Portland cement plants have been erected at thirteen different places. From this section many millions of barrels of cement have been widely shipped to domestic and foreign markets. The cement district of the county forms a part of the "Lehigh District" which includes the cement plants of Berks, Lehigh, and Northampton counties, Pa. and Warren County, N. J. All of them obtain the bulk of the required stone from quarries in the Jacksonburg formation, although several must bring in some higher-grade limestone from other sections to obtain the proper mix.

As in other regions the manufacture of natural hydraulic cement preceded that of Portland cement. In New York the construction of the Erie Canal in 1818-1819 led to the discovery of natural hydraulic cement, and in this region the digging of the canal of the Lehigh Coal & Navigation Co. (1826-1830) accomplished the same result. Rock suitable for hydraulic cement was found just above Lehigh Gap, where Palmerton is now located, and also at Siegfried's Bridge (now Northampton). The rock at Lehigh Gap of Helderberg age seemed to be preferable, and a cement mill was built there under the direction of the company's engineers. This plant was operated by Samuel Glace from 1826 to 1830 and furnished material for many of the canal locks. When the best cement rock near Lehigh Gap was exhausted, material was quarried about six miles east of the gap and hauled to the plant. However, in 1830 it was decided to abandon the mill and to erect a new one at Siegfried's Bridge, where suitable rock was known to be obtainable. In a small pamphlet by William H. Glace, entitled "A Narrative of Hydraulic Cement Mined in the Lehigh Valley," the following description is given:

Capt. Theodore H. Howell, residing at Siegfried's, informed me that when he came there in 1837 there were four kilns erected and in operation. They were known as draw kilns, fire being placed in the eye at the bottom of the kilns, drawn at the bottom and hoisted up an incline plane or tramway and emptied into a hopper, where the stones were crushed by machinery shaped like a corn cracker, then dropped down and ground by burr millstones, then placed in boxes or trays with handles, then transported in scows to points on canal where needed. These scows were drawn by mules with a steersman on a platform on the rear of the scow, having a large tiller, fifteen feet long, ending in a large blade or paddle, which tiller was fastened on a socket at the balance point, and thus lifted with little exertion at will, and when in use was a powerful means to turn the boat in any direction wanted. At that time the capacity of this plant was ten barrels per day.

The canal, from this place down to the Allentown dam, was through a farming community, and the loam and clay on the banks of the canal were vulnerable places for the muskrats, which were plentiful. They seemed to be busy constantly and would in a short time make a hole in the embankment, which if not attended to would empty the canal and stop transportation.

The method to remedy this was an alarm given by the bank watchman, the scow or cement boat sent for, which with the mules trotting, a man in front blowing a horn, giving them the right of way, the steersman on his