sizes, was passed to a pair of rolls and crushed; it was then separated into two equal parts, each part going to a separate revolving screen. In these screens only the steamboat coal was taken out, the finer sizes being sent to a second set of rotary screens. It is probable that the steamboat coal was hand-picked before being deposited in its pocket.

The finer sizes of coal that were separated in the second set of revolving screens were likewise hand-picked by boys before going to their respective pockets. No coal smaller than chestnut was saved, all smaller sizes, together with the rock, being sent to the dirt pocket and then removed to the culm bank. As the mine rake was still in use, all coal smaller than chestnut produced underground was left in the mine, so that the fine coal separated in the breaker was only what was made in the crushing down of the larger sizes; therefore, millions of tons of marketable coal now lie buried in the mines and will never be recovered.

Another interesting breaker of the same period is the old Washington or Reynolds breaker, at Plymouth, Fig. 6. This structure was reported as being in a dilapidated condition in 1869 but was braced and repaired so that it was used for many years afterward. It is interesting to note in connection with the accompanying illustration that 100 men were required to handle the output of this breaker. Of course most of the employees were boys hired to pick the slate and other impurities out of the coal. It did not seem to be the custom in those days to provide many windows to give light. Accordingly it was necessary to remove the roof over the picking chutes or leave them unprotected so that the boys could see to pick the slate. Fig. 7 shows the new Nottingham breaker to which the coal that formerly was treated in the Washington breaker now goes.

Another structure of the same period is the old Alexander Gray breaker, Fig. 8, which stood near the present Hollenbeck breaker in Wilkes-Barre. This was built in 1860 and was torn down in 1874. It was equipped with one set of revolving screens having a total length of 21 ft. 10 in. (6.7 m.) making culm-bank coal, small and large stove coal, egg, and No. 1 broken. Evidently the larger sizes were separated by hand.

Fig. 9 shows the old rolls that were discarded at some time prior to 1874. They were lying in a scrap heap when Mr. Dodge, a consulting engineer of Wilkes-Barre, made measurements of them and drew the original of which this illustration is a copy.

About 1870, the picking table was introduced, at the Hill & Harris colliery, Mahanoy City, Schuylkill County, after a series of experiments made by this firm.

The next important improvement in the preparation of coal was the introduction of the jig into the lower anthracite regions in either 1871 or 1872. The jig did not force its way into the Wyoming field

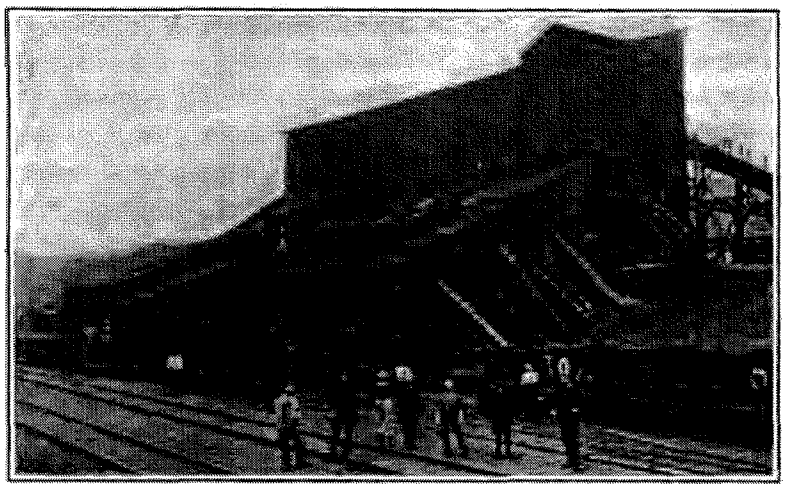

FIG. 6.—OLD REYNOLDS, OR WASHINGTON, BREAKER NEAR PLYMOUTH, PA.; THIS BREAKER WAS IN A DILAPIDATED CONDITION IN 1869.

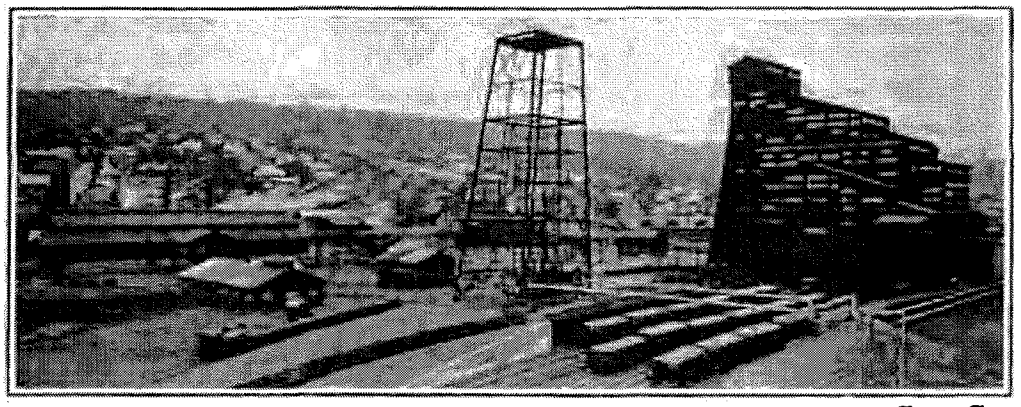

FIG. 7.—NEW NOTTINGHAM BREAKER OF THE LEHIGH & WILKES-BARRE COAL CO.

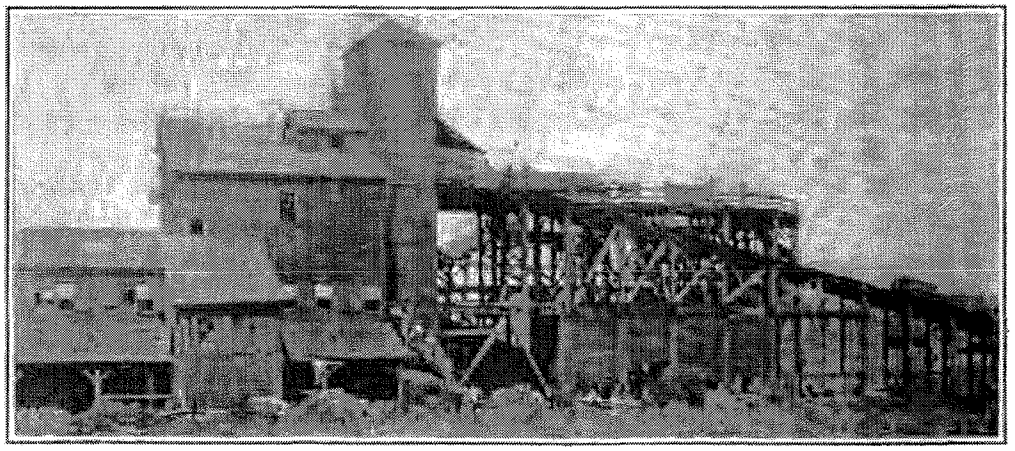

FIG. 8.—ALEXANDER GRAY BREAKER, WHICH STOOD IN WILKES-BARRE NEAR PRESENT SITE OF HOLLENBECK BREAKER. BUILT IN 1860 AND TORN DOWN IN 1874.