ners have been provided, giving ten lights for each chamber. The roof and sides have also been painted white, thus increasing the reflecting surfaces.

The management of the gas, however, has been reversed from the Brooklyn arrangement. In one of the chambers below are two gas cylinders, one for oxygen, the other for hydrogen gas, each six feet long, and three feet six inches in diameter. The gas pipes in the chamber connect with these tanks. Compressed gas is forced into them through special pipes leading down from above, and the requisite excess of pressure over the caisson pressure, is maintained by a head of water forcing the gas out of the tanks into the pipes. On the dock above, at an elevation of a few feet above the water level, are the two other cylinders, the exact counterpart of those below. They are partly filled with water, which communicates by pipes with the lower tanks, and forces the gas out of the latter. The stage of water in the upper tanks will always indicate the amount of gas in the lower tanks, and as the caisson sinks it, of course, increases the head of water, for forcing out the gas in the exact ratio required. The cost of gas is only one-third that of candles, besides giving a much better light and making no smoke.

**Sea Worms.**

Particular care has been taken in this caisson to protect the timber from the sea worm on the outside. This protection is only required while the caisson is afloat and while it is being sunk—ultimately all the timber will be submerged far below the river bed where the worm never penetrates. The borings, moreover, showed that the layer of gravel occurring twelve feet below the river is permeated with fresh water which is fatal to the teredo.

Every beam on the whole outside of the caisson and also on top of the sixth roof course is thoroughly caulked, both with a view to keep out the salt water, as well as to aid the air-tightness, and to relieve the iron skin from any back pressure.

In the next place the same surface is heavily graved with