J. N. WILSON.

SUCTION AND FORCE PUMP.

No. 193,066. Patented July 10, 1877.

Fig. 1

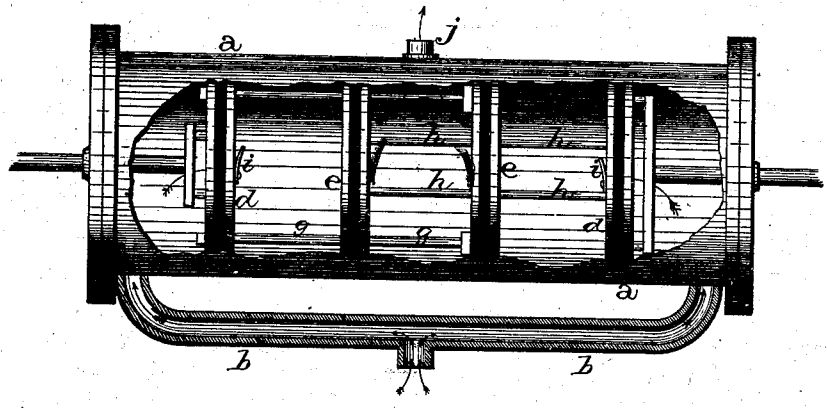


Fig. 2.

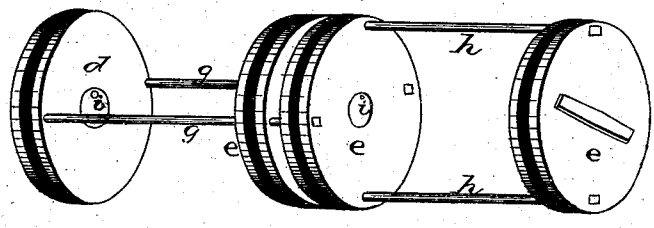
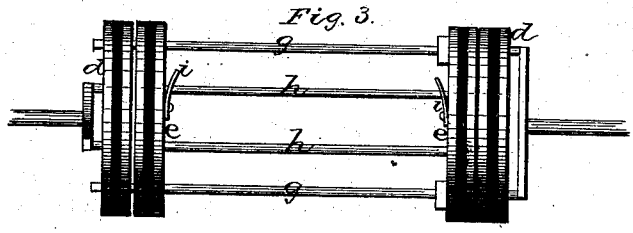


Fig. 3.



WITNESSES

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INVENTOR

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per

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UNITED STATES PATENT OFFICE.

JOHN N. WILSON, OF FULTON, ILLINOIS.

IMPROVEMENT IN SUCTION AND FORCE PUMPS.

Specification forming part of Letters Patent No. **193,066**, dated July 10, 1877; application filed May 11, 1877.

To all whom it may concern:

Be it known that I, JOHN N. WILSON, of Fulton, in the county of Whitesides and State of Illinois, have invented certain new and useful Improvements in Suction and Force Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The nature of my invention relates to an improvement in force-pumps; and it consists in arranging within a single cylinder four pistons, which are united together in pairs and operated by a single lever, as will be more fully described hereinafter.

The accompanying drawing represents my invention.

a represents the common pump-cylinder, which has the pipe *b* for the introduction of water at each of its ends, in the usual manner. Placed within the cylinder are four pistons, *d* and *e*, which are united together in pairs by means of the rods *g* and *h*, as shown. These rods pass through both of the two inner pistons, so as to connect each of them with one of the end pistons, so that when the two end pistons are moved from each other by means of the operating-lever, the two central pistons will move toward each other. Each one of these pistons is provided with an inwardly-opening valve or valves, *i*, which allow the water to pass freely through them as the pistons are being drawn toward the ends of the cylinder, but instantly close when the motion of the pistons is reversed, and they are made to move toward each other. The water having passed in between the pistons, as the pistons are forced backward, the water being unable to escape backward through the valves, is forced into the space between the two inner pistons. When these pistons are forced toward each other the water between them is forced through the exit-pipe *j* up to the point of delivery.

By thus using four pistons instead of two, as has heretofore been done, I am enabled to move them a much greater distance by the same movement of the lever, and thereby force the water not only in larger quantities but to a greater distance by the same expenditure of power.

Having thus described my invention, I claim—

In a pump-cylinder, the combination of four pistons, which are united together in pairs, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of May, 1877.

JOHN N. WILSON.

Witnesses:

WILLIAM J. MCCOY,

CECIL M. CHURCH.