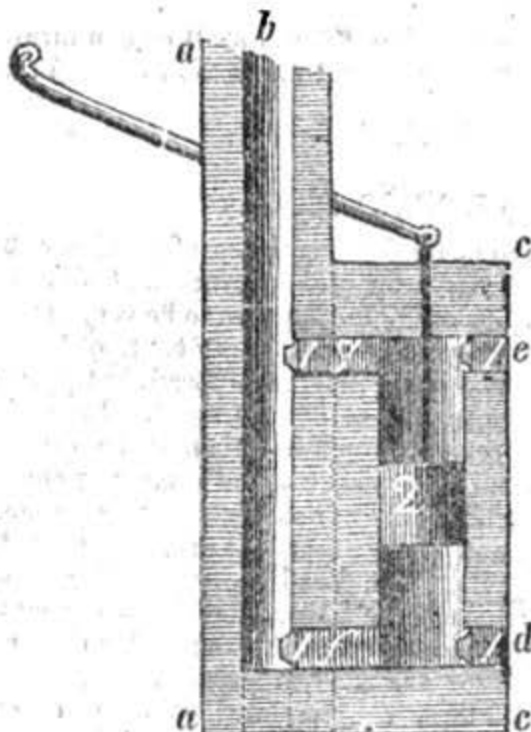


For the American Magazine,

MECHANIC ARTS.

Gray's Double Forcing Pump.



THE Machine represented in the annexed Cut, is the invention of Mr. Levi Gray, of Springfield, Otsego County, New-York, who has secured his right by a Patent. The engraving represents a sectional view, in order to show the internal construction of the parts. *a a* is the Pump, with the chamber, or elevating pipe *b* in the centre:—it is here broken off, but may be extended, in use, to any height that may be desired. Connected with this, is what the Inventor terms a case-block, *c c*, in which is contained the Piston,

and the working parts of the machinery for elevating water. The whole machine is to be placed in water, immersed up to the top of the case-block. Fig. 2 is a close block, covered with leather, attached to the end of the piston, by the motion of which is caused the whole hydraulic power of the Pump, as will be readily seen by a little examination of the parts. On elevating the block 2, a vacuum is formed in the cavity underneath, which opens the valve *1d*, and admits the water—the same operation, is, at the same time, performed above, by closing the valve *1e*, and opening that at *1g*, by which the water is forced into the pipe *b*. So again, on depressing the block 2, a vacuum is formed above, which opens the valve *1e*, admitting the water into the main pipe of the case-block, and forcing it out, below, through *1f*, into the pipe *b*: thus combining the principles and the power of a double suction, or lifting, and a double forcing Pump. The operation is very simple, and at the same time as powerful as the combination is ingenious and philosophical. The Inventor has certainly conferred a valuable benefit on his country; and without any pretensions to philosophical science, he has produced an important desideratum in the useful arts. I have constantly had one of these Pumps for use, during several months past, and do not hesitate to recommend it to others. The construction is as simple as that of the common Pump, and it is none more liable to get out of repair. It elevates the water, readily, more than 100 feet, and works with far greater ease than any one on the old plan.