

80 electric clocks connected with the tower clock \$3,500, or the whole system complete for \$10,017. These tenders were referred to the architect for a report. The elevator tenders were as follows: (1) For five electric elevators, with enclosures, grillwork, etc., complete, \$29,875; (2) five electric elevators, complete, according to specifications, \$44,500, and hydraulic, \$46,500; (3) five electric elevators, complete, with enclosures, etc., \$39,800, hydraulic, \$45,000, or enclosures only for \$13,900; (4) electric, \$44,000, hydraulic, \$48,000. These were also referred to the architect.

QUEBEC, QUE.—Building permits have been granted as follows: Additions to house on Alfred street, one story, mansard roof, 28 x 27 ft., wood, lined in brick, for M. Bourget. Repairs on St. Louis street for Hon. Judge Larne; contractor, J. Laroche. Repairs on Church street for M. Boutin; contractor, F. Mongeon. Additions to a house on Jupiter street, 16 x 25 ft., stone and brick; contractor, J. Archer. Roofing corner of Desjardines and St. Anne streets for G. Hossack; contractor, F. X. Leveille.

BUSINESS NOTES.

Metivier & Beaupre, contractors, Montreal, have dissolved partnership.

Corbell & Leveille, planing mill, Montreal, are reported to be financially embarrassed.

A partnership has been registered between Elias Gingras and J. B. Tremblay, under the style of Tremblay & Gingras, contractors, Montreal.

Messrs. W. G. Reid, James S. Shearer, David Walker, Joseph Lamarche and Maurice Perrault have been incorporated as the Canadian Construction Company, Montreal, with a capital stock of \$100,000.

RULES FOR MAKING GOOD MORTAR.

Mortar for the plasterer's use should be well made, and the following rules should, says the National Builder, be strictly complied with when making: First, the lime should be thoroughly slaked, and brought to a paste or putty state; second, it should remain in the mortar bed until it is perfectly cool before mixing in the sand and hair; third, good mortar can be used with safety eight or ten days after it is made; but in no case should it be used before it is six days old.

Some authorities say it is best to use mortar for plastering within three or four days after it is first made. They claim that, in mortar which stands ten or more days before using, the lime loses a portion of its strength, and the mortar becomes deteriorated thereby. This, to a certain extent, is true; but, notwithstanding the loss of strength by the lime, and the consequent deterioration of the mortar, every observant plasterer knows that walls coated with mortar made two or three weeks previous to using stand better than those coated with "green" or freshly made mortar. Newly-made mortar, immediately applied, frequently causes the walls to chip, crack, or become mottled. Mortar well tempered, and as well seasoned, works better and cooler than

the hastily-made new mortar, and invariably give better satisfaction. Colonel Gillmore, quoting from Vicat, and apparently endorsing the statement, says "It was supposed, for many years, that the longer lime was slaked before it was used the better mortar it would make. Recent experiments prove, however, that this is not the case with mixtures of fat lime and sand only. Better results are obtained with such mortars if the paste be mixed with the sand as soon as the slaked lime has become cold, and care should be taken to use no more water, in the process of extinction, than may be required to produce a thick pulp."

In slaking lime, care should be taken that neither too much nor too little water is used. If too much is used, the lime will be "chilled," and loses a part of its strength; if too little, it will "burn," and a portion of it will pass into the bed unslaked and cause trouble there.

As the quality of lime varies in different localities, it is impossible to give the exact proportion of sand to be used to each bushel of lime.

The hair should be mixed with the lime and sand at once, and should never be wetted up a second time. For the first coat on lath it will be necessary to use about two pounds of hair to every bushel of lime slaked, and the mortar should have only a sufficiency of sand in it to keep it from cracking while setting, as it requires to be "pasty" enough to stick firmly to the lath and "clinch" or "bond" securely between and behind them.

In many places the plasterer has also to lath the work he is to finish; when such is the case, he should make it a rule never to have more than $\frac{3}{16}$ in. key between each lath. Joints should be broken every 16 in., and more frequently if the conditions will admit. If twenty or thirty laths are nailed so that the ends all joint on one stud, it will soon show itself, as the plaster will certainly crack at that point when the studs dry and shrink. In lathing for outside work, if the building has first been boarded it is better to lay the lath on diagonally—say, at an angle of about 45° to the base of the building, and 1 in. apart; then cross these laths again at right angles with another tier, nailing

them on to the first lath, leaving spaces about $\frac{3}{16}$ in. between them.

This method of lathing is a trifle more expensive (about one-fifth) than the ordinary way, but it insures good work, and if the frame of the house is well put together and firm, so that the wind will not rack it, the plastering will stand longer than either clapboards or siding for outside work. This method of lathing is extensively adopted in the Province of Quebec, and the Maritime Provinces, and when a little rye whiskey is used in the making of the mortar—say, about one gallon to every twenty bushels of lime, into which it is thoroughly mixed—much strength and durability will be added. Many buildings which are known to have been plastered more than fifty years ago are as good now as when the work was first completed, where these precautions were adopted.

PAINTING WITH COMPRESSED AIR.

It begins to look as if the compressed air nozzle was to become the most used tool in the painter's trade. Recent expressions on the subject of painting freight-cars by compressed air are practically unanimous in favor of that method. The painter's trade is an exceedingly conservative one, and it is safe to say that if the new method had not shown a material saving in the total cost over the old system of application of paint by hand-brushes, it would never have been adopted so extensively in this field in such a short time.—Engineering News.

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