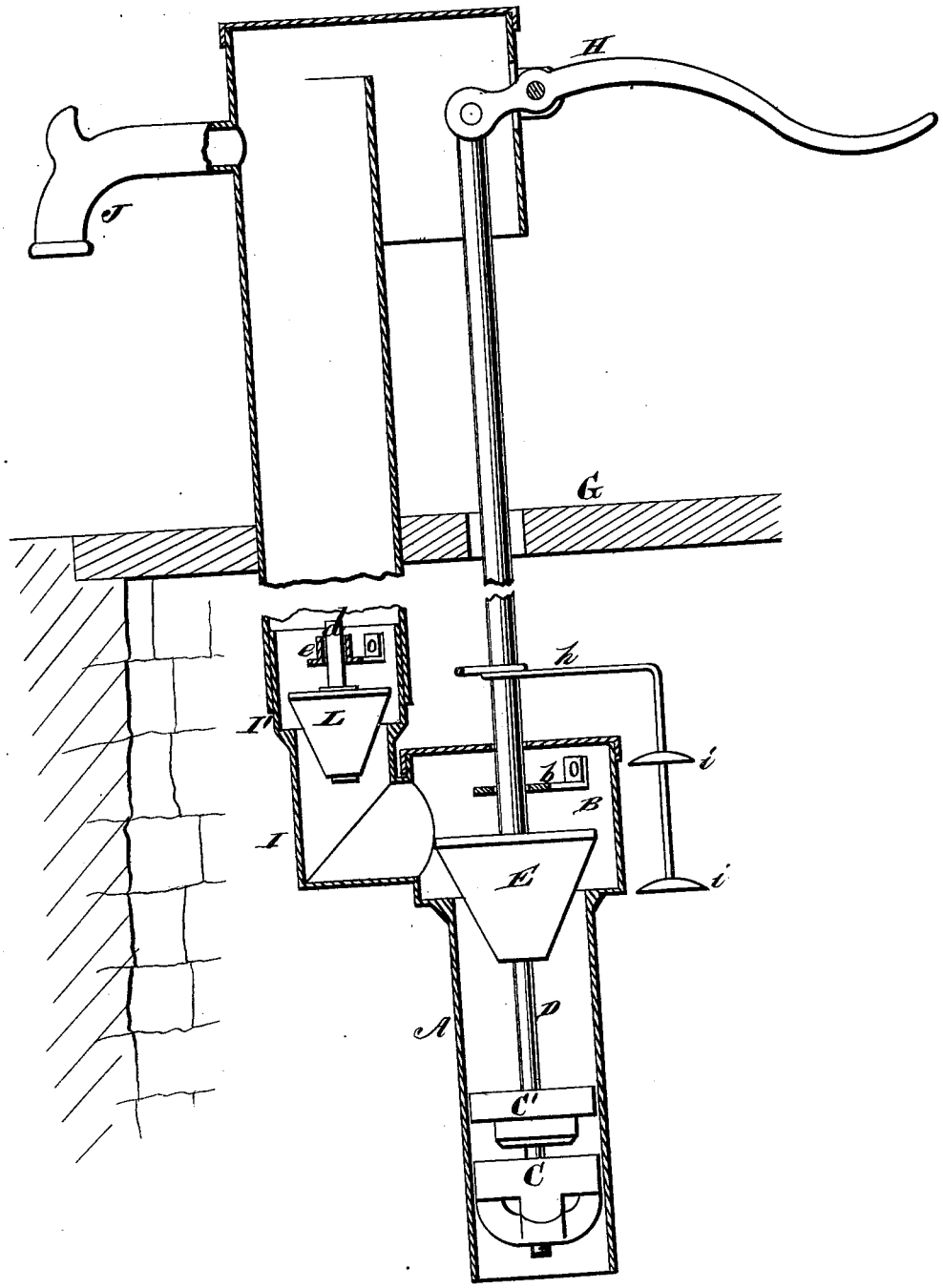
J. M. WILLIS.
Pump.

No. 200,782. Patented Feb. 26, 1878.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN M. WILLIS, OF RICHMOND, KENTUCKY.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **200,782**, dated February 26, 1878; application filed November 24, 1877.

To all whom it may concern:

Be it known that I, JOHN M. WILLIS, of Richmond, in the county of Madison and State of Kentucky, have invented a new and valuable Improvement in 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 drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of a vertical section of my pump.

The nature of my invention consists in the construction and arrangement of a pump, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates my invention.

A represents the pump-cylinder, of any suitable dimensions, opening at the top into an enlarged chamber, B. C is the plunger or piston, working in the cylinder. This plunger is secured on the rod D, and provided with a valve, C′, which surrounds said rod D, and has a limited play on the same. The upward movement of the valve should be limited by a shoulder on the rod D, arranged at any point between the upper surface of said valve and the conical valve E.

In the upper end of the pump-cylinder A is formed a valve-seat for a check-valve, E, which is made in the form of an inverted cone, and is placed loosely on the piston-rod D, so as to move freely thereon.

The valve E moves upward in the chamber B, its upward movement being limited by a cross-bar, *b*, therein. This cross-bar has a central hole, through which the rod D passes, said bar thus forming a guide for the rod.

The rod D extends up through the platform G, and is connected to the pump handle or lever H in the usual manner.

From the side of the chamber B extends the discharge-pipe I to the spout J. In the bottom or lower end of the pipe I is an enlargement or chamber, I′, with valve-seat to receive another check-valve, L. This valve is also made in the form of an inverted cone, and it is provided with a stem, *d*, which passes up through a cross-bar, *e*, which latter thus acts as a guide for the valve, and also limits its upward movement.

On the piston-rod D, above the cylinder A, is secured a wire or cross-bar, *h*, the ends of which are turned downward and provided with disks or cups *i i*, which act as agitators, to stir the water in the well or cistern and prevent the same from stagnating.

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

In a pump, the combination of the cylinder A, with chamber B, rod D, with piston C, having valve C′, the valve E, and discharge-pipe I, with valve L, all substantially as and for the purposes set forth.

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

JOHN M. WILLIS.

Witnesses:

C. E. SMITH,

ROBT. WOODCOCK.