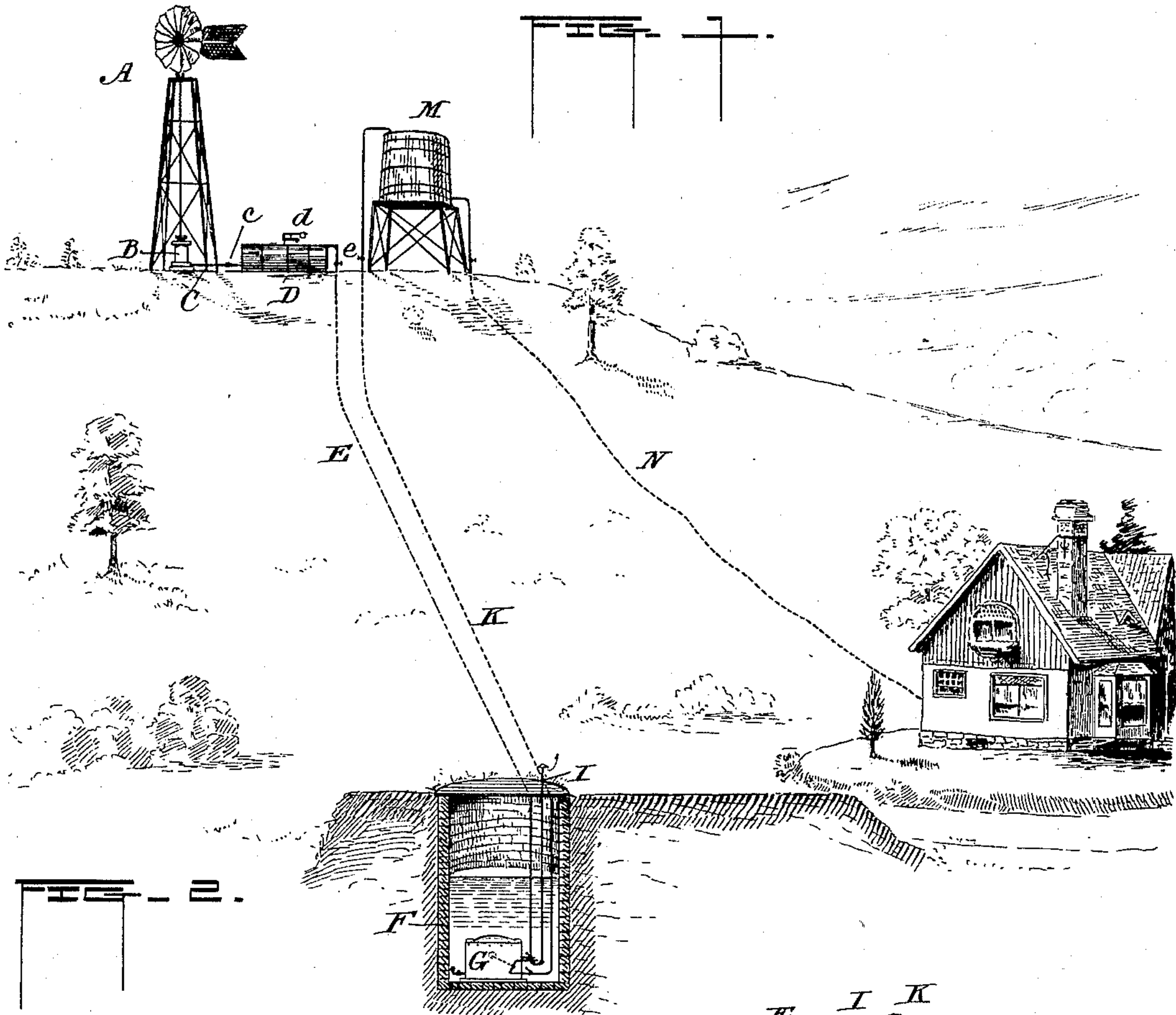


(No Model.)

D. P. WRIGHT.
APPARATUS FOR RAISING WATER.

No. 432,849.

Patented July 22, 1890.



WITNESSES

INVENTOR

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UNITED STATES PATENT OFFICE.

DANIEL PRATT WRIGHT, OF BERKELEY SPRINGS, WEST VIRGINIA.

APPARATUS FOR RAISING WATER.

SPECIFICATION forming part of Letters Patent No. 432,849, dated July 22, 1890.

Application filed November 20, 1889. Serial No. 330,958. (No model.)

To all whom it may concern:

Be it known that I, DANIEL PRATT WRIGHT, a citizen of the United States, residing at Berkeley Springs, in the county of Morgan and State of West Virginia, have invented certain new and useful Improvements in Apparatus for Raising Water; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for elevating water; and it consists in certain combinations of parts, hereinafter set forth, and particularly pointed out in the claims, whereby water is automatically raised from a well or cistern by means of compressed air.

In the drawings, Figure 1 shows the general arrangement of my invention, and Fig. 2 is a view, on an enlarged scale, of the valves.

A windmill A is erected in any suitable situation—such as on a hill-top, as shown—and is arranged to operate an air-compressor, such as a pump B. The compressed air is led through a pipe C, preferably provided with a check-valve c, to a reservoir D. A safety-valve d holds the air at any desired pressure. A pipe E, in which is a stop-valve e, leads the air to the well or cistern F, in which is a submerged chamber G. The air-pipe enters the chamber near the top through a three-way cock H. When the cock is turned to shut off the air, it opens communication between the chamber and an escape-pipe I, leading up out of the well. Connected with the lower part of the chamber is a discharge-pipe K, which is provided with a stop-valve L, and leads up to a water-tank M, suitably located. A supply-pipe N carries the water from the tank to any desired point below.

The valves H and L are automatically operated as follows: Across the chamber G extends a rock-shaft O, which projects through a stuffing-box at one side of the chamber. Inside the chamber is a float P, attached to a long arm on the rock-shaft. On the outside of the chamber the rock-shaft has a T-head o, carrying wrist-pins that engage with the slotted ends of the racks Q, which slide in

guides attached to the outside of the chamber. The racks engage with cog-wheels R on the stems of the valves H and L. The valves are provided with weighted handles h and l, that tend to fall after they have passed the vertical, and so positively open or close the valves.

The operation of my apparatus is as follows: Water enters the chamber G through the strainer of the check-valve S. As the float P rises it rocks the shaft O, and thereby actuates the racks, which gradually turn the valve-stems until the weighted handles fall and throw the valves open. The compressed air now enters the chamber and forces the water out through the pipe K into the tank M, the check-valve S preventing the water from escaping into the well. The float P falls some distance before it begins to operate upon the racks to close the valves, having considerable play by reason of the slots with which the wrist-pin engages. When the handles h l have been turned back to the vertical, they fall the other way and close the valves in the air-pipe E and discharge-pipe K, the valve H at the same time opening the escape-pipe I. The air in the chamber immediately blows off through this pipe, and the water once more enters through the check-valve S. The chamber is thus automatically filled and emptied so long as the supply of compressed air is kept up.

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

The combination, with a source of compressed air, of a well, a chamber submerged therein, an air-pipe E, and an escape-pipe I, connected with the chamber by a three-way cock H, a delivery-pipe K, having valve L, a shaft O, projecting from the chamber, and provided with rock-arms, a float P, adapted to actuate said shaft, racks Q, loosely connected with the rock-arms, and cog-wheels R on the stems of the valves engaging with the racks, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL PRATT WRIGHT.

Witnesses:

LEWIS ALLEN, Jr.,

T. H. B. DAWSON.