

WATER-WORKS.

UNDER this name may be comprehended almost every hydraulic structure or contrivance; such as, canals, conduits, locks, mills, water-engines, &c. But they may be conveniently arranged under two general heads, *1st*, Works which have for their object the conducting, raising, or otherwise managing, of water; and, *2dly*, Works which derive their efficacy from the impulse or other action of water. The *first* class comprehends the methods of simply conducting water in aqueducts or in pipes for the supply of domestic consumption, or the working of machinery: it comprehends also the methods of procuring the supplies necessary for these purposes, by means of pumps, water, or fire-engines. It also comprehends the subsequent management of the water thus conducted, whether in order to make the proper distribution of it according to the demand, or to employ it for the purpose of navigation, by lockage, or other contrivances.—And in the prosecution of these things many subordinate problems will occur, in which practice will derive great advantages from a scientific acquaintance with the subject.

CLASS I.

1. *Of the conducting of Water.*

THIS is undoubtedly a business of great importance, and makes a principal part of the practice of the civil engineer: it is also a business so imperfectly understood, that we believe that very few engineers can venture to say, with tolerable precision, what will be the quantity of water which his work will convey, or what plan and dimensions of con-