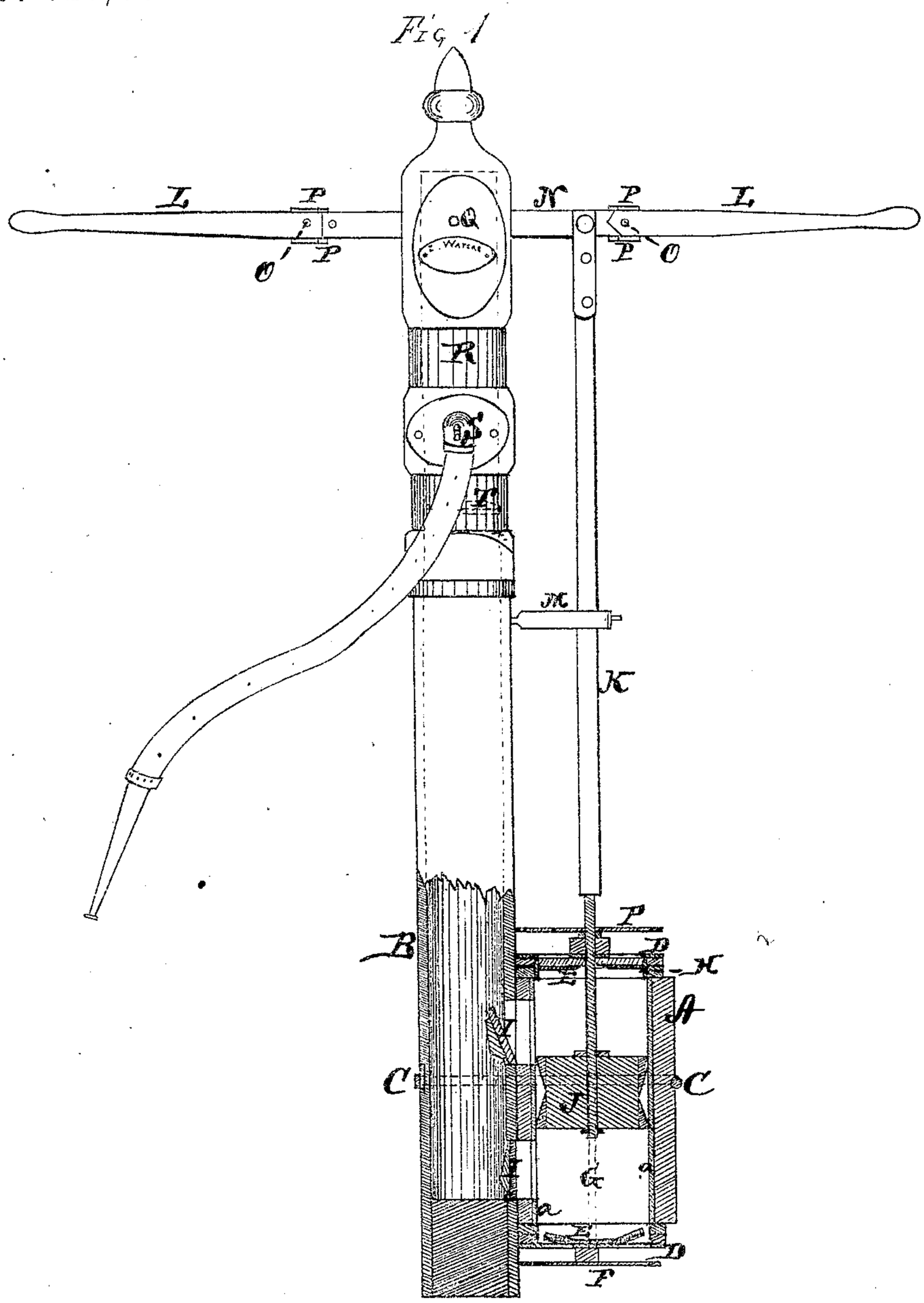
ZERA WATERS & SYLVESTER BRADLEY.

Improvement in Pumps.

No. 121,918. Patented Dec. 12, 1871.

Fig 1



Witnesses:

F. L. Durand

L. L. Ewert.

Inventor

Zera Waters.

Sylvester Bradley.

per Alexander Mason

Attys.

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

121,918

UNITED STATES PATENT OFFICE.

ZERA WATERS AND SYLVESTER BRADLEY, OF BLOOMINGTON, ILLINOIS.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 121,918, dated December 12, 1871.

To all whom it may concern:

Be it known that we, ZERA WATERS and SYLVESTER BRADLEY, of Bloomington, in the county of McLean and in the State of Illinois, have invented certain new and useful Improvements in Pumps; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of our 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 our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, which represents a side view, part in section, of our pump.

A represents a cylinder made of wood and provided with a lining, *a*, of zinc, earthen, or any other suitable material. This cylinder is secured to the pump-stock B by means of a band, C. The cylinder A is provided at each end with a movable head, D, in which is set a double-valve, E, protected by a guard, F; said heads and guards being held firmly in position by connecting-rods G G. The flange of the head may fit either inside or outside the cylinder. The head at the upper end of the cylinder differs in construction from that at the lower end in that it contains a cup, H, for packing of any suitable material to prevent leakage. Between the cylinder and pump-stock are two receiving-valves, I I, located near the upper and lower ends of the cylinder, which valves receive the water into the pump-stock at every movement of the plunger J contained within the cylinder and operated by the piston-rod K. The upper end of this piston-rod is attached to a double handle, L, and the vibration controlled by the guide M. The wooden handles L L are mortised and receive tenons at the ends of an iron bar, N, and are secured by rivets O O and flanges P P. The iron bar N is made much thicker at the fulcrum to receive the bolt Q and to prevent lateral motion of the handle.

The water is forced from the cylinder A through the stalk B into the head R which contains an air-chamber above the spout S through which the water escapes. A supply of water is detained in the head by means of a check-valve, T, which is located in the upper end of the pump-stock or at any convenient place therein.

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

The cylinder A, heads D D, double-valves E E, connecting-rods G G, guards F F, guide M, handles L L, and bar N, when combined and operating substantially as herein described.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 18th day of August, 1871.

ZERA WATERS. [L. S.]
SYLVESTER BRADLEY. [L. S.]

Witnesses:
J. D. GREEN,
THOS. MCNULTA.

(118)