The caisson would apparently settle on a broken ridge of rock, running diagonally from one corner to the other, and having a moderate dip of perhaps five feet in the hundred toward the land; but falling off very suddenly toward the east corner in number one chamber.

With these facts before us, it was evident that it would be a matter of immense expense and great loss of time to blast down the rock to a comparatively level surface; but unless this was done, it would appear equally dangerous to all the caisson to rest on the rock at one end and not on the other.

Fortunately one circumstance put a more favorable appearance upon the case, and that was that the top of the rock was found to be covered for a depth of two to four feet by a layer of very compact material, so hard that it was next to impossible to drive in an iron rod without battering it to pieces.

Moreover, where the rock lay the lowest, this layer of hard material had its greatest thickness.

It was good enough to found upon, or at any rate nearly as good as any concrete that could be put in place of it. In extent it covered fully three-fourths of the caisson, leaving a narrow strip of quicksand along the land edge, and a triangular portion over part of number one and six chamber.

Since the lower line of quicksand sloped at the rate of six feet in the hundred, it became necessary to penetrate about five feet into the hard ground on the water edge before the bottom of the quicksand was reached on the land side. The number of boulders found in it was very large, much greater than were found in the same space on the Brooklyn side.

It was determined to rest the caisson on this material at a depth of seventy-eight feet. The projecting peaks of bed rock which already made their appearance at seventy-five feet, were blasted down for some distance under the shoe, and covered with a foot of compressible earth.

In number six chamber a trench was sunk through the remaining quicksand under the edge, and filled with con-