

magnesium carbonate mixed with fifteen to thirty-five per cent. of clay and a little alkali. Such a rock on being strongly heated forms a double silicate of calcium and aluminum, a compound capable of uniting with water to form a hard, crystalline compound, even when immersed.

Hydraulic limestones are widely distributed, and are converted into natural cement at a number of places. The rock is burned in kilns like ordinary lime, and then, since it does not slack at all with water, or very slowly, it is ground to a fine powder. The product often lacks uniformity, for the chemical composition of the beds of a quarry vary greatly. For this reason artificial cements are often preferred. The original Portland cement was made by grinding together a mixture of clay and chalk of definite composition and then calcining and re-mixing. Artificial cements are now made at a number of points in Canada, as at Napanee and near Owen Sound, Ont. The production of cement in 1895 was 128,000 barrels, most of it coming from Ontario, and nearly half of it being classed as Portland. The total value was \$174,000. In the same year the imports of all kinds of cement amounted to \$252,000.

LITERATURE.—Marble: Min. Resources of Ont., 1890; Rep. Geol. Sur., IV. 1888 K. Lithographic stone: Rep. Bur. of Mines, Ont., 1892, 1893. Cement: Bur. of Mines, Ont., 1891; Gillmore, "Limes, Hydraulic Cements and Mortars."