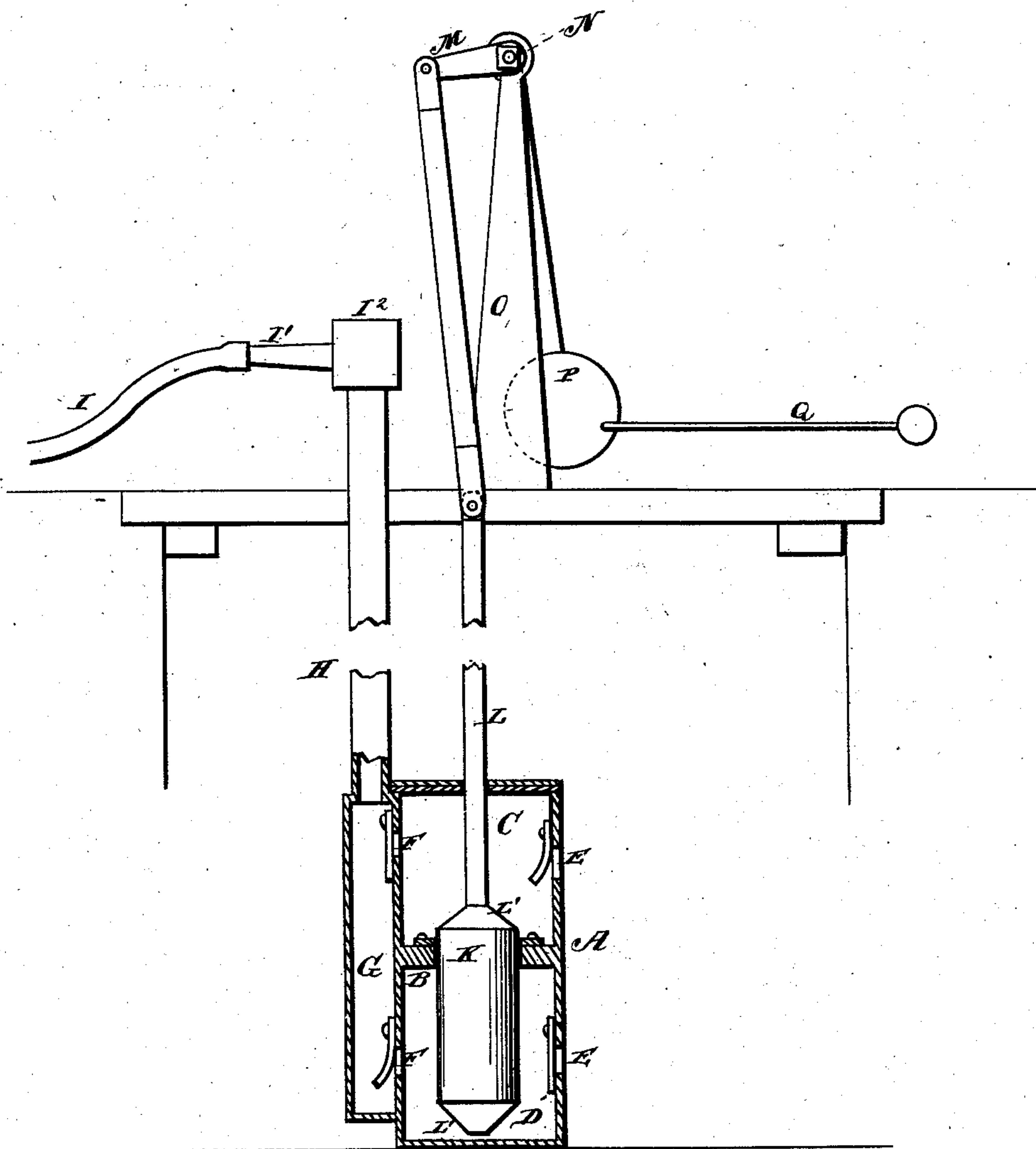


W. H. CLOUD.
Pump-Brake.

No. 224,389.

Patented Feb. 10, 1880.



WITNESSES

Robert Everett,
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UNITED STATES PATENT OFFICE.

WILLIAM H. CLOUD, OF OTSEGO, MICHIGAN.

PUMP-BRAKE.

SPECIFICATION forming part of Letters Patent No. 224,389, dated February 10, 1880.

Application filed November 15, 1879.

To all whom it may concern :

Be it known that I, WILLIAM H. CLOUD, of Otsego, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Pump-Brakes; 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 side elevation, partly in section.

The nature of my present invention relates to force-pumps; and it consists in the construction and arrangement of parts, as fully set forth in the following description, and particularly pointed out in the claim.

In the drawing, A designates the pump-barrel, which is divided by a horizontal partition, B, into the two compartments C and D. Each compartment is provided with an inlet-valve, E, for the inflow of water from the well or cistern, and an outlet-valve, F, for the outflow of water into a passage, G, within a casing arranged alongside of the barrel A.

The water is conducted from the passage G, up through a pipe, H, to the discharge-spout, which, in the present instance, consists of a hose, I, secured to a short pipe or nozzle, I', which projects out from a hollow head, I'', screwed upon the upper end of the pipe H.

K designates a solid piston, which passes through a hole in the partition B, so as to work up and down within the compartments C D, and L designates the piston-rod, which passes through the top plate or covering of the barrel or casing A. The diameter of this piston is less than the area of each compartment within which it works, and its ends L' are made tapering or cone-shaped, so that it will be readily forced or wedged through the water during operation. The piston-rod connects at its upper end with a crank-arm, M, upon a horizontal shaft, N, mounted in a standard, O, and is actuated by a pendulum, P, having a pivoted weighted arm, Q.

The barrel A being submerged in the water and the piston raised, water will flow into the lower compartment through the lower inlet-valve. The piston now being made to descend, water will flow into the upper compartment through the upper inlet-valve, while at the same time the water displaced by the

piston or plunger within the lower compartment will be forced through the lower outlet-valve into the passage G, whence it flows upward to the discharge-spout. As the piston is again raised the water within the upper compartment will be forced out into the passage G, while the lower outlet-valve will close, and water again flow from the well or cistern into the lower compartment through its inlet-valve as before.

It will be observed that as the piston is guided by the partition B there will be little friction attending its movements, save that of the water through which it passes. The arrangement of the pendulum and its pivoted weighted rod affords an exceedingly convenient handle for operating the pump, especially in cases where a long and heavy piston-rod is employed.

I am aware that a counter-balance pivoted to one end of an arm connected to an axle, and a piston-rod for a pump pivoted to the other end of said arm, have been actuated by a pendulum to which impetus has been given by a cord secured to the top of the pendulum-rod above said axle, and this construction I do not claim. In such a construction it requires great exertion to start the pump, and as the cord must necessarily be drawn nearly horizontally, for a portion of its length at least, considerable strain comes upon the frame-work of the machine, which in time will rack it and require repairs to be made.

I attach my weighted rod Q to the ball or bottom of the pendulum, and thereby secure greater leverage, which necessarily lessens the power required to operate the pump, which power is considerably greater in a force-pump than in an ordinary lifting-pump.

Having thus described my improved pump, what I claim, and desire to secure by Letters Patent, is—

In combination with the plunger, plunger-rod, crank-arm, and the shaft upon a standard, the pendulum P, with a weighted rod or arm, Q, pivoted thereto, as shown and set forth.

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

WILLIAM H. CLOUD.

Witnesses:

WILLIAM CROSS,
EDITH E. CROSS.