

from which two piers, that distance apart, now project 250 feet into the river, being nearly opposite Fort Delaware, within the range of its guns, and under their protection during war. Between this harbour and the Canal, the Delaware tide-lock opens the communication. This lock being situated on the margin of the river, and its pit dug about 18 feet below high water, through peat and soft mud, was tedious and expensive in its excavation, and presented difficulties in obtaining a suitable foundation. This, however, was effected, by upwards of 800 deeply driven piles, on which two platforms of heavy timber, crossing each other, were laid; on these the walls were built, and have firmly stood, notwithstanding the severe trial they have had, by the water from the canal having forced its way through the piles under the lock. This evil has been remedied, under the immediate supervision of the engineer-in-chief, in a manner in which he has full confidence, and believes to be entirely effectual; and which has been fairly tested by several months use of the lock; and by the continued pressure of a full head of water in the canal; adjoining the lock in the first section the canal is enlarged to 90 feet in width, for the purpose of forming a basin, in which vessels may remain while waiting to pass the lock; or, during severe storms, take shelter in a land-locked harbour.

Section, No. 1, was excavated through the soft mud of the river marsh, and extends 29 chains to section No. 2, which was cut principally through loam and sand, a depth of 16 feet. The earth from this section, which is 32 chains long, was taken to the adjacent low grounds, to form embankments. On the western part of the section, a pivot bridge is erected, for the accommodation of a public road.

Section No. 3, extends from section No. 2, to the village of St. George's, a distance of three miles and a half, through a deep morass or peat bog, in its course several times crossing the bed of St. George's creek. This section presented difficulties of no ordinary character, that were not anticipated at the commencement of the work, nor can they be appreciated by viewing it since its completion. The excavation through this section, as well as in the two preceding, was made about six feet below low tide, in a loose soil, much of it of peat, so light and spongy in its texture as to float, and readily burning when dry, consequently unsuitable for the