

\$1700.—The Building Committee of the Board of Education have instructed Mr. Edwards, architect, to prepare plans for a three-roomed addition to Barton street school.

VICTORIA, B. C.—The O'Kell & Morris Fruit Preserving Company, have decided to erect a wharf and factory on their property at Rock Bay, at a cost of \$7,000.—The City Engineer has recommended the construction of sewer on View street, at a cost of \$7,000.—The by-law to grant a bonus to the Victoria and Sidney Railway Company has passed its second reading in Council. The estimated cost of the proposed railway is \$500,000.—The Methodist conference have decided to establish a college in this province for the purpose of affording facilities for acquiring education, a committee has been appointed to select a site for a building suitable for such purposes.

MONTREAL, QUE.—L. H. Senecal will receive tenders until Wednesday, the 22nd inst., for the necessary repairs to "Greece" bridge, on Quebec road, Parish of Longue Pointe, Que. Plans at above address.—The Council gives notice of its intention to construct the following works: Permanent paving on St. Hubert street, from Craig to Ontario; St. Lawrence street, from St. Catherine to Sherbrooke; Dorchester street, from Beaver Hall Square to Dominion Square; Wellington street, from St. Etienne street to subway; permanent sidewalks on St. Hubert street, from Dubord to Ontario street; St. James street, from Victoria Square to Windsor street; Ontario street, from Amherst street to St. Lawrence street; Mountain street, from Dorchester street to Sherbrooke street; Windsor street, from St. James street to Osborne street; St. Lawrence street, west side from St. Catherine to Sherbrooke; Notre Dame street, north side from McGill street to Inspector street; Wellington street, north side from St. Columban to St. Etienne.

TORONTO, ONT.—Tenders will be received at Dr. Sisley's, Ellesmere P. O., for the erection of a residence.—The City Engineer has recommended the construction of the following works: Widening of the cedar block pavement on College between Borden street and Palmerston avenue; extension of the Brock st. sewer 200 feet into deep water, cost \$1,700, that tenders be called for the construction of a cedar block pavement, with granite tothing, on a concrete foundation, between the tracks on King street, from Sherbourne street to River street, and on Spadina avenue, from Queen street to Bloor street; the re-advertising for tenders for paving Dundas street, to include the work necessary for railway tracks.—It is said that an agreement has been arrived at between the railway companies regarding the erection of the new union station, and that the work will now be proceeded with.—The Waterworks Committee have decided to ask the Council for an appropriation of \$60,000 for the purchase of another 10,000,000 gallon pumping engine.—The Board of health have selected the site for the proposed isolation hospital. The plans have been prepared and await the approval of the Board, after which tenders will be called for.—New water mains have been ordered on Walmer road, Drummond place, Guelph avenue, Liberty street and Hoskin avenue, at an estimated cost of \$2,000.—The Council have decided to open a road into High Park, by way of Dundas street. The estimated cost including grading and cedar block paving, is \$24,500.—Mr. H. H. Ball, of Balliol avenue intends to erect a new residence in North Toronto.—The authorities of Toronto University have consented to provide a free site for the erection of a residence for lady students.—Mr. Joseph White, flour and feed merchant, corner of Queen and Hamilton streets, intends erecting a new store.—Mr. H. G. Paull, architect, is preparing plans for a large hotel to be erected on Simcoe street. Tenders will shortly be called for. He is also asking for tenders for a brick church to be erected in Walkerville.—Mr. J. H. Lumsden, 18 Catharine st., will shortly erect a brick residence on Wilson avenue, Parkdale, at a cost of \$2,000.—It is said to be the intention of Mr. Robert Hammer, manager of sales department Massey-Harris Co., to erect a brick dwelling house on Shaw street, between Queen and Arthur street.—Mr. W. H.

Pratt, 198 Jarvis street, President of the Conger Lumber Co., intends to erect a fine stone and pressed brick residence on the corner of Bloor and St. George street, to cost between \$15,000 and \$20,000.—The Ontario Government have an option on the Perkins residence, corner of College and St. George street. It is said to be the intention to purchase the property, with a view of making alterations and fitting up for a residence for the Lieutenant-Governor.—Building permits have been granted as follows: W. H. & A. Poole, Hallam st., three pr. s. d. 2-story r. c. b. f. dwelling, e. side Manning ave., cost, \$4,500; David Austin, 54 Bloor st. w., five att. 2-story & mansard bk. dwellings, also one store & dwelling, s. w. cor. Bloor and Borden sts., cost, \$18,000; A. Carmichael, Pearson Bros. agents, alterations to dwellings No. 187-183 Jarvis st., cost, \$4,500; Dr. McIntyre, 148 Bloor st. e., 3-story bk. additions & alterations, to Ladies College, 148 Bloor st. w., cost, \$6,000; Murray & Chichester, 34 Wright ave., two det. 2-story & attic bk. dwellings, 17 & 19 Elm Grove st., cost, \$6,000; Wm. Jerrett, 234 Dovercourt Rd., two det. 2-story & attic bk. dwellings, 172-4 Darling ave., cost, \$10,600.

FIRES.

Messrs. Weir & Morrison's iron foundry, at Stellarton, N. S., was destroyed by fire last week.—The engine works of J. Laurie & Bros. at 14 St. Catherine street, Montreal, were damaged by fire to the extent of \$2,500 on Sunday last.—The residence of Mr. Jones Williams at Merriton, Ont., was burnt on the 11th inst.; loss, \$2,000; insurance, \$500.—The car shops of the Rathburn Company at Deseronto, Ont., were damaged by fire on Tuesday last to the extent of \$15,000. Considerable valuable machinery was destroyed.—The fine residence of Mr. Elisha Broad, at St. Stephen, N. B., was totally destroyed by fire on the 14th inst. Loss, \$8,000; insurance, \$6,000.—The residence of Mrs. Hill, at Eldorado, Ont., was burned on Monday last. Loss, \$3,000.

CONTRACTS AWARDED.

DUNDALK, ONT.—Mr. J. C. Whitten, of Shelburne, has been awarded the contract for the erection of a new Catholic church in this town.

STRATHROY, ONT.—Messrs. Thos. Hopkins & Co. have the contract for building Mr. Alex. McLean's new residence at Mayfair. The cost will be in the neighborhood of \$3,000.

WINNIPEG, MAN.—The contract for the erection of Mr. McLeod's residence on the corner of Edmonton and Broadway streets, has been awarded to Mr. Hugh Murray, at the price of \$6,040.

VICTORIA, B. C.—The contract for the erection of the new Board of Trade building has been awarded to Messrs. Trindale & Burns, their figures being between \$35,000 and \$40,000. The plans were prepared by Mr. A. M. Muir.

WELLAND, ONT.—Mr. N. Hagar has the contract for masonry and Mr. J. E. Cutler for carpentering in connection with the erection of Mr. P. McMurray's new building.—Two tenders have been received for the erection of a brick hospital in connection with the House of Industry, that of G. A. Ellsworth being recommended for acceptance at the price of \$1,673.

PRESTON, ONT.—The Canadian Office and School Furniture Company have been awarded the following contracts: fittings for Imperial Bank, Calgary, and the Guelph and Ontario Investment and Savings Society, Guelph; drug store fittings for F. P. Reynolds, St. Thomas, and W. J. Halpin, Brandon; school desks and opera chairs for new High School, Montreal.

MONTREAL, QUE.—The contract for constructing asphalt pavements on Wellington, Dorchester, St. Lawrence and St. Hubert streets has been awarded to James Cochrane, at \$3.39 per square yard; hauling and laying flags, 31c. per yard, scoria or porphyry blocks along tracks, 31c. excavating, moving and grading tracks, 66c. For the supply of stone Messrs. E. Desormeaux and F. D. Lawrence were the successful tenderers at the following figures: E. Desormeaux, curbstones, 50c. per lineal foot, in three feet lengths; curved,

60c.; in four feet lengths, 49c.; curved, 69c. F. D. Lawrence, scoria blocks, per square yard, \$2.15; sidewalk flags (6x3 feet) \$2.15; extra size, \$2.75; crosswalk flags, 20 inches wide, 57c.; 24 inches wide, 77c. Mr. F. D. Lawrence was awarded the contract for laying stone, at the following prices: curbstone (five sorts and sizes), 19c., 12c., 9c., 19c. and 7c.; flagstone sidewalks (three kinds), 40c., 30c. and 25c.; crossing, 8. and 3c.; scoria blocks, 75c. The supply of stone blocks, was given to Jas. Cochrane at: granite, per square yard, \$4.74; porphyry, \$2.18.

TORONTO, ONT.—The Toronto Construction and Pavement Company has been awarded the contract for asphalt paving and scoria tothing between track on Yonge street, from the north side of Bloor to the north side of Davenport, at the price of \$5,397; Victoria st., from King to Adelaide, at \$4,799; King st. from Simcoe to Bathurst streets, \$25,926; Queen street from Yonge to Bathurst, \$38,995. Robert Grant has secured the contract for cedar, granite and cobble paving between tracks on Queen street, from Brockton road to Roncesvalles avenue, at \$13,971; Queen street from Bathurst to Gladstone avenue, \$21,235; Yonge street, from Davenport road to Cottingham street, \$11,114.—F. McKeown has been awarded the contract for six inch concrete between tracks on King street, Strachan avenue to Bathurst, at \$3,999.—A. W. Godson will supply brick for work west of Yonge street at \$7.45 per thousand, and Taylor Bros. for work east of Yonge street at \$7.50 per thousand.—R. T. Sutton & Co. were awarded the contract for dredging slips at \$7 an hour.—The contract for the supply of cement for the Toronto drill shed has been awarded to Mr. E. D. Morris. From 4,000 to 6,000 barrels will be required.

ROPES FOR SCAFFOLDING.

It has been suggested by a French exchange that, in order to insure greater strength and consequently more safety in ropes used for scaffolding purposes, particularly in localities where the atmosphere is destructive of hemp fibre, such ropes should be dipped, when dry, into a bath containing twenty grains of sulphate of copper per litre of water, and kept in soak in this solution some four days, afterwards being dried; the ropes will thus have absorbed a certain quantity of sulphate of copper, which will preserve them for some time both from the attacks of animal parasites and from rot. The copper salt may be fixed in the fibres by a coating of tar or by soapy water, and in order to do this it may be passed through a bath of boiled tar, hot, drawing it through a tumbler to press back the excess of tar, and suspending it afterward on a staging to dry and harden. In a second method the rope is soaked in a solution of 10 grammes of soap per litre of water. The copper soap thus formed in the fibre of the rope is stated to preserve it even better than tar is capable of doing, which acts mechanically to imprison the sulphate of copper, which is the real preservative in the case.—*Boston Transcript*.

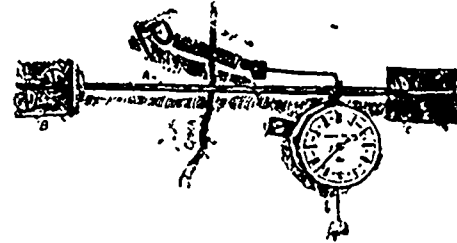
DETECTING MOVEMENTS IN MASONRY BY ELECTRICITY.

E. P. Abbott, chief engineer of the Minneapolis & St. Louis railroad, recently devised an ingenious indicator by which he was enabled to detect movements in a bridge abutment.

After building the south abutment for the Second street bridge in Minneapolis, a crack appeared in the masonry which threatened to be serious. The abutment is very heavy, being 83 feet long and 10 feet thick at the base. The necessity of determining whether the crack was gradually

widening or was remaining stationary led to the construction of the indicating mechanism, which was placed on the abutment as shown in the cut.

On one side of the crack the works of a Waterbury watch were firmly secured, and a short lever was attached to the hour-hand post and connected to the rod A. As will readily be seen the least widening of the crack would be multiplied through the train, and indicated on the dial. A 1-16 inch opening, it may be explained, would cause over one revolu-



tion of the pointer. The spiral spring took up all the slack in the joint between the lever and the long rod, and the weight W, attached to a piece of silk running around the pointer spindle, took up all the slack in the train.

By means of a nut on the inside of the stop B, the end of the rod was brought just to contact with the stop C, and an ordinary battery was connected to form an electrical circuit through this contact. In this manner if there was any movement it would be detected by the aid of the electricity as well as by the indicator proper, thus securing a double test.

The entire cost of the whole outfit was about \$6, and from all accounts it accomplished its purpose very satisfactorily, demonstrating absolutely that the masonry remained stationary for three weeks after the device was put on. The cut is from the *Engineering News*.

MUNICIPAL DEPARTMENT.

FRENCH ROADS.

We had thought that on the whole English roads compared favorably with any in the world, but lately a good deal has been said and written about the excellence of French roads. We are not yet convinced that France can boast over us in this matter, but no doubt there has of late years been a continued improvement in both France and Belgian roads. The British Vice-Consul at Dieppe, in his last report, says that the roads which surround the docks and the national roads which lead out of the town on the east and on the west have been made with an exceptionally good quality of stone, of singular hardness and durability, which was brought from Cherbourg. In fact, it is so hard that it will cut glass. It is broken up into macadam, and forms splendid material for making roads. Her Majesty's Consul at Cherbourg mentioned this stone very favorably in his report for 1890, and its use has proved so satisfactory in Dieppe that the Vice-Consul thinks it might be worth enquiring whether it could be employed on some of our English roads, where a lesson in roadmaking might be learnt with advantage from the French "cantonnier." The material is usually marble, flint, stone