The first mill erected has been designated as Mill A. It has been entirely scrapped. The kilns were of the old-fashioned upright dome type used for burning lime (pl. 31).

The process of manufacture used by Saylor was simple and primitive when compared with modern practice. The ingredients were ground with buhrstones, mixed with water, and molded into bricks, first by hand and later by brick-making machines. These were dried naturally or by steam pipes and then placed in upright bottle-shaped kilns from 30 to 40 feet in height and from 12 feet in diameter, where the greatest bulge occurred, to about four feet at the top. At the bottom of the kiln a layer of wood was placed and then alternate layers of coke and dried bricks of the cement ingredients. These had to be carefully placed in the kilns by hand. Openings in the kilns at different levels facilitated their filling and later these were closed by brick. When the kiln was filled, the wood at the base was ignited and the burning took place.

After the burning process was ended the resulting product was taken out at the base of the kiln. Portions that had been burned to partial fusion formed large or small masses of clinker which were broken into sizes easily handled and sent to the mill for grinding. Those portions insufficiently burned were again molded into bricks for re-burning. At times as much as 40 percent required further burning. For some time, the clinker was ground in a mill that was set up in an old distillery about half a mile away, but later a new mill was built near the quarry and kilns.

These intermittent kilns of small capacity and requiring a large amount of hand labor were used at the Coplay plant until about 1892 or 1893.

Up to the time of Mr. Saylor's death in 1884 the bottle-shaped intermittent kiln was the only type used in this country and the process of manufacture was expensive, notwithstanding cheap labor, because of the large number of men required. The best these kilns could do was to produce 150 to 200 barrels of cement every ten days.

Although Saylor had proved that good quality portland cement could be made from the cement rock of Lehigh and Northampton counties, and other mills shortly started in the same vicinity, still the business was not highly profitable. It was hard to convince the users of cement that the American manufacturers had succeeded in producing portland cement of the same quality as that imported from Europe. Naturally the importers did all they could to discredit the home product and the American portland cement gained recognition slowly.

The next development of the company was the construction in 1893 (or 1892) of Mill B, which was equipped with the upright continuous Schoefer (Schaffer) kilns, introduced from Germany. These kilns are still standing as shown in Pl. 31. The mill was modified and rebuilt several times. In this mill were installed the first rotary kilns of the district, an innovation frequently credited to the Keystone Portland Cement Co. (forerunner of the Atlas Cement Co.) whose property adjoined that of the Coplay. The first rotary kilns were 40 feet in length.