

J. J. WALTON.

Pumps.

No. 145,918.

Patented Dec. 23, 1873.

Fig. 1.

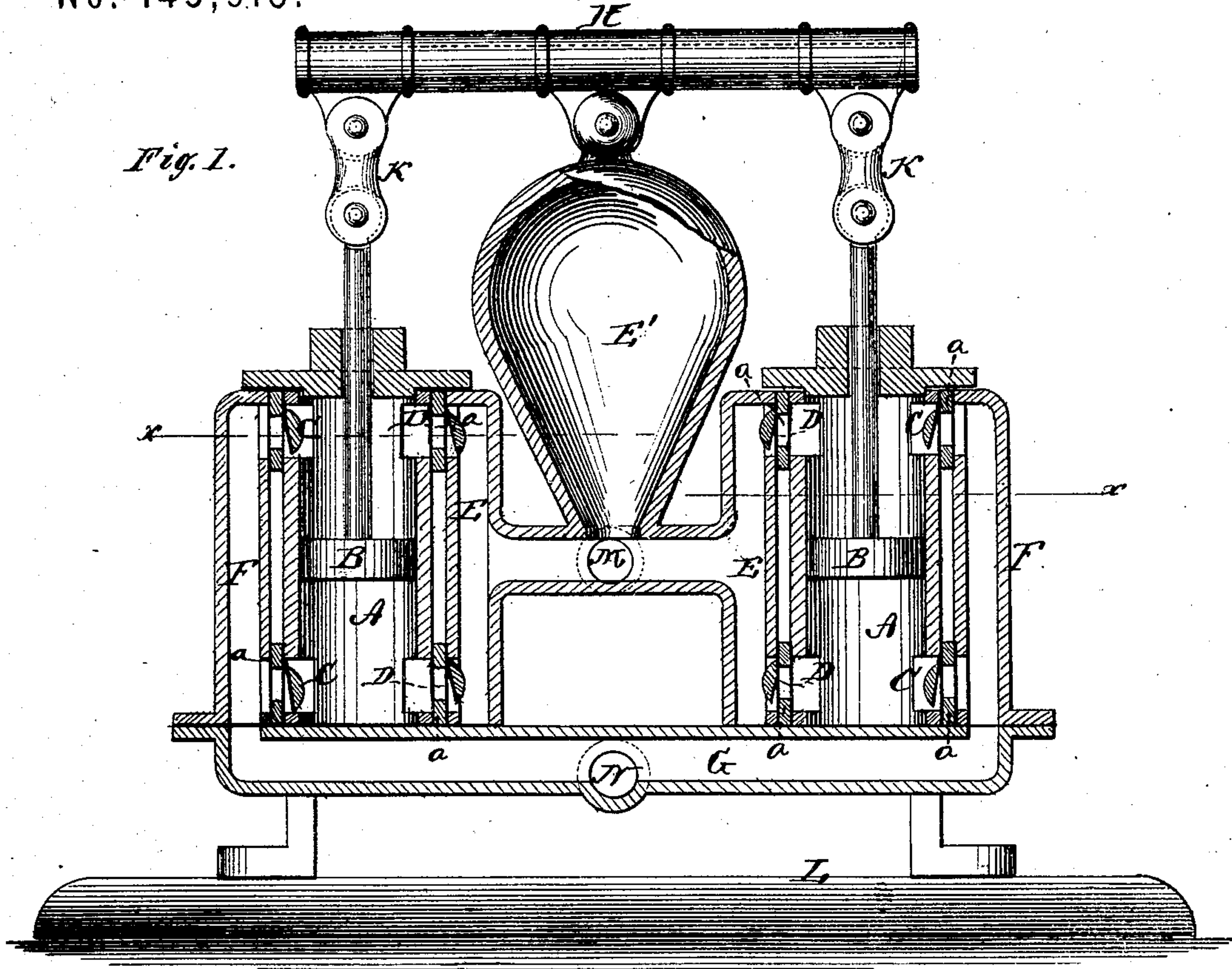
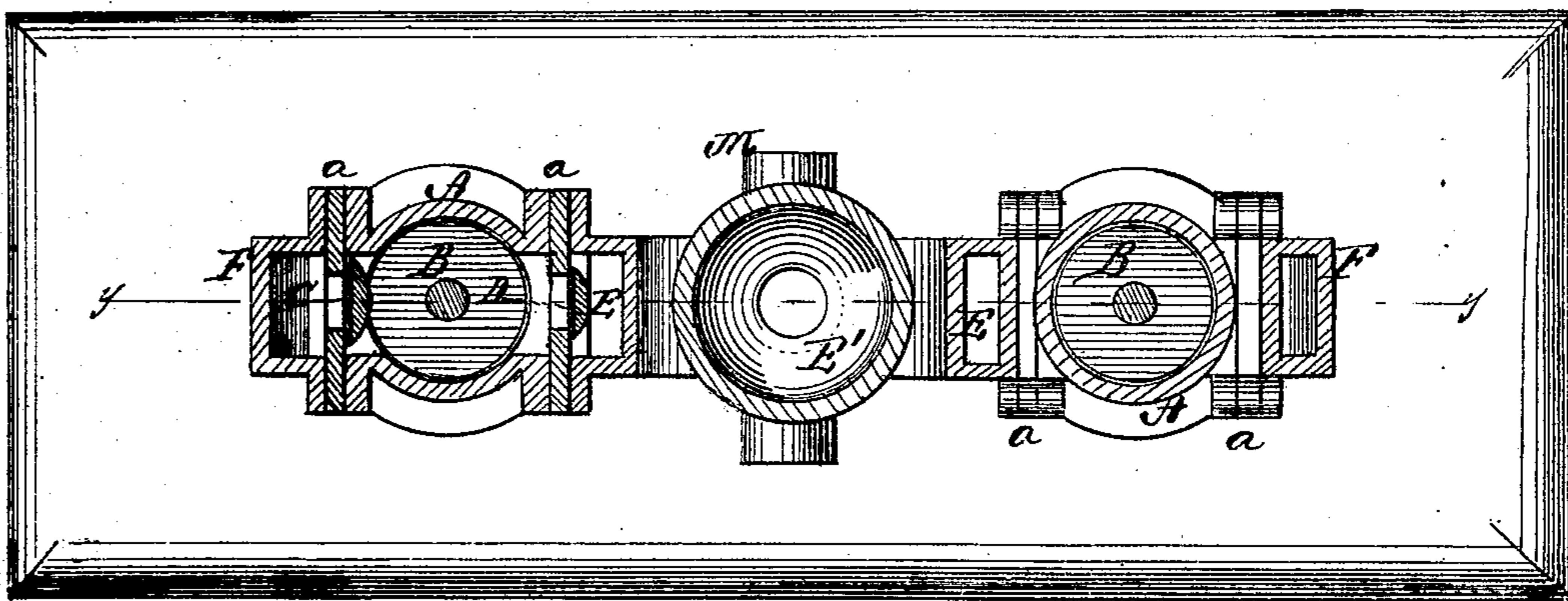


Fig. 2.



WITNESSES:

P. C. Dieterich.

Harry & Scott

INVENTOR:

Joseph J. Walton  
per C. H. Watson & Co.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JOSEPH J. WALTON, OF NEW YORK, N. Y.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **145,918**, dated December 23, 1873; application filed December 4, 1873.

*To all whom it may concern:*

Be it known that I, JOSEPH J. WALTON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a double-acting force-pump, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of my pump through the line *y y*, Fig. 2; and Fig. 2 is a horizontal section of the same through the line *x x*, Fig. 1.

A A represent the two cylinders, constructed in any of the known and usual ways, of any suitable dimensions, and standing upright on and secured to an iron stand, G. B B are the two pistons and rods extending upward and connecting with the brake attachments K K. These pistons may be packed with leather, metal, or other suitable material. Each cylinder A has two injection or suction valves, C C, and two ejection or forcing valves, D D, one of each both at the top and bottom. The injection-valves C C admit the water from the side pipes F F to the cylinders, the upper valves on the down stroke, and the lower valves on the up stroke. The forcing or ejection valves admit the water from the cylinders to the side pipes E E, (the lower valves on the down stroke and the upper valves on the up stroke,) from which side pipes the water finds its way to the discharge-opening M. Each of the valves C and D is fastened to an adjustable plate or seat, *a*, between the cylinders and the pipes E or F, so that they can be readily removed for repairs. The side pipes F F con-

duct the water from the suction-opening N to the injection-valves C C, and into the cylinders. The side pipes E E conduct the water from the cylinders, through the injection-valves D D, to the discharge-opening M. These pipes, with the air-chamber E', are all cast in one piece, rendering it substantial and cheap, and are secured to the cylinders at the openings for the valves D D, and the whole are secured to the iron stand G. This stand is supported upon suitable feet, and serves to connect and secure all the parts. The openings in the side pipes F F are continued in the stand G till they arrive at the suction-opening N; and the whole pump is secured to a wooden block, L. H represents the iron part of the brake, and consists of a hollow tube with attachments K K connecting it with the piston-rods, and it is pivoted in the center to the top of the air-chamber E'.

This pump is extremely simple in construction, cheap to manufacture, and durable and effective in operation, throwing a heavy, steady, and continuous stream of water.

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

1. The combination of the two cylinders A A with an inlet-pipe, F, and outlet-pipe E, for each cylinder, and two valves connecting each pipe with its cylinder, substantially as and for the purposes herein set forth.

2. The combination of the discharge-pipes E E and the air-chamber E', all cast in one piece, for the purposes herein set forth.

3. The combination of the two cylinders A A, the side pipes E E and F F, air-chamber E', stand G, brake H, pistons B B, and connections K K, as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

JOSEPH J. WALTON.

Witnesses:

FRED. W. SEARING,  
J. M. WEBSTER.