

FIRES.

Thos. Good's house at Belleville, Ont.; loss, \$1,000.—Shingle mill at Milltown, owned by H. F. Eaton & Sons, of St. Stephen, N.B.—Works of the Carrutte, Patterson Manufacturing Co., tar paper manufacturers, Halifax, N.S.; loss \$5,000.

CONTRACTS AWARDED.

FOREST, ONT.—Granolithic sidewalk debentures have been sold to the Standard Bank for \$5,525.50.

VANCOUVER, B.C.—McLeod & Co. have contract for considerable alterations and additions to house at Fairview. R. M. Fripp, F.R.I.B.A., architect.

VICTORIA, B.C.—D. F. Adams has secured contract from the provincial government to construct a Howe truss bridge over Courtenay river, to be 222 feet in length. John Robertson, of the Shore Street Iron Works, will supply the ironwork for this bridge, as well as for the bridge to be constructed at Revelstoke.—Geo. Bishop has secured contract for erection of additional officers' quarters at Esquimalt; price, about \$6,500.

MONTREAL, QUE.—Perault & Lesage, architects, have accepted the following tenders for the erection of three cut-stone front houses, three storeys high, containing nine dwellings, on Marie-Anne street, near St. Andre: Roofing, Bernier Freres; plastering, Napoleon Depatie; painting and glazing, Louis Lamoureux; plumbing, Pierre Leclercq Fils; tinsmithing, Cadieux & Briard.—W. A. Fleming & Co., of this city, have been awarded a contract for belting by the Dominion Iron & Steel Co., of Sydney, C.B.—It is understood that the Connors syndicate have let the contract for building several ships to C. I. de Souza, of this city, who is associated with British ship-building firms. It is said that the work will be done in Canada.

HAMILTON, ONT.—The following tenders were received by the Board of Works enlarging the filtering basins: Thomas Barnes, \$32,000, and 40 cents a cubic yard for extra excavation; McQuillan & Co., Toronto, \$55,000, and 25 cents for extra excavation, 40 cents for extra dry excavation, and \$1,000 extra if a steel pipe is substituted for a wooden conduit; M. A. Pigott, \$29,950, and 36 cents for extra excavation; George F. Webb, \$29,779; John Dickenson & Son, \$20,375, and 30 cents extra for excavation and 25 cents for dry excavation. The tenders for the iron pipe for the proposed third main were: United States Cast Iron Pipe & Foundry Company, Buffalo, \$28.50 per ton, \$1 extra if tested in this city by hydrostatic pressure, this figure not including the duty of \$8; Garhshore-Thomson Pipe Co., \$35. The acceptance of the tender of John Dickenson & Son for enlarging the basins has been recommended. The iron pipe contract has not yet been awarded.

BELGIAN ARTIFICIAL STONE.

An artificial stone from Belgium has recently been introduced into the French market, which is said to have four times the force of resistance of French free-stone and which has nearly all the properties of Cobastang granite. It has been tried in the Malines Arsenal and is found to be insensible to the action of cold, absorbs only six to seven per cent. of water, even after a long, dry spell, and cannot be crushed under a pressure of forty kilogrammes (88.184 lbs.) to the square centimetre. This artificial stone is manufactured at Uccles, near Brussels, in the following manner: Eighty parts of extremely clean and dry coarse sand are mixed with twenty parts of hydraulic lime

reduced to a fine, dry dust; this mixture is put into an iron box, which is plunged into a boiler of water, and this is hermetically closed. During seventy two hours the cooking goes on under a pressure of six atmospheres, the temperature being maintained at 165 degrees. At the end of this time the iron box contains a perfect homogeneous mass of stone, which rapidly hardens upon exposure to the air. The most varied colors are given to this stone, and its manufacture costs only 1d. per cubic foot.

USEFUL HINTS.

In all buildings there are always certain rooms easily warmed, while others require more heat. The rooms to the east are in the sunshine, while those to the west are in the shade; or some are exposed to cold winds, while others are in protected sections. Some rooms have a large number of occupants and large volumes of air are required, while others, having but a small number, but being perhaps much exposed, require smaller volumes of fresh air, but at a higher temperature.

The Journal of the Franklin Institute publishes a long statement as to a new method of testing the efficiency of coverings for steam pipes, which was described by Professor Charles L. Morton before Section D of the American Association. By this method a section of the steam is heated electrically by means of a coil of wire in oil within the pipe. The amount of energy necessary to keep the pipe at a definite temperature is measured. Since the energy thus supplied is just sufficient to maintain a constant temperature, it must therefore equal the energy lost by the pipe. Hence, from the electrical energy supplied, the author is enabled to calculate the heat lost from the outside of the pipe.

REMOVING IRON RUST FROM MARBLE.
—The removal of iron rust from marble is an operation which depends upon the solubility of iron sulphide in a solution of potassium cyanide, and to properly do the work the following scheme is suggested by a writer in an exchange: Clay is made into a thin paste with ammonium sulphide, and the rust spot smeared with the mixture, care being taken that the spot is only just covered. After a lapse of ten minutes this paste is washed off and replaced by one consisting of white bole

mixed with a solution of potassium cyanide—1.4—which is in its turn washed off after a lapse of about two and a half hours. Should a reddish spot remain after washing off the first paste a second layer may be applied for about five minutes.

The following suggestion in regard to the treatment of walls and lighting of school rooms is offered by a specialist who has made the eyes of school children a study. He advocates the use of tinted walls and tinted shades in class rooms, so as to take away the glare which tends to strain the eyes of children. He says: "Clear, white walls are a menace to the eyesight that ought not to be tolerated in any school room. It is in just these particulars that the service of women on school boards is efficient. Women take pains, and know from experience in the furnishing of their own homes how much apparently trifling details contribute to comfort, as well as to effect. Men, as a rule, are content to put this kind of work in the hands of tradesmen, who may or may not be intelligent workmen."

DURABILITY OF STONE.—To ascertain the comparative durability of marble or other calcareous stones, immerse equalized cubes of various stones in dilute muriatic acid of the same degree of strength in different vessels. Those which dissolve most slowly will be least liable to decay. Palladio says soft stones, and stones the nature of which we are not acquainted with, should be quarried in the summer, and exposed for two years to the effects of air and frost before being used. When this can not be done, stones that are not calcareous may be tested in some degree by immersing them in water, by exposing them to red heat and to frost, or by covering them with dilute nitric acid for several days. The stones which absorb the least quantity of water and which are least changed by the action of acid, heat or frost, may be fairly considered as most capable of resisting the effects of the atmosphere.—Stonemason.

DATE OF PUBLICATION.

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