T. B. SWAN.

Lifting and Force Pump.

No. 205,699. Patented July 2, 1878.

Fig. 1.

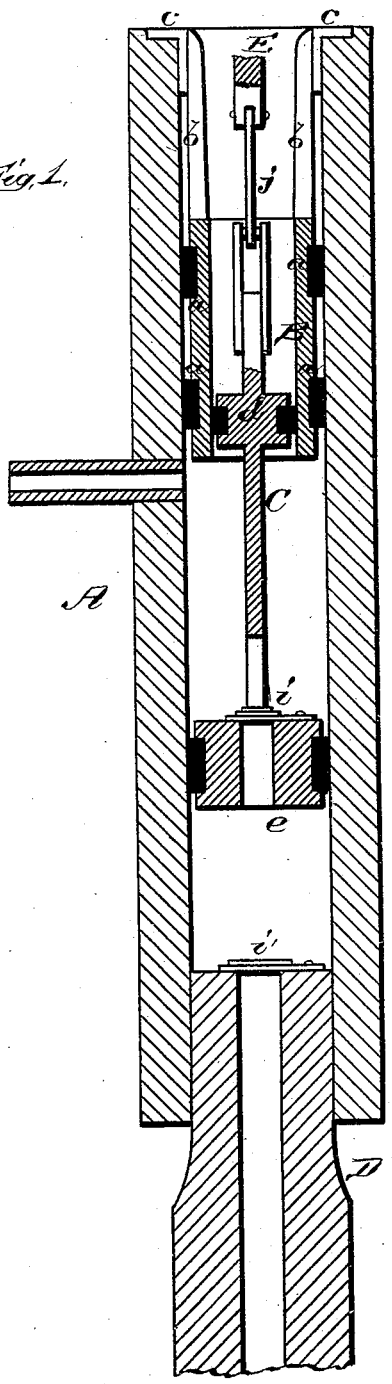
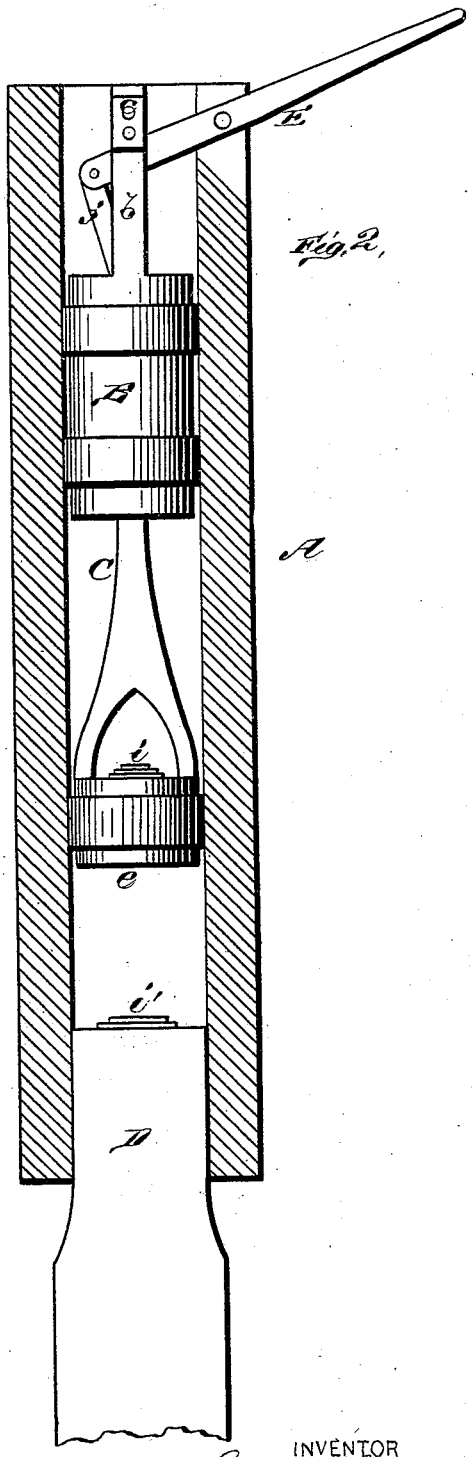


Fig. 2.



WITNESSES

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THOMAS B. SWAN, OF MECHANICS FALLS, MAINE.

IMPROVEMENT IN LIFTING AND FORCE PUMPS.

Specification forming part of Letters Patent No. **205,699**, dated July 2, 1878; application filed June 1, 1878.

To all whom it may concern:

Be it known that I, THOMAS B. SWAN, of Mechanics Falls, in the county of Androscoggin and State of Maine, have invented a new and valuable Improvement in Lifting and Force Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal central section of my improved pump; and Fig. 2 is a vertical section of the pump-barrel, showing the arrangement of the thimble and valves.

This invention has relation to improvements in pumps.

The object of the invention is to obtain a pump that will both raise and force water without the employment of a condenser, and that will deliver the water in a continuous stream.

The nature of the invention consists in the construction and novel arrangement, in connection with a pump, of a barrel having a removable tubular cylinder grooved for packing above its spout and secured by a rod, and a piston-rod having a valveless head working in said removable cylinder, and a valved head working in said barrel below the cylinder, as hereinafter shown and described.

In the annexed drawings, the letter A designates the pump-barrel, and B the interior thimble fitting snugly therein, and provided with exterior grooves *a*, for the reception of a packing material to insure the necessary tightness of the joint.

The thimble is provided with arms *b*, reaching from its upper edge to the top of the barrel, and having angle-arms *c*, by means of which and suitable screws the said thimble is secured to the barrel.

C designates a piston-rod, having rigidly secured thereto the spaced heads *d e*, the first of which is valveless and works in the thimble, and the latter provided with an upwardly-opening valve, *i*, and working in the barrel below the said thimble.

The supply-pipe D has the usual valve *i'*, opening upward, and reaches down into the water. The piston-rod is actuated by a lever, E, to which it is connected by means of a rod, *j*. The capacity of the bore of the thimble is about one-half of that of the same length of the bore of the barrel. Consequently, the space between the heads being filled by working the lever, when the said lever is thrust down, water is raised bodily in the barrel, and crowded into the thimble by the gradual contraction of the water-space between the head, causing it to issue from the spout, which is of less diameter than said thimble, in a continuous forcible stream.

By attaching a hose to the spout the water may be directed upon a burning object or used in cleaning carriages or windows, and for other analogous purposes.

During the downward movement of the handle water is raised into the barrel below the head, and, on raising the handle, passes through valve, the valve of the supply-pipe closes, and the water in the thimble is instantly forced out of the spout.

What I claim as new, and desire to secure by Letters Patent, is—

The combination in a pump, of a barrel, having a removable tubular cylinder grooved for packing above its spout, and secured by rod *b c*, and a piston-rod having a valveless head working in said removable cylinder, and a valved head working in the said barrel below the cylinder, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS B. SWAN.

Witnesses:

ALFRED W. ANTHOINE,

JOHN C. WALKER.