aged about 60° Fahrenheit, and were prepared for the test as follows: A thin mortar of neat cement was spread on a smooth cast-iron plate, and the pier placed upon the mortar and left until the cement hardened. The bottom bed was then trimmed off flush with the sides, the pier placed on the testing machine, and a layer of neat Portland cement mortar was placed on top, the pier was slid under the head of machine, and the head was brought to its bearing while the mortar was yet soft.

This method ensured two parallel beds and gave a uniformly distributed stress on the pier. The load was applied slowly and continuously, until complete failure of the pier occurred.

Pier No. 1:

Description....Humber, 1st class, laid in lime mortar 3/8" joints.
Size of pier, 9" × 9".....area, 81 square inches.
Length, 24 courses.....73 inches.
Age.....10 days.
Ultimate load.....23,600 pounds.
" strength per sq. inch.....291 pounds.
" " " foot.....20.9 tons.

This pier was built on the testing machine; with lime mortar on top and bottom bed, the head of machine was brought down to a level bearing, and pier allowed to harden in position for ten days.

The pier failed by spreading a little at the head, a wide crack running down the centre to about half the height of the pier.

Pier No. 2:

Description....Kingston Road, 1st class, laid in lime mortar with 3/8" joints.
Size of pier, 8 7/8" × 8 7/8".....area, 78.75 square inches.
Length, 8 courses.....23 inches.
Weight.....114 pounds.
Age.....2½ months.
Ultimate load.....44,000 pounds.
Crushing strength per square inch.....558 pounds.
" " " foot.....40.2 tons.

The pier sustained a high load without sign of fracture, but was completely destroyed under the ultimate load.

Pier No. 3:

Description....Kingston Road, 2nd class, laid in lime mortar with 3/8" joints.
Size of pier, 9" × 9".....area, 81 square inches.