

### CONTRACTS OPEN.

**ST. JOHNS, QUE.**—The town is negotiating for the purchase of the waterworks.

**VICTORIA, B. C.**—The first \$300,000 for a new system of sewerage has been voted by a large majority.

**WOODSTOCK, ONT.**—The present exhibition building has been found to be too small, and a new one will probably be erected.

**MONTREAL JUNCTION.**—Messrs. Cook & Armstrong will erect a \$10,000 modern hotel and restaurant on a site near the station.

**KINGSTON, ONT.**—Land has been purchased at Thousand Island Park for eighteen cottages and a large club house for the Rochester Club.

**MARKHAM, ONT.**—Tenders are invited for the debentures for the waterworks and electric light by-laws of the Municipal Council of Markham village.

**ST. JOHN, N. B.**—The Dominion Iron and Steel Company, just incorporated, intends to erect mills here.—The G. T. R. will probably extend their lines in the direction of this city and Halifax.

**GANANOQUE, ONT.**—The citizens will endeavor to raise \$5,000 to supplement the handsome donation offered by Mr. C. McDonald for the erection of a Mechanics' Institute building. A site near the post office will probably be chosen.

**THREE RIVERS, QUE.**—A by-law awarding a bonus of \$15,000 to the Basses-Laurentides railway company for the construction of a branch west of St. Maurice has been approved by the electors.

**WINNIPEG, MAN.**—Arrangements are said to have been completed for the erection next spring of a mammoth block, with opera house in rear, on the corner of Portage avenue and Main street. The building is to cost \$300,000.

**PETROLIA, ONT.**—The ratepayers are to be asked to vote on a bylaw for the purpose of raising \$15,000 to be given by way of a bonus to the Erie & Huron railway for the extension of their line from Dresden, through the village of Oil Springs, to a point in the town of Petrolia.

**BROCKVILLE, ONT.**—Archbishop Cleary has sanctioned the sale of St. Vincent de Paul hospital and the purchase of a portion of land at the rear of the church, on which to erect a new school; also to convert the present convent into a hospital, and build a residence for the sisters beside the church in connection with the new school, the cost of which will be about \$16,000.

**HAMILTON, ONT.**—The Bank of Hamilton intends erecting a building on the southwest corner of James and Barton streets, to be used as a branch establishment.—Thomas C. Watkins is having plans prepared for the erection of a four-storey building on the site of his present store. Plans will be ready by the first of next year. Mr. Stewart is the architect.—The Council is looking about for a suitable site for new exhibition buildings.—As soon as the plans can be got into shape tenders will be asked for the construction of the proposed inclined railway.

**PETERBORO ONT.**—Mr. J. E. Belcher, Town Engineer, has received instructions from the Edison General Electric Company to prepare the material for the erection of the following buildings here, at once:—Machine shop, 270 x 100 feet; office, 50 x 50 feet; storehouse, 108 x 50 feet; wire department, 270 x 50 feet; tube shop, 270 x 50 feet; pattern and machine shop, 270 x 50 feet. All are to be of brick, two storeys high, with stone foundations.

**OTTAWA, ONT.**—It has been definitely decided to change the plans and specifications for the Morrisburg canal improvements, and call for new tenders for the work.—It is stated that tenders will shortly be called for by the Railways and Canals Department for the deepening of theachine canal from 13 to 15 feet, and also for a system of draining the swamp land along the canal.—It is understood to be the intention of the

C. P. R. to expend half a million dollars on the road between Ottawa and Port Arthur. The cribbing will be replaced by iron work and the wooden culverts by stone.—The Deputy Minister of Marine will receive tenders until the 15th inst., for the construction of a wooden lighthouse tower with keeper's dwelling attached and outbuildings at Peninsula Harbor, Lake Superior.

**TORONTO, ONT.**—The proposed site for a new registry office on Osgoode Hall grounds, having been found unavailable, the civic authorities are on the lookout for another.—The Minister of Militia is authority for the statement that tenders will shortly be invited for the construction of the new drill shed. Construction will commence this fall.—A concrete bottom will be put in the Rosedale reservoir.—It is said to be the intention to divide St. Mary's (R. C.) parish, in which event a new church will be built.—The following building permits have been granted: W. Brand, three attached 2-storey and attic bk. dwellings, n. side Victor ave., n. Howland ave., cost \$6,000; Geo. Griffin 1½ storey bk. stable, rear cor. Parliament and Wilton ave., cost \$1,000; H. A. Knowles, 3-storey bk. hotel, and two 3-storey brick stores cor. Alexander and Yonge streets, cost \$20,000; Thos. Bailey, additions to shop 292 Queen street west, cost \$1,200; Mrs. Oatley, three 2-storey and attic bk. dwellings, Shannon St., cost \$5,400.—The Board of Health has been ordered to proceed at once with the work of selecting a site and the erection of the new crematory building.—The Sites and Buildings Committee have secured the approval of plans and specifications for four additional rooms at Dovercourt school at a cost of \$9,000, the selection of a number of improvements to schools and the payment of a rental of \$300 to the managers of the Girls' Home for a new building.

**MONTREAL, QUE.**—The architects of the city have been invited to submit competitive designs for an extension of the Montreal General Hospital buildings.—It is proposed to erect two pavilions two stories in height and connected by a third building to be used as an operating theatre. A re-arrangement of the existing building will also be made. The management have in hand \$100,000 for the carrying out of the work.—It is the intention of the Victoria Rifles to erect a monument to the memory of one of their comrades who was accidentally shot in 1885. The City has contributed \$250 to enable them to raise the necessary amount.—Sewers will be constructed on Beaudry and Panet streets.—The plans of the proposed Montreal Island Elevated Railway will be submitted for the inspection of the Roads Committee at an early day.—The Diamond Glass Company, recently incorporated, will erect a factory.—An appeal will be made to the city congregations to provide funds for the carrying out of the work in connection with the proposed new Taylor church.—Soundings have been commenced on Ile Ronde in view of the projected bridge to Longueuil.—The following building permits have been granted:—Dominion Oil Cloth Company, brick office and factory, cost about \$10,000, Hutchinson & Steele, architects; Chas. H. Lawlor, two 2½ storey brick and stone dwellings, cost about \$6,000, W. McLea Walbank, architect; Geo. A. Mace, one 3-storey brick and stone house, cost \$3,000, P. N. Picard, architect; Louis Labrecque, one 2½ storey wood and brick house, cost \$3,000.

### CONTRACTS AWARDED.

**WINNIPEG, MAN.**—The contract for a new emigration shed and offices has been awarded to Messrs. Brydon & Charlesworth, of this city.

**FREDERICTON, N. B.**—The contract for supplying steam heating apparatus to the new public building has been awarded to Garth & Company, of Montreal.

**TORONTO, ONT.**—The Toronto Construction and Paving Co. has been given the contract for the laying of an asphalt pavement in St. Lawrence Market-square at a cost of \$6,750.

**PETERBORO, ONT.**—Mr. Arthur Rutherford has been awarded the contract for building a new Church of England mission church in the South ward. The contract price is \$1,850.

**PRINCE ALBERT, N. W. T.**—S. McLeod has secured a monopoly for ten years of the right to light Prince Albert with electricity, and he proposes establishing electric light works shortly.

**BRANDON, MAN.**—Major Stewart, of Ottawa, has refused to sign the contract for the erection of the new city hall and market building and the contract has been let to the next lowest tenderer, F. Cope, of that place.

**MONTREAL, QUE.**—The Sicilian Asphalt Paving Company has been given the contract to lay rock asphalt one inch thick upon a four-inch concrete foundation on the west side of St. Lawrence street, between Craig and Lagachetiere streets, at \$2.23 per square yard and 49 cents for the curb stone. Messrs. Henry Morgan & Co. were given leave to put down a Val de Travers sidewalk in front of their new block on St. Catharine street, Montreal.

### RESONANCE A MEASURE OF ELASTICITY.

Stones having the greatest crushing strength are not always the best for building purposes. The composition of the material, ratio of absorption and elasticity are quite as important. The weakest of stones (limestone, Caen, France,) shows a sustaining capacity equal to the height of 4,253 feet of its own substance; yet some other stones having a crushing strength of four or five times the amount named are nearly worthless for structure above ground, on account of the perishable materials in the composition and the lack of elasticity.

The last-named quality is of vital importance in a climate that has a range of temperature from 20 deg. below zero to 120 deg. above, and which may be subjected to a temperature of 20 deg. below zero on the outside and 70 deg. above on the inside in winter, and in the summer to 65 deg. in the shade on one side, and 120 deg. in the sun on the other.

The presence of carbonate of magnesia is objectionable in stones that are to be used above ground in cities where it can be attacked by the sulphurous gases liberated in the burning of common coal, turning the carbonate into the sulphate of magnesia, which being soluble in water, soon washes out by the moisture absorbed from the atmosphere, first staining the surface, and finally disintegrating the entire wall. But for foundations where they are not exposed to great variations of temperature, or to action of sulphurous gases, they are invaluable, both on account of their great strength and their non-absorbent properties.

The elasticity of a stone and the continuity or intimate connection of the particles of which it is composed, is shown in a greater or less degree by its resonant properties, those stones showing the greatest elasticity and transverse strength show also the greatest degree of resonance. Another point worthy of careful inquiry is the effect that tool-dressing has upon the integrity of the stone; from the data given it is evident that tool-dressing has much the same effect upon stone that repeated hammering has upon rolled or forged iron, reducing the iron from a laminated to apparently a crystalline character.

Droving, bush-hammering and planing by machinery deaden the surface of the stone from which a thin scale is lifted by frost, leaving the sound stone then exposed; and it may be possible to materially injure the strength (transverse) and elasticity of lintels, etc., by an excess of cutting and hammering.—*Contractor and Builder.*