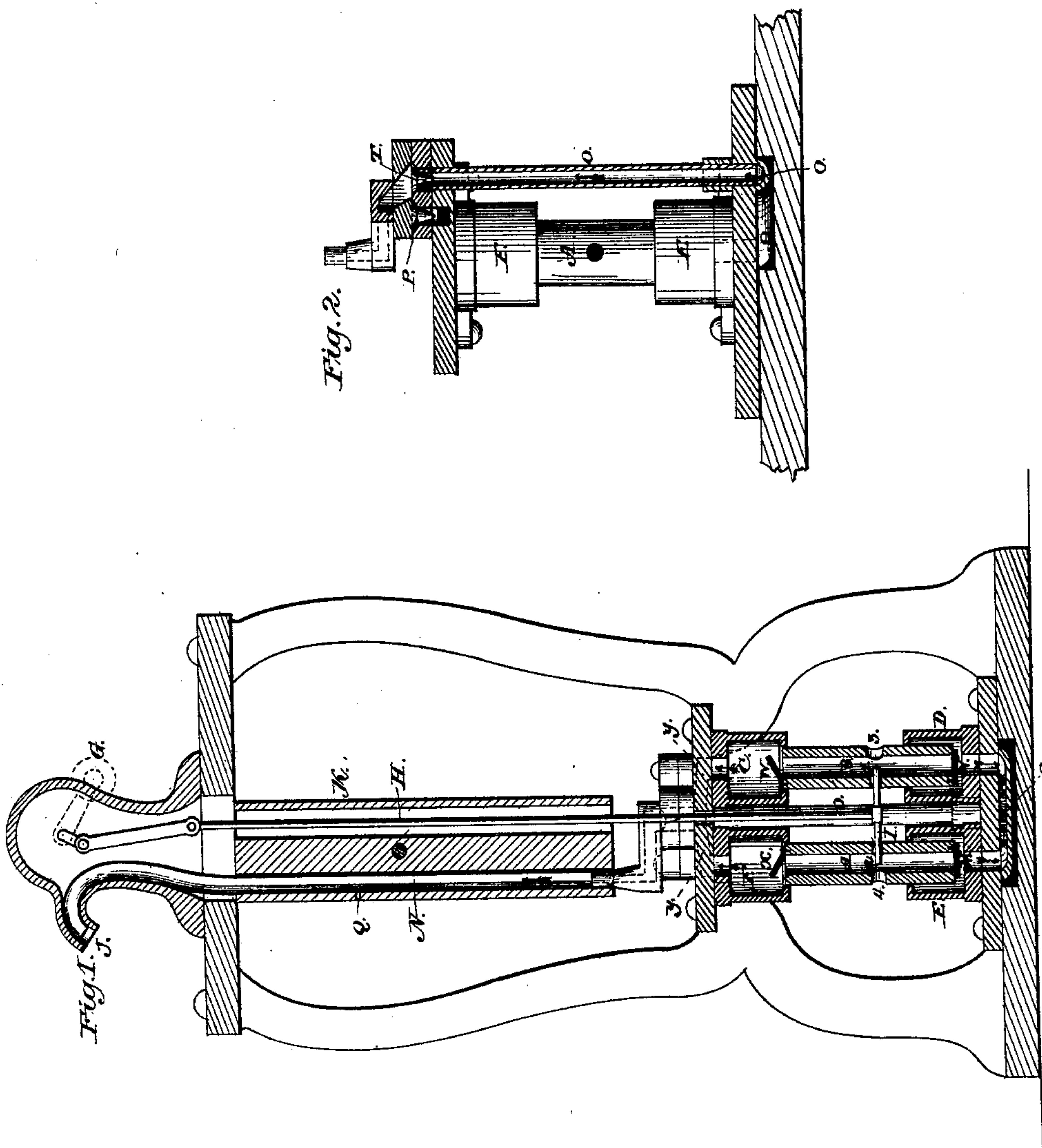


T. B. SWAN.
PUMP.

No. 188,828.

Patented March 27, 1877.



Attest:

Eliza A. Swan,
Mary A. Hawkins

Inventor:

Thomas B. Swan.

UNITED STATES PATENT OFFICE.

THOMAS B. SWAN, OF MINOT, MAINE.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **188,828**, dated March 27, 1877; application filed January 19, 1877.

To all whom it may concern:

Be it known that I, THOMAS B. SWAN, of Minot, in the county of Androscoggin and State of Maine, have invented a new and useful Improvement in Pumps, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is, by a double-acting force-pump, which will not freeze in the coldest weather, to rapidly force the water in a continuous stream to any reasonable height by the combination in a force-pump of two hollow pistons, A and B, and valves W, V, X, and M, and apertures 3 and 4, to let the water into said pistons, with the rod H and cross-piece I for moving said pistons up and down, and with the barrels C, F, E, and D, and tubes O and Y, which leads from the barrels into one common tube, N, as shown in the accompanying drawings.

In turning the crank G the rod H is moved up and down, and the rod H being connected, by the cross-piece I, with the two pistons A and B. When the rod H moves up and down it moves the pistons A and B in and out of the barrels C, F, D, and E. When the pistons A and B move up, the valves W and X close, and the water is forced from the barrels C and F into the tube Y, through the valve P, into the tube N, and at the same time the

valves V and M open, and the water is sucked through the aperture 3 and 4 into the apertures 1 and 2 in the pistons A and B, thence through the valves M and V into the barrels D and E. When the pistons A and B move down, the valves V and M close, and the water is forced into the tube O, through the valve P, into the tube N, and at the same time the valves W and X open, and the water is sucked through the apertures 3 and 4 into the apertures 1 and 2, in the piston A and B, thence through the valve W and X, into the barrels C and F.

The valves T and F both open up. K is a tube for the rod H. Q is a very small aperture, to let the water pass off, so that it will not freeze in the tube N. J is the spout of the pump. The arrows show the direction that the water is forced.

I claim as my invention—

The combination in a pump, substantially as described, of two connected hollow pistons and valves, and apertures to let the water into said pistons, with a single rod for moving both said pistons, and with four barrels and tubes leading from said barrels to one common tube.

THOMAS B. SWAN.

Witnesses:

ELVA A. SWAN,
ALICE A. HAWKES.