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CANADIAN CONTRACT RECORD

A WEEKLY JOURNAL

PUBLIC WORKS • TENDERS •
ADVANCE INFORMATION •
AND MUNICIPAL PROGRESS

EVERY THURSDAY

This paper reaches every week the Town and City Clerks, Town and City Engineers, County Clerks and County Engineers, Purchasers of Municipal Debentures and leading Contractors in all lines throughout Canada.

Vol. 8.

JULY 22, 1897

No. 25.

THE CANADIAN CONTRACT RECORD, PUBLISHED EVERY THURSDAY

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

Subscription price of "Canadian Architect and Builder" (including "Canadian Contract Record"), \$2 per annum, payable in advance.

C. H. MORTIMER, Publisher,

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Telephone 2362.

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

Advertising Rates on application.

TOWN OF INGERSOLL

Sealed proposals will be received by the undersigned up to 4 p. m. FRIDAY, 30th JULY for the work to be done in draining, grading and paving with macadam and cobble stone of a portion of Thames street in the Town of Ingersoll.

Plans and specifications may be seen and forms of tender obtained at Town Clerk's office, Ingersoll, or at the office of Davis & VanBuskirk, engineers, Woodstock.

Lowest or any tender not necessarily accepted.

W. R. SMITH,
Town Clerk, Ingersoll.

TENDERS

FOR

Brick Roadway

Sealed Tenders, addressed to Ald. Doran, Chairman of the Board of Works, will be received by the undersigned, at his office, City Hall, Hamilton, up to 12 o'clock, noon, of TUESDAY, JULY 27th, NEXT, for constructing a Brick Roadway on MacNab Street, between King Street and Merrick Street. Specifications may be seen and forms of tender obtained at the City Engineer's office.

The lowest or any tender not necessarily accepted.

T. BEASLEY,
City Clerk, Hamilton.

June 17th, 1897.

Tenders Wanted

Sealed tenders, addressed to the undersigned, will be received up to

Noon of Monday, July 25th,

for the construction of the improvement of the Thames Ditch and a branch of the same in the Township of East Zorra. Plans and specifications of the work can be seen at Parker's Hotel, Cassel. Offers will be received for a part or the whole of the work, or for the tile and catch basins separately. Tenders must be accompanied by a marked cheque, or cash, amounting to 2 per cent. of the offer, which will be returned when contract is entered into. Work must be completed by December 1st, 1897. Mark envelope "Tender for Drain," and address:

JAMES ANDERSON,
Clerk East Zorra,
Strathallan P. O., Ont.

TENDERS WANTED

Sealed Tenders will be received by the undersigned up to 8:00 o'clock p. m. on FRIDAY, JULY 30th, 1897, for the erection of a four-roomed

BRICK SCHOOL HOUSE

at the East End, Petrolia. Plans and specifications can be seen at the office of Mr. Isaac Erb, Architect, Samia, or at my office, Petrolia.

The lowest or any tender not necessarily accepted.

D. M. SHIELDS,
Chairman Bldg. Committee,
Public School Board.

RENFREW WATERWORKS

Tenders will be received until noon, TUESDAY, JULY 27th, 1897, for furnishing and erecting

- Two Duplex Pumping Engines each three quarters of a million gallons capacity
- Two Return Tubular Boilers and Settings.
- Water Tower and foundation.

Specifications, etc., may be seen at the office of the Town Clerk, Renfrew, or at the Chief Engineer's office, 103 Bay Street, Toronto.

WILLIS CHIPMAN,
Chief Engineer.

JAMES CLARKE, Mayor,
Chairman W. W. Committee.



NOTICE TO CONTRACTORS

Tenders For Laying Water Mains

Tenders will be received, by registered post only and addressed to the Chairman of the Board of Control, City Hall, Toronto, up to NOON ON WEDNESDAY, AUG. 4th, 1897, for

The Laying of Water Mains Along The City Streets

Specifications may be seen and forms of tender obtained at the office of the City Engineer, City Hall, Toronto, on and after Thursday, July 22, 1897.

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

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

Lowest or any tender not necessarily accepted.

R. J. FLEMING (Mayor),
Chairman Board of Control.

City Hall, Toronto, July 26th, 1897.

TENDERS

Will be received by the undersigned until 4 p. m. on TUESDAY, JULY 27th, 1897, for the various trades required in the erection of a

RESIDENCE IN ROSEDALE

The lowest of any tender will not necessarily be accepted.

GORDON & HALLIWELL, Architects,
26 King St. East.

TENDERS FOR GRANOLITHIC WALKS

The Town of Listowel invites tenders for the construction of Granolithic Subwalks to be laid in the Town the present season. About 18,000 square feet are now passed by the Council. Specifications and forms of tender may be had by applying to the Town Clerk. Tenders will be opened on MONDAY EVENING, JULY 27th. The lowest of any tender not necessarily accepted.

W. E. BINNING,
Town Clerk.

Listowel, July 25th, 1897.

DEBENTURES

TENDERS, sealed and addressed to the undersigned, and marked on envelope "Tender for Debentures," will be received by the Council of the Town of Cornwall until 6 o'clock afternoon of FRIDAY, AUGUST 6th, 1897, for the purchase of debentures of said Town amounting to ninety-eight thousand (\$98,000) dollars, and issued for the purchase of Waterworks. Said debentures are payable in thirty (30) equal annual instalments of principal and interest at the office of the Ontario Bank, in Cornwall, on the first day of August in each year during their currency.

The highest or any tender not necessarily accepted.

GEORGE S. JARVIS,
Town Clerk.

Town Hall, Cornwall, July 15th, 1897.

TENDERS WANTED

FOR

Drainage Work

Sealed tenders endorsed "Tenders for Drainage," and addressed to J. A. Cockburn, Cryslar, Ont., will be received up to the hour of 12 o'clock, noon, on SATURDAY THE 31st DAY OF JULY, 1897, for the deepening, widening, straightening, &c., of that portion of McInnes Creek in the 1st, 2nd, 3rd and 4th concessions of Finch, this work being known as the Campbell Adams Drainage Work.

Estimated earth excavation 24,366 cubic yards.

rock 46
4 culverts, estimated cost \$197.47

Plans and specifications to be seen and forms of tender to be had at the office of F. D. McNaughtin, Reeve, South Finch P. O., at the office of J. A. Cockburn, Clerk of the Township of Finch, Cryslar P. O., or at the office of T. H. Wiggins, Engineer, Gletgarry Block, Cornwall, on and after Wednesday, the 21st day of July, 1897.

The lowest or any tender not necessarily accepted.

F. D. McNAUGHTIN, Reeve,
J. A. COCKBURN, Clerk.

T. H. WIGGINS, Engineer
Cryslar 15th July, 1897.

CONTRACTS OPEN.

HOBART, ONT.—James Bell is building a residence.

ACTON, ONT.—Subscriptions are being taken to build a new church.

FAIR VALLEY, ONT.—George Overend is preparing to build a residence.

PARRY SOUND, ONT.—Excavations are being made for the new post-office.

COBDEN, ONT.—W. A. Otto will shortly commence the erection of a residence.

BRANDON, MAN.—Senkbeil & Merner propose establishing a felt factory here.

BRYSON, ONT.—James McLean, sash and door manufacturer, intends enlarging his premises.

BATHURST, N.B.—Work has been commenced on a new Catholic school building, to cost \$2,000.

WINGHAM, ONT.—The trustees of School Section No. 6 purpose erecting a new school building.

PRESTON, ONT.—Plans of a new market building have been prepared by Mr. Charles Mogk, of Waterloo.

GOLDEN, B.C.—The C.P.R. has decided to establish work-shops here. Car repairing shops will also be built.

WINDSOR, N.S.—W. R. Butler, A.M., I.C.E., wants tenders for the supply of a quantity of railway sleepers for export.

MIDDLETON, N.S.—The Commercial Bank of Windsor has purchased property on which a bank building will be erected.

PORT CREDIT, ONT.—Thomson & Blakeley have purchased the planing mill property and purpose adding new machinery.

TILSONBURG, ONT.—The Fire, Water and Light Committee has been instructed to procure plans for an electric fire alarm system.

WATFORD, ONT.—The contract for completing the Kingston drain will be let at the town hall, Warwick village, on August 2nd.

REVELSTOKE, B. C.—The Revelstoke Water, Light & Power Company will immediately put in an electric light and power plant.

ST. LAMBERT, QUE.—Drummond, McCall & Co., who have been given the contract for a waterworks system, will shortly commence work.

AMHERSTBURG, ONT.—The ratepayers will vote on a by-law to grant \$25,000 as a bonus to the Windsor, Amherstburg & Lake Erie Railway.

MELROSE, ONT.—Steps have been taken to secure the erection of a Methodist parsonage, and tenders for construction will shortly be invited.

WOODSTOCK, ONT.—A by-law will be submitted to the ratepayers to provide \$4,650 for the purchase of a site and the erection thereon of a fire hall.

WATERLOO, ONT.—Plans are being prepared for a new church to be built here.—A. B. McBride, town clerk, wants tenders by Tuesday next for cement walks.

STRATFORD, ONT.—H. T. Barker wants tenders for slating two schools. The city council have decided to lay a 4 inch water main along Brunswick street to the new flax mill.

ST. JOHN, N.B.—The question of paving streets with granite is under consideration by the city council, and tenders for the work will probably be invited at an early date.

PENDROKE, ONT.—Plans of the sewerage system, as prepared by Mr. Morris, have been submitted to the Provincial Board of Health, and a favorable report thereon is expected.

HULL, QUE.—The Presbyterian church congregation have purchased a lot with a view to erecting a manse thereon.—Mr. Hibbert, C.E., will make an estimate of

the cost of extending the waterworks system.

HALIFAX, N.S.—John E. Woods, secretary Provincial Exhibition Commission, invites tenders until Saturday, July 24th, for furnishing one 50 h.p. engine, two 50 h.p. boilers and one 70 h.p. boiler.

SMITH'S FALLS, ONT.—On August 14th the ratepayers will vote on a by-law to provide \$2,500 for extending the Beckwith street sewer and for a new system of heating and ventilation at the central school.

EDMONTON, N. W. T.—E. F. E. Roy, Ottawa, wants tenders before August 6th for the construction of three piers and two abutments for a bridge, according to plans and specifications to be seen at the office of the town clerk.

NIAGARA FALLS, ONT.—The American Electric Power Company, of Niagara Falls, N.Y., has petitioned the Ontario Government to run a cable for the transmission of electricity from the American side to the Ontario bank.

ESSEX, ONT.—A by-law has been passed by the Council of the County of Essex to provide for raising \$10,000 by the issue of debentures for the purpose of paying for improvements at the court house and gaol at Sandwich.

SIMCOE, ONT.—An agitation is on foot to lower the level of Lake Simcoe about two feet by blasting away a reef of rock at the northern outlet. It is estimated that an expenditure of \$100,000 would reclaim valuable land in the townships of East King and West Gwillimbury.

ST. JOHN, N.B.—It is stated that a syndicate purposes erecting a large pulp mill, to cost about \$100,000.—A report has been presented to the Common Council recommending the establishment of a pumping station at Silver Falls, to improve the water supply. The cost is estimated at \$320,000.

PETERBORO', ONT.—At a meeting of the promoters of the Cobourg, Northumberland & Pacific railway held in this city, Mr. R. Mulholland was elected president. Plans were submitted showing proposed changes in the route, and it is expected that construction will be commenced at an early date.

INGERSOLL, ONT.—W. R. Smith, town clerk, will receive proposals until Saturday next for the purchase of \$35,144 of debentures.—The town clerk asks tenders until July 30th for draining, grading and paving with macadam and cobble-stone a portion of Thames street. Plans at office of town clerk, or Davis & VanBuskirk, engineers, Stratford.

MONCTON, N.B.—Elliott & Hopson, architects, of Halifax, have prepared plans for a two-storey school building, containing sixteen departments, besides halls, teachers' rooms, library, etc.—The new I. C. R. station will be built of buff brick, with trimmings of red sandstone, the latter to be obtained from the Amherst red stone quarries.

WINNIPEG, MAN.—Mr. George Browne, architect, has prepared plans for a stone school house to be built at Minnedosa, tenders for which are now invited.—Tenders will be invited at once for a sewer on Pembina st. and a granolithic walk on Princess street.—It is rumored that the C.P. R. is to be extended west from Reston in to the Pipestone country.

QUEBEC, QUE.—The agreement between the city and the Quebec Exposition Company has been concluded, by which the latter agree to erect its buildings at Stadacona, and to contribute \$6,000 to the erection of an iron bridge across the St. Charles river.—W. D. Baillaige, assistant city inspector, will receive tenders until the 27th inst. for repairs to metal roof of Champlain market, and until August 4th for the construction of a retaining wall.

VICTORIA, B.C.—In connection with the scheme of the West Kootenay Light & Power Co. it is proposed to build a large central compressor at Rossland.—J. Gerhard Tiarks has prepared plans for a bungalow residence for Lieutenant-Governor Dewdney, to be built on Rockland avenue.—The city council will submit a by-law to the voters to provide \$14,000 for the erection of an Admiral's residence.

CORNWALL, ONT.—George S. Jarvis, town clerk, will receive tenders until Friday, August 6th, for the purchase of \$98,000 of water works debentures.—Mr. A. W. Campbell, provincial road instructor, was recently in town in the interests of good roads. He has recommended the council to buy a steam roller and crusher, and the matter will be taken up at a special meeting of the council to be held next week.—A petition is in circulation requesting the council to build a granolithic walk on Second street.

ST. THOMAS, ONT.—A special meeting of the Electric Street Railway Committee was held last week to consider a proposition made by Mr. J. H. Still to electrify the street railway. No decision, however, has as yet been reached. The proposed track would be six miles in length, and would cost probably \$80,000, exclusive of power house.—The proposition to build a new school house, at a cost of \$35,000, is meeting with opposition.—Robertson, Lindsay & Wilcox will remodel the old Cochrane building and erect a departmental store.

KINGSTON, ONT.—Power & Son, architects, as requested, have recommended that repairs be made to the city hall. They advise that the woodwork of the perpendicular parts from the main windows down be covered with galvanized iron, that the columns and bases be replaced in iron, and that the risers throughout be covered with iron.—William Newlands, architect, has received instructions from Ottawa to proceed with the demolition of the gorge wall of Fort Henry.

OTTAWA, ONT.—E. F. E. Roy, secretary Department of Public Works, wants tenders until Friday, August 13th, for the construction of a breakwater at Summerside, P.E.I. Plans may be seen at the offices of J. B. Heggan, Charlottetown; C. E. W. Dodwell, Halifax, W. J. McCordack, St. John, and at the above department.—Surveys are being made of the route of the New York & Ottawa railway, and construction will shortly be commenced.—The plans of a main drainage scheme submitted by Mr. Rudolph Herring, C.E., of New York, are now under consideration by the city council.

LONDON, ONT.—Tenders are invited until Saturday next for the erection of a double dwelling house. Plans on application to G. C. Jolly, Fullerton street.—The city engineer has prepared estimates for laying a conduit pipe from Murray's Springs to the pumping station at Springbank.—The Frost, Wire Fence Company, of Cleveland, Ohio, are considering the establishment of a factory in Canada, and will probably locate in this city.—The recent shortage in the water supply has caused the city authorities to discuss the advisability of erecting a storage reservoir.—By an electric storm about fifty telephones in this city were burned out.

HAMILTON, ONT.—Tenders are asked by T. Beasley, city clerk, for the construction of a new roof on the city gaol. Plans at the office of A. W. Peene, architect.—Building permits have been granted as follows: Alex. Mercer, three two-storey brick dwellings, corner Duke and Queen streets, cost \$6,000; Stewart McPhie, rebuilding McLaren mission, cost \$800; Anderson & Kidd, two-storey brick dwelling on Napier street for R. Allan, cost \$1,100; Stewart McPhie, two-storey brick dwelling for William Wyndham, cost \$1,800.—The Sun Life Assurance Company have

been notified that an entirely new building will have to be erected on the site of the old post office.—On August 12th the ratepayers will vote on a by-law to spend \$110,000 for constructing permanent pavements.—The city council has given notice of its intention to construct pipe sewers on Picton street and John street, a cement sidewalk on the south side of York street, and a stone curb on north side of Rebecca street.

MONTREAL, QUE.—The Sun Life Insurance Co. have purchased the Waddell block adjoining their present offices, with the intention, it is said, of erecting a new building at a future date.—Tenders are being received this week for the construction of sewers on Anderson, Chambord, Lagachetiere and Sydenham streets.—Gamelin & Huot, architects, are calling for tenders for six tenements to be erected on Victoria avenue for J. B. Brouillette.—W. E. Doran, architect, has completed plans for two houses, six tenements, solid brick, for W. W. Halpin, for which tenders are now being taken.—L. Z. Gauthier, architect, is preparing plans for a monastery to be built at Ottawa for the Rev'd. Sisters du Precieux Lang, tenders for which will be invited early next month.—Clift & Pope, architects, have completed plans for Arthur Crewe's two-story residence to be built at Sault aux Recollets, and tenders will shortly be asked.—Macduff & Lemieux, architects, are preparing plans for five tenements to be built on Delisle street for B. Gervais. Same architects have also prepared plans for a cottage now in course of erection at St. Blaise for Dr. A. Bouthillier.—Gamelin & Huot, architects, are preparing plans for a new front elevation on Languinet street for Gregoire Leveille.—J. Forget Despatie, architect, has prepared plans for one store and flats to be built on Upper St. Urban street, also for two flats, one dwelling, on Esplanade avenue. Both these buildings will be proceeded with immediately.

TORONTO, ONT.—Mr. A. W. Campbell, provincial road inspector, will make a report on the improvement of the Lake Shore road, between Port Credit and Carman church.—E. J. Lennox, architect, asks tenders until Tuesday, the 27th inst., for additions and alterations to the House of Industry, Elm street.—The York County Council are considering the question of erecting a bridge at Lambton avenue.—The directors of the Aurora and Schomberg Railway are circulating a petition in the township of King asking a bonus of \$12,000. The company have not yet decided whether steam or electricity will be used as the motive power.—The City Engineer, in his fortnightly report presented to the City Council on Monday last, recommended the following works: Macadam pavement on Carlton street, Parliament to Sumach, cost \$4,250; brick pavement on Bellevue ave., Bellevue place to Oxford street, cost \$5,780; macadam pavement on Bernard ave., Avenue road to Bedford road, cost \$3,450, asphalt pavement on Berkeley street, Gerrard to Carlton streets, cost \$5,350, brick walks on Queen street, from Berti to a point 50 feet east, and on Berti street, from Queen to a point 90 feet south, cost \$119; brick sidewalks on Harnson street, from Dovercourt road to Lakeview ave.; on Dovercourt road, Dundas street to St. Ann's road; McCaul street, St. Patrick to College; McCaul street, Anderson to College, cost \$2,400.—Property owners on St. Joseph street, near Queen's Park, have petitioned for a brick pavement.—The ratepayers of Berkeley street, between Wilton ave. and Gerrard st., have also petitioned for a brick pavement.—Simpson & Ellis, architects, are receiving tenders this week for a post office building at Parry Sound, and are preparing plans for a pair of houses on Lippincott street, city, additions to house, Toronto Junction, and a store house at Mimico.

FIRES.

A building at French River, Ont., owned by Joseph Charlebois, has been burned.—Fire at Gravenherst, Ont., completely destroyed the town hall and fire hall, at a loss of \$3,500.—The extensive saw and pulp mills of the Royal Paper Mills Co., at East Angus, Que., were consumed by fire on the 16th inst. The damage is estimate at \$150,000, largely covered by insurance. The buildings will be rebuilt at once.—A disastrous fire occurred at Windsor, Ont., on the 15th inst., completely destroying T. Neveux's block on Sandwich street east, at a loss of \$80,000.—J. T. Goldthorpe's store and dwelling at Salford, Ont., has been burned.—The old McKay flour mill at New Edinburgh, Ont., was destroyed by fire on Monday last; loss, \$25,000.

CONTRACTS AWARDED.

TRENTON, ONT.—R. Waddell, of this town, has the contract for building a new bridge at Campbellford, at the price of \$11,000.

LONDON, ONT.—A. Graham, of this city, has been awarded a large contract for laying artificial stone walks in Wingham.

AYLMER, QUE.—F. Petry has been awarded the contract for excavating trenches for the pipes of a water works system.

FREDERICTON, N. B.—The United States Fire and Police Telegraph Company, of Boston, have been awarded the contract for a fire alarm system.

PARRY SOUND, ONT.—The contract for building the Oddfellows' block has been let to Alex. Logan, of this town, at a price

TORONTO, ONT.—Purdy, Mansell & Mashinter have been awarded the contract for the plumbing and steamfitting of Loretto Abbey, Wellington Place, and for \$8,333, Simpson & Ellis, Toronto, architects.

residence for Dr. A. McKinnon, Guelph, Ont.

BRANTFORD, ONT.—The Brantford Electric and Operating Company have been awarded the contract for wiring the main building of the Asylum for the Blind, Brantford, by the Department of Public Works.

GUELPH, ONT.—John McAteer has awarded contracts as follows for two residences on Waterloo avenue: Stone and brick work, H. Benalick; painting, Moffatt Bros.; plumbing, Mahoney Bros.; plastering, J. J. Mahoney; tinsmithing, A. Rumford; architect, G. R. Bruce.

RICHMOND HILL, ONT. Tenders for the new High School building have been accepted as below: Carpentry, Innis & Sons, \$1,695; galvanized iron work, C. Mason, \$103; painting and glazing, Eagles & Linnington, \$175; slating, Duthie & son. J. F. Brown, Toronto, architect.

QUEBEC, QUE.—Building permits have been granted as follows: Restoration and extension, 70 ft. x 45 ft., Nelson and Colomts streets, brick and stone, for F. Schryburt; J. B. Ginchereau, architect. One house on Richeheu street, two storeys, 30 ft. x 35 ft., wood, lined in brick, galvanized iron roof, for Simeon Poulin; probable cost, \$2,000.

KINGSTON, ONT.—Davis & Burke have been awarded the bulk contract for the addition to the Kingston dairy school. The sub-contractors are: Masonry, A. Newlands, painting and glazing, Robinson Bros., plumbing and unsmthing, Elliot Bros.—The Barnett & Record Company is building the elevator for the Kingston Elevator & Transit Company, of which Mr. E. Morris is the principal.

HAMILTON, ONT.—The lowest tenders for the Jubilee wing to the General Hospital are: Masonry, Geo. E. Mills, \$3,095, carpenter work, D. M. Downie & Son, \$2,548, plumbing, A. Rogers, \$525; skylight and iron work, J. Brayley, \$275

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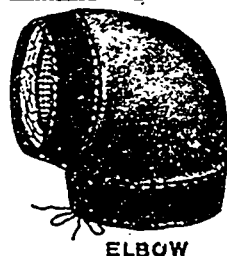
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THE PROTESTANT INSANE ASYLUM, Verdun, near Montreal.
THE GRAND HOTEL, St. Hyacinthe, Que.
THE NEW CUSTOMS-APPRAISERS STORES, NEW YORK, new building, which will consume 5,000 tons.
THE PARLIAMENT BUILDINGS, OTTAWA, portion of which was recently destroyed by fire and rebuilt.

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and \$147.72 respectively; roofing and slating, Thos. Irwin & Son, \$199; metal sheet and gravel roofing, J. E. Riddell, \$222; electric light fixtures, Lowe & Farrell, \$136; painting, A. M. McKenzie, \$247; plastering, J. Clapham & Son, \$400; ventilating, A. Rogers, \$170.

MONTREAL, QUE.—Building permits have been granted as follows: One building on Durochier street, St. Lawrence ward, three stories, stone and brick, cost \$4,000, for O Deslauriers masonry, A. Huot; carpenter and joiner's work, O Deslauriers; bricklaying, J. Carriere; plumbing, etc., A. Brunet. One house on St. Andre street, wood lined in brick, for Louis Brouillette—masonry, M. Latour; carpenter and joiner's work, Chas. Duval.—H. Austin Jones, architect, has let contracts as follows: Two buildings, three stories, stone and brick, mansard roof, to be built on Ottawa street, St. Ann's ward, for Michael Clarke—masonry, J. R. Labelle; carpenter and joiner's work, M. Cazavant; bricklaying, John Bousquet.—The fixtures of J. H. Blumenthal & Son's store, corner of Ste Catherine and Metcalfe streets, have been awarded to M Couvrette & Son. W. McLea Walbank is the architect.—Arthur St. Louis, architect, has awarded the following contracts for five houses, two tenements, corner of Chesterfield and Prince Albert avenues, for Narcisse Nolin—masonry, Louis Ouimet; carpenter and joiner's work, Garipey & Co.; other trades not let.—The following tenders were received by the city for the supply of a large steam fire engine: E. H. Thomas, Brussels, Ont., Ronald engine, 12,000 gallons a minute capacity, five years' guarantee, \$5,000. Waterous Engine Company, Brantford, Ont., a Waterous engine, according to specifications, \$7,000. B. Ledoux & Co., Montreal, an Amosbreag (Elmira, N.Y.) engine, 10 years' guarantee, \$8,000. American Fire Engine Company, Clapp and Jones engine, \$7,995; American engine, \$7,800. John Martin, Son & Co., Montreal, La France engine, \$8,000. The latter tender will probably be accepted.

GLUE.

Glue being an animal substance, must be kept sweet. To do this, says a contemporary, it is necessary to keep it cool when it is dissolved and not in use. In all cases keep the glue-kettle clean and sweet by often cleaning it. The best glue will require from one-half to more than double the water to dissolve it that is required for poor glue, which is clear and red, and the quality of which can be dis-

covered by breaking a piece. If good, the glue will break hard and tough, and when broken will be irregular on the broken edge. If poor, it will break comparatively easily, leaving a smooth straight edge. In dissolving glue it is best to weigh it, and also to weigh or measure the water. If this is not done, there is a liability of putting into the pan more glue than the water can properly dissolve. It is a good plan, when once the quantity of water that the kind of glue that is used will take has been ascertained, to put the glue and water together at least six hours before heat is applied, and if it is not soft enough then to let it soak longer, for no harm can be done to good glue by its remaining in pure water even for forty-eight hours. If glue is of first-rate quality it may be used very thin on most kinds of woodwork, and will thus make the joint as strong as the original. Glue is made white by bleaching.

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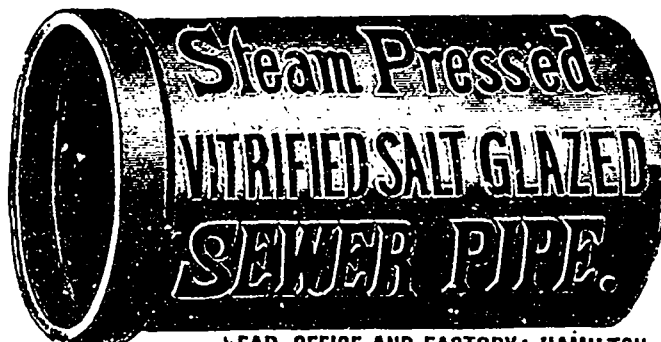
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MUNICIPAL DEPARTMENT

CONSIDERATIONS FAVORING THE ESTABLISHMENT OF WATER-WORKS IN SMALL TOWNS.

The first obstacle that confronts those who endeavor to establish water-works in a small town is the opposition from the doubting Thomases who know nothing about engineering or finances of a water-works system and are rather suspicious of anyone who does, particularly an out-of-town engineer, says the Engineering Record. There may be something of value for engineers who have experienced difficulty in this matter in noticing the methods adopted by a committee of citizens in Billerica, Mass., who engaged Mr. M. Blake, of Hyde Park, Mass., as their engineer. This committee selected 16 town in which water-works had recently been built under conditions similar to those prevailing in Billerica, and sent the authorities in these places a list of questions not such as would take any time or professional knowledge to answer, but such as any town clerk would be able to answer without inconvenience. An idea of the tenor of these questions may be obtained from the following selection from the more important ones: How did engineer's original estimate compare with actual original cost? Number of water takers one year after starting system and now? To what extent has putting in supply raised rate of taxation or reduced insurance rates? Rules for extending pipe lines beyond centers of population? Hydrant rates? To what extent has system been self supporting? Have opponents changed their minds since system was put in?

Eleven towns favored the committee with very full replies, and the information as to points which are of importance and interest may be briefly summarized as follows: Taxation slightly increased at first, but not materially after a few years. In some cases the towns eventually derived an income from the water rates over and above all expenses. As a rule, an appropriation was made by the town for water for public uses, and for hydrants in consideration of fire protection, and these amounts

were included in the income of the works. The actual cost of the systems did not materially exceed the original estimates of the engineers. The number of water takers very largely increased after the first year, and nearly all the inhabitants on the pipe lines eventually became takers. Pipe lines are extended on a guaranty of 6 per cent. on the cost of extension. As to the effect on insurance, the Committee finds that there would be a saving to the mills of 10 per cent. and to other property of 15 to 20 per cent. according to its character. An officer of the Middlesex Mutual, a company carrying a large amount of insurance in the town, informed the Committee that his company had been largely reducing the amounts carried because of the lack of fire protection, and, if none were provided, they should reduce their policies still more. Besides the saving through a reduction in rates on the introduction of a water supply, experience shows that less insurance is carried; the quick protection afforded by a hydrant near the premises making total or serious fire not likely to occur, and thus admitting, with safety, the lessening of the amount of the insurance. Whenever there was opposition to putting in the works, it disappeared after the benefits were experienced and the financial burdens were found to be light, and, as a rule, the most active opponents became firm advocates of the system.

It was proposed in Billerica to have the water-works built by a district composed of the section supplied by the mains instead of by the whole town.

In regard to this district system, the committee states that at the end of 1895 there were in Massachusetts 123 town water supplies, only 11 of which were under district management. Five supplies, originally district, have been bought by the towns

in which they were located. It would seem from these facts that the district system is not often adopted, and there are the following good reasons for it:

1. It involves the organization of a town within a town so far as all matters relating to the water supply are concerned.
2. The bonds of a district do not sell at as good a premium as those of a town.
3. The residents outside a district do not entirely avoid taxation if the works do not become self-supporting, because the town, as a rule, pays the district a yearly amount in consideration of fire protection and for use of water for public purposes. It is just that the whole should do this, because the cost of water-works is greatly increased in providing for efficient hydrant service, and besides the protection afforded public buildings, the prevention of serious conflagrations preserves taxable property, and avoids for every taxpayer the increase of taxation which would follow a large loss.

TRICYCLE STREET SWEEPER.

A Berlin inventor has, according to an exchange, constructed a new street-sweeping apparatus which combines the construction of a carpet-sweeper with that of a tricycle. It is worked by one man, who can cover as much ground with this machine as four men working with brooms and shovels. Compared to the street-sweepers propelled by horses, the cost of covering a given ground is smaller; moreover, the new machines are widely superior on hygienic grounds, since the dust and sweepings are not thrown into the air, but absorbed by the machine and dropped in bulk into boxes specially provided for the purpose, which are to be sunk in the ground at different points and covered until called for during the night when there is least traffic in the streets. The new sweepers are intended to travel through the best streets at a fair rate of speed several times a day, and the receptacle for the sweepings will hold about 40 pounds before it becomes necessary to empty it. Sidewalks and footpaths in the parks are to be swept by similar but somewhat smaller machines.

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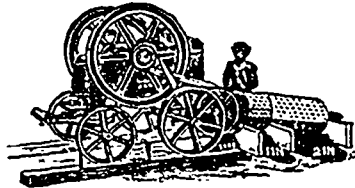
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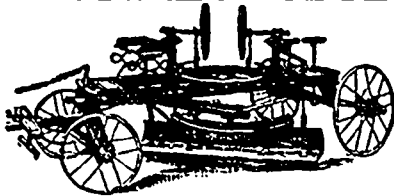
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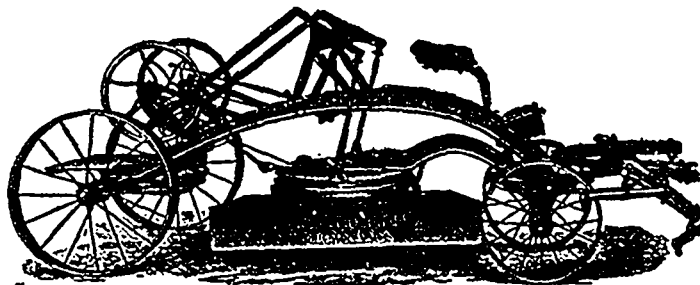
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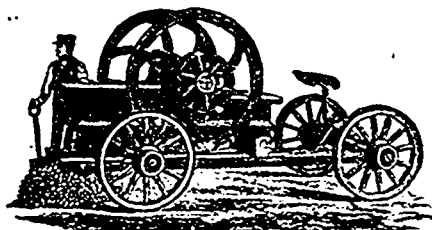
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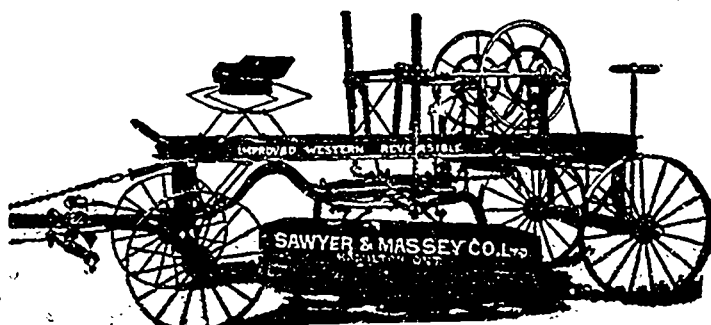
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Reflectors.

Table listing reflectors, including Frink, I. P.

Roofers.

Table listing roofers, including Campbell & Gilday, Douglas Bros., and Duthie & Sons.

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