

CONTRACTS OPEN.

HINTONBURGH, ONT.—The Roman Catholics are considering the erection of a separate school.

MILVERTON, ONT.—Mr. Reddaway will erect a grain elevator, with a capacity of 40,000 bushels.

RAT PORTAGE, ONT.—Tenders are invited for the erection of St. Alban's Church. C. Wheeler, architect, Winnipeg.

OWEN SOUND, ONT.—J. C. Forster, architect, is calling for tenders for the erection of a residence for Mr. Henry Stephens.

TORONTO JUNCTION, ONT.—Mr. J. A. Ellis, architect, has been instructed to prepare plans for the new High School building.

PETERBORO, ONT.—The Council has decided to issue debentures for the sum of \$40,000, to be expended in constructing a sewerage system.

ALLISTON, ONT.—The by-law authorizing the expenditure of \$15,000 for a system of waterworks was carried by the ratepayers on Wednesday last.

GALT, ONT.—The ratepayers will vote on a by-law on the 12th of August to raise the sum of \$10,000 to build a new bridge and extend the waterworks.

NEW WESTMINSTER, B. C.—A deputation of citizens will memorialize the Dominion Government to grant an appropriation for the erection of a new drill shed.

VICTORIA, B. C.—The O'Neil and Morris Fruit Preserving Company has decided to erect a factory on the large wharf now being built near Rock Bay bridge.

SEAFORTH, ONT.—A by-law will be submitted to the ratepayers at an early date to raise the sum of \$14,000 to purchase a site and erect a town hall and fire station.

DOON, ONT.—Mrs. Jamieson, proprietress of the Doon hotel, has purchased a site on which to erect a new hotel building this summer. The old hotel will be converted into a store.

ORILLIA, ONT.—The Fire and Water Committee has decided to ask the Town Council to submit a by-law to the ratepayers to grant the sum of \$25,000 for the extension of the waterworks.

KNOWLTON, QUE.—J. E. Fay, Secretary-Treasurer, will receive tenders until the 30th inst. for the construction and masonry work of abutments of three iron bridges to be erected in this village.

BROCKVILLE, ONT.—Geo. A. Allan, architect, will receive tenders until the 25th inst., for the erection of a brick and terra cotta building on the corner of King and Broad Streets, for the Durham estate.

KINGSTON, ONT.—The proposed Catholic summer school will be erected at Prospect Park. —Mr. Ellis, architect, will shortly prepare plans for a parsonage to be erected in connection with the Methodist church at Cataraqui.

BARRIE, ONT.—Tenders are wanted until the 6th of August for the construction of two bridges on concession line between the second and third concessions of Oro. Address Thos. Drury, Crown Hill, P. O., or James Ross, Reeve, Barrie, Ont.

NIAGARA FALLS SOUTH, ONT.—The High School Board have instructed Messrs. White & Roberts, of Buffalo, to prepare plans for the proposed new High School. The building will be of red pressed brick, with cut stone trimmings, and will be erected on the site of the old building.

BRANTFORD, ONT.—Mr. J. S. Hamilton will receive tenders until the 1st day of August for heating by hot water his residence at Langley Park, this city.—The by-law to grant a bonus of \$70,000 to aid in the construction of the Toronto, Hamilton and Buffalo railway, was carried by the ratepayers on Thursday last.

OTTAWA, ONT.—Plans are now being prepared by the Department of Public Works for the erection of a lighthouse on the Giant's Tomb, near the entrance of Midland harbor.—It is the intention of the French Order of Capuchins, to enlarge their monastery.—Mr. Fuller, Chief Architect Department of Public Works, is preparing plans

for the Canadian building at the World's Fair, Chicago. The cost of the building will be about \$15,000.

MONTREAL, QUE.—The City Clerk will receive tenders until Monday, the 25th inst., for the repairs to No. 3 Fire station at the corner of Wellington and Dalhousie streets.—J. J. Browne, architect, is preparing plans for additions to the cotton mills at Hochelaga.—J. R. Gardner, architect, is preparing plans for summer residences for the following persons: Mrs. Looke, at Beaconsfield; Mr. A. W. Morris, at Dorval; Mr. Slater, Mr. Black, Mr. McMaster and Mr. Kavanagh, at Thompson's Point.

WINNIPEG, MAN.—Messrs. W. McKenzie, of Toronto, and James Ross, of Montreal, have decided to at once commence the erection of a new opera house here.—The City Council has decided to construct the following works: Block pavement on 2nd street north, from 2nd avenue north to Central avenue, cost \$5,000; asphalt pavement on 4th street south, from Portage avenue to 6th avenue south, cost \$25,000; sewer on 1st avenue north from 15th street north to 17th street north, cost \$850.

STRATFORD, ONT.—H. J. Powell, architect, has prepared plans for the following works: Red brick residence at Comber, Ont., for Mr. Geo. Ainslie, cost \$1,800; residence for F. F. Jones, Comber, cost \$2,200; parsonage for Canada Methodist Church, Tilbury Centre, Ont., cost \$2,000. He is also preparing plans for a church for the Episcopalians, of this city, to take the place of the present Home Memorial Church. It will be erected in the Norman style, and will cost between \$12,000 and \$15,000.

TORONTO, ONT.—The City Engineer has recommended the construction of the following works: a sewer to drain the Convalescent Home on Bathurst street, cost \$930; cedar block pavements on Herick street, cost \$460; on Perth avenue, cost \$9,750; on Susex avenue, cost \$2,000; on Royce avenue, cost \$6,250; on High Park avenue, cost \$18,000; on Front street, from Yonge to Frederick street, on sand and gravel foundation, cost \$3,000; a cement walk on north side Queen street, from Yonge street to James street, cost \$1,995.—Mr. Geo. Eakin, Clerk for County of York, will receive tenders until Wednesday August 3rd, for the erection of a wooden bridge over the Humber river, between York and Etobicoke, just north of Bloor street, also for a steel bridge, the abutment and foundation to be the same in either case. The bridge and foundation to be tendered for separately.—Building permits have been granted as follows: Geo. Keith, 2-story & attic bk. add. to warehouse, 121 King st. e., cost \$2,000; Jas. H. Stokes, 3 attached two-story bk. dwellings, s. e. cor. Tape and Gerard st., cost \$8,000; Wm. McGavin, 2-story bk. dwelling, n. w. cor. Sackville and Sydenham sts., cost \$2,000; Mrs. Meredith, additional story to front dwelling and 1-story bk. addition to rear of dwelling, cost \$1,300; Church wardens St. Simon's church, Howard street, 1-story addition and alterations, cost \$8,000; Public School Board, 2-story bk. school, n. e. cor. of Shirley st. and St. Clarens avenue, cost \$9,000.—James Gowanlock, Chairman Committee on Waterworks, will receive tenders until Monday, 22nd August, for furnishing one ten million gallon pumping engine, with necessary boilers and foundation. Plans may be seen at the Waterworks Department, City Hall.—Mr. F. H. Herbert, architect, Yonge st. arcade, is preparing plans for alterations to 32 Queen st. east, for the City and County Loan Association.

FIRES.

Jackson & Doyle's saw mill at Tidnish, N. S., was destroyed by fire on Tuesday last. Loss, \$2,000; no insurance.—On the 18th inst. a disastrous fire broke out in the iron foundry of William Clendenning & Son on William street, Montreal, completely destroying the machine shop. The offices of A. Ramsay & Son were also destroyed. Loss on machine shop \$100,000, fully covered by insurance.—On Sunday last fire was discovered in a block of stores on the south side of Main street at Stayner, Ont., destroying the following buildings: John Petrie, grocery store; W. B. Henderson, harness; C. Newton, photographer; D. Gillespie, groceries; C. Livingstone, implements; A. Swalls, jeweller.

CONTRACTS AWARDED.

ARNHEM, ONT.—Mr. R. V. Stafford has secured the contract for the erection of a new building for the Electric Light Company.

VICTORIA, B. C.—Mr. J. G. Larks, architect, has awarded the contract for the erection of Mr. F. W. Vincent's residence to Smith & Clark.

HULL, QUE.—Messrs. Black & Richards have been awarded the contract for the erection of a new mill and storehouse for the E. B. Eddy Company.

ST. JOHN, N. B.—Messrs. Lawlor & Connors, of this city, have been awarded the contract for the Woodstock and Centerville section of the Tobique railway.

OWEN SOUND, ONT.—The Owen Sound Portland Cement Company has received the contract from Mr. Hugh Ryan, contractor for the Sault Ste. Marie canal, for the supply of a quantity of Portland cement for use in the construction of the works.

MONTREAL, QUE.—The City Council has awarded the franchise for an electric street railway to the Montreal City Passenger Railway Company, who will immediately commence the construction of the road. The trolley system will be used.

WINNIPEG, MAN.—The contract for the construction of sewers, tenders for which were called for some weeks ago in the CONTRACT RECORD, has been awarded to Messrs. Lee & Keith, the lowest tenderers, Messrs. Robinson & Cross, of Owen Sound, having withdrawn their tender.—The contract for the construction of 150 catch-basins has been awarded to Messrs. Dolson & Jackson, at the price of \$7,650.

TORONTO, ONT.—The City Council has accepted the following tenders for the construction of pavements and sewers: Asphalt pavement—King street, Simcoe to Sherbourne, Trinidad Asphalt Company, \$70,966; Yonge street, King to Hayter, Warren-Scharff Company, \$51,078; Yonge street, Grenville to Bloor, Warren-Scharff Company, \$38,804; Devonshire place, Hoskin avenue to Bloor street, Trinidad Asphalt Company, \$11,111; Rose avenue, Howard to Winchester street, Warren-Scharff Company, \$16,939; St. James avenue, Ontario to Parliament street, Construction and Paving Company, \$4,020; King street, from Sherbourne street to River street, D. L. Van Vlack, \$16,457. Granite sets—Yonge street, Hayter to Grenville, John McBain, \$17,388; Cedar blocks—Lucas street, J. McElin, \$3,248; Cedar and granite—Dundas street, Soraren to Bloor, C. Farquhar, \$17,055. Cedar, granite and cobble—Queen street, Bathurst to Gladstone avenue, W. H. Catho, \$26,257; Queen street, Brockton road to Roncesvalles avenue, W. H. Catho, \$15,818. Sewers—Clinton street, Barton avenue to Yarmouth road, John Farley, \$1,976; Barton avenue, Manning avenue to Christie street, J. J. Booth, \$1,057; Dupont street, St. George to Huron, J. J. Booth, \$453; Monk street, Bathurst to Markham, J. J. Booth, \$421; Liberty street, Pacific avenue to Atlantic avenue, John Farley, \$519.

SIZE OF MACHINE SHOP FLOOR BEAMS.

It is a pretty mean job to be obliged to crawl under the machine shop floor and jack up old broken down floor joists that were originally put in too light for the working load they were supposed to carry. There is a safe rule for such calculations, but it seems to be seldom used outside of the architect's office, and I am sorry to say that it seems to be sometimes neglected even there. The rule is as follows: "Divide the product of breadth and square of depth in inches and the coefficient of material used by the length in feet; the quotient will give the weight in pounds which may be supported on the floor, by the beam that is being figured."

A modification of the above rule is used for finding the depth of a floor beam to carry a given load uniformly distributed. It is practically the same rule, only it is

"worked backwards." Divide the product of length and weight to be borne (in feet and pounds) by the product of breadth in inches and coefficient of material; the square root of the product will give the depth of the material in inches. Modifications of this rule will be easily made to suit almost any case that may come to the mechanic and he will find it much better than to go along "by guess," with the prospect of having the work all to do over again at a loss of reputation, to himself, and a loss of dollars to his employer.—*Northwestern Mechanic.*

The length of an inch is supposed to have been determined from three grains of barley placed end to end lengthwise.

MUNICIPAL DEPARTMENT.

APPROXIMATE COST OF CONSTRUCTING STREET PAVEMENTS.

The following estimates are given from Prof. Haupt's work on "Better Roads," published in 1891, which may serve as an approximate and relative estimate on several things. It must be remembered that prices vary considerably, both on the account of cost of labor and supplies, varying in different localities and from differences in the amount of competition among bidders:

Excavation per cubic yard,	\$0 15 to \$0 30
Rock excavation, per cubic yard,	1 00 to 2 50
French drains, 3-inch tile and stone, without excavation, per lineal yard,	22 10 30
Macadam, with Telford foundation, per square yard,	90 to 1 40
Concrete foundation, one of cement, three of sand and four and a half of two and a half inch stone six inches thick, per square yard,	96 to 1 20
Granite blocks, supplied only, per square yard,	1 50 to 1 90
Granite blocks, supplied and laid, Scotch per square yard,	2 94 to 3 25
Sydnite blocks from locality, supplied and laid, per square yard,	2 75 to 3 10
Wooden blocks, supplied and laid per square yard,	95 to 1 25
Granite blocks on sand, including sand and laying per square yard,	3 00 to 3 00
Granite blocks, including concrete foundation and laying per square yard,	3 10 to 4 50
Asphalt, per square yard including concrete foundation,	2 75 to 2 75
Red cedar on sand, including sand, per square yard,	2 00 to 2 40
Cedar and pine blocks, on concrete included, per square yard,	2 30 to 3 10
Wooden blocks including concrete foundation and excavating old roadway, per square yard,	2 35 to 3 25
Brick on concrete, including concrete, per square yard,	2 05 to 2 50
Brick on sand, including sand, per square yard,	1 60 to 1 05
Brick, two layers on sand, including the sand, per square yard,	1 25 to 2 00
Repairs to wooden blocks per annum, per square yard,	06 to 10
Repairs to macadam and cleaning, per annum, per square yard,	06 to 12
Repairs to macadam and cleaning, per square yard, for heavy traffic,	20 to 40

LEGAL DECISIONS AFFECTING MUNICIPALITIES.

The question was recently raised in the Massachusetts legislature as to the constitutionality of legislation establishing municipal coal yards, and the Supreme Court of the state was asked for an opinion on the question. Five out of seven justices held that such legislations would be unconstitutional, saying: "We are not aware of any necessity why cities and towns should undertake this form of business any more than many others which have always been conducted by private enterprise, and we are not called upon to consider what extraordinary power the commonwealth may exercise or may authorize cities and towns to exercise in