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# CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF PUBLIC WORKS, TENDERS, ADVANCE INFORMATION 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. II.

MARCH 28, 1900

No. 9.

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

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Information solicited from any part of the Dominion regarding contracts open to tender.

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## Tenders Wanted

Whole or Separate Tenders will be received for the erection and completion of a R. C. Church at Woodslee for Rev. Father Hodgkinson, P.F., up to and including

Wednesday, April 4th, 1900.

Plans and specifications can be seen at the R. C. Presbytery, Woodlee, Ont., or at the office of Harry J. Powell, Architect, Stratford, Ont. The lowest or any tender not necessarily accepted. Successful tenderer will be required to give good and sufficient bonds for the due performance of the work.

H. J. POWELL, Architect,  
Stratford, Ont.



SEALED TENDERS, addressed to the undersigned, and endorsed "Tender for Providence Bay Wharf," will be received at this office until

**THURSDAY, 5TH APRIL NEXT,**

for the construction of a Public Wharf at Providence Bay, Manitoulin Island, Algoma County, Ontario, according to a plan and specification to be seen at the office of H. A. Gray, Esq., Engineer in charge Dominion harbour and river works, Ontario, Confederation Life Building, Toronto; on application to the Postmaster at Providence Bay, and at the Department of Public Works, Ottawa.

Tenders will not be considered unless made on the form supplied and signed with the actual signatures of tenderers.

An accepted bank cheque, payable to the order of the Minister of Public Works, for six hundred dollars (\$600.00), must accompany each tender. The cheque will be forfeited if the party decline the contract or fail to complete the work contracted for, and will be returned in case of non-acceptance of tender.

The Department does not bind itself to accept the lowest or any tender.

By order,  
**JOS. R. ROY,**  
Acting Secretary.

Department of Public Works,  
Ottawa, March 10th, 1900.

Newspapers inserting this advertisement without authority from the Department will not be paid for it.

## FOR SALE

Stone Crusher and Portable Engine in good repair Capacity, 10 cords per day. Apply to

**THE KRAMER-IRWIN CO.,**  
Hamilton, Ont.

## FOR SALE

Second-hand GURNEY HOT WATER BOILER and eleven BUNDY RADIATORS. Apply to

**GORDON & HELLIVELL, Architects,**  
Confederation Life Building, Toronto.

## CONTRACTS OPEN.

**KENDAL, ONT.**—Wm. Little, jr., will erect a dwelling.

**PORT ROBINSON, ONT.**—J. Heaslip intends erecting a large storehouse.

**BRANDON, MAN.**—Zink Bros. will probably erect a new block this season.

**EAST TORONTO, ONT.**—James Ley will build a brick residence this spring.

**NORMAN, ONT.**—Samuel Brown will build a residence on the Keewatin road.

**HINTONBURG, ONT.**—A fire alarm system may be installed by the corporation.

**WOODSLEE, ONT.**—Plans have been completed for a new church to be built here.

**KNOWLTON'S LANDING, QUE.**—Angus S. Martin intends to enlarge his residence.

**AULTSVILLE, ONT.**—Work will shortly be commenced on the new Presbyterian church.

**NANAIMO, B. C.**—W. L. Jones and Ramsdell & Wright will erect buildings this spring.

**DESRONTO, ONT.**—The Rathbun Co. are said to be considering the building of a new steamer.

**HESPELER, ONT.**—Louis Grill intends to build a workshop and storeroom, 42 x 17 feet, brick.

**BILLING'S BRIDGE, ONT.**—Tenders close on 30th inst. for purchase of \$5,586.75 debentures.

**BURK'S FALLS, ONT.**—A swing bridge will likely be constructed over the Magnetawan river.

**ARNPRIOR, ONT.**—The council has given the waterworks and sewerage by-law its first reading.

**WOODSTOCK, ONT.**—The Board of Trade have adopted a prospectus for the pork packing factory.

**GALT, ONT.**—The contract will shortly be let by the Imperial Bank for alterations to Sloan's building.

**WINONA, ONT.**—The ratepayers have decided to build a new school house; estimated cost, \$4,000.

**TRURO, N.S.**—It is said that the Midland Railway Company will build a railway from Shelburne to Truro.

**KELLY'S CROSS, P. E. I.**—D. B. Reid, parish priest, wants tenders by 31st inst.

for erection of parochial house. Plans by W.C. Harris, architect, Charlottetown.

**KENILWORTH, ONT.**—The trustees of Union School Section No. 16 will issue debentures for building new school.

**WEST MONTROSE, ONT.**—Contracts will shortly be awarded for construction of new pier for the Grand river bridge.

**SHAWVILLE, QUE.**—The Pontiac and Pacific Junction Railway will likely be extended from this place to Prembroke.

**CHARLOTTETOWN, P. E. I.**—John S. Cousins, proprietor of the Park Corner Creamery, intends to add a cheese factory.

**RAT PORTAGE, ONT.**—J. K. Brydon is having plans prepared by John Mather, of Ottawa, for a new block to be erected here.

**ALMONTE, ONT.**—Beckwith and Ramsey councils will likely co-operate in building a bridge over the Mississippi river.

**DICKINSON'S LANDING, ONT.**—Rev. D. A. Campbell invites tenders up to April 21st. for building a presbytery at this place.

**CHATHAM, ONT.**—The city engineer has been instructed to prepare plans and invite tenders for construction of vitrified pavements.

**PORT HOPE, ONT.**—Arrangements are being made to build a Sunday school room for Methodist church; estimated cost, \$6,000.

**MEAFORD, ONT.**—The Minister of Public Works visited this town last week to look into the question of harbor improvements.

**PRESION, ONT.**—It is said the Preston and Berlin Street Railway Company will build a line between Presion and Berlin in the spring.

**SARNIA, ONT.**—The Hall Lumber Co. have purchased property here and will shortly commence the erection of a wood-working plant.

**NEW GLASGOW, N.S.**—A new glass factory is to be erected here shortly by local capitalists. Dr. Wright is one of the interested parties.

**ST. HENRI, QUE.**—The council is protesting against the proposal of the Westmount council to erect an incinerator near the boundary line.

**ST. CATHARINES, ONT.**—The Collegiate Institute Board will either make improvements to the collegiate institute or erect a new building.

**PETROLIA, ONT.**—J. McHattie, town clerk, invites tenders up to 6 p.m. of April 2nd for the purchase of \$3,500 local improvement debentures.

**BRANTFORD, ONT.**—A by-law will be submitted to the ratepayers to provide \$17,000 to enlarge the hospital and to build an isolation hospital.

**MONCTON, N. B.**—J. H. Hamilton, C.E., of Amherst, has made a survey of the proposed railway from this place to the Baltimore shale mines.

**VALLEYFIELD, QUE.**—The council has offered the Council of Arts and Manufactures a free site here on which to build a school of Arts and Trades.

**HULL, QUE.**—Plans are being prepared for an addition to the sulphite mill of the E. B. Eddy Co., to be equipped with a digester and other apparatus.

**GEORGETOWN, P. E. I.**—A new railway station will shortly be built near the railway wharf. — St. David's Presbyterian church will be enlarged and extended.

**VANCOUVER, B. C.**—The board of works will recommend that the council submit to the ratepayers a by-law to provide \$100,000 for street improvements.

**LEVIS, QUE.**—Tenders are invited by the Inter-colonial Railway for extending and improving the station building here. Plans by G. Emile Tanguay, architect, of Quebec.

**RENFREW, ONT.**—Mr. Watts, architect, of Ottawa, has submitted to the building committee of St. Paul's church sketch plans for the proposed new edifice.

**BRANPTON, ONT.**—The Brampton Gas Co. is understood to be considering the installation of an electric light plant. — Debentures will be offered for sale by the town.

**SMITH'S FALLS, ONT.**—Drs. Burns and Dickson have purchased the property belonging to the estate of the late W. A. Edgers and will probably convert it into a private hospital.

**SYDNEY, C. B.**—The Bank of Nova Scotia has purchased property on which to erect a building. — The Dominion Iron & Steel Co. purpose building a bridge across the Sydney river.

**WELLAND, ONT.**—J. A. Ellis, architect, of Toronto, is revising the plans for the new school building to be built at this place, and tenders for erection will likely be invited in a few days.

**GANANOQUE, ONT.**—It is probable that a steel bridge will be built to replace the Raglan bridge. — The town clerk has been authorized to advertise for tenders for sidewalk material and stone for streets.

**BRACEBRIDGE, ONT.**—The Bracebridge and Trading Lake Railway bill has passed the Legislature. The company propose to operate a steam or electric railway from Bracebridge to Baysville and Beaumaris.

**ST. THOMAS, ONT.**—Engineers of the Lake Erie and Detroit River Railway have been surveying the route of the proposed extension from Ridgeway to this city. A bridge will be built over the ravine near the city limits.

**HALIFAX, N.S.**—The proposed rink to be built on Agricola street will be 200 x 70 feet and will cost \$8,000. — An architect is preparing plans for a club house at the North West Arm. Particulars from W. B. MacCoy.

**VICTORIA, B. C.**—The ratepayers last week voted in favor of a loan of \$300,000 to settle the claims arising out of the Point Ellice bridge suits. — J. G. Trarks, architect, has taken tenders on a frame residence on Burdette ave.

**NIAGARA FALLS, ONT.**—Tenders have been taken for re-building the power house of the Niagara Falls Park and River Railway. — The Sutherland Construction Co. purpose commencing work at an early date to convert the horse car railway to an electric system.

**ST. JOHN, N.B.**—The city engineer has reported to the city council on the improvement of the water supply. He recommends a main from Little river to Silver Falls, to cost \$74,000 for cast iron with lead joints, and \$69,000 for cast iron with wooden joints. He also recommends additional storage capacity and the purchase of a larger pump.

**EDMONTON, N.W.T.**—The Great West Saddlery Company will shortly com-

mence work on their brick block. A warehouse 70 feet in length will be built in the rear. — The directors of the hospital have decided to erect a new building, to cost \$4,000, and a committee has been appointed to secure plans. Particulars from Dr. Harrison.

**KINGSTON, ONT.**—Principal Grant, of Queen's University, will endeavor to have erected a new arts building and a second building containing reading room, library, museum and convocation hall. — The promoters of the proposed smelter have made a proposition to the city, agreeing to establish a plant to cost \$225,000.

**OSHAWA, ONT.**—The Ontario Legislature has passed the bill authorizing the town to grant a bonus of \$5,000 to Smith & Co. for the purpose of providing a site for a canning factory, and a loan of \$50,000 to the McLaughlin Carriage Co., to assist them in rebuilding their factory. — The Malleable Iron Company have purchased land and purpose extending their works.

**BERLIN, ONT.**—S. L. Doolittle, of Ingersoll, has decided to build a furniture factory here, with about 50,000 feet of floor space. — It is expected that some steps will be taken this year to enlarge the house of refuge. — Tuerk Bros. have made application to the town for a site for a factory to manufacture gasoline engines and automobiles. It is their intention to erect three large buildings.

**QUEBEC, QUE.**—The city may construct an asphalt sidewalk in front of the Parliament buildings, to cost about \$5,000. — The city invites tenders up to Tuesday, April 3rd, for supply of iron and brass castings, lead pipe, cement and drain pipes, and until Tuesday, April 10th, for supply of broken stone, macadam, deals, stone and brick pavement, stone and brick sidewalk, etc. — There is talk of erecting a modern theatre here on the site of the St. Louis hotel.

**GUELPH, ONT.**—Stewart & McPhee, architects, of Hamilton, have submitted plans for proposed nurse's cottage in connection with Guelph general hospital; estimated cost \$5,000. — A committee has been appointed to secure plans for alterations to Knox church. Particulars from A. C. Brown. — L. C. Wideman, architect, wants bids by 6 p.m. of 30th inst. for alterations and additions to residence of T. W. Saunders on Edinburgh road.

**LONDON, ONT.**—Debentures will likely be issued by the city for building new schools. — A memorial window will be placed in St. Peter's cathedral. — John M. Moore, superintendent of water works, invites offers up to April 2nd for annual supplies, including the following. Brass goods, stop cock boxes, valve boxes, valves, street hydrants, engine and cylinder oils, boiler compound, hardware, cast iron pipe and laying, cast iron specials, coal and lumber. — Of 120 cement sidewalks initiated by the Board of Works, only 21 have been petitioned against.

**HAMILTON, ONT.**—The City Engineer is now preparing the plans for the third main. He has made a report to the board of works condemning the old wooden bridge over the London branch of the Grand Trunk Railway. — The proposed works of the Nickel Steel Company will consist of four blast furnaces. There will be two open-hearth buildings about eight hundred feet long and eighty feet wide. Electric power will be used, the machinery being operated by means of rotary converters.

**OTTAWA, ONT.**—The government have invited new tenders for the highway swing bridge over the Welland canal at 4th concession, Humberstone. Tenders for the substructure will be received up to March 31st and for the superstructure up to April 15th. — The militia stores building to be built by the government will be four stories high, 125 x 160 feet, brick, and will

cost about \$50,000. — T. McCann will build a residence on Gilmour street. — Negotiations are in progress for the establishment of a large cotton mill here. — Davidson & Thackrey, sash and door manufacturers, intend erecting a new saw mill this season near Fort Coulonge. — The Public Works Department have completed plans for the proposed observatory on Parliament Hill. It will be of stone and glass. — Debentures will be issued by the city for \$80,000 in connection with main drainage scheme. — The Department of Public Works invites tenders up to Friday, April 6th, for construction of pile wharf at Shequindah, Manitoulin Island. Cheque for \$500 to accompany tender.

**MONTREAL, QUE.**—The City and District Savings Bank will erect a bank building at Point St. Charles. The plans as prepared by A. Raza, architect, show a building 60x50 feet, of cut stone and limestone, cost \$25,000. — It is the intention of the Molson's Bank to build an extension to their head office. — It is expected that next fall the Bank of Montreal will make extensive improvements to the property immediately in rear of their head office, and which they acquired some months ago. — The proposed improvements to the Bonsecours Market are still under consideration by the council. — Jos. Venne, architect, is calling for tenders for a new R. C. church and presbytery to be erected at Boulevard St. Denis. — Saxe & Archibald, architects, have plans on the boards for a large uptown building, steel skeleton frame and sandstone front. — James Stewart & Co., contractors for the Connors Steel Syndicate elevator, will shortly let the contract for the supply of materials. The work will require 3,200 piles. — Building permits have been granted as follows: Five stores on St. Catharine street, cost each \$18,000, for E. Lincoln Pacand, Eric Mann, architect; brick dwelling at 1102 St. Andree street, cost \$2,800, for Zotigue Bayard; Walter Livermore, architect; mason and brick work, Alphonse Clarette; carpenter work, Labrique & Marcine.

**WINNIPEG, MAN.**—A block of flats will be erected on Donald street this summer; brick and stone, three storeys. — The city council will invite tenders for construction of sewer on Burrows ave. — G. W. Allan wants tenders by 31st inst. for erection of frame residence, on stone foundation, at Roslyn Place, Fort Rouge. — The Grand Central Hotel property has been purchased by A. Benard, who will renovate the building. — A. Blow, of Alfred street, will erect a modern brick house this summer. — The Great West Life Insurance Co. are said to have deferred the proposed improvements to their building owing to the high cost of building material. — The McCormack Harvesting Co. will erect a large warehouse on Main street, just north of the C.P.R. — George Browne, architect, will shortly invite tenders for the proposed Y.M.C.A. building. — C. J. Brown, city clerk, invites tenders up to April 16th for the supply of a fire alarm system and apparatus. Particulars from F. A. Cambridge, city electrician. — The C.P.R. invites tenders up to April 7th for construction of masonry bridges at the following points: Cook's creek, East Selkirk, abutments for 60-ft. span; Strawberry creek, Kamistiquia, 25-ft. arch culvert; Fish creek, three miles west of Maple creek, abutments for 30-ft. span; Pipestone creek, Laggan, pier and abutments for two 66-ft. spans; near Murray Park, South Western branch, 25 ft. arch culvert. Plans at office of J. Woodman, engineer western division, this city. — The city engineer has recommended the construction of a sewer on Fountain street and Fonseca street; estimated cost, \$3,000.

**TORONTO, ONT.**—D. Richards, architect, 151 Yonge street, wants tenders for the erection of three brick houses. — Work

will shortly be commenced on the warehouse to be erected by the W. S. Johnston Co. on the north-west corner of Front and York streets. It will be five stories high and will cost about \$75,000.—J. R. Roy, C.E., has been appointed by the Dominion government to act in conjunction with W. T. Jennings, C.E., to decide upon a plan for the improvement of the Toronto harbor.—The City Engineer has reported that it will cost \$38,000 to concrete the Rosehill reservoir.—The city has given notice of its intention to construct the following works: 11 in. pipe sewer on Columbus ave., from Sorareun ave. to west end Columbus ave., cost \$829.50; 21 in. macadam roadway on North street, St. Mary to Bloor street, cost \$3,313; 8 in. brick sidewalk on King street, N.S., Sumach to Sackville street, cost \$601; 6 in. brick sidewalk on Simcoe street, E.S., Richmond to Queen street, cost \$192; 6 in. cement concrete sidewalk on King street, N.S., Spadina ave. to Bathurst street, cost \$1,824.—Building permits have been granted as follows: Nerich & Co., five storey brick and cut stone warehouse, Front street west, cost \$30,000; pair semi-detached houses, 340 and 342 Shaw street, cost \$7,000; P. J. Mulqueen dwelling and stable, corner Berkeley street and Wilton ave., cost \$2,700; A. P. Burrill, brick dwelling, corner Maple ave. and Glen road, cost \$6,000.—Plans of wharf to be built at Shequindah are on view at office of H. A. Gray, C.E., Confederation Life building.—The new buildings required for the Toronto Industrial Exhibition will cost in the vicinity of \$160,000.—The City Engineer has reported that it will cost between \$25,000 and \$35,000 to purchase an asphalt plant. He has reported the cost of paving track allowances as follows: Broadview avenue, Queen to Gerrard, brick, \$5,865; College street, Yonge to McCaul, scoria blocks, \$13,370; Gerrard street, Parliament street to Broadview avenue, brick, \$8,230; King street, Dufferin street to Roncesvalles avenue, \$12,280; King street, River street to Dun bridge, brick, \$2,425; Spadina avenue, College to the north side of the Crescent, brick, \$2,865.—The City Engineer has recommended the construction of the following local improvements: King street, asphalt pavement, 14 feet wide, Spadina ave. to Bathurst street, cost \$2,400; Queen street, River street to G. T. R. belt line tracks, cost \$6,260; Sully street, macadam roadway, Arthur to College, cost \$5,850; granite set pavement on lane south of Front street, from Yonge to Bay street, cost \$7,030; Sherburne street, brick walk on east side, from Ancroft place to South Drive, cost \$579; Huntley street, six foot brick walk on east side, from Selby to Linden street, cost \$191.

**FIRES.**

Saw mill at Ridgetown, Ont., owned by T. L. Buller; loss \$6,000, insurance \$1,000.—The Vienna Cafe on Donegana street, Montreal, owned by Peter Lyall, totally destroyed.—Store of Alphonse Landry at Little Metis, Que.—Grist mill at Comber, Ont., owned by R. J. Lund; loss \$12,000, insurance \$6,000.—Gas works and electric light plant at Listowel, Ont., owned by J. C. Hay.—Montreal Rolling Mills at St. Cuneconde, Que., totally destroyed on Saturday last, loss \$60,000.

**CONTRACTS AWARDED.**

UTICA, ONT.—Presbyterian church: John Stovin, of Port Perry, contractor.  
 HALIFAX, N.S.—Extension to Corbette wharf: Reid & Archibald, contractors.  
 ST. BONIFACE, MAN.—Sewer on Duroulin street: W. F. Lee, of Winnipeg, contractor.  
 CHARLOTTETOWN, P.E.I.—Addition to Lavies Hotel: H. & S. Lowe, contrac-

tors.—Central Christian church: H. & S. Lowe, contractors.

GRAND FORKS, B.C.—T. W. Holland has awarded a contract for erection of six cottages, to cost \$10,000.

VANCOUVER, B. C.—Supply of drain pipes, etc.: British Columbia Pottery Company, successful tenderers.

OTTAWA, ONT.—Wright & Co., of Hull, have secured the contract for supply of stone for the city; price \$3,870.

COLLINGWOOD, ONT.—P. C. Palin, architect, has let the contract for remodelling restaurant for Norman Smith; plate glass front.

CHATHAM, ONT.—The Board of Works have accepted the following tenders for supplies: White pine, cedar and paving posts, John Piggott & Sons; glazed tile, J. & J. Oldershaw; porous tile and brick, James Cornhill.

EDMONTON, N. W. T.—Deggendorfer & Harrison, architects, have awarded contracts for the Walker block, brick, plate glass, electric light, cost \$10,000. Same architects have let contracts for Mather's block at Nankin, brick, cost \$7,000.

LONDON, ONT.—The Board of Works have accepted the following tenders for supplies: Lumber, Dyment, Baker Co., \$19 per M; sewer pipe, J. W. Cawrse; cement, J. W. Cawrse, \$2.75 per bbl.; iron castings, London Foundry Co., \$3.50 per hundred; nails, Cowan & Co., \$3.25 and \$2.50.

BRANTFORD, ONT.—For extension of Clarence street sewer two tenders were received, as follows: E. A. Cawsey, for doing the work this spring, \$3,950, in summer \$3,700; City Engineer, \$4,374 and \$2,983 respectively. It has been decided to have the work done by the city engineer, to commence June 1st.

MONTREAL, QUE.—James Stewart & Co., of St. Louis, Mo., have secured the contract for the constructor of elevators for the Connors Syndicate of Buffalo.—The tender of the Canadian Rubber Co. has been accepted for supply of fire hose.—J. Venne, architect, has awarded contracts for the erection of a church, school house and presbytery at Verdun as follows: Masonry, Martineau & Preno veau; brickwork, Jos. Pepin; carpenter and joiner's work, Reeves & Bro.; plumbing and roofing, N. Turcot; heating, Blouin, Desforgeo & Latourell; plastering, Jas. Fabien; painting, E. Belanger; electric wiring, Canada Electric Co.—J. Rawson Gardiner, architect, has awarded the contracts for alterations and fittings at 12 to 14 St. John street for Walter Baker & Co., as follows: Carpen-

ter and plaster work, Simpson & Peet; painter, G. S. Kimber; electric work, Montreal Electric Co.

KINGSTON, ONT.—Repairing W. Robinson's warehouse: Carpenter and joiners' work, W. J. Chapman; steel, metal and galvanized iron work, Nugent & Taylor; painting, glazing, etc., T. Milo.—Tenders for city supplies have been accepted as follows: Lumber, The Rathbun Co., at \$16.85 per thousand for lumber and 2 1/2 cents per lineal foot for sleepers; hardware, W. A. Mitchell; cement, W. A. Mitchell, \$2.20 per barrel. Four tenders were submitted for the supply of sewer pipe, from the Canadian Sewer Pipe Co., St. John, Que., the Ontario Sewer Pipe Co., Toronto, and Elliott Bros. and Simmons Bros., local contractors. The latter secured the contract, at the following prices: Six inch tile, 9 9/10 cents; nine-inch, 18 3/20 cents; twelve-inch, 28 cents, fifteen inch, 41 1/4 cents; eighteen inch, 50 cents. For the same sized junctions the prices quoted were: 30 cents, 67 cents, \$1.26 2/5 cents, \$1.85 1/5 cents, and \$2.30.

**WOOD SEASONING.**

Wood seasoning by electricity is described as follows in a report by Consul E. T. Liefeld at Freiburg: "The positive pole of a dynamo is connected with a lead grating, upon which the wood to be treated is placed. A solution, which is kept at the uniform temperature of 100 degrees Fahrenheit by means of a steam pipe underneath the grating, is poured into the vat so as to almost cover the log of wood treated. At a public demonstration the solution used contained 10 per cent. of borax, 5 per cent. of resin, and three-fourths of one per cent. of carbonate of

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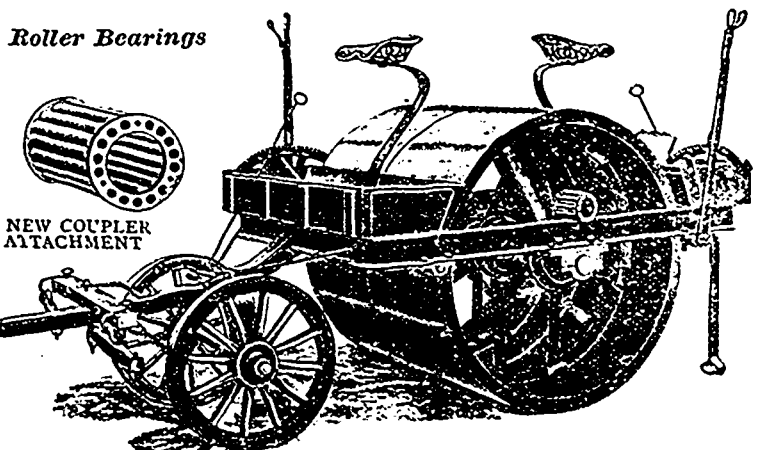
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soda, the borax being used on account of its antiseptic properties and the carbonate of soda to help dissolve the resin. A porous tray, the bottom of which consists of two sheets of canvas with a sheet of felt between, is placed over the log, and a sheet of lead connected with the negative pole of the dynamo is placed above this. When the current is turned on, the solution is drawn from the bottom and the sap is driven out, and its place taken by the borax and resin; the time required for a 10 inch log is about seven or eight hours, and then the wood is slowly dried, which takes in the open air in summer several weeks or even months."

**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 ensure 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.

Dussault & Lemieux, contractors, St. Louis, Que., have registered partnership.

Hamilton & Scott, plumbers and tin-smiths, have commenced business at St. Thomas, Ont.

Chas. Narbonne, contractor, Longueuil, Que., is reported to be offering to compromise at 20 cents on the dollar.

Cement curbs and gutters have given great satisfaction in Wichita, Kan., and have been so frequently commended by engineers who have seen them that a few notes concerning their construction have been obtained from Mr. O. Mulvey, the city engineer during their construction. The first were laid in 1886 and are as good now as when new, except for a few places which have been worn away by the steel calks of horses' shoes near hitching posts. There is no gravel near Wichita, so the work was done with Portland cement and coarse, sharp, quartz sand, found abundantly in the vicinity. The curbs on business streets are six inches thick and lighter on residence streets; the gutters are about eight inches thick. The outside two inches of both curbs and gutters were made of a mixture of two parts of Portland cement to three of sand, and the body of the work of a mixture of one part of cement to four of sand. These proportions were varied from time to time, but with less satisfactory results.

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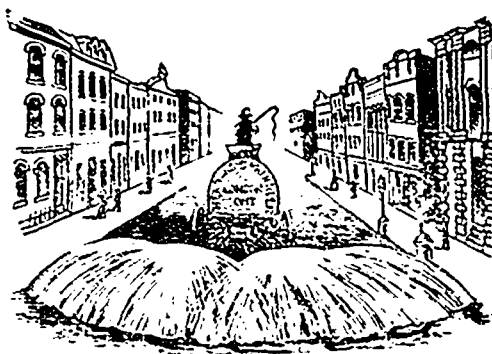
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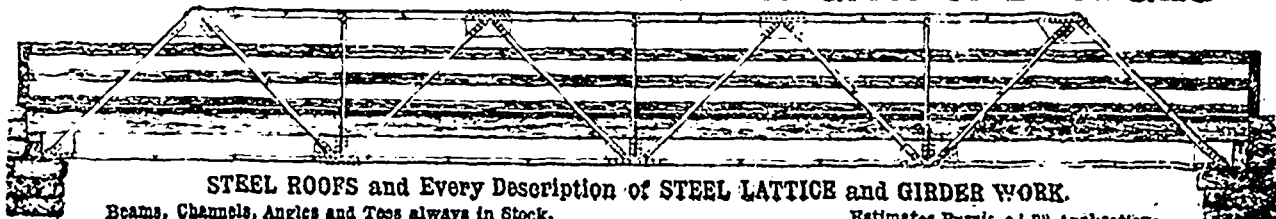
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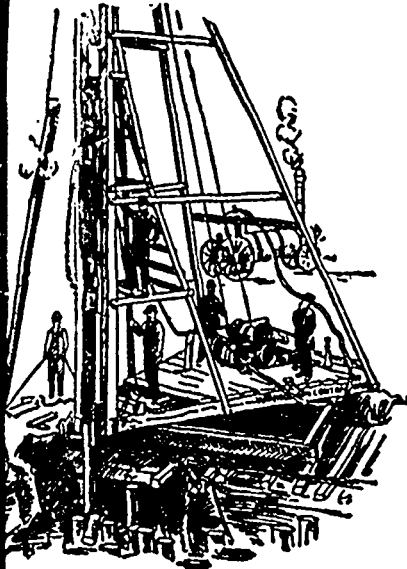


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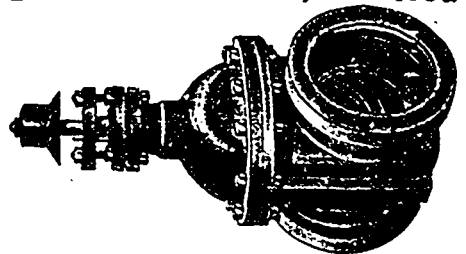
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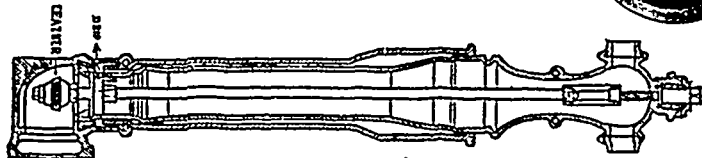
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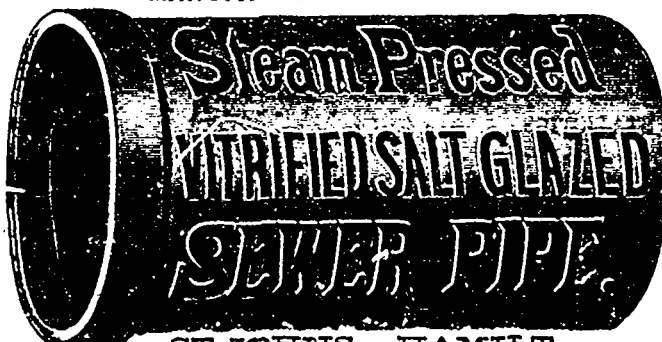


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# MUNICIPAL DEPARTMENT

## THE LIFE OF PAVEMENTS.

Our contemporary, Brick, contains a paper read at the annual meeting of the American Society of Municipal Improvements by Mr. G. W. Tilson, M. Am. Soc. C. E., engineer of Brooklyn, N. Y., on "The Life of Pavements." The paper deals with granite, wood asphalt, brick and macadam in their various aspects, pointing out the physical and economic end to which all pavements must come—the former, when the pavement is so well worn out that it cannot be repaired and must be relaid, and the latter when the cost of repairing is such that it would be cheaper to relay it entirely than to spend any money on repairs. The author propounds the following formula for determining the economic test as to whether repairs should be continued or an entire new pavement constructed:—

Let  $N$  = life of proposed pavement.

$C$  = cost.

$I$  = rate of interest.

$R$  = estimated cost of repairs if distributed over entire line.

$A$  = sinking fund to be paid each year to equal  $C$  at the end of  $N$  years.

Then  $A + CI + \frac{R}{N}$  = annual cost of new pavements.

For the purpose of illustrating the application of his formula, he takes two examples, one in which the value of  $N$  is fifteen years, and another in which it is twenty years. The paper also discusses the conditions by which traffic is modified in its action on pavements, such as character of pavement, width of roadway, presence or absence of tramways, state of repair, and how well cleaned. Statistics are given of traffic in the principal streets of several cities in America, also in Paris, London, Liverpool and Sydney. In discussing the life of different kinds of pavement, the author gives the results obtained on granite, wood, asphalt, brick and macadam in various cities of the world, and sums up the conclusions arrived at as regards life as follows: Granite on concrete, twenty-five years; on sand bedding, twenty years; brick, fifteen years; wood, ten to fifteen years; and asphalt eighteen years, while as to macadam, the author does not attempt to assign a limit, stating that this pavement may be said to have no end if properly cared for. But it requires a constant infusion of the elixir of repairs to bring about this eternal life.

## MUNICIPAL STATISTICS.

The fifth part of the annual report of the Ontario Bureau of Industries for 1898 is received. It comprises the municipal statistics of the province, showing the pop-

ulation, assessment, taxation and debenture debt of each municipality as returned by assessors. Comparative tables are given covering a period of thirteen years, 1886-98, from which it appears that the assessment of the province has increased during the period from \$694,380,650 to \$809,184,833, while the population has increased from 1,828,495 to 2,001,350. This increase has been entirely in the cities, towns and villages, the township population and assessed values having been almost stationary. There were 1,148,856 inhabitants with assessed valuations of \$452,097,645 in 1886, while in 1898 the population of the townships numbered 1,110,894 and the total assessments were \$448,810,060. The city population has grown in the same period from 316,634 to 440,889, and the towns and villages have increased at about the same rate. The valuations in cities have risen from \$154,204,921 to \$236,077,-

376, and the assessments in towns and villages from \$88,078,930 to \$124,297,397.

The total debenture debt of all municipalities has increased from \$29,924,863 in 1886 to \$53,577,475 in 1897, the increases being entirely in connection with urban municipalities. Township debts have slightly decreased and county debts have been reduced from \$3,505,744 to \$1,808,107, or about one half. But city debts have grown from \$18,469,893 to \$37,046,377, and those of the towns and villages have more than doubled.

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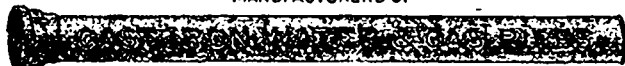
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Large flat Rubble, per tonse, delivered.....	14 00	18 00
Foundation Blocks, per c. ft. Granite (Stanstead) Ashlar, 6 in. to 12 in., rise 0 in., per ft. Amherst Red Sandstone, Amherst, N.S., per cub. ft. Kent Free stone Quarries, Moncton, N.B., per cu. ft. River John, N. S., brown Freestone, per cu. ft.....	30	30
Port Phillip, N. S. Brown Sandstone.....	95	95

"Scoria" Paving Blocks, 8" x 3 1/2" x 5".....	55	
"Scoria" Paving Blocks, 8" x 3 1/2" x 4".....	45 00	
Masilion.....	30 00	
Quebec and Vermont rough granite for building pur- poses, per c. ft. f.o.b. quarry	40	1 00
For ornamental work, cu. ft.	40	
Granite paving blocks, 8 in. t. 12 in. x 6 in. x 1 1/2 in. per M.		50 00
Granite curbing stone, 6 in. x 20 in. per lineal foot.....		70

**CREDIT VALLEY STONE.**

Rubble, per car of 15 tons... Brown Coursing, up to 10 in., per sup. yard.....	1 50	1 75
Brown Dimension, per cub. ft.	1 00	
Grey Coursing, per sup. yard	1 00	
Grey Dimension, per cub. ft.	45	

**LONGFORD STONE.**

Rubble, per 30 M. car.....	5 00	
Ashlar, per cub. yd.....	2 00	
Dimension, per cub. ft.....	18	

**SLATE.**

	Toronto.	Montreal.
Roofing (per square).		
" red.....	17 50	20 00
" purple.....	8 50	10 00
" adding green olack.....	8 50	7 00 8 50
Terra Cotta Tile per sq.....	7 50	6 50
Ornamental Black Slate Roofing	20 00	25 00
	8 80	6 80

**CEMENT, LIME, etc.**

Portland Cements—			
German per bbl.....	2 90	3 10	2 55 2 65
London.....	2 95	3 00	2 25 2 45
Newcastle.....	2 70	3 00	1 95 2 10
"Jossion" Brand Portland	3 05	3 25	2 70 2 80
"Dyckerhoff	3 05	3 25	2 75 2 80
North's "Condor	2 95	3 10	2 65 2 80
English, artificial, per bbl.....	2 85	3 00	2 35 2 45
Belgian, natural, per bbl.....	2 50	2 75	2 00 2 20
Canadian, artificial, " "	2 25	3 00	2 60 2 70
Roman " "	2 20	2 25	2 20 2 25
Parian " "	5 25	5 25	5 75 5 75
Keene Superfine "Whites".....	11 00	12 00	9 00 10 00
Keene's Coarse "Whites".....	8 00	8 50	8 50 9 00
"Karlstadt" (German).....	3 05	3 25	2 75 2 90
"Germania" (German).....	3 05	3 25	2 75 2 90
"Rooster" (Belgian).....	3 05	3 25	2 75 2 90
"Keystone" (Belgian).....	2 15	2 20	2 05 2 20
"Anvil" (Belgian).....	2 15	2 20	2 05 2 20
"Burham" (English).....	2 95	3 00	2 25 2 45
Hydraulic Cements—			
Thorold, per bbl.....	1 50	1 65	
Queenston, ".....	1 50	1 60	
Napanee, ".....	1 50	1 50	
Hull, ".....	1 50	1 50	
Ontario, ".....	1 25		

	Toronto.	Montreal.
Fire Bricks, Newcastle, per M	30 00	35 00 16 00 21 00
" Scotch.....	30 00	35 00 19 00 21 00
Lime, 100 lbs., Grey.....		30
" " White.....		35
Plaster, Calcined, N. B.....		2 00 1 50
" " N. S.....		2 00 1 50
Hair, Plasterers', per bag... 80		1 00 0 00

**HARDWARE.**

The following are the quotations to builders for nails at Toronto and Montreal:

Cut nails, 50d & 60d, per keg	2 85	2 85
Steel " " " "	2 95	2 95

**CUT NAILS, FENCE AND CUT SPIKES.**

40d, hot cut, per 100 lbs....	2 85	2 85
10 to 12d, hot cut.....	2 95	2 95
8d, 9d, " ".....	3 00	3 00
6d, 7d, " ".....	3 15	3 15
4d to 5d, " ".....	3 25	3 25
3d, " ".....	3 50	3 50
2d, " ".....	3 85	3 85

Cut spikes, 10 cents per keg advance.  
Steel Nails, 10c. per keg extra.  
Wire nails, 3.50 base price.

**Iron Pipe:**

Iron pipe, 1/4 inch, per foot..	6c.	6c
" " 3/8 " " ".....	7	7
" " 1/2 " " ".....	8 1/2	8 1/2
" " 3/4 " " ".....	12	12
" " 1 " " ".....	17	17
" " 1 1/4 " " ".....	24	24
" " 1 1/2 " " ".....	30	30
" " 2 " " ".....	43	43

**Lead Pipe:**

Lead pipe, per lb.....	7c.	25 per cent. dis.
Waste pipe, per lb.....	7 1/2	

**Galvanized Iron:**

Adam's—Mar's Best and Queen's Head and Opello:		
16 to 24 gauge, per lb.....	4 1/2c.	4 1/2c.
26 gauge, ".....	4 1/2	5
28 ".....	5	5 1/2
Gordon Crown—		
16 to 24 gauge, per lb.....	4 1/2	4 1/2
26 gauge, ".....	4 1/2	4 1/2
28 ".....	4 1/2	4 1/2

Note.—Cheaper grades about 1/2c. per lb. less.

**Structural Iron:**

Steel Beams, per 100 lbs.....	2 75	2 75
" channels, ".....	2 85	2 85
" angles, ".....	2 50	2 60
" lags, ".....	2 80	2 80
" plates, ".....	2 55	2 55
Sheared steel bridge plate.....	4 95	4 95