

Bethinking of Old Orleans

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LIME KILNS AND LIME MORTAR

Located in the Town of Barre is Lime Kiln Road and as the name suggests, it was so called because of a lime kiln which was once located there. Actually, the road name is one of the few remnants left from a day and age when lime kilns were a necessity. Around 1925 the late Fred Holt took these two snapshots of a lime kiln located either in Barre or Clarendon. By that period of time these old lime kilns had fallen into disuse and had started to deteriorate as the one photo shows.

What then, was the function of a lime kiln? In essence, they were used to obtain lime out of limestone. In the southern portion of Orleans County there are outcroppings of limestone which was readily procured and ideally used for making lime. Limestone could therefore be taken from these outcroppings or a limestone quarry.

From *Practical Treatise On Lime* published in 1872 we find the accompanying illustration and following information: "For burning common lime, the simplest form of kiln in common use in Europe (and with some slight modifications, in the United States), is that represented in Fig. 19, in which wood is used for fuel. This kiln is circular in horizontal section, and is generally constructed of rough-hammered limestone without mortar. It is usually located on the side of a hill, so that the top is accessible for charging the kiln, and the bottom for supplying the fuel, and drawing the burnt lime. The largest pieces of the stone to be burnt are first selected and formed into an arch, c.c.c. Above this arch, the kiln is filled by throwing the stone in loosely from the top, taking the largest first, and the smaller pieces afterwards. These latter are also piled up above the mouth of the kiln. The arched entrance, C, affords a convenience for supplying the fuel."

The kiln once filled with lime rock and loaded with fire wood underneath, was ready for firing. *The Cultivator* magazine in 1840 noted that rock, fresh from the quarry, burns more easily than after it has become dry by laying exposed to the action of sun and air. Firing took at least a day and a night or longer depending upon the size of kiln and quantity of lime rock. Once burnt, the product is known as quicklime which was stored in casks or kegs and kept dry until used (still in stone form - not powder). The one photo here shows a shed attached to the kiln so as to keep the lime under cover to prevent its being wet by rain.

For making lime mortar which was commonly used in stone and brick work throughout the 19th century, lime was slaked. The process involved in slaking quicklime was to place the fired limestone into a shallow wooden box or pit, add water to cover the quicklime. In 5 - 10 minutes the water rises to the boiling point and steam and vapor are given off. The stones absorb the water and disintegrate into a pasty pulp or lime paste which is ready for use in 24 hours or it may be preserved indefinitely in sealed containers or on site in trenches covered with sand.

The final mortar is made by adding sand in small batches for daily use. *The Cultivator* also noted in 1842 the following: "Mortar that has been made some weeks is generally preferred." One cobblestone mason who felt that aged mortar was better, mixed up his batch in the fall, buried it in a pit and kept it from freezing over the winter by covering the pit with cow manure. The manure fermented creating its own heat.

Chester Clark, a builder of cobblestone structures from Marion, N.Y. noted the following in 1838: "The coarser and purer the sand, the stronger will be the

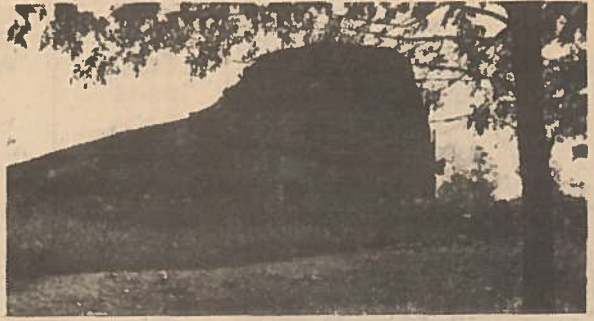


Fig. 19.

cement and the firmer the wall. As for the proper quantity of sand with the lime, it depends on its coarseness and purity. The proportion which I generally use, is from five to eight bushels of sand to one of lime in the stone."

In a letter to *The Cultivator* in 1842 P.P. Bonsteel of Victor, Ontario County noted this: "Take the coarsest of sand for the stone, and a fine sand for brick. I used common stone lime, one bushel of lime to seven of sand for stone, and the same kind of lime, one bushel to two of sand for brick."

In 1888 Michael Murphy produced at his lime kiln in the Town of Clarendon 22,000-bushels of lime and intended to burn lime all winter. Lime at that time sold for 20¢ per bushel at the kiln and 25¢ per bushel delivered.

Lime has many practical purposes not only for mortar and plaster but for agricultural purposes as in fertilizer. Lime was commonly used years ago in outhouses to sweeten the smell and sanitize the pit under the seats. As technology advanced portland cement became more preferable than lime mortar around the turn of the century.

The above information has been procured from the Cobblestone Resource Center at Childs, N.Y. with assistance from Delia Robinson, Research Director.