(No Model.) 2 Sheets—Sheet 1.

C. E. GROSSE & T. A. WALTHER.

PUMP.

No. 555,214. Patented Feb. 25, 1896.

FIG. 2.

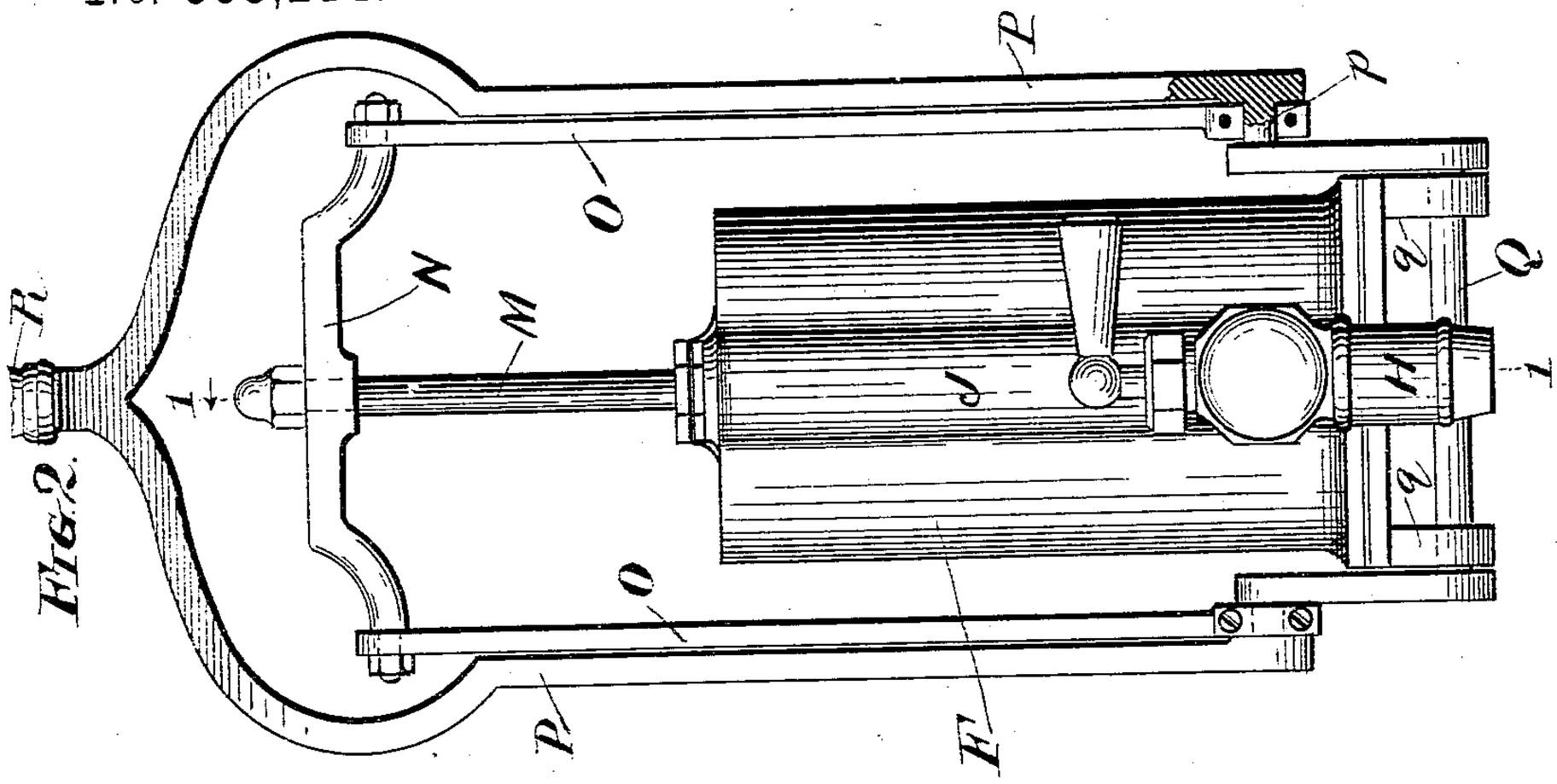
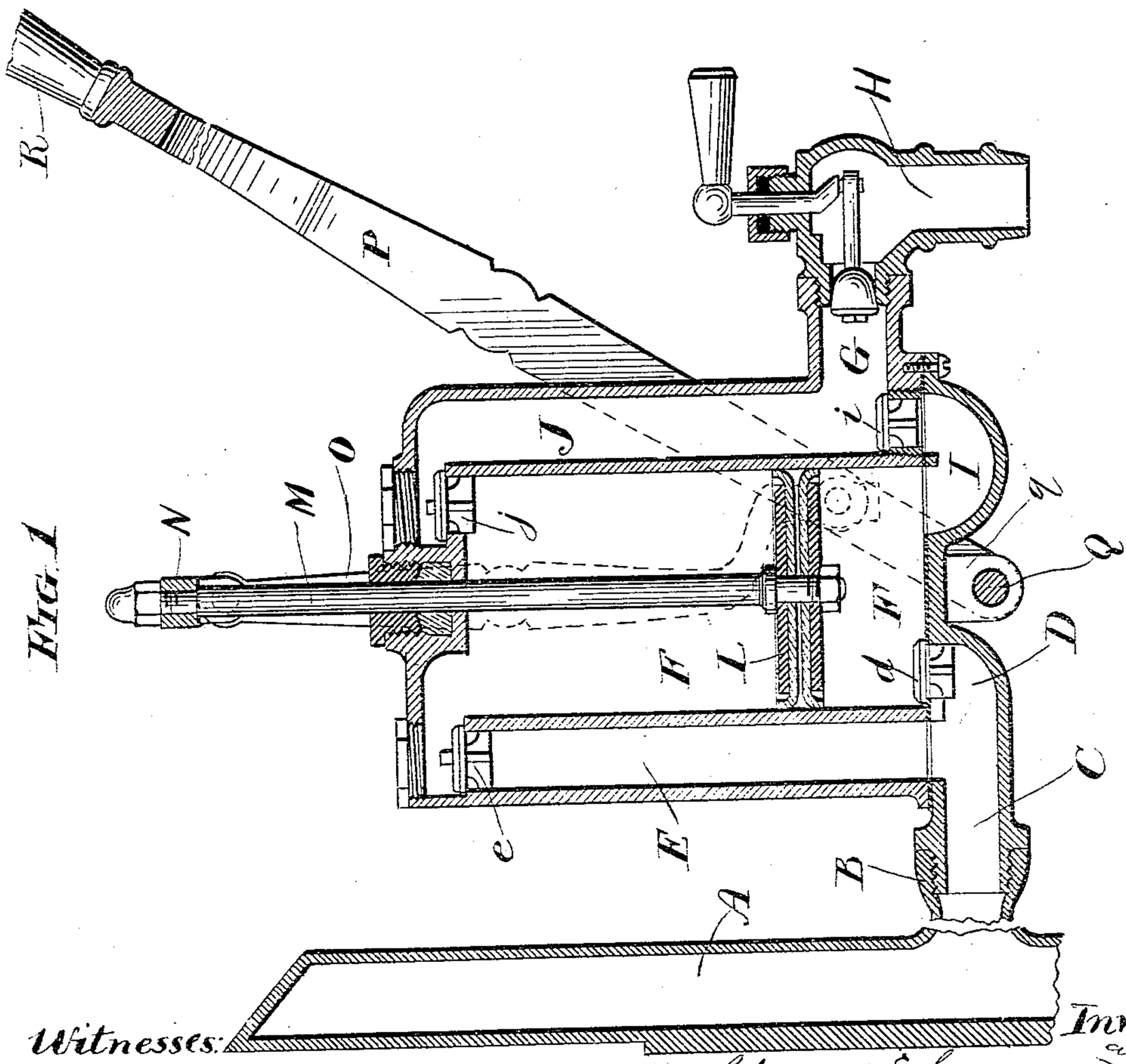


FIG. 1.



Witnesses:
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A. E. Sharon

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By their attys. Gridley & Hopkins

(No Model.) 2 Sheets—Sheet 2.

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FIG. 4.

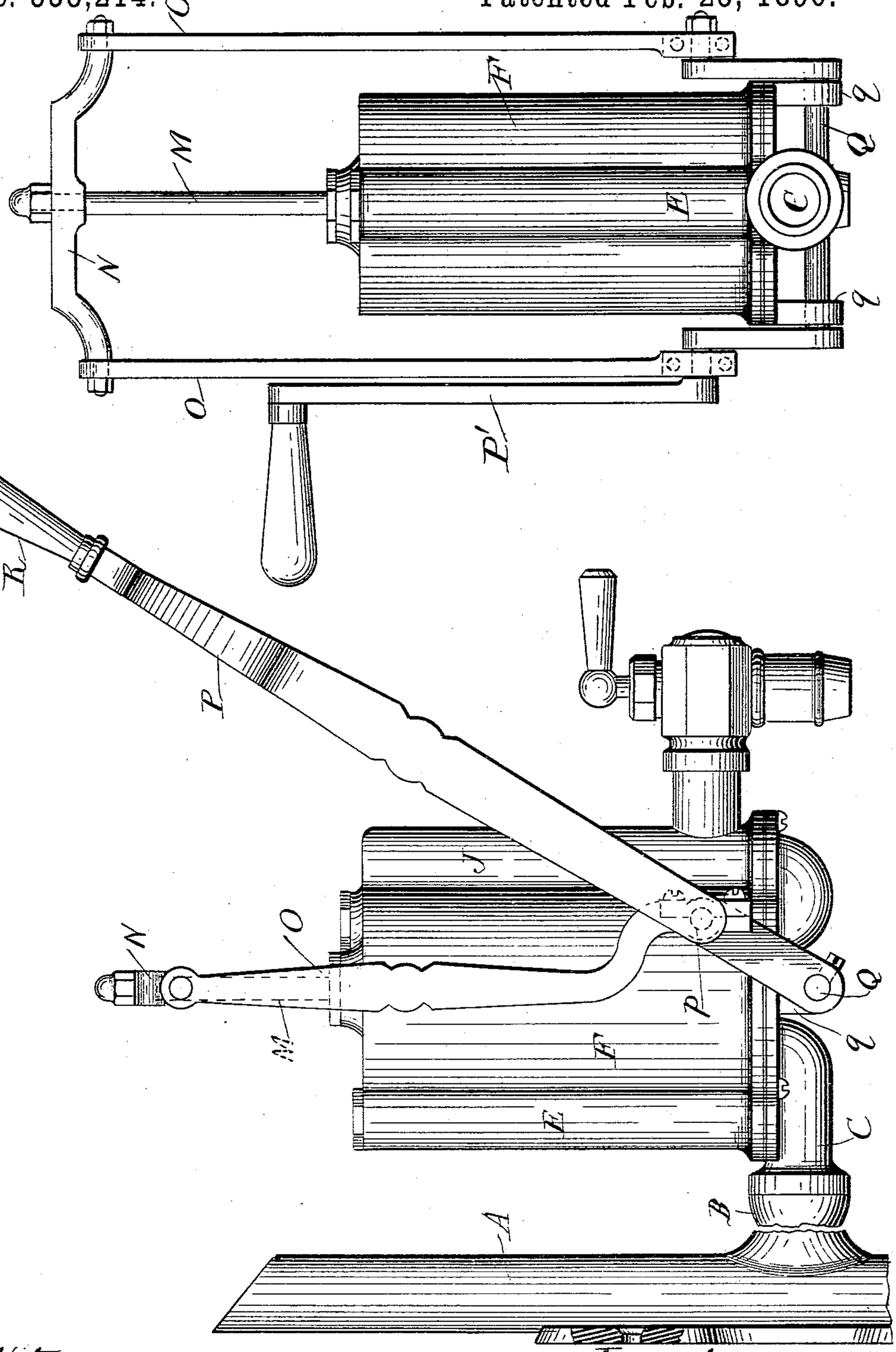

FIG. 3.

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UNITED STATES PATENT OFFICE.

CHARLES E. GROSSE AND THEODORE A. WALTHER, OF CHICAGO, ILLINOIS; SAID GROSSE ASSIGNOR TO THE ILLINOIS MALLEABLE IRON COMPANY, OF SAME PLACE.

PUMP.

SPECIFICATION forming part of Letters Patent No. 555,214, dated February 25, 1896.

Application filed April 6, 1895. Serial No. 544,746. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. GROSSE and THEODORE A. WALTHER, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had to the accompanying drawings, which are made a part hereof, and in which—

Figures 1, 2, and 3 are respectively a vertical section, a front elevation, and a side elevation of a pump embodying the invention in its preferred form, the cutting-plane of Fig. 1 being indicated by the line 1 1, Fig. 2. Fig. 4 is a rear elevation of a pump embodying some features of the invention, the operating mechanism being here shown under a slight modification.

It frequently happens that the pressure in city-mains is not sufficient at all times, and particularly during the busy hours of the day when large quantities of water are being consumed in manufacturing enterprises, to carry the water to the upper floors of buildings.

The present invention relates to that class of pumps that are so constructed that they may be screwed onto the faucet-stub of the pipe after the faucet is removed; and the object of the invention is to provide an improved pump of this class.

The invention consists in the features of novelty that are particularly pointed out in the claim hereinafter.

In the drawings, A represents a water-supply pipe, and B the stub to which a faucet is customarily secured. Our improved pump is constructed with a hollow stub C, which is adapted to be screwed onto this stub B after the removal of the faucet and which constitutes both the means for supporting the pump and the water-inlet thereof. From this inlet branch two passages D and E, the former of which communicates with the lower end and the latter with the upper end of the pump-cylinder F, valves *d* and *e* being arranged in these two branches so as to unseat inward. G is a second hollow stub, which constitutes at once the outlet and the means for attaching a faucet H. Communicating with this hollow stub are two passages I and J, which communicate with the opposite ends of the pump-cylinder, and in these passages are valves *i* and *j*, respectively, that are adapted to unseat outward. The construction and arrangement of these parts are such that whenever the pressure within the pipe A is sufficient upon opening the faucet H water can flow from the pipe A through C, D and E into the cylinder F and from the cylinder through the passages I and J to the outlet G. Thus it will be seen that even while the pump is in place it does not interfere with the discharge of water under city-pressure.

The piston L is secured to a rod M carrying a cross-head N, and to the ends of this cross-head are coupled the upper ends of a pair of links O, the lower ends of which are pivotally connected to cranks *p*, carried by a bifurcated lever P, the lower end of which is suitably fulcrumed to the pump-cylinder. We prefer to effect the fulcruming of this lever by means of a shaft Q, journaled in brackets *q*, preferably formed upon the bottom of the cylinder, and to connect the two arms of the lever to this shaft rigidly, so that the shaft and lever move together. From these points of attachment to the shaft the two arms of the lever pass upward upon opposite sides of the cylinder, outside of the links O and above the cross-head N, where they are brought together and provided with a handle R. This construction is particularly adapted for use over a sink, as it enables the operating-lever to be brought down in front of the pump for action and to be thrown back so as to be entirely out of the way when not in use. We prefer to use the bifurcated operating-lever, such as shown in Figs. 1, 2 and 3; but we desire to have it understood that a single operating-lever may be used, as shown at P′ in Fig. 4. Where a single operating-lever is used, the pump is located at such distance from the wall that the lever may be moved continuously in one direction after the manner of a crank, giving the shaft Q a rotary instead of a rocking movement.

In the drawings we have shown a lever of the second order; but we desire to have it understood that the invention is not limited to a lever of this particular order.

It will be seen that the stub or stem C for

supporting the pump proceeds from the bottom of the pump-cylinder, and this is quite important where the pump is to be located over a sink, because if it proceeded from the upper end of the cylinder it would result in dropping the cylinder so far down into the sink that it would be in the way. It will be seen also that the stub to which the discharge-faucet is attached proceeds from the bottom of the cylinder, and this also is desirable, because if it were located at a higher point it would be too high for convenient use.

In the drawings we have shown our improved pump with a faucet attached to the outlet thereof, this being the way it will be arranged when used as a sink-pump; but when it is desired to do so the pump may be coupled up between two pipe-sections by simply screwing one section into each of the stubs C and G of the pump.

Having thus described our invention, the following is what we claim as new therein and desire to secure by Letters Patent:

In a pump the combination of a cylinder, an induction and an eduction port located at each end of the cylinder, a hollow stub communicating with the induction-port at the lower end of the cylinder and proceeding laterally therefrom so as to form at once the inlet for supplying the induction-port with water and the means for supporting the pump, a faucet communicating with the eduction-port at the lower end of the cylinder, passages connecting the induction-ports at opposite ends of the cylinder, outward-seating valves for preventing water from leaving the cylinder through the induction-ports, passages connecting the eduction-ports at opposite ends of the cylinder, inward-seating valves for preventing the entrance of water into the cylinder through the eduction-ports, a piston located in the cylinder, a piston-rod projecting from one end of the cylinder, a rock-shaft journaled at the other end of the cylinder, a bifurcated lever connected to the ends of the rock-shaft, the branches of said lever being sufficiently far apart to straddle and pass the cylinder, and links connecting the two branches of the lever with the piston-rod, substantially as set forth.

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THEODORE A. WALTHER.

Witnesses:
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