

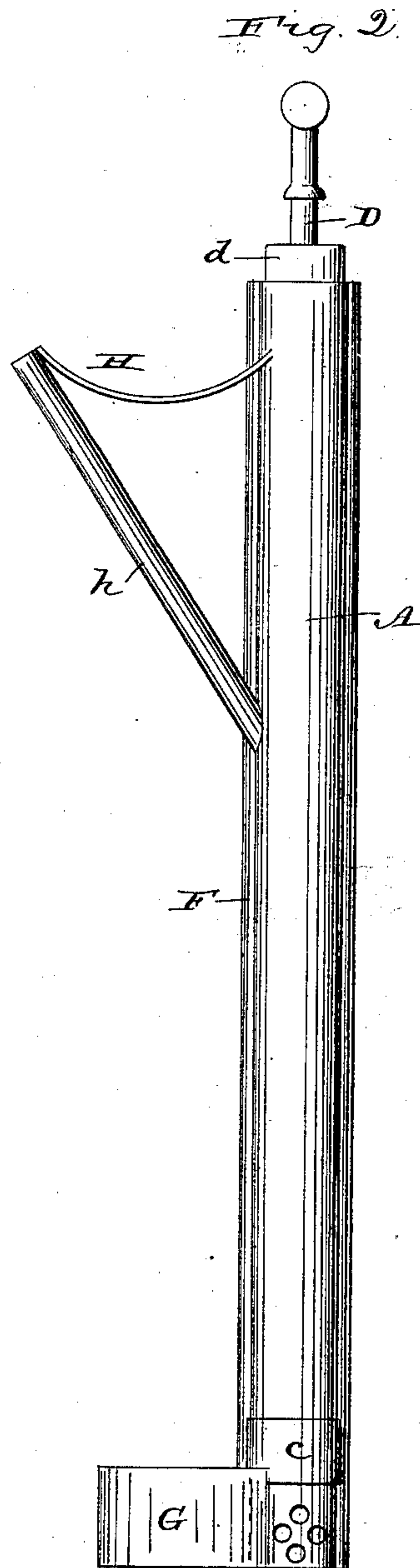
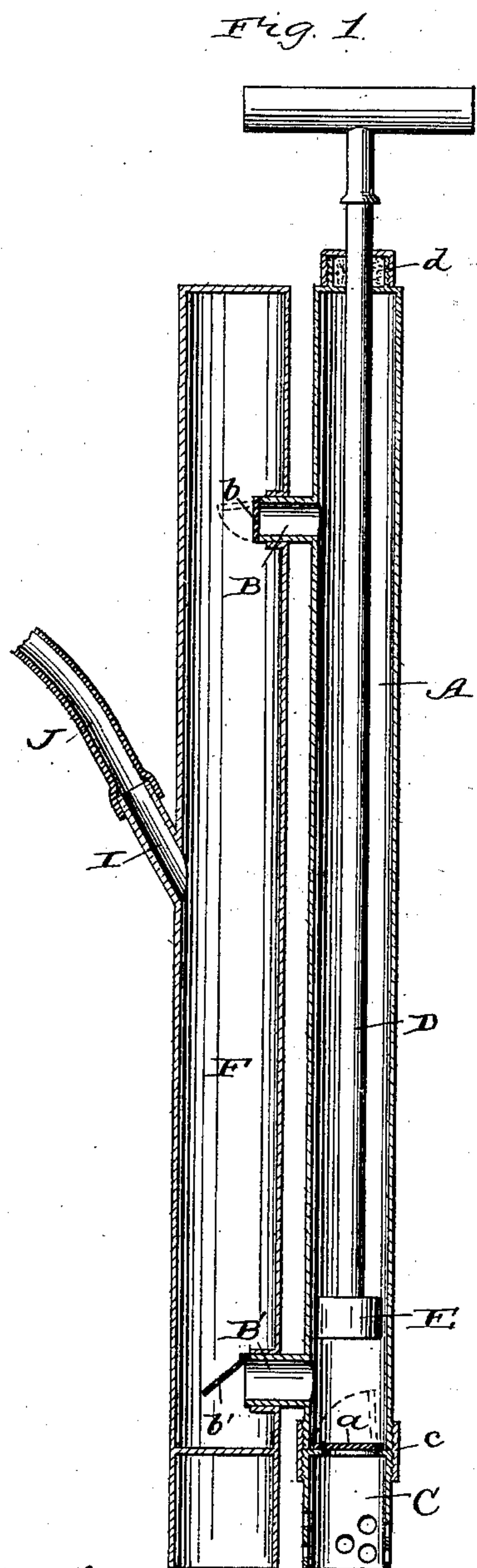
(No Model.)

J. WOCK.

PUMP.

No. 285,093.

Patented Sept. 18, 1883.



Witnesses  
N. N. Law  
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# UNITED STATES PATENT OFFICE.

JOHN WOCK, OF CANTON, OHIO.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 285,093, dated September 18, 1883.

Application filed February 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WOCK, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have  
5 invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a vertical section taken centrally  
10 of the two cylinders of my pump, and Fig. 2 is a side elevation taken at right angles to the view shown in Fig. 1.

The object of my invention is to produce a simple, durable pump with which a practically-continuous stream of water can be  
15 thrown.

A is a cylinder or working-barrel having an interior bore of uniform diameter nearly or quite its entire length, and provided near its  
20 top and bottom with projecting connecting pipes or ducts B B'.

a is a valve near the lower end of cylinder A, opening upward.

C is an extension foot-piece of the barrel A, and secured to the lower end thereof by a threaded thimble, c, or any equivalent there-  
25 for, the foot-piece being perforated or otherwise so constructed as to admit a free passage of water through it to the valve a.

30 D is a piston-rod working through a stuffing-box, d, which is attached to the upper end of cylinder A.

E is a piston attached to the lower end of the piston-rod, and consists by preference of a  
35 solid block of either metal or wood.

One of the objects of the invention is to allow some of the water drawn into the working-barrel to pass from one side of the piston to the other. This is attained, preferably, by  
40 so constructing the piston itself as that it shall allow the passage of the water directly from one side thereof to the other, this being effected in the construction shown by having the external diameter of the piston somewhat less  
45 than that of the cylinder or working-barrel A.

F is a hollow cylinder or receiver of substantially the same length as cylinder A, and preferably of about the same internal diameter or a little larger. The connecting pipes  
50 or ducts B B' open into the cylinder F, and are provided with inwardly-opening valves bb'.

G is a loop or base-piece attached to the lower ends of the cylinders A F, the lower edge of this loop being in substantially the same plane with the lower ends of the cylinders, 55 thus constituting a base adapted to support the pump in an upright position.

H is a knee-rest projecting from the cylinders, and by preference connected to both of them, and further supported by braces h, 60 which extend from the outer ends of the knee-rest to the cylinders.

This pump may be operated as follows: The piston being moved up and down, water will be drawn into the barrel A on the upstrokes, 65 and on the downstrokes a portion of the water will be forced through the lower valve, b', another portion of the water passing up around the piston, until, after a few strokes of the piston have been made, the cylinder A will be  
70 entirely filled with water, so that at each upstroke a portion of it will be forced through the upper tube, B, and into the cylinder F, and out through the discharge-pipe I. Thus at each up and down stroke water will be de- 75 livered through the discharge-pipe, and as the extreme upper end of cylinder F may be made to serve as an air-chamber a practically-continuous stream will be discharged through the hose J, the same as through an 80 ordinary double-acting force-pump.

In making this pump for use in watering gardens or similar purposes, where but very little power is required, I propose to make the cylinders and connecting-pipes of sheet 85 metal, and solder or braze; but I do not wish to be limited to any specific mode of manufacture, nor do I wish to be limited to having the ends of the connecting-pipes B B' project into the cylinder F, but have shown such con- 90 struction as facilitating the application of the valves thereto.

It will be seen that the passage-way by which the water moves from one side of the piston to the other is permanently open, it having no 95 valves or other devices for intermittently or otherwise closing it. This passage-way should have a cross-area of such size relatively to the ducts which lead from the working-barrel to the receiving-chamber that while the piston 100 shall force some of the water through the one or the other of said ducts, other portions of



the water can move through the passage-way from one side of the piston to the other.

What I claim is—

1. The combination of the piston, the working-barrel having a single water-entrance only on one side of the piston, the receiving-chamber, the two ducts between the working-barrel and the receiving-chamber, and a permanently-open passage-way from the lower side of the piston to the upper, through which some of the water can pass when the piston is forced downward.

2. The combination of the working-barrel and the receiver, having two ducts leading from the working-barrel to the receiver, each having a valve, with the piston constructed to

allow a passage by which some of the water can pass directly from the lower side of the piston to the upper, substantially as set forth.

3. In a force-pump, a cylinder having an induction-valve at its lower end and discharge-openings near its upper and lower ends, in combination with a piston of less diameter than the cylinder, and arranged to traverse the space between the discharge-openings, substantially as set forth.

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

JOHN WOCK.

Witnesses:

HENRY FISHER,  
J. P. FAWCETT.