

Isaac Silver : John Warriner, of Keswick contractor.

GODERICH, ONT.—Brick veneer dwelling for Edward Acheson : Buchanan & Sons, contractors.

FREDERICTON, N. B.—Heating new university science building : Mr. Shea, successful tenderer.

ST. CATHARINES, ONT.—Bicycle factory for Nott Cycle & Motor Co. : Newman Bros., contractors.

LISTOWEL, ONT.—The offer of the Bank of Hamilton for purchase of \$10,000 of debentures has been accepted.

LUCKNOW, ONT.—The contract for granolithic sidewalks has been let to the Royal Artificial Paving Co., of Guelph.

VANCOUVER, B. C.—The Vancouver Gas Co. have just let the contract for 400 tons of cast iron pipe to the Jas. Robertson Co.

ST. MARY'S, ONT.—The tender of John Keen for granolithic sidewalks on Widder and Park streets has been accepted by the council.

HAMILTON, ONT.—The Gartshore Thompson Pipe & Foundry Co. have been awarded the contract by the city for 18 and 20 inch valves.

KINGSTON, ONT.—Alterations to store on Wellington street : E. M. Storey, architect ; J. King, carpenter work ; Fee & Litton, masonry ; J. Jamieson, plumbing.

HESPELER, ONT.—The contract for engine and boiler for extension of electric light plant has been let to the Goldie & McCulloch Co., of Galt, and that for electrical apparatus to the Canadian General Electric Co., Toronto.

PARIS, ONT.—\$5,000 school debentures : John Penman, successful tenderer, at par.—The tender of G. A. Stimson & Co., of Toronto, for purchase of \$5,000 House of Refuge debentures, has been accepted ; price \$5,065.50 and accrued interest.

OTTAWA, ONT.—Building for Ottawa Dairy Co. : Mason and brick work, Felix McCullough ; roofing, J. Herbert & Sons ; galvanized iron work, McKinley & Northwood ; steel beams, E. Arnoldi. The building will be brick, cost \$50,000.

SARNIA, ONT.—Residence for Jas. Doherty : Capentering work, George Bruce ; masonry, McDonald & Simpson ; cut stone work, George Paul ; plastering, Robert Corrick ; painting, English & Fitzgerald ; plumbing and tinware, Folland & Co.—Post office building : Geo. A. Proctor, contractor.

ARNPRIOR, ONT.—The town council have accepted the following tenders for waterworks system : John McDougall & Co., Montreal, tank, filters, pumping machinery, boilers, etc., for \$17,283 ; Clark & Connolly, Toronto, trenching, etc., for \$23,502 ; S. R. Rudd, Arnprior, pumping house, for \$3,989.

WINNIPEG, MAN.—Merchant's Bank block, corner Main and Lombard streets : G. W. Murray and Alex. Black, contractors.—The tender of the Bell Telephone Co. for supply of fire alarm boxes has been accepted by the city.—The tender of W. F. Lee has been accepted for 3,500 feet of sewer pipe, at \$1,275.

BUSINESS NOTES.

Leslie & Davidson, contractors, Sydney, N.S.W., have dissolved partnership, Sydney Leslie continuing.

A meeting of the creditors of Tees & Company, office desks, etc., Montreal, has been called for the 28th inst.

Mrs. J. H. Gagnier, has registered proprietress of the business of J. H. Gagnier & Company, Painters, Montreal.

EXPANSION OF METAL UNDER COLD.

One of the most familiar laws of nature is that which dictates an increase of volume with a rise of temperature, and shrinkage with cold. There are exceptions to the rule, however, and these may be more numerous than have been suspected. Water, for instance, shrinks as it cools, until it reaches the temperature of 39 degrees Fahr. It then begins to expand. Ice is lighter than the water in which it floats, partly on this account and partly owing to air-bubbles. The statement is now made that iron and steel exhibit the same reversal of the law that water does. An English engineer who has wintered in Siberia writes to the Engineering Times that during the intense cold of January and February he has seen rails on the railway jammed together by an expansion such as he has been accustomed to suppose was the result of heat alone. According to this authority, a temperature ranging from 12 to 40 degrees below zero Fahr. would not appreciably affect the length of rails, but severer cold than that would be attended with expansion. The man who sends this statement to the Engineering Times declares that others besides himself are familiar with the facts. The Russian engineers have observed the phenomenon, he says, but hesitate to report it to St. Petersburg because of the apparent conflict with accepted ideas. There are regions in Minnesota, North Dakota, Montana and Manitoba where the temperature often falls 40 degrees below zero during a winter of average severity, and sometimes goes 10 or 15 degrees lower. And there are railroads up there, too. Even though the cold is not so intense as that of Siberia, it would seem as if the phenomenon just mentioned should be perceptible there. Perhaps it has developed, but has been overlooked. Now that attention has been directed to the matter, however, the truth or falsity of the story about Siberia can probably be determined in America.—American Architect.

FIRE AND RUST PROOF PAINT.

Various substances have often been proposed as fire-proof coatings for the protection of woods employed for building purposes, but most of them have been abandoned as being either too costly or not sufficiently durable. The following process, invented by Messrs. Vilde & Schambeck, may be useful. The paint consists of twenty parts of finely pulverized glass, twenty parts of finely pulverized porcelain, twenty parts of any sort of stone in powder, ten parts of calcined lime, and thirty parts of water-glass (silicate of soda), such as is usually found in commerce. The solid elements having been powdered as finely as possible and sifted, are moistened, and then immediately mixed with the water-glass. This yields a mass of syrupy consistence that may be employed for painting, either alone or mixed with color. The addition of the lime gives a certain unctuousity to the mass for whitewashing, and its combination with the silicic acid of the

soluble glass serves to bind the other materials together. The proportion of the different elements above mentioned may be changed save that of the water-glass, which must remain constant. These elements may even be replaced one by another ; but it is always well to preserve the lime. Instead of the silicate of soda (soluble glass of soda), soluble glass of potash might be used ; but the former is less expensive. The coating is applied with a brush, as other paints are, as uniformly as possible over the surface to be protected. The first coat hardens immediately, and the second one may be applied six hours or more afterwards. Two coats are sufficient. This paint may likewise be employed as a preservative against rust and used as a coating for iron bridges, etc.

Ouimet, Leandre & Freres, roofers, Montreal, have registered partnership.

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