

UNITED STATES PATENT OFFICE.

WILLIAM L. THOMAS, OF WADSWORTH, OHIO.

BALANCED WATER-ELEVATOR.

Specification forming part of Letters Patent No. 100,567, dated March 8, 1870.

To all whom it may concern:

Be it known that I, WILLIAM L. THOMAS, of Wadsworth, in the county of Medina and State of Ohio, have invented a new and useful Improvement in Balance Water-Elevator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in apparatus for elevating water, to be operated either by hand or other motive power, by means of which water may be elevated to any required height, while the action of the working-pistons will be balanced; and it consists in the construction, arrangement, and combination of parts hereinafter more fully described.

In the accompanying drawing, Figure 1 represents a side elevation of the arrangement. Fig. 2 is a vertical section of Fig. 1 through the line *x x*.

Similar letters of reference indicate corresponding parts.

A and B represent two vertical working-barrels, arranged on a suitable frame-work, which is marked C. D D represent supply-pipes attached to the top ends of the barrels, and communicating with the water fountain or reservoir. Each barrel is provided with a piston, E, which is designed to work water-tight against the inner surfaces like ordinary pistons. These barrels are open at their lower ends, and the pistons are attached to the top ends of the pipes F, which act as piston-rods. These pipes communicate with the upper ends of the barrels by means of orifices G in the pistons, which orifices are provided with valves H, which open downward into the pipes, as seen in Fig. 2. I represents valves, which close against the under sides of the heads of the barrels, and stop the supply-pipes D, when the pistons move upward, and open and admit water on their down movement.

It will be seen that the valves H will close

on the down movement, and open and allow the water above the pistons to be forced into the pipes F, and from thence into the discharge-pipes J.

The pipes F after passing down through the barrels curve upward, as seen in Fig. 2, and enter stationary sleeve-tubes K, in which tubes their ends are packed water-tight, as seen at L.

It will be seen that this end of the tubes F have the same movement in the sleeve-tubes K that their other ends have in the barrels A B.

M is a working-beam, which is connected with the top of the frame C by a joint-pin, N. O is the brake, which is connected with the beam M by means of a socket, as seen at P, or in any other suitable manner.

The pistons with the pipes F are connected with the beam M by means of the connecting-rods R and cross-heads S. The bows T of the pipes F are securely fastened in slots or recesses in the cross-heads, each being operated by a single rod, R, which takes hold of them, as seen at *u*.

By this arrangement the working-pistons act alternately. Where one is forcing water by its upward movement the other is receiving water by its downward movement. The resistance is therefore equalized, and a given quantity of water may be elevated with much greater facility than by the means ordinarily employed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination and arrangement of the barrels A B, pistons E, pipes F and D, cross-heads S, connecting-rods R, working-beam M, and the frame C, operating substantially as and for the purposes herein shown and described.

WILLIAM L. THOMAS.

Witnesses:

WILLIAM H. LEWIS,
BENJAMIN JONES.