

(No Model.)

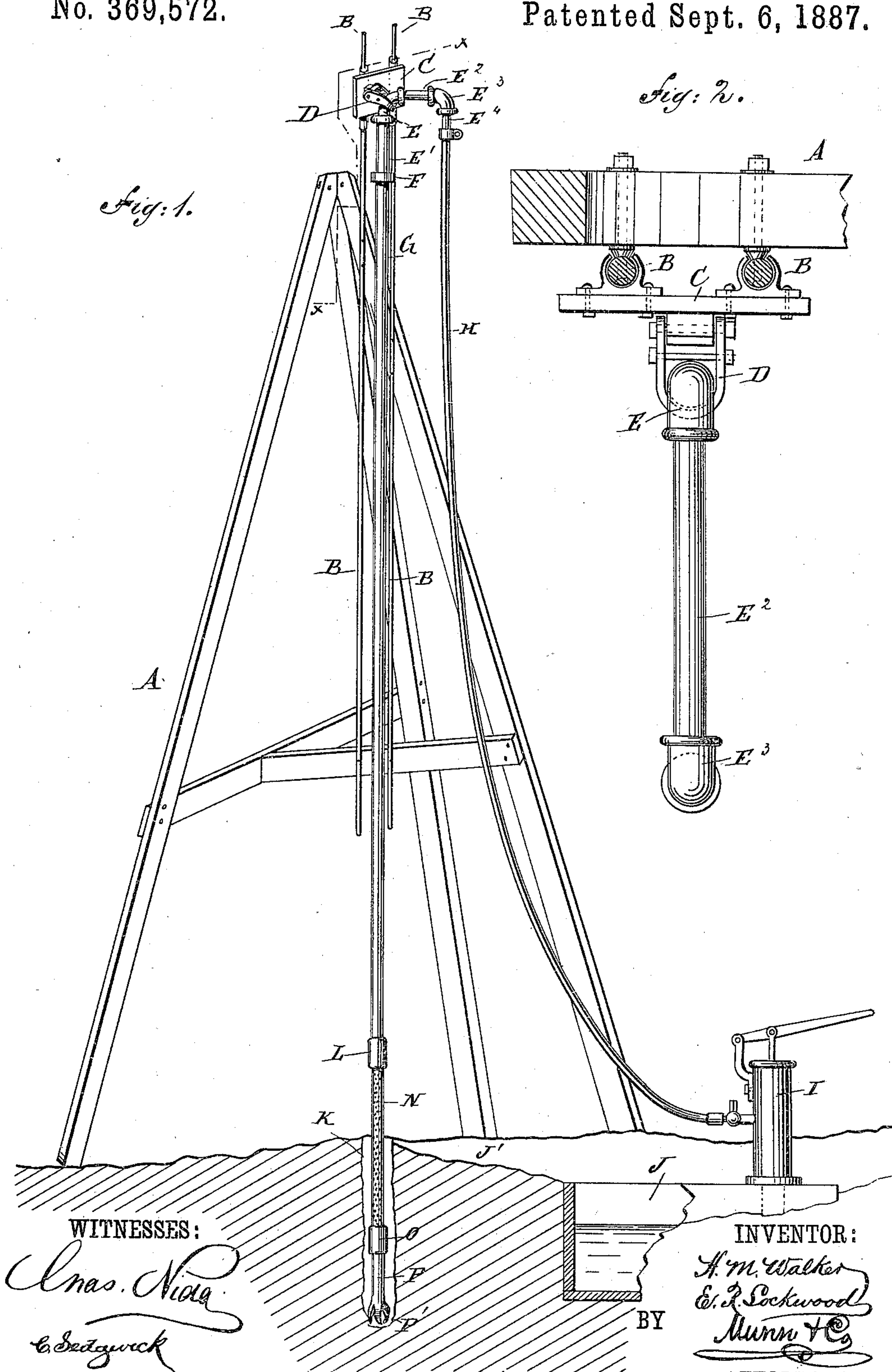
2 Sheets—Sheet 1.

H. M. WALKER & E. R. LOCKWOOD.

WELL SINKING MACHINE.

No. 369,572.

Patented Sept. 6, 1887.



WITNESSES:

Chas. Viola
E. Sedgwick

INVENTOR:

H. M. Walker
E. R. Lockwood
Munn & Co

ATTORNEYS.

(No Model.)

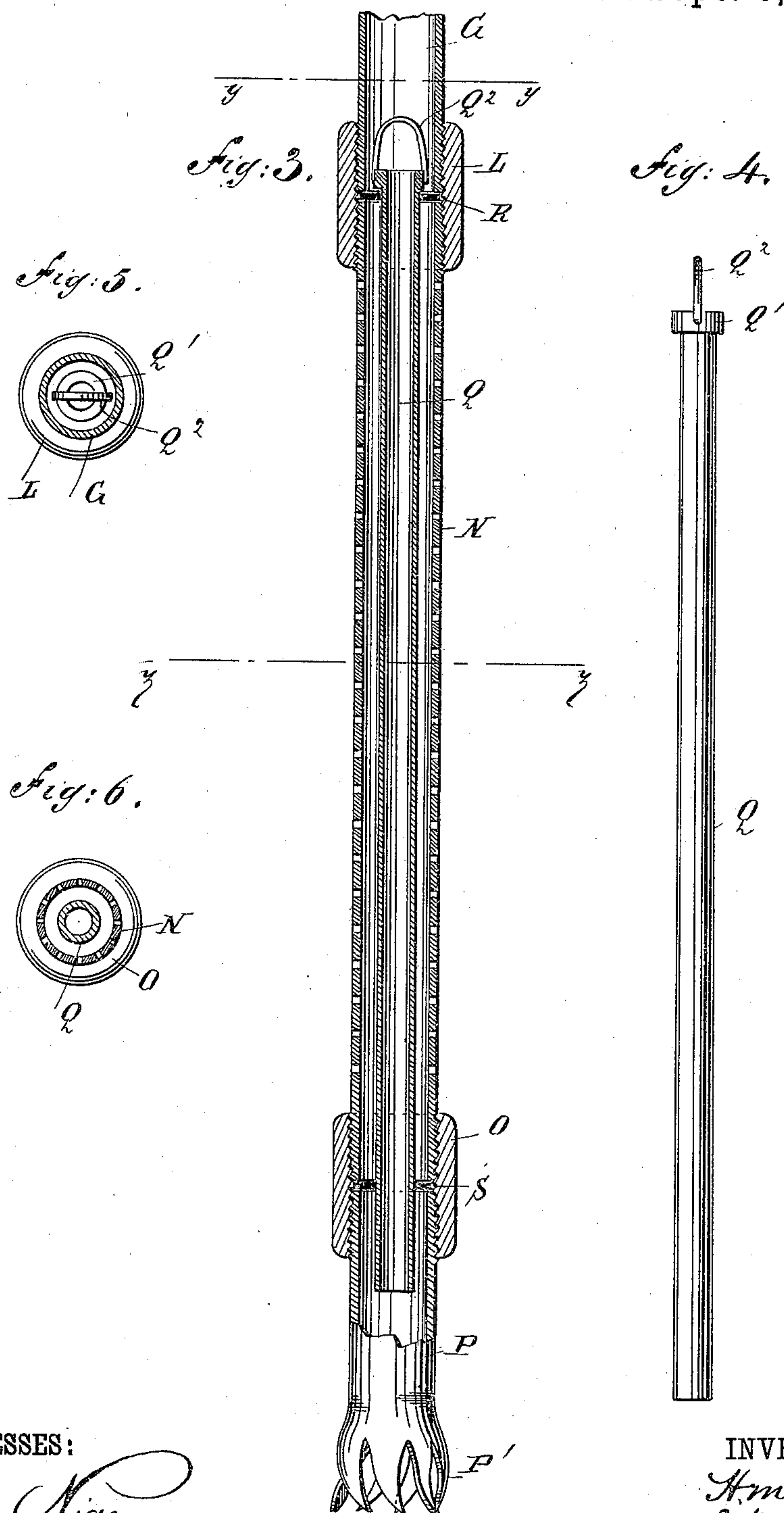
2 Sheets—Sheet 2.

H. M. WALKER & E. R. LOCKWOOD.

WELL SINKING MACHINE.

No. 369,572.

Patented Sept. 6, 1887.



WITNESSES:

Chas. Nida
Co. Sedgwick

INVENTOR:

H. M. Walker
E. R. Lockwood

BY

Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HORATIO M. WALKER AND ELIAS R. LOCKWOOD, OF BLISS, NEBRASKA.

WELL-SINKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 369,572, dated September 6, 1887.

Application filed July 5, 1887. Serial No. 243,470. (No model.)

To all whom it may concern:

Be it known that we, HORATIO M. WALKER and ELIAS R. LOCKWOOD, both of Bliss, in the county of Wheeler and State of Nebraska, have invented a new and Improved Well-Sinking Machine, of which the following is a full, clear, and exact description.

The object of our invention is to provide a new and improved machine for sinking wells which is simple and durable in construction and very effective in operation.

The invention consists in the construction and arrangement of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of our improvement, parts being in section. Fig. 2 is an enlarged sectional plan view of the body part of our improvement on the line xx of Fig. 1. Fig. 3 is an enlarged sectional elevation of the lower part of our improvement. Fig. 4 is a side elevation of the central tube. Fig. 5 is a sectional plan view of part of our improvement on the line yy of Fig. 3, and Fig. 6 is a similar view of the same on the line zz of Fig. 3.

On one of the uprights of a suitably-constructed derrick, A, are secured the vertical guide-rods B B, on which is held to slide freely the plate C, on which is pivoted the clevis D, supporting an elbow, E, which is provided with the downwardly-extending pipe E', having a swivel, F, in which the pipe G is held to turn. On the other end of the elbow E is secured the short pipe E², carrying an elbow, E³, supporting the downwardly-extending pipe E⁴, on which is fastened in any suitable manner the upper end of the tube H, leading downward, and being secured at its lower end to a pump, I, of any approved construction, and fastened on the reservoir J, into which leads the channel J', connecting said reservoir J with the mouth of the well to be sunk.

On the lower end of the pipe G is screwed a sleeve-coupling, L, supporting the upper end of a perforated pipe, N, on which screws, at its lower end, the coupling O, supporting the

hollow drilling-tool P, provided with the usual teeth, P', at its lower end.

In the center of the perforated tube N is held the tube Q, provided at its upper end with an offset, Q', resting on the top of washer R, held in the coupling L between the adjoining ends of the pipe G and the tube N. The lower end of the pipe Q passes through a washer, S, held in the coupling O between the ends of the perforated tube N and the hollow drill-tube P. On the offset Q' of the tube Q is secured the upwardly-extending bail Q², for receiving a hook connected with a chain for removing said pipe Q from the perforated tube N after the well is sunken.

The operation is as follows: The mouth of the well K is somewhat higher than the top of the reservoir J, so that the water passing out through the mouth K passes down the channel J' and into said reservoir J. The operator takes hold of the pipe G with a pair of tongs and turns the pipe, at the same time exerting a downward pressure, so that the teeth P' drill into the ground at the bottom of the well K. Another operator pumps the water in the reservoir J up through the tube H into the elbow E, so that the water passes from the same through the short pipe E' into the tube G, and down the same and through the tube Q into the hollow drilling-tool P, so that the water passes out near the teeth P', and thus assists the drilling-tool to cut easily into the ground, which is softened by the water. It will be seen that the washer R prevents the water passing down the tube G from passing into the perforated tube N, and the water and drillings in the well K are prevented from flowing back into the drilling-tool P by the washer S, so that the water and the drillings pass out through the mouth of the well K into the channel J' and back into the reservoir J. The water is thus used over and over again by being pumped from the reservoir J back into the pipe G, as above described. When the well is sunken to the desired depth—that is, connecting with the water-vein—then the tube Q is withdrawn by a chain passed down the tube G and carrying on its lower end a hook which engages the bail Q², after which the chain and the tube Q are withdrawn. In a similar manner the washers R and S are with-

drawn by said chain and hook, so that the water accumulating in the bottom of the well K can pass into the perforated tube N and the pipe G, and is withdrawn from the same in the usual manner.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In a well-sinking machine, the combination, with a hollow drilling-tool and a perforated tube held on the other end of said hollow drilling-tool, of a pipe connected with the upper end of said perforated tube and a pipe held centrally in said perforated tube, substantially as shown and described.

2. In a well-sinking machine, the combination, with the main pipe, of a perforated tube connected with the lower end of said pipe, a hollow drilling-tool held on the lower end of said perforated tube, washers held at the ends of said perforated tube, and a tube extending centrally in said perforated tube, being supported by said washers, substantially as shown and described.

3. In a well-sinking machine, a reservoir connected with the mouth of the well to be sunk, a pump connected with said reservoir, a tube leading upward from said pump, and a pipe into which said tube discharges, in combination with the main pipe extending downward

from said pipe connected with the tube, a perforated tube connected with the lower end of said main pipe, a hollow drilling-tool connected with the lower end of said perforated tube, washers held at the ends of said perforated tube, and a pipe held centrally in said perforated tube and supported by said washers, substantially as shown and described.

4. In a well-sinking machine, guide-rods held on a derrick, a plate held to slide loosely on said guide-rods, an elbow supported on said plate, a tube discharging into said elbow and leading downward to a pump connected with said tube, and a reservoir forming the supply for said pump and being connected with the mouth of the well to be sunk, in combination with the main pipe connected by a swivel at its upper end with said elbow, a perforated tube connected with the lower end of said main pipe, a drilling-tool connected with the lower end of said perforated tube, washers held at the ends of said perforated tube, and a tube held centrally in said perforated tube and supported by said washers, substantially as shown and described.

HORATIO M. WALKER.
ELIAS R. LOCKWOOD.

Witnesses:

NERON BLISS,
THOMAS M. MORRIS.