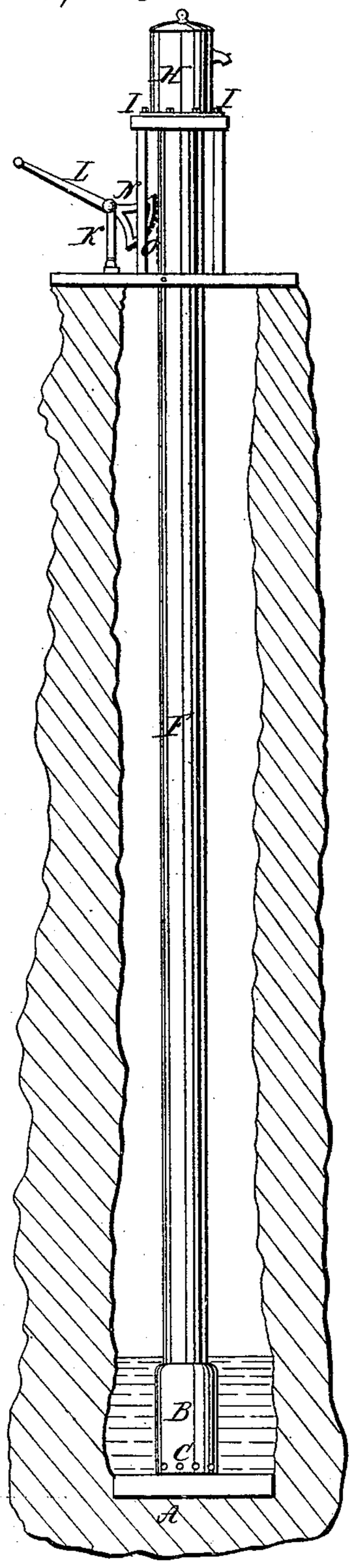
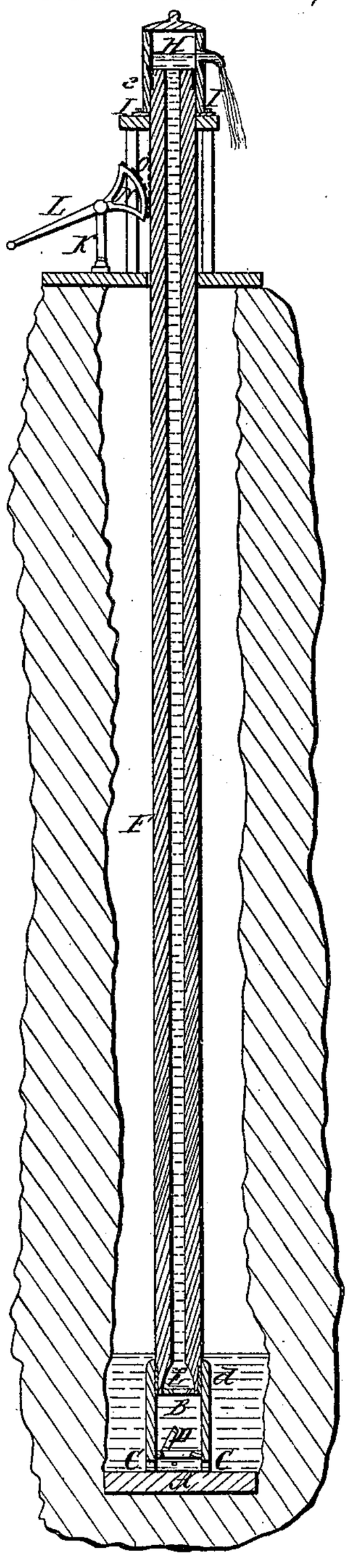
N. Dodge,

Pump Lift,

No. 7,161. Patented Mar. 12, 1850.





UNITED STATES PATENT OFFICE.

NEHEMIAH DODGE, OF NEW YORK, N. Y.

PUMP FOR DEEP WELLS.

Specification of Letters Patent No. 7,161, dated March 12, 1850.

To all whom it may concern:

Be it known that I, NEHEMIAH DODGE, of the city, county, and State of New York, have invented a new and improved pump or addition to the common suction-pump for deep wells in order to overcome two objections, viz:

In raising water in lifting-pumps from very great depths two serious difficulties are encountered. In the first place the friction of the piston against the cylinder or barrel will ordinarily increase with the height of the column of water above it until it becomes so great as to render its motion extremely difficult, so difficult that the whole apparatus with much weight added to it might be raised with less power than would be necessary to move the piston in the cylinder, if the piston and cylinder be constructed and so fitted to each other as to render the friction independent of the height of the column of water they would soon wear and become subject to the same objection as above stated. Again where the water is to be raised from great depths the length of the piston-rod and its consequent flexibility, especially in small pumps with limited power, render the movement of the piston still more difficult, and these with other imperfections incident to the ordinary lifting pump render it practically useless when the water is to be raised from great depths. To obviate these inconveniences I construct my pump in the following manner. As you will perceive by the drawing, A is a flat stone or bottom of the well to which the chamber or cylinder B is fastened. C is the holes for the water to enter. B and D is the valve just above them to prevent the return of the water, and F is a tube or cylinder running from near the bottom of the well to its top, not only fetching the water up but supplying the place of a spear for working the pump. E is a valve placed in or near the bottom of pipe F to prevent the escape of water at its lower end. H is the reservoir on top, stationary, in which the upper end of pipe F works and discharges its water. I is only frame work to hold. H and K is a fulcrum for the lever L, which is used for raising pipe F and water. N is a quarter circle on lever L to raise F perpendicular by means of chains O, and *c* is the leather packing on top of F to prevent the water escaping between F and H, and *d* is the same on F lower end for the same purpose between F and B.

Having fully described my improvements in pumps, what I claim therein as new and desire to secure by Letters Patent is—

The combination of the pump barrel having a valve as described with the water chamber at the bottom and the lever at the top substantially as described so as to raise the water by elevating and depressing the barrel thereby dispensing with the ordinary piston and piston rod and avoiding the inconveniences incident thereto.

NEHEMIAH DODGE.

Witnesses:

THOMAS DUNLAP,

EDWARD ROCHE.