

and Michael O'Leary, \$139 800; J. Taylor & Co., Syracuse, N. Y., \$181,048; L'Hele & Puyette, Montreal, \$149,400; Wm. Stuart, Ottawa, \$129 887; Warren-Scharf Co., Ottawa, \$150,930; Jos. Bourque, Hull, \$127,225; S. R. Poulin, Ottawa, \$129,850; John Galt, city engineer, \$147,038. The council decided to accept the tender of Laverdure & Laflamme at \$107,695, but the tenderers afterwards discovered that they had made an error in figuring, and the contract was consequently awarded to Joseph Bourque of Hull, whose tender was \$127,225.

#### EFFECT OF CONCRETE ON LEAD.

Results of recent experiments are thus reported: "If the matrix of the concrete is lime and the concrete is in a damp position, the lime will reduce the metal to ceruse or carbonate of lead, or a crude white lead. If Portland cement instead of lime concrete is used, the lead will be oxidized or reduced to a hard brittle, dirty-red looking material. Examples of such deterioration are frequently found at the junctions of lead soil pipes, as used in England, with stoneware drains, and where pipes pass through walls below the damp course. Lead pipe may be protected by laying it through stoneware drain pipes embedded in the concrete: but in such cases the ends of the pipes should be open, in order to prevent the accumulation therein of carbonic acid gas, which would act injuriously upon the lead. Pitch and

asphalt are both good materials for protecting lead pipes that are exposed to corrosive influences. But drain pipes afford the best protection, as the lead pipe can then be withdrawn for repairs."

#### MARKET CONDITIONS.

Although very little cement is moving at Montreal, the market is unusually firm for this season of the year. This is due to the fact that manufacturers have sold the bulk of their production for 1899; in fact, some of them are refusing to make any further contracts. From present appearances the price of cement will be higher this year than for several years past.

In the paints and oil trade, the demand continues steady for all lines, and importers state that the turn over has been fully up to the average for the season of the year. Foreign advices on raw material continue strong, and in sympathy with the same, prices in Canada are held firmly. The present state of the metal market is the cause of considerable interest among the metal merchants of Canada and the United States. The price of all metals has advanced rapidly during the past three weeks, but zinc and copper are the leaders at present. The advance in prices has so affected the Canadian and American metal dealers that no orders will be booked for delivery

under three months. The prospectus of the United States Cast Iron Pipe and Foundry Co. has been issued. This company will, it is said, be in a position to supply 450,000 tons of cast iron pipe per annum, while the present annual output is only 60,000 tons.

#### PREPARING A BLASTING CHARGE.

Cut a piece of safety fuse to the right length and carefully insert the fresh-cut end in a blasting cap. See that the cap is free from any particle of sawdust before inserting the fuse. Press the fuse gently into the cap as far as it will go. Crimp the open end of the cap tightly around the fuse with a pair of cap-nippers, but under no condition disturb the fulminate or filling in the cap. Then open one end of the cartridge carefully, and with a sharpened lead pencil or pointed wooden stick, make a hole in the powder, insert the cap end of the fuse, being careful to see that at least one-fourth of an inch of the cap remains out of the powder. Then draw the paper closely about the fuse and tie it with a strong cord.

"Never allow smoking or fire of any description near the powder, nor leave any loose caps or fuse in the vicinity of the powder."—New York State Mining Law.

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