

THE PREPARATION OF MORTAR.

A recognized American authority, Edward Wolff, says the slackening operation should be done in a water-tight box made of boards, and so much water should be mixed in that the contents will never get dry, and a sheet of water will remain on the top to prevent access of air. If the box will not hold the entire quantity of lime required, the contents may be emptied into a cavity made in the ground close to the pan and this process may be repeated. This should be done at least two weeks before sand is added, or before the mortar is prepared for use. Slacked lime prepared and kept as stated, has been found free of carbonic acid after many years, air and gas not having been able to find access. Instead of following the procedure in slacking lime recommended above, we see in this country a faulty process adopted, which consists in loosely mixing the sand with the slacking lime immediately after water has been added and forming a dry heap on the surface of the ground, which is left lying there several weeks to give time for complete slacking before the sand is worked in evenly and the mortar considered ready for use. This heap arrangement is perfectly adapted to circulating air through a material which should be guarded against contact with air. The sun heats the surface of it, makes the air escape after it has given up its share of carbonic acid gas, while at the base of the heap and at the shady side a fresh supply enters to fill up the vacuum after it has circulated through the heap and has been robbed of its share of carbonic acid gas. That this procedure really happens in such a heap we can easily see when we place a lump of freshly slacked lime in a wine glass, and in another glass place a small quantity of material taken from a heap such as described, and which has been prepared a few days before. Fill both glasses nearly up with

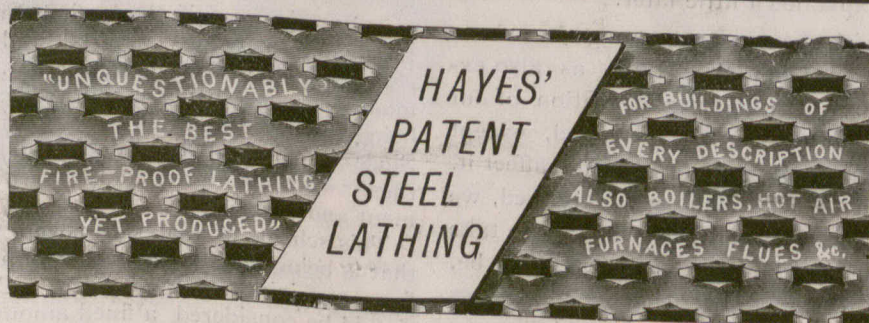
water, and add a few drops of muriatic or sulphuric acid to each. In the first glass nothing can be observed, while in the second glass we will see in the shape of small bubbles the carbonic acid escape, which has been absorbed by the lime from the atmospheric air circulating in the heap.



SKETCH MODEL FOR TERRA COTTA, BROWN BROS.' WAREHOUSE, TORONTO. By W. J. Hynes, Toronto. Beaumont Jarvis, Architect.

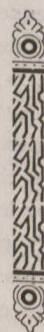
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