when we consider the size of the tower, weighing seventy thousand tons, with a height of three hundred feet above the foundation upon which the permanent pressure is five tons per square foot.

The buoyancy of the timber moreover enables us to dispense with the use of screws, commonly employed in lowering caissons.

Again, in regard to durability, it is well-known that timber immersed in salt water is imperishable, and to protect it against sea-worms, it is merely necessary to sink it beneath the river bed. It therefore at once suggested itself to make this timber platform as much as possible a part of the Caisson.

This has been done by making the roof of the caisson a solid mass of timber, of fifteen feet in thickness. The object and purpose of a caisson in sinking a pneumatic foundation are already too well known to require any special description, it is merely a diving bell on a vast scale.

The caisson of the Brooklyn foundation is a large inverted vessel or pan, resting bottom upward, with strong sides. Into this air is forced, under a sufficient pressure to drive out the water. Entrance is had to the large working chamber thus formed underneath, through suitable shafts and air locks. The excavated material is taken out through water shafts, open above and below, and two supply shafts send down the material subsequently needed to fill up the air chamber. A few smaller pipes are also inserted for a variety of purposes.

The dimensions of the caisson are rectangular, length one hundred and sixty-eight feet, width one hundred and two feet, height of air chamber nine feet six inches, and thickness of roof before launching, five feet. The sides form a V and are nine feet thick where they join the roof, sloping down to a round edge. The inner slope of the V has an angle of forty-five degrees. The cutting edge or shoe is formed by a semi-circular casting protected by a sheet of boiler-plate, extending up three feet on the sides.