

firmly imbedded in the clay that the teeth of the bucket could not get a firm hold, it therefore became a necessity at an early day to feed all the stones by themselves and the clay by itself. The best time for feeding stone was when the shaft had been freshly dug out and they were allowed to accumulate until then. The feeding of stone required much judgment. The bucket could easily lift out any stone it could catch hold of, even up to one or two yards in size, provided the stone was shoved into the right position. Boulders could only be put in from two sides of the shaft, and one stone had to be out of the way before it became safe to put in another. The shaft being rectangular served as a guide to the bucket, compelling it to come down in the same position each time; this shape was a great advantage in one respect, but a disadvantage in another, because the square shaft is not as well adapted to withstand a bursting pressure during the operation of capping without a dangerous change of form which had to be met by external bracing. Whenever the hole under the shaft was pretty well filled up, the water in the pool was allowed to sink to within six inches of the lower edge, and attempts were made to cut down the puddled material with steel bars and sledges. A powerful stream of water from a hose was found useful in cutting it away. Often, when a stone got into a wrong position, men would dive under the shaft to loosen it. When the lungs are filled with compressed air a person can remain under water from three to four minutes with ease.

The buckets were provided with heavy teeth, seven inches long, rivetted fast to steel cutting edges, six by one. Many patterns of teeth were made before the most advantageous form was arrived at. A tooth which answers well for scooping up mud, will not last a day for grappling stones. A supply of five buckets was required to keep two in working order. The buckets very rarely became directly jammed in the shafts, except when the latter had been freshly dug out, and the hole below was deep; the buckets were then apt to catch under the edge, causing vexatious delays at times; and unless soon removed, they would then be imbedded in a deposit of clay settling down from the water in the shaft.