

monial hall at Varsity as a tribute to the soldiers who fell at Ridgeway and South Africa.

MONTREAL, QUE.—The Level Crossings Committee of the city council have decided to recommend that the city give \$500,000 towards the elevation of the Grand Trunk tracks between the Bonaventure station and St. Henri.—The fire committee has decided to ask the finance committee for an appropriation of \$87,000 for the following purposes: A new hook and ladder truck for No. 3 station, \$2,500; new station in place of No. 9 station Point St. Charles, \$16,000; new station on site of St. Ann's Market, on Craig street, \$30,000; new station to replace No. 5 station on St. Catharine street, \$16,000.—The water committee is at present considering the question of adopting filtration in order to improve the quality of the water.—The Laing Packing Co. has asked permission from council to establish a packing house within the city limits.—Building permits have been issued as follows: C. H. Hosurer, three storey house, 299 Drummond st., cost \$10,000, Ed. Maxwell, architect; D. Lalonde, two storey building, 1000 St. Lawrence street, cost \$1,500; Thos. Fry, two storey house, 94-96 Ryde street, cost \$1,200; A. C. Decary, alterations to four storey house, 403 St. Antoine st., cost \$1,000.—S. A. Findley, architect, is preparing plans for a new hospital at Verdun asylum.—M. Perrault, architect, has prepared plans for a large convent at Halifax.—T. Pringle & Sons are preparing plans for a new power house at Cornwall.

FIRES.

Factory of J. R. Ball at Waterville, Que., totally destroyed; loss \$20,000.—Block at Granby, Que., occupied by Boisvin's shoe store and Kennedy's tea store; loss \$15,000.—Three storey brick building on Dundas street, London, Ont., occupied by Wood's Seven Cent Bazaar, damaged by fire January 7th; loss on building \$5,000.—Store and dwelling of John Bowes at Elora, Ont.—Block of brick stores at Montreal West, Que., owned by Armstrong & Cook; loss \$15,000.—Premises of the Canadian Baling Co. at St. Johns, Que., damaged to extent of \$20,000.—House at Tilbury, Ont., owned by J. McGee.—Brick shop and outbuildings of Jas. Barrett, furniture dealer, Vankleek Hill, Ont.; loss \$4,000.—Large block at Bridgen, Ont., including buildings owned by Harkness & Sons and J. D. Wynne.

CONTRACTS AWARDED.

SHERBROOKE, QUE.—Residence for Dr. Bachand: Joseph Simoneau, contractor.

OWEN SOUND, ONT.—\$15,000 4 per cent. debentures have been sold to A. E. Ames & Co., of Toronto, at par.

ST. THOMAS, ONT.—Three cottages on Catharine street for F. M. Griffin: H. Lindop, contractor; G. Jewell, painter.

WINGHAM, ONT.—The contract for new Methodist church has been let to S. Bennett at \$11,400, exclusive of seats and furnaces.

KOOTENAY, B. C.—The contract has been let by the C.P.R. for 90,000 ties to be used in building a road from Kootenay lake to Duncan city.

HAMILTON, ONT.—The Hamilton Bridge Works Co. have secured a contract to construct a large steel barge for the Montreal Transportation Co.

COOKSHIRE, QUE. Paquet & Godbout, of St. Hyacinthe, have been awarded the contract for building an addition to the Convent of the Congregation.

QUEBEC, QUE.—The contract for building the new church in the parish of St. Aldger has been let to Mr. Metiver, of St. Damien; estimated cost \$20,000.

MONTREAL, QUE.—Mr. Godin, architect, has just let contracts for a Presbytery at St. Remi, Que.—R. A. Waite, architect, has let the contract for the conduit wiring and electric lighting of the new Grand Trunk offices to the Western Electric Company, of New York, and that for heating, ventilating and plumbing to the Bennet & Wright Company, Toronto.

TORONTO, ONT.—John E. Webb, contractor, has been awarded the contract for building five large ice houses at Frenchman's Bay, for which a large quantity of lumber will be required.—The Mackey Stained Glass Co., of this city, have secured the contract for seventeen painted windows, 30 inches x 80 feet, for a Catholic church in Elgin county.

WALKERVILLE, ONT.—The Lake Erie & Detroit River Railway Company has awarded a contract to the Canada Bridge Company, of Walkerville, Ont., for the superstructure of a steel viaduct across Kettle Creek ravine, west of St. Thomas, Ont. The viaduct will be 1,215 feet in length and 97 feet high. There will be twenty-three spans and eleven towers. The total cost is estimated at \$75,000.

WESTMOUNT, QUE.—The following tenders were received by the council for supply of ladder and truck: International Fire Co., \$1,785; Seagrave & Co., \$2,715, and the Waterous Engine Co., of Brantford, Ont., for \$1,500, the latter offering to make their figures to \$1,250 if they received permission to use part of the council's ladder now in use, such as lanterns, axes, spikes, etc. An award has not yet been made.

SEA WATER AND MORTAR.

Some interesting observations relative to the action of sea water on mortars are contributed by E. Caudlot, whose investigations in the harbour of La Rochelle cover a period of something like forty years. Blocks of 60 cm. (2'36 in.) in length were exposed to the open sea for twenty years, and were above the water surface at low tide. The mortars were of hydraulic limes of different origin, of natural cements from Pouilly, Vassy, &c; of artificial pozzuolanas mixed with lime and sand; of trass from Andernach, &c. Nearly all blocks have completely lost their cohesion after different periods. The few blocks of portland cement experimented upon were in good condition; but blocks of neat cement (English and French) were decomposed. From these tests Viennot draws the following conclusions: (1) Neat cements are destroyed more rapidly than mortars of a certain composition; (2) mortars made of one volume of cement to one of sand, and, again, of one volume of cement to two of sand, are those which offer the greatest resistance to sea water. They will last for twenty, thirty-six, and thirty-eight years. Thurninger commenced new tests with blocks of masonry and concrete made of lime and Speil mortar, with a length of edge of 40 cm. (about 1'6 in.). In 1895 the masonry blocks disappeared, their destruction having commenced four years after their exposure, and out of thirty-two concrete blocks only twenty-six remained, but they were in advancing decomposition. In 1880 other tests were commenced on blocks submerged, of various limes. Many of these have perished. "Out of thirty-one masonry blocks laid in Portland cement mortar, and submerged between 1881 and 1892, twenty-three are still intact, while some have commenced to disintegrate." Viennot points to the following conclusions:

(1) Mortars of hydraulic lime, mixed in any proportion, in most cases commence to disintegrate after one or two years immersion in sea water—they crumble into pulp after periods varying in length, but apparently not exceeding fifteen years; (2) concrete resists better than masonry, owing to the greater density imparted to it by ramming; (3) rapid setting cements may commence to disintegrate after six or eight years, but may last longer than thirty-eight years without crumbling; (4) the mortars offering the greatest resistance are those consisting of one part cement to one or two parts sand. This mixture corresponds to the weight of cement required to fill the spaces between the grains of sand. These, therefore, are the least porous mortars.

NOTES.

The Grey & Bruce Portland Cement Co. will locate their works at Brooke, Ont.

The capacity of the Lakefield Cement Works will be 600 barrels per day, instead of 200, as at first contemplated.

The Durham Portland Cement Co., of Durham, Ont., obtained its charter last month. The directors are Jas. A. Hunter, H. Parker, G. McKechnie, J. M. Hunter, D. Jamieson and Wm. Calder.

The Canadian Bridge Co., of Walkerville, capitalized at \$25,000, has been incorporated by the provincial government, with B. S. Colburn, F. C. McMath and G. F. Porter, of Detroit, provisional directors.

A consolidation of all the granite industries at St. George, Charlotte Co., is being effected. The Bangor News says: The syndicate will control the red granite trade of Canada, and will make a great effort to prohibit the importation of Scotch stone. The syndicate will probably buy up all the quarries and water privileges on the Maguadavic and may introduce other industries which the enormous and easily available water power there might warrant.

Injections of cement have long been employed for stopping cracks in masonry; but the operation has been performed from the surface to the inside. The "Annales des Ponts et Chaussées" mentions the following method devised by M. Camere, who works the reverse way. He makes vertical channels in the new masonry, 12 centimeters in diameter, into which cement is injected by the aid of air under a pressure of 1 kilogramme per cubic centimeter. The system can, it is stated, be applied for the consolidation of masonry in bad condition.

Messrs. L. Benjamin Copeland, of Three Rivers, John T. Peddie, Howard Murray and Harry H. Bullock, of Montreal, and Richard W. Douglas, of Westmount, have given notice that they will apply for incorporation under the name of "The Shawinigan Falls Brick Manufacturing Company." The objects for which the company are seeking incorporation are to manufacture bricks of all kinds, artificial stone, drainpipes, cement, timber, lumber and cordwood, and to sell the same. The proposed amount of capital stock of the company will be \$25,000, divided into two hundred and fifty shares of \$100 each. The principle place of business of the company will be Shawinigan Falls.