an outer row of piles was first driven, and anchored back with timber, to resist the pressure of a bank of twenty-two feet, within this line a row of sheet piling was placed, space being allowed to tow in the caisson.

Machinery.

During April, six air-compressing machines were placed on their foundations and satisfactorily tested. They were manufactured by the Burleigh Rock Drill Co. of Fitchburg, Mass. Each engine is 20 horse power, and drives two single acting air-cylinders of fourteen inch stroke, and fifteen inch diameter. Every engine has its own boiler, and they are all so connected that the stoppage of no one boiler or engine will effect the rest.

A large condensing vessel serves to precipitate the moisture in the compressed air, and deliver dry air into the caisson. The compressed air is cooled in the air pumps themselves, by the injection of a fine spray of water into the cylinder, with every stroke of the pump.

A ten inch main, one hundred and fifty feet in length, leads the air underground to the caisson, where its branches, and two rubber hose of six inches diameter, lead the air to the supply shafts, and thus into the caisson. Self-acting clack valves prevent escape of air in case of accident to the hose, which, however, had all been tested to a pressure of sixty pounds.

The double steam engines were set up on the land side to operate the dredge buckets in the water-shafts, and two engines at each end of the caisson for operating the stone sitting machinery.

Towing the Caisson into Position.

By May first, the leveling off of the site had proceeded far enough to bring the caisson down from Greenpoint, a distance of five miles. Advantage had been taken of the delay to put on two more timber courses and also to make a contract with the builders to finish the remaining ten additional courses of yellow pine.