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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL OF THE CONTRACT RECORD

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. 9.

JANUARY 25, 1899

No. 52.

THE CANADIAN CONTRACT RECORD, PUBLISHED EVERY WEDNESDAY

As an Intermediate Edition of the "Canadian Architect and Builder."

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Advertising Rates on application.

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Notice to Contractors

Tenders will be received, by registered post only, addressed to the Chairman of the Board of Control, City Hall, Toronto, up to noon on Wednesday, the 1st February next, for the construction of the following works:

ASPHALT PAVEMENTS

On Classic ave., from Spadina ave. to Huron st.
On James st., from Queen st. to Albert st.

BRICK PAVEMENTS

On Borden st., from College st. to Ulster st.
On Brookfield st., from Queen st. to Humbert st.
On Cameron st., from Queen st. to Cameron place.

MACADAM ROADWAY

On Elgin ave., from Bedford road to Avenue road.

CEDAR BLOCK PAVEMENT

On Russell st., from St. George st. to Huron st.
On Maple Grove ave., from O'Hara to Brock ave.

CONCRETE WALKS

On Homewood ave., B.S., from Carlton st. to Wellesley Crescent.

On Sherbourne st., E.S., Wilton ave. to Gerard st.
On Adelaide st., N. S., Yonge easterly to Freehold Loan Building.

BRICK SIDEWALKS

On Richmond st., S. S., from Victoria st. to Yonge st.; and

REPAIRS TO ASPHALT PAVEMENTS.

Plans and specifications may be seen, and forms of tender obtained, at the office of the City Engineer, Toronto, on and after Tuesday, Jan. 24th, 1899.

A deposit in the form of a marked cheque, payable to the order of the City Treasurer, for the sum of 5 per cent on the value of the work tendered for up to \$1,000 and 2½ per cent, on the value of the work over that amount, must accompany each and every tender, otherwise they will not be entertained.

Tenders must bear the bona fide signatures of the contractor and his sureties, or they will be ruled out as informal.

Lowest or any tender not necessarily accepted.

JOHN SHAW (Mayor),
Chairman Board of Control.

City Hall, Toronto, Jan. 25th., 1899.

WANTED

For manufacturing business, draughtsman with several years' experience in architect's office. State age, experience and salary expected
Box 75, CONTRACT RECORD.

SEALED TENDERS

Will be received until Saturday Feby. 4th, 1899, for all trades required in making alterations to a store premises in Toronto.

Plans and specifications may be seen after the 26th inst. at the office of the Architect, to whom tenders are to be addressed.

The lowest or any tender not necessarily accepted.

F. S. BAKER, Architect,
90 Yonge St., Toronto.

MAIN TRUNK SEWER

OTTAWA, ONT., Jan. 16, 1899.

Sealed tenders, endorsed "Proposals for Main Trunk Sewer," will be received by the undersigned up till Noon on

Monday, 6th February, 1899,

at the City Hall, for the construction complete of the following works:

1916 lineal feet 6' 0" Circular Brick Sewer.

6016 " " 5' 0" " " "

2930 " " 4' 0" " " "

1332 " " 2' 0" x 3' 0" Egg-shaped Sewer.

Average depth of cutting, 21 feet, through earth and rock.

Plans and specifications may be seen at the Engineer's office on and after Tuesday, the 24th inst., from whom forms of tenders and full particulars can be obtained.

Proposals must be accompanied by a certified bank cheque, payable to the order of the City Treasurer, for five per cent, of the tender, to be retained as security for the satisfactory completion of the work.

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

JOHN GALT,
City Engineer.



NOTICE TO CONTRACTORS

Tenders for Annual Supplies

Tenders will be received by registered post only, addressed to the Chairman of the Board of Control, Toronto, up to noon on

Wednesday, February 1st, 1899,

for the following supplies for the year ending December 31, 1899:

SEWER PIPE, LUBRICATING OILS, ETC.

Contents of envelopes containing tenders must be plainly marked on outside.

Specifications and forms of tender may be obtained at the office of the City Engineer, Toronto, on and after WEDNESDAY, JAN. 25TH, 1899.

A marked cheque payable to the order of the City Treasurer, Toronto, for 5 per cent. of the amount tendered for up to \$1,000 and 2½ per cent. of the amount over that sum, must accompany each and every tender, otherwise it will be ruled out as informal.

The lowest or any tender not necessarily accepted.

JOHN SHAW (Mayor),
Chairman Board of Control.

Toronto, Jan. 25, 1899.

TENDERS WANTED

Tenders will be received by the undersigned up to noon of FRIDAY, FEBRUARY 10TH, 1899, for the erection of

Stone Abutments and Steel Superstructure

of a new bridge over the river Thames, in the Township of East Zorra, ¼ mile west of the village of Cassel. Abutments to be about 12 ft. in height and preferably of St. Mary's stone facing, with field stone backing. Superstructure to be 70 ft. in length and 14 ft. wide.

Offers will be received for either abutments or superstructure separately, or both.

Parties to furnish their own plans and specifications. The whole work to be completed on or before Sept 1st, 1899.

Tenders will be opened and contract awarded, if satisfactory, at the Royal Hotel, Woodstock, on Saturday, Feby. 11th, at 1 o'clock p.m.

THOMAS LOCKHART,
Reeve East Zorra,
Walmer P.O., Ont.

TENDERS FOR

Electric Light Plant

Sealed tenders endorsed "Tenders for Electric Light Plant" and addressed to E. Carrier, Esq., Chairman of Lighting Committee, Hull, Que., in care of City Engineer, will be received up till noon on MONDAY, THE 6TH DAY OF FEBRUARY, 1899, for the following:

Two 50 Light Arc Dynamos, 1,200 c.p., with double circuit Switchboard, Lightning Arresters, Ammeters, Cut-outs, &c., complete.

75 1,200 c.p. Arc Lamps (long burning, double or single carbon).

100 Clear Glass Globes.

8 miles No. 6 W.P. Wire.

Insulators—per 100.

Guy Wire—per 100 lbs.

30 4-pin Cross Arms, 75 2-pin Cross Arms, 200 Side Blocks and 300 Top Pins.

The whole F.O.B. Ottawa or Hull.

Plans, etc., may be seen and any further information obtained from the City Engineer.

The lowest or any tender not necessarily accepted.

R. W. FARLEY,
City Engineer.
Hull, Que., 16th January, 1899.

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.

T. J. Aquin, sash and door manufacturer, Montreal, is dead.

A portion of the assets of W. I. Storey, lumber dealer, Ottawa, have been sold.

Cyprien Blanchard and Joseph Cotnoir have registered proprietors of the business of Blanchard & Cotnoir, carpenters, Montreal.

CONTRACTS OPEN.

- INWOOD, ONT.**—Dr. McKercher, V.S., purposes building a residence.
- MAPLEWOOD, ONT.**—D. Murray will erect a new residence next summer.
- LEVIS, QUE.**—Joseph Gosselin purposes erecting a new building, 96 x 126 feet.
- TAMWORTH, ONT.**—Samson Shield intends building a new brick block.
- HESPELER, ONT.**—Mr. Biggar will shortly commence the erection of a residence.
- EAST TORONTO, ONT.**—The council will borrow \$10,000 to meet current expenses.
- SHELburne, N. S.**—The municipal council will issue debentures to the extent of \$1,000.
- PRESCOTT, ONT.**—A project is on foot to build a railway from South Indian to this place.
- PENETANGUISHENE, ONT.**—Improvements are to be made to the G. T. R. station here.
- ST. LEONARD, N.B.**—Irving Hoyt and others purpose organizing a club to erect a club building.
- THORNHILL, ONT.**—The trustees of the Methodist church have decided to put in a new furnace.
- HEPworth, ONT.**—It is the intention of James Gales to build a residence and place of business.
- MILTON, ONT.**—Tenders are asked for alterations, including reseating, to the county court room.
- PORT HOPE, ONT.**—The Port Hope Carpet Manufacturing Company purpose increasing their plant.
- ROSSLAND, B.C.**—It is expected that the city will borrow the sum of \$150,000 during the current year.
- EDMONTON, N.W.T.**—The by-law to purchase a market site was carried by the ratepayers on the 15th inst.
- FORT WILLIAM, ONT.**—The Mayor, in his inaugural address, recommended the erection of a market building.
- MILVERTON, ONT.**—During the coming summer the trustees of the Methodist church will build a parsonage.
- ALBUNA, ONT.**—C. Simmons, of Ruscom, is preparing to build a saw mill on his farm on the 8th concession.
- GEORGEVILLE, QUE.**—Thomas Quinn has purchased the Bigelon site, and will erect new buildings in the spring.
- LANSDOWNE, MAN.**—The municipality invites tenders for the construction of a truss bridge over the White Mud river.
- GUELPH, ONT.**—A committee has been appointed to report on the construction of a suitable sewerage system for the city.
- THORNDALE, ONT.**—The West Nisour Agricultural Society contemplate the erection of a grain elevator here next spring.
- ALMONTE, ONT.**—John Donaldson wants tenders by Saturday, 28th inst., for 200 green cedar posts and 100 loads fine gravel.
- TILBURY, ONT.**—It is probable that the ratepayers will shortly be asked to vote on a by-law to raise funds to construct granolithic walks.
- WYOMING, ONT.**—George Fisher, of this place, has purchased property at Petrolia, and will probably erect a brick block thereon.
- BARRIE, ONT.**—At the last meeting of the town council a motion to purchase a new alternator for the electric light plant was voted down.
- PERTH, ONT.**—A scheme is under way to build a skating and hockey rink. It is proposed to form a company, with a capital of \$4,000.
- SEAFORTH, ONT.**—The Property Committee of the town council has been empowered to purchase a set of weigh scales, at a cost of \$250.
- ESSEX, ONT.**—John Wortley has given up his contract for building the new town hall, and the work will likely be continued by the architect.
- ST. JOHNS, QUE.**—J. W. Molleur is interesting himself in the proposed knitting factory. The capital of the company is placed at \$50,000.
- NIAGARA FALLS, ONT.**—James Harriman is about to commence the erection of a flour mill, frame, four storeys, 40 x 30 feet, and to cost \$6,000.
- RUSSELL, ONT.**—The ratepayers in this vicinity propose to take steps at an early date looking to the erection of a cold storage warehouse.
- VANCOUVER, B.C.**—The ratepayers will be asked to approve of a by-law to raise \$100,000 by debentures for the purpose of extending the waterworks system.
- SIMCOE, ONT.**—The town will ask authority from the provincial government to issue debentures to the amount of \$44,000 for the payment of the floating debt.
- OWEN SOUND, ONT.**—A. J. Spencer, town treasurer, desires tenders by January 31st for the purchase of \$23,441.43 of town debentures, bearing interest at 5 per cent.
- WALNUT, ONT.**—William McDonald, treasurer of Brooke township, wants tenders by noon of Saturday, February 11th, for the purchase of about \$3,000 of debentures.
- CORNWALL, ONT.**—The Canadian Colored Cotton Mills Company purpose making further additions to their property, and have asked the town for exemption from taxation.
- WEYMOUTH, N. S.**—Charles Burrill, of this place, has gone to England to negotiate arrangements for the erection of a large pulp mill on the Sissiboo river, back of Weymouth.
- PETERBORO', ONT.**—The corporation will seek authority from the provincial government to develop water power on the Otonabee river, and to supply light, heat and power.
- CARBERRY, MAN.**—James White, of Alexander, contemplates starting a planing mill and sash and door factory here. He wants exemption from taxation and a free building site.
- IBERVILLE, QUE.**—A Dominion government engineer was in town recently to locate the site for the proposed wharf, for the construction of which \$8,000 was voted by parliament last session.
- LORING, ONT.**—John Kyle intends building a brick hotel, work on which will commence in the spring.—It is probable that a new school building will be erected during the coming summer.
- PORT ARTHUR, ONT.**—Mr. T. A. Gorham, barrister, of this place, will ask the Ontario legislature for a charter for an electric railway from Nepigon Station, on the C.P.R., to Nepigon Lake.
- NEW HAMBURG, ONT.**—Fred. Walker is preparing to build a residence on his farm near here.—H. & D. Becker, general merchants, are preparing to build a new block the coming summer.
- COBOURG, ONT.**—A deputation from this place has asked permission from the Ontario government to establish a House of Refuge. It is proposed to remodel the old jail building for the purpose.
- WINDSOR, ONT.**—The town council has decided to purchase a steam fire engine. The ratepayers will be asked to sanction the expenditure of \$5,000 for this purpose, and of \$7,000 for the erection of an engine house.
- AMHERSTBURG, ONT.**—The by-law to borrow \$5,000 for the erection of a fire-hall has been passed in council.—Arrangements have been completed for the erection in this town, by Darius Wigle, of a canning factory, three storeys, 40 x 100 feet, with elevator and other improvements.
- BRIDGEWATER, N. S.**—The town council will take steps at once to put in a water supply, and to raise the necessary funds for the purpose.—It is understood that the Merchants' Bank will erect a brick and stone building.
- PARRSBORO, N. S.**—At a recent meeting of the ratepayers a by-law was passed authorizing the council to grant a bonus of \$2,000 and exemption from taxation for five years to any person who will build and operate a two-set woollen mill.
- WHITBY, ONT.**—The town will seek authority from the provincial legislature to raise the sum of \$10,000, by the issue of debentures, as a loan to the King Bros. Company, to assist them in extending their business as leather manufacturers.
- OSHAWA, ONT.**—The by-law to raise \$110,000 by debentures for a waterworks and sewerage system was carried by the ratepayers on the 21st inst. Tenders for the work have been taken, and the contract will likely be awarded in a few days.
- BUCKINGHAM, QUE.**—Mr. H. P. H. Brummel states that work has already commenced towards the development of the graphite mine at Grenville. The company will be capitalized at \$500,000, and will erect mills at Grenville and St. Malachi.
- HARTLAND, N.B.**—The provincial government has offered to guarantee bonds to the amount of \$20,000 if the people will form a company to build the proposed Hartland bridge. Plans prepared by the Department of Public Works place the cost of same at \$27,000.
- LANARK, ONT.**—The North Lanark Railway Company will seek incorporation at the next session of the provincial legislature, with power to build a railway from Mile Lake to Arnprior. The route of the proposed road has been surveyed by Mr. A. Bell, C.E., of Almonte.
- NEW WESTMINSTER, B. C.**—Walter Blackie is calling for tenders for the erection of a two-storey brick block, 66 x 132 feet, to be erected on Columbia street by George Brine. The first floor will consist of three large stores, and the second floor will be fitted up for offices.
- HALIFAX, N.S.**—The Dominion Coal Company purpose adopting electricity for hauling purposes in their mining operations.—The county council will ask authority from the provincial government to borrow the sum of \$1,000 for the construction of a road between Lakeview and Bedford.
- CLINTON, ONT.**—The Grand Trunk Railway Company are taking tenders for erecting the superstructure of a steel bridge over a branch of the Maitland river, about four miles from this town; bridge to be 100 feet long, of 7 spans, 23 feet from bed of stream to floor, and 16 feet roadway.
- ST. JOHN, N.B.**—It is understood that the C.P.R. have in contemplation the extension of the present wharf at Sand Point some 400 feet farther down toward the Beacon.—It is announced that the Imperial Oil Company purpose erecting in this city a distributing tank for the maritime provinces.
- BROCKVILLE, ONT.**—W. B. Smellie, town engineer, will receive tenders up to 5 p.m. of Thursday, 26th inst., for the supply of stone for the town.—The Public School Board is at present considering the question of increased school accommodation. The inspector estimates that the necessary buildings, including a gymnasium, would cost about \$15,000.
- OWEN SOUND, ONT.**—The Owen Sound Portland Cement Company have decided to increase their capital stock from \$100,000 to \$200,000, and to take steps im-

mediately to enlarge their works and increase their plant.—The Georgian Bay Portland Cement Company, of which Mr. M. Kennedy is president, and Mr. J. W. Maitland secretary-treasurer, purpose erecting cement works on the Poulson property. Kilns will be erected capable of turning out 125 barrels of cement per day. The machinery for the plant has not yet been purchased.

STRATFORD, ONT.—The town council is considering the question of constructing permanent sidewalks.—H. J. Powell, architect, of this city, is preparing plans for the following buildings: Roman Catholic church in Logan; presbytery at Seaford for Father McCabe; residences for A. Lupton, of Harmony, R. M. Taylor, of Port Dover, and Isaac Usher, of Thorold; combined office and residence for Dr. J. A. Robertson, of this city.

QUEBEC, QUE.—Mr. Talbot, M.P. for Bellechasse, has asked the provincial government to grant financial aid towards an abattoir scheme, promoted by English capitalists. The project includes the establishment of a system of abattoirs at Levis.—It is stated that the Dominion government have agreed to include in the estimates of 1899 an appropriation of \$1,000,000 towards the cost of the proposed bridge over the St. Lawrence between Quebec and Levis.

KINGSTON, ONT.—The subscriptions towards the restoration of St. George's cathedral now amount to over \$9,000. The church will be built in a very substantial manner.—Mr. Chadwick hopes that the promoters of the proposed summer hotel will be in a position to commence building operations early in the spring.—The American Boot and Shoe Company will be offered a free site and exemption from taxation for ten years, to establish a factory here.—It is stated that the Oshawa Loan Company, owners of the Grand opera house, recently burned, will not rebuild.

LONDON, ONT.—No. 2 committee of the city council has passed a resolution in favor of selling the old city hall and erecting a new building, to be used for city and county purposes. The proposal has not met with the approval of the city council.—The dynamos for the new hospital building have not yet been purchased. There is a possibility that the contract for lighting the hospital will be given to the London Electric Company.—The city engineer has issued a building permit for a \$3,000 boiler house at the new cold storage building.—The McClary Manufacturing Company have taken out a building permit for a five-storey brick warehouse on York street, plans for which were prepared by Moore & Henry, architects.

HAMILTON, ONT.—The superintendent of the House of Refuge has asked for the following improvements: Repairs to the hot water tanks, some changes in the heating of the house for incurables, a new hot water boiler, and the erection of a verandah.—The Young Women's Christian Association are making a vigorous effort to secure the necessary funds for the erection of a technical school.—The Bell Telephone Company is considering the question of extending its underground system of telegraph wires.—The building inspector has asked the Market Committee for an appropriation of \$1,050 for painting the city hall, market building, jail, and stores on James street owned by the corporation.

WINNIPEG, MAN.—The Canadian Northern Railway Company is seeking authority from the Dominion government to build a line of railway from Lake Winnipegosis to Edmonton.—Mr. Macdonnell, chief engineer of the Public Works Department of Manitoba, has made a survey of the Big Grass marsh, north of Gladstone, with a view to estimating the cost of draining the area.—Hon. Robert Watson, Minister of Pub-

lic Works, returned to the city last week from the Dauphin district, where he arranged for the construction of two bridges over the Valley river. Mr. Watson also intended to arrange for the construction of bridges over the Swan and Rolling rivers, but found that he was unable to do so on account of the railway company not having located their town site. The bridges will, however, be built before the rivers break up in the spring.

CHATHAM, ONT.—Henry Stephens, of Harwich, has purchased property on King street west on which he intends building a residence.—T. J. Rutley, architect, wants tenders by Saturday of this week for the erection of a brick residence in Chatham township, with stone foundation, slate roof, and hot air furnace.—A. B. McCoy, Box 373, desires tenders by Monday, January 30th, for building two brick veneer residences, including hot air heating and plumbing. Plans at office of T. J. Rutley, architect.—G. S. Johnson, general manager of the Consolidated Street Railway Company, of Grand Rapids, Mich., estimates the cost of the proposed electric railway from Thamesville to Rondeau at \$258,000.—Westman Brothers are about to commence the erection of a double dwelling on King street west.

MONTREAL, QUE.—The Fire Committee will ask the city council for an appropriation to purchase a new water tower.—Atwater & Duclos, solicitors, 151 St. James street, desire to secure, for a client, a suitable building site, comprising from 5 to 10 acres.—The Canadian Pacific Railway is buying land on the south side of the tracks between the Windsor station and Atwater avenue, the intention being to extend the terminal facilities of the road.—The rumor is again current that a new post office building is to be erected in this city. It is understood that all the proprietors of the block of land bounded by Graig, St. James, and St. Gabriel streets and St. Lambert's Hill have sent options upon their properties to the government.—Mr. Champagne, city boiler inspector, has submitted a report to the Water Department condemning the boiler at the Upper Level pumping station, and recommending that new boilers be purchased immediately.

VICTORIA, B.C.—The city will invite tenders immediately for the annual supply of lumber, nails, oil, brick, cement and castings.—Mr. Hutchison, superintendent of the electric light plant, has recommended the extension of the station building.—At a recent meeting of the board of directors of the Jubilee Hospital, a committee was appointed to devise ways and means for the erection of a children's ward, a residence for the medical health officer, an addition to the nurses' ward, and for the completion of the sewerage system.—Mayor Redfern, in his inaugural address, referred to the necessity of constructing permanent pavements and of carrying out improvements to the harbor. In connection with the waterworks system, he stated that the completion of the reservoir should be undertaken at once. The Water Commissioner, he said, had prepared estimates for putting down a 24-inch pipe on Saanich road, giving the cost as \$5,000. He thought it would be advisable for the council to erect a new home for the aged and infirm, and to have plans prepared at once for a new fire hall in the east end and for alterations to the hall on Yates street. He further recommended that a more modern system of heating be introduced into the city hall.

TORONTO, ONT.—The members of St. Mary's church, Bathurst street, have decided to build a parish hall, with gymnasium and other equipment. The sum of \$3,000 has already been subscribed towards the project.—The city will ask power from the Ontario Legislature to

issue debentures for \$88,000 to complete the new city hall.—The Finch Wood Preserve and Paint Co. have purchased property on Atlantic ave., Parkdale, on which they purpose building a three-storey brick factory.—Messrs. Chadwick & Beckett, architects, Saturday Night Building, want tenders by 5 p.m. on Thursday, 26th inst., for carpenter and heating work and felt roofing of building for the Toronto Poultry and Garden Produce Company.—The Macdonald Manufacturing Company, in a communication to the Assessment Commissioner, place the cost of their proposed factory on Peter street at \$32,000. The company are making certain financial arrangements preliminary to the erection of the building.—The trustees of Knox Church have applied to the provincial legislature for permission to sell the present property and remove to a site further up town.—Property holders on Grenville street have asked the city engineer to make an estimate of the cost of a macadam roadway on that street.—Mr. Williams, city bridge engineer, will shortly commence the preparation of plans for the proposed bridge over the Don at King street. It is the intention to prepare complete plans only of the stone piers and cribwork. For the bridge superstructure the builders will be asked to submit competitive tenders on their own plans.—The Board of Control has decided to invite competitive plans for the proposed improvements to the St. Lawrence market. The Board has also decided to ask for power to spend \$75,000 on the erection of a Technical School building.—A building permit has been granted to Caleb Evans for a brick and stone dwelling, 209 St. George street, cost \$7,000.

OTTAWA, ONT.—The Ottawa Electric Railway Company has made application to the Dominion Government for permission to extend its line to Bell's Corners.—The County of Carleton Argicultural Society will likely take steps at an early date to enlarge its buildings at Richmond.—Building permits were last week issued as follows: Alfred Slack, brick veneered house on Lewis street, cost \$1,500; Jas. S. Wilson, brick veneered double tenement house on Second avenue, cost \$1,800; Holtby & Shears, brick veneered dwelling on Hickey street, cost \$1,100.—It is understood that the Grand Union Hotel is to be remodelled, at a cost of \$5,000. An additional storey will be added to the western and southern extensions.—Chas. Macnab, county clerk, wants tenders by to-day (Wednesay) for the supply of 100 toise of limestone.—A real estate dealer states that fully thirty new residences will be erected on the Glebe during the coming summer.—The Board of Works has concurred in the recommendation of Ald. Davidson to purchase a stone crusher.—Ald. Butler, Chairman of the Property Committee, will recommend some improvements in the city hall. He proposes to erect a glass partition upstairs, between the committee room and that of the secretary of the Public School Board, and to make other interior changes.—The City Engineer had a conference last week with representatives of the Canada Atlantic Railway and the Public Works Department in reference to the new Maria street bridge. The plans were definitely decided upon and will be prepared at once. The new bridge will be 54 feet wide, of steel, with solid metallic floor carrying a bed of concrete. On top of this will be a scoria block pavement. The canal will be spanned by a circular arch 70 feet in length. The steel structure will be 400 feet long, and outside of the two abutments will be supported over the railway tracks on the east side by columns; estimated cost, \$40,000.—The directors of the Central Canada Fair purpose building a horticultural hall near the Elgin street entrance to the exhibition grounds.—The question of erecting either

a subway or an overhead crossing at the Parry Sound Railway tracks on Bank street has been referred to a sub-committee of the Board of Works.—The congregation of the First Congregational Church have purchased a lot on Somerset street, near Bank, on which a new church will be built in the spring.—The Catholic residents of Ottawa East will likely take steps this year to build a new church in that village.—The Metropolitan Electric Company have submitted to the city engineer a plan showing the location of the poles to carry electric wires. Mr. Ayles, engineer for the company, states that tenders for the general construction work will be invited immediately.—The Ottawa and Parry Sound Railway Company intend going extensively into the building of box cars.

FIRES.

Recent fires included the following: Coal shed of the Intercolonial Railway at Moncton, N. B.; loss \$1,500.—Baptist church at Nictaux, N. S.—Residence of Edmund Guerin at Notre Dame de Grace, Que., totally destroyed; loss \$25,000.—Thompson's grist and carding mills at Nashwaaksis, N. B., totally destroyed; loss \$6,000, insurance \$2,000. In the basement was situated the boot calk manufactory of James S. Neill, of Fredericton, whose loss on machinery is \$2,000.—Roman Catholic church at Rockland, Ont.; partially insured. Rev. Father Hudon is parish clerk.—Residence and cheese factory of Arnold Cranston, 6th concession of Kingston, near Elginburg, Ont.; buildings and machinery totally destroyed. Mr. Cranston will rebuild at once.

CONTRACTS AWARDED.

PENETANGUISHENE, ONT.—Alphonse Tessier, of this town, has been awarded the contract of building a manse at Phelps-ton for Rev. Father Gearin; contract price, \$2,300.

LONDON, ONT.—The tender of William Mallock & Company, for freight and passenger elevators for the new hospital building, at the price of \$1,000 and \$1,200 respectively, has been accepted. The London Electric Company will put in the switchboard, for \$420.

HARRISTON, ONT.—The Harriston Pork Packing Company have let contracts for the erection of a packing house, 147 x 81 feet, three storeys, brick, with stone basement. The plans were prepared by William R. Perrin, architect, of Chicago, and the work will be carried out under the supervision of George Gray, resident architect.

BIDS.

MONTREAL, QUE.—The Fire Committee received tenders as follows for repairing the old water tower: H. E. Whitehouse, \$4,000; Lymburner & Matthews, \$3,800; Fire Extinguisher Co., of Chicago, \$4,500; B. Ledoux & Co., \$2,720. It is probable that the tender of B. Ledoux & Company will be accepted.

LIMESTONE AND IRON.

At the last meeting of the American Society of Civil Engineers, Mr. L. L. Buck stated that limestone in concrete, applied to iron or steel surfaces, would certainly cause deep corrosion of the metal, whenever the stone came in contact with the met-

al. In the anchorages of the Niagara railroad suspension bridge the strands of the main cables were imbedded in a concrete made with limestone, and wherever the spalls touched the wires the latter were badly eaten and sometimes entirely severed. This is a matter of such importance that it deserves careful attention, particularly in view of the use of limestone in concrete laid in connection with the structural metal work of large buildings, where corrosion can only be detected with much difficulty. There is a wide variation in limestones, and it may be that some grades will act corrosively and others not. It is desirable that this point should be borne in mind in discussing the subject.—Engineering Record.

PREVENTING TOOLS FROM RUSTING.

Under the title of "Schuppen-Panzerfarbe" (scale armor paint), the firm of Dr. Graf & Co., of Berlin, have brought on the market a new innocuous rust-protecting agent for iron-work. It consists of a thick fluid varnish, with which is incorporated a color-material composed of extremely thin black-brown scales of metallic appearance. According to tests made by Prof. Fresenius, of Wiesbaden, the new paint possesses a very powerful protective capacity, is unaffected by atmospheric influences, resists, applied to sheet iron, even a long-continued heating, and is not attacked by water, dilute acids, alkalis, and ammonia, acid gases, etc.

Experiments in the Government testing bureau at Berlin-Charlottenburg are also stated to have yielded very satisfactory results in comparison with minium paints. A further advantage is claimed in that any rust which may appear under the coating can be at once detected by the altered color, so that further damage may be timely avoided. Before application the compound is to be diluted with best linseed oil varnish.

BUSINESS NOTES.

Napoleon Peledeau and J. B. Tessier, stone contractors, of St. Henri, Que., are announced to have assigned, with liabilities of \$7,830.

The assignment is announced of Wm. Archer, builder, Spadina avenue, Toronto. Mr. Archer claims to have made an error in tendering for the fitting of the new Heintzman store on King street. The liabilities are small.

A Dominion charter has been granted to the Beaver Portland Cement Company, Limited, with head offices in Montreal and a capital stock of \$150,000. Mr. R. T. Hopper, T. C. Casgrain and W. F. Robinson, of Montreal, are interested in the company.

M. C. H. Stiver, J.P., of Unionville, has been appointed clerk of the township of Markham, Ont., in succession to Mr. John Stephenson, who resigned after a service of 27 years.

As a consequence of the breaking of a link in a derrick chain, Mr. T. Harry Jones, city engineer of Brantford, narrowly escaped being crushed to death by the dropping of an enormous stone slab designed for the foundation of the new span to Lorne street bridge.

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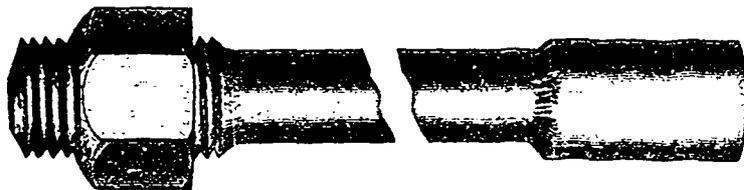
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profit of \$5,279. The total liabilities
amounted to \$14,854. No offer was sub-
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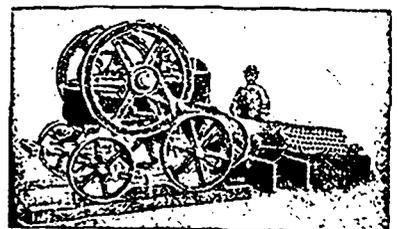
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SEWAGE DISPOSAL BY BACTERIA BEDS AND THE SEPTIC TANK.

(Continued.)

The permanent plant for this place, designed to treat 960,000 gallons daily, has coarse beds of 4,500 square feet area and 3 feet of burnt ballast retained on a half-inch sieve, and fine beds, for the second treatment, of 4,950 square feet area and 3 feet of burnt ballast which has passed a half-inch sieve, but has been freed of fine dust. The beds were constructed by puddling the bottom and sides of an excavation, and laying agricultural drains on the bottom, which discharge into an outlet pipe controlled by a valve. The cost of the beds was \$1,600.

In introducing these bacteria beds where chemical precipitation has previously been employed to effect the clarification of the sewage, the advice given by Mr. Thudichum is to utilize the precipitation tanks as sand catchers and coarse beds. For the latter purpose a system of drains is laid on the floors, and the basins filled with burnt ballast, coke or other suitable material. Fine beds can be constructed as already indicated, and the effluent from these run over the land of the farm when the crops need to be irrigated, or discharged into the river at other times. "The immediate benefits," he says, "derived from such a conversion of the method of treatment are well marked, the use of chemicals is abandoned, saving the cost of both materials and labor. The collection and subsequent treatment of sludge is abolished, since there is no sludge, merely a small quantity of rags, paper and similar matter collected by the screens, and amounting in ordinary cases to about 30 barrow loads per million imperial gallons, the sludge item also making a marked difference in the working cost. * * * The Sutton works themselves form a typical instance of the advantage of conversion. By the time the alterations are completed the whole cost will have been less than \$10,000, while the annual saving in working expenses already or to be effected amounts to no less than \$2,500, or about 16 cents per head of population."

It is interesting to notice that the author, who is associated with Mr. W. J. Dibdin in the introduction of the Sutton process, says there are a number of features of this system which can be clearly determined only by the co-operation of engineers. Among them are the questions relating to intercepting the sand in the sewage, the working life of the coarse beds and the fineness of the screens. The last does not arise in connection with the septic tank, as all organic matter enters it. The sand question remains, however, and the life of the final bed remains to be studied, for the effluent

from the septic tank at Exeter contains considerably more suspended organic matter than that from a coarse bacteria bed.

The useful life of these coarse beds has not yet been determined. That first built in Sutton, which has been in service over two years, is stated to be in excellent condition still and giving as good results as those obtained after it had been in operation a couple of months. There is reason to believe, however, that the water capacity of a bed diminishes according to the time it has been in continuous service, increasing after each period of rest, but never equalling that of the bed in its early stages. A considerable part of this loss in capacity is attributed to organic growths in the interstices of the bed, which, indeed, must develop to a certain extent before the full purifying powers of the bed are obtained. But there must also be a quantity of mineral matter from the sewage deposited in the bed, much of which can never be brought into solution and thus carried away with the effluent.

The interception of the sand in the sewage before it reaches the beds is a subject closely connected with their life. Where cities have the separate system of sewerage it is not very important, but where street washings pass through the sewers to the disposal works the subject requires careful attention. At the Barking outfall works of London there are thousands of tons of road sand which have been removed from the precipitation channels, where it settled as soon as the velocity of the sewage was checked. Several hundred tons of such sand is brought down after a heavy storm following a period of drought. This sewage-carried detritus should not be allowed to pass to a bacteria bed, as it would become choked in a short time, and the question to be solved is to what rate must the flow of sewage be reduced, or how long must it remain quiescent in settling tanks in order that the sand may settle to the bottom and the organic matter in suspension still remain in the sewage. Too short a period will allow sand to enter the bacteria bed, and too long a period will permit the subsidence of the suspended organic matter and the production of sludge. In the Sutton system, the life of a fine-grain bed is not affected by these considerations. The effluent from the coarse bed contains only a small amount of suspended solids, chiefly organic, and

the fine bed will not become silted, although its water absorbing capacity will be somewhat reduced by the organic growths which must develop.

So far as the labor required by this method of disposal is concerned, night attendance has been dispensed with in many recent cases by providing a pair of beds, coarse and fine, each having a water capacity sufficient to take the whole of the night flow. Syphons are provided, so that in case the level of the water in the bed exceeds the definite height, because of rain or some other cause, there is an automatic discharge from the coarse bed to the fine or the fine bed to the farm land, as the case may be.

(To be Continued.)

GOOD ROADS MEETING.

The annual meeting of the Good Roads Association of the District of Bedford was held at Sweetsburg, Que., on January 6th. The principal addresses were made by the president, Hon. W. W. Lynch, Hon. S. A. Fisher, Mr. A. W. Campbell, Ontario Road Commissioner, and Mr. J. A. Camirand, Sherbrooke.

Mr. Campbell was especially interesting and instructive in his address. Hon. Mr. Fisher, who followed him, stated that had he had any idea beforehand of its being so important he would have made arrangements to have it reported verbatim and printed for general distribution by the department. Mr. Fisher made the important announcement that if any municipality would arrange for a meeting of all its road inspectors he would have a practical man sent to instruct them in the principles of road making. Mr. J. Bruce, on behalf of the township of Granby, immediately accepted Mr. Fisher's offer. Other speakers were H. G. Foster, Hon. J. C. McCorkill, J. C. Draper, J. J. Mullin, E. A. Dyer, N. P. Emerson, Colonel Patten, and Colonel Amyrauld etc.

It is probable that a Good Roads' picnic will be held at Granby next summer.

The old officers of the association were re-elected, though Judge Lynch wished to retire from the presidency. He submitted, however, to the wishes of the members and will remain another year.

The nineteenth annual convention of the American Water Works Association will take place at Columbus, Ohio, on May 16, 17, 18 and 19. J. O'Shaughnessy, superintendent of water works of Columbus, Ohio, is chairman of the local committee of arrangements.

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