

been accepted by the city.—The council has decided to purchase 1,000 feet  $2\frac{1}{2}$  inch Maltese Cross fire hose from the Winnipeg Rubber Co., and the same quantity of Para brand from the Canadian Rubber Co.

MONTREAL, QUE.—J. Venne, architect, has awarded contracts for alterations and additions to Bethlehem Asylum, Richmond square, as follows: Masonry and brickwork, Martineau & Prenoveau; carpenter and joiner's work, J. Lambert & Son; plumbing, heating and roofing, Bloyin, Desforges & Latourelle; steel work, Phoenix Bridge & Iron Works. Other contracts not let.

TORONTO, ONT.—The Board of Control last week awarded contracts as follows: Warren Scharf Co., asphalt pavement on Cowan avenue, King to Huxley, \$9,858; W.F. Grant & Co., cedar block pavement on Ossington avenue, College to Bloor, \$5,490; cedar block pavement on Avenue place, Avenue road to Hazelton avenue, \$579. City Engineer, tile sewer on Dowling avenue, King to Leopold, \$875. A. Gardner & Co., concrete sidewalks on Louisa street, north side, Yonge, to first lane west, \$2.20 per lineal foot; on Winchester street, south side, Parliament to Metcalfe, 62 cents; on Huntley street, east side, Linden to Selby street, 62 cents; on Bay street, east side, King to No. 1:1, \$2.05; Scott street, east side, Colborne street to 60 feet south, \$1.68; Queen street, north side, Grant to Broadview, \$2.95; and University street, from Armory to Christopher street, \$1.27 per lineal foot.

#### SETTING MASONRY.

After the blocks are properly prepared and the surface on which they are to bed being truly level, the setting is an operation demanding great care in order to secure good joints and solid trustworthy work. In stonework, says the Illustrated Carpenter and Builder, it must always be borne in mind, only fine mortar is admissible, and this should be clean and the materials sharp, and it is important that no dirt, clay, or other uncementitious substance be interposed, as this destroys the binding of the cement, and, if of hard texture, is liable to fracture or chip off the delicate arrises of the blocks. Large stones should be first tried on their beds before setting, and then raised and withdrawn, the bed finally cleaned, well wetted, and the mortar laid even. The stone should then be brought near its place and gently lowered upon wedges, by withdrawing which it is brought exactly to its bed, when it may be pounded down home by a suitable wooden mallet or block of timber. Stones are raised and lowered by the aid of a lewis, which is a contrivance for securing a firm hold of them without defacing the faces or injuring the joints, the lewis hole being made on top of the block, which becomes in turn the bed for the stone above. Cramps, joggles, dowels, and plugs are names commonly applied to four different forms of connections respectively, thus: A cramp, which may be of lead or copper, is from 6 in. to 10 in. in length, and from  $\frac{3}{8}$  in. to  $1\frac{1}{4}$  in. in thickness, having each end turned up to act as the cramp, and from 1 in. to 2 in. wide, according to the size of the stones to be joined together. If the cramp is of copper it is forged to the form and run in with lead. Lead cramps are formed at once by running the molten lead

into the channels prepared for it. Joggles are of a double wedged form and usually of slate; they are sometimes cubes, inserted so that their diagonals coincide with the joints. Slate joggles and dowels are laid in fine cement or oil putty. Dowels are of a common square section, and are more frequently applied vertically—that is to the beds of the stones—being inserted in the top of one block of stone and the bottom of another. A plug is similar to a dowel, but is formed by the mortises being run with cement or lead. Mason work is known as plain when worked to a smooth face; sunk, when cut in; stopped, when not finished to the end of a stone moulded, straight, cornices, strings, &c., without a bend; circular, moulded circular neckings, columns, &c.; circular circular, as in niches, domes, and spheres; dressed or cleansed on face, and tooled on face. About one-eighth of the volume of ashlar masonry should be mortar. Rubber masonry per cubic yard requires of stone one and one-fifth, and of mortar one-quarter. Mason's specifications require very careful consideration, in so far as the description, quality, and mode of working stone goes, but the architect's drawings should furnish all necessary information as to the quantity and disposition of the stonework of a building. Half-inch scale drawings should be prepared of the masonry of windows, doors, and other features, and the jointing should be well shown on drawings. These details may be supplemented with one-eighth or quarter full size sections of window jambs, sills and mullions, door jambs and mouldings, piers with their arch mouldings, bases and caps, cornices, columns, &c. The net amount of stonework can thus be actually computed by the estimator, and the contractor can obtain a fair idea of the amount of labor on the work. Such details are also most useful to the architect when the preparation of the full size working drawings has to be undertaken, as he can discover exactly how much stone is required for any feature.

#### BRICKDUST MORTAR.

A French chemist says that mortar from brickdust is coming into use as a substitute for hydraulic cement. Blocks about three-fifths of an inch thick, composed of brickdust and quicklime, were found capable, after remaining four months under water, of supporting a weight of 10,500 kilos to every three inches square, without breaking or cracking. Ten per cent. of brickdust added to ordinary mortar makes it remarkably cohesive. The first mentioned compound is especially useful in building drains, reservoirs, cisterns, etc. Take one part of brickdust to one of lime and two parts of sand; mix while dry, and then add the requisite quantity of water.

Dorion Bros. have commenced business in Ottawa as plumbers.

Contractors will confer a favor upon the publishers by mentioning the CONTRACT RECORD when submitting tenders for works advertised in this paper.

#### DATE OF PUBLICATION.

Architects, engineers, municipal authorities and others are reminded that the CONTRACT RECORD is printed every Tuesday afternoon, and that advertisements should reach the office of publication not later than 2 o'clock p.m. on that day to ensure insertion in the issue of the current week. Advertisements are frequently received too late for insertion, to avoid which special attention is directed to this announcement.

Messrs. Bellhouse, Dillon & Co., of Montreal, are sending out an attractive and useful advertisement for their White Cross brand of cement, in the form of a large thermometer, which can be used to disprove the assertion so frequently heard of late that the temperature had reached the boiling point.

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