent. of alumina, it is very slight and often undetectable, whilst with 7 per cent. or 8 per cent. alumina, the swelling is marked, and the mass is rapidly destroyed. With a view to producing a mortar more stable in sea-water, M. Le Chatelier has investigated the effect of replacing the alumina by other oxides not reacting with calcium sulphate. The substitutes tried have included oxides of iron, cobalt, chromium, and magnesium. The cements were prepared by bringing up the mixed ingredients to a temperature of incipient fusion, and then grinding the clinker thus produced. The cements on grinding were gauged with water, and the test-pieces on moulding were allowed to harden under water. The stability of these cements in the presence of Ca₂SO₄ was much superior to that of cements containing Al₂O₃, the best results being got when Fe₂O₃ was the substitute used. Such a cement, having a composition equivalent to 5 SiO₂, Fe₂O₃, 17 CaO, was found to be not only very stable chemically, but to have at the same time excellent mechanical properties. M. Le Chatelier has further observed that cements having but small percentages of lime are less attacked than those with more lime, and an equal percentage of Al₂O₃, and that additions of puzzolana do much to mitigate the chemical action of the sea-water. The resistance of cements to the sea is, however, not altogether a matter of chemical composition, but is dependent also upon the physical characteristics of the concrete; a dense close-grained concrete resisting much better than many porous ones, of better composition from a chemical point of view.

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Erie Basket Company, Limited, Leamington, Ont., incorporated, capital \$20,000, to manufacture baskets, veneers, handles, sashes, doors, etc. Directors, Edward Smith, W. T. Easton and E. M. Easton.

East Toronto Brick Company, Limited, Toronto, incorporated, capital \$40,000. Directors, Wm. Williamson, Thomas H. Cooper, and Emerson Coatsworth.

Please Manufacturing Company, Limited, Toronto, incorporated, capital \$50,000, to manufacture soap and washing compounds. Directors, W. C. Kingsbury, C. A. Millar and Frederick Perry.

The Coupe Manufacturing Company, Limited, Toronto, incorporated, capital \$40,000, to manufacture knitted goods. Directors, Alfred Bicknell, R. H. Coupe, and others.

Bell Building Syndicate Company, Limited, Guelph, Ont., incorporated, capital \$40,000. Directors, G. B. Clark, Joseph Brown and A. M. Brown.

Globe Paint & Varnish Company, Limited, Toronto, incorporated, capital \$40,000. Directors, James D. Hawkins, Albert Preston and Henry Coventry.

Electrical Flour Patents Company, Limited, Montreal, incorporated, capital \$250,000, to manufacture machinery. Directors, C. R. Hosmer, Sir Hugh N. Allan, F. W. Thompson and E. S. Clouston.

Commercial Art Company, Toronto, incorporated, capital \$40,000. Directors, Jas. Milne, J. L. Ross, A. W. Holmsted.

The Art Metropole, Toronto, incorporated, capital \$50,000. Directors, C. R. Beswetherick, W. H. Butters, J. H. Hough, H. F. Deas, F. R. Lanigan.

Imperial Chemical Co., Toronto, incorporated, capital \$50,000. Directors, J. M. Sinclair, Chas. Sawdon, W. H. Richardson, W. J. Hamilton, S. Bassett.

Western Coral Marble Co., Chatham, Ont., incorporated, capital \$40,000. Directors, B. Blonde, W. M. Drader, C. R. Charteris.

Ontario Cereal Co., incorporated, capital \$15,000. Directors, C. Russell, J. R.

Hamilton, A. J. Sproatt, Jas. Hamilton, J. Taylor.

BUSINESS NOTES.

Octave Papillon, plumber, Quebec, has voluntarily assigned.

The assignment is announced of George Lapointe & Company, contractors, Montreal.

C. Scanlon, plumber, Montreal, has assigned to Kent & Turcotte and the assets are to be sold on December 2nd.

The building firm of Waugh & Robinson, Welland, Ont., will be dissolved at the end of the year, H. M. Robinson retiring.

A. A. H. Warin and Mrs. Arthur Gaudetroy have registered under the name of A. Gaudetroy & Warin, church ornaments, Montreal.

The brickyard, plant and machinery operated by the London Builders' Supply and Manufacturing Company, London, Ont., will be sold at public auction in that city on the 9th inst.

The Construction Corporation of Canada have elected the following officers: President, Sir Adolphe Caron, Ottawa;

first vice-president, J. H. Jewell, Toronto, second vice-president, H. H. Wickwire; Kentville, N. S.; secretary, A. J. Secretan; treasurer, H. H. Dewart, K. C., Toronto. The company is capitalized at \$500,000 and will have its headquarters at Ottawa.

A. M. Stewart, James C. Stewart and John Stewart have registered as members of the contracting firm of James Stewart & Company, St. Johns, Que.

An understanding has been reached by the shareholders of the Manitoba Construction Company, of Winnipeg, which may result in the winding up of the affairs of the company next spring, when all contracts at present on hand will have been completed. From a financial point of view the company is reported to have been quite successful, but it is said that the various members of the company were not mutually congenial.

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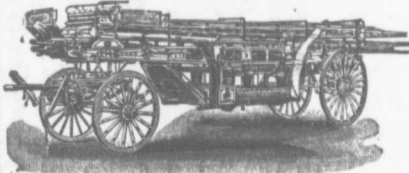
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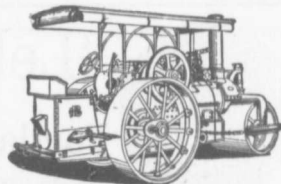


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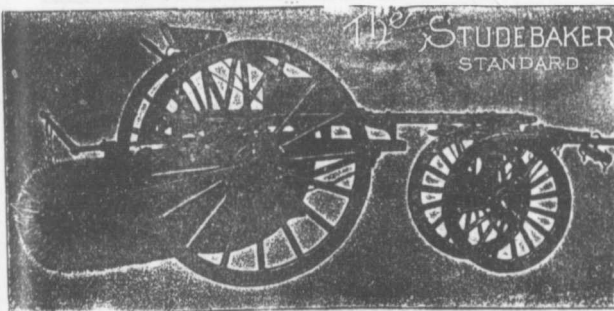
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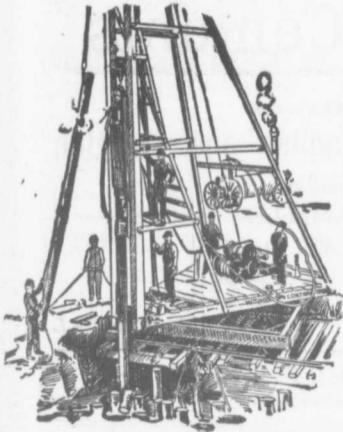


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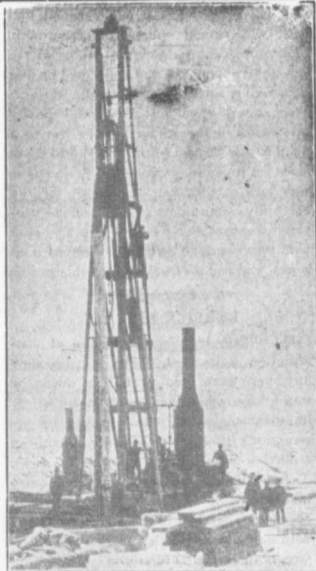
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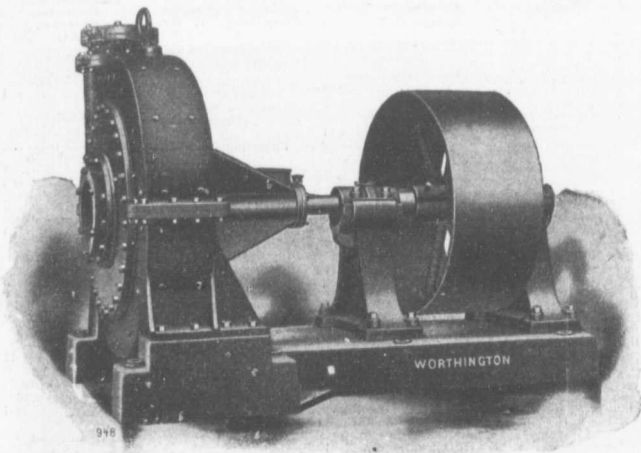
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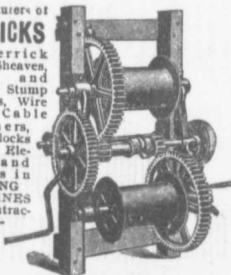
Excavations of foundations for two or three large buildings in the down-town district of Chicago will be made in a novel way. Chicago's down-town streets, as now is generally known, are paralleled forty-six feet below the surface with tunnels corresponding to the streets above. In order to get rid of the earth from the building foundations the Illinois Tunnel Company, owning the underground tunnels, will extend spurs from their main tunnels to a point about the center of the lots to be excavated and wells will be dug connecting the spurs with the surface. Steel cars of about 20,000 pounds capacity are being built, which will be run to a point at the bottom of the wells, and earth from the foundations will be shot down the well into these cars. An outlet for the earth thus sent below ground will be provided on the lake front, where the cars with their loads of dirt will be elevated up a well and run on tracks to the dump.

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On a large building in course of construction nowadays, there are installed anywhere from two to half a dozen or more hoisting engines, each controlled by its own engineer, who receives his instructions from a whistle in the mouth of a derrick-man as often out of as in sight. These whistles are usually of the same make, and, so far as we have noticed, seem to be pitched in the same key, and with half a dozen such whistles giving instructions intended for so many different engineers what can be more natural than that now and then an engineer should obey the signal of some other derrick-man than his own and begin to hoist a load before it was properly chained up or lower a block of stone before the masons were ready to handle it. Probably there are slight differences in pitch and tone of the whistles used which the engineer has learned to discriminate, but a careful contractor will take care that the whistles used on the same job cannot be mistaken for one another. The attempt to control the hoisting engine by electric signal has, we believe, been found practically a failure, as the derrick-men have to give too much of their attention to keeping the flexible electric cord from fouling the disorderly heaps of building material as they move from place to place as the derrick boom swings.—American Architect.

A meeting of the creditors of George Lapointe & Company, contractors, Montreal, was held yesterday.

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Contractors. Toronto Contracting & Paving Co. III	Hardwood Flooring. Seaman, Kent & Co... ..	Roofers Duthie & Sons, G... xvi Douglas B... xvi Forbes Roofing Co... xvi Nicholson & C... D. xvi Rennie & Son, Robt xvi Ormsby & Co. A. B. I Ringham, George... xvi Stewart & Co., W. T. xvi Williams & Co., H. xvi	Stained and Decorative Glass Crown Art Stained Glass Co... IV Horwood & Sons, H. v Mackay Stained Glass Co... .. St. George, H. E. v Robert McCausland v Stained Glass Co... v
	Heating. Sheldon & Sheldon IV Warden King & Son... .. v	Rubber Tiling. Gutta Percha Rubber Co... .. II	Stained and Decorative Glass Crown Art Stained Glass Co... IV Horwood & Sons, H. v Mackay Stained Glass Co... .. St. George, H. E. v Robert McCausland v Stained Glass Co... v
	Interior Decoration Elliott & Son Co... viii	Rubber Mats. Dunlop Tire Co... vii	Stained and Decorative Glass Crown Art Stained Glass Co... IV Horwood & Sons, H. v Mackay Stained Glass Co... .. St. George, H. E. v Robert McCausland v Stained Glass Co... v
	Lime. Ontario Lime Association... xvi Robertson & Co... vi	Reflectors Frink, I. P... xvi	Stained and Decorative Glass Crown Art Stained Glass Co... IV Horwood & Sons, H. v Mackay Stained Glass Co... .. St. George, H. E. v Robert McCausland v Stained Glass Co... v
	Legal. Quinn & Morrison.. II	Roofing Material Metallic Roofing Co. ix Ormsby Limited, A B I Roofers Supply Co... II	Stained and Decorative Glass Crown Art Stained Glass Co... IV Horwood & Sons, H. v Mackay Stained Glass Co... .. St. George, H. E. v Robert McCausland v Stained Glass Co... v
	Laundry Machine Troy Laundry Machinery Co... IV	Mail Chutes. The Cutler Mfg. Co. I	Stained and Decorative Glass Crown Art Stained Glass Co... IV Horwood & Sons, H. v Mackay Stained Glass Co... .. St. George, H. E. v Robert McCausland v Stained Glass Co... v

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THE OILED ROADS OF CALIFORNIA.

Oiled roads are no longer a novelty in many parts of California. When, in 1892, experimenting was begun to improve the public highways of Santa Clara county, Cal., by sprinkling them with oil, there were many strenuous objections directed to the State Bureau of Public Highways by the residents of that county who believed such a course would render the roads impassable to those not wishing to be bespattered with oil. After the first application of the oil, the roads were in a disagreeable condition for a few days, but after the oil had been properly worked in and the roads rolled, which hardened the surface, travel was rendered easy and dustless.

The oil is applied with a sprinkler wagon with tank attached, similar to the ordinary water sprinkler. From one hundred to four hundred barrels a mile were necessary for the first application, but in subsequent applications this number was greatly decreased. The oil is heated by steam to a temperature of 300 degrees, which causes a three per cent. expansion. The oil costs ninety cents per barrel and upward, according to the distance it has to be hauled from the railway.

After the first application of the oil the roads can be sprinkled and kept in condition at about one-half the cost required to sprinkle them with water. Previous to 1892, Santa Clara county had been paying \$89.00 per mile a season, exclusive of the cost of water, wagons, repairs, etc., for sprinkling the roads with water; since that time the roads have been kept in excellent condition with the use of oil for less than fifty dollars per mile a season.

In the valleys of California the roads are naturally very dusty, the dust being light and usually four or five inches deep, hence the discovery of the usefulness of oil in allaying this dust and in keeping the roads hard has proven of great value to the people of that state. There is an abundant quantity of oil throughout the

CONCRETE FOR SEWERS.

The city of Chicago has at last recognized the merits of concrete for sewer construction and an ordinance passed by the Common Council last month provided for the building of about fifteen miles of concrete sewers of large diameter in the southern part of the city. Eight or ten years ago the city appointed a commission to investigate the availability of concrete for sewer work, and this committee visited Reading, Pa., where concrete had been used successfully for a number of years, at a great saving over the cost of brick.

The internal diameter of the new sewer is ten and a half feet at its mouth, the size gradually decreasing to three feet. The

immense region that is drained by this new sewerage system is very low and swampy, only a little of the territory rising more than a few feet above the level of Lake Michigan. A noted civil engineer has estimated that to raise this region to the level of the down-town district of Chicago it would be necessary to dredge about one-third of the lake, to get enough material to level things off. Almost the entire length of this fifteen miles of sewers will lie below the level of the lake. At the mouth the bottom of the main sewer will be seventeen and three-tenths feet below Chicago city "datum," a theoretical level, or the low water record of 1847, which is used in all surveys in the city. The lake often stands several feet above this level. A pumping station with three Corliss engines will be equipped, operating centrifugal pumps, to elevate the sewerage into the Calumet river.

The entire sewer will be of cylindrical form. At its largest diameter the concrete walls will be ten inches thick, and the thickness will gradually taper with the size down to five inches in the smaller outlying sections. All the conduits around the pumping station will be of concrete, and there will be 157 concrete catch-basins, besides concrete manholes.

The city engineers estimate that the ten and one-half-foot section will cost \$20 per lineal foot; the nine-foot section \$14; the eight-foot section \$12.50; the seven-foot section \$10 and other sections grading down in cost to \$4 per foot for the three-foot sections. The entire cost of the sewers and the pumping station is estimated at \$740,000.—Concrete.

PURE WATER BY CHEMICAL MEANS.

From numerous and extensive experiments made by Professor Paterno and reported in Tribune, Rome, it appears that by adding to impure water, even that containing pathogenic microbes, an extremely small quantity of chloride of silver, there is accomplished the complete disinfection of the water. For this purpose two milligrams or at most two and one-half milligrams of the chloride are sufficient absolutely to sterilize a liter of water and to eliminate every danger of infection. The process is so simple that one

cannot expect any improvement upon it in the future; it may be used by anyone and in every condition of life, the sterilization being complete after a few minutes—ten at the most—and no apparatus being necessary beyond a small vial with a solution of chloride of silver.

The water keeps its flavor and all of its properties without modification, only undergoing a slight whitening which disappears after a few hours of repose.

Fraser, Hamilton & Company, planing mill, Ottawa, Ont., have dissolved.

On December 1st Mr. Samuel Baker assumed the duties of city clerk of London, Ont.

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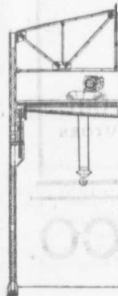
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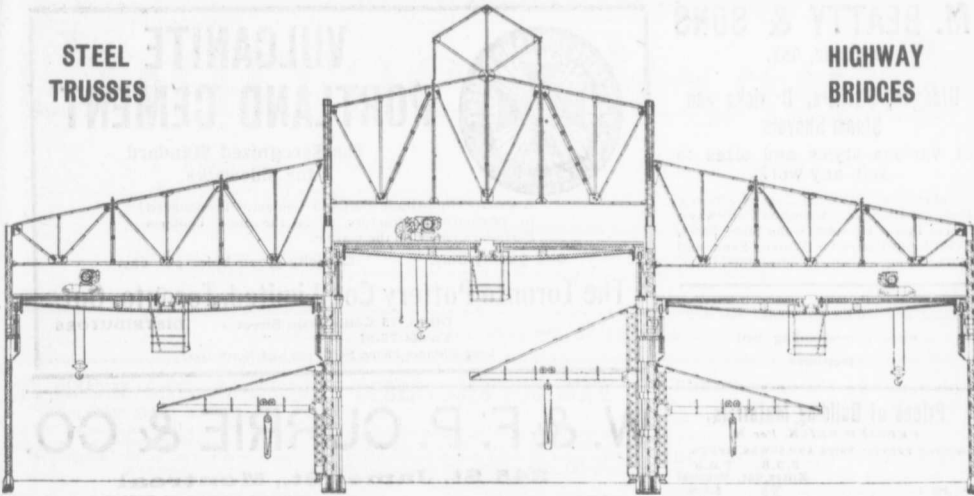
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