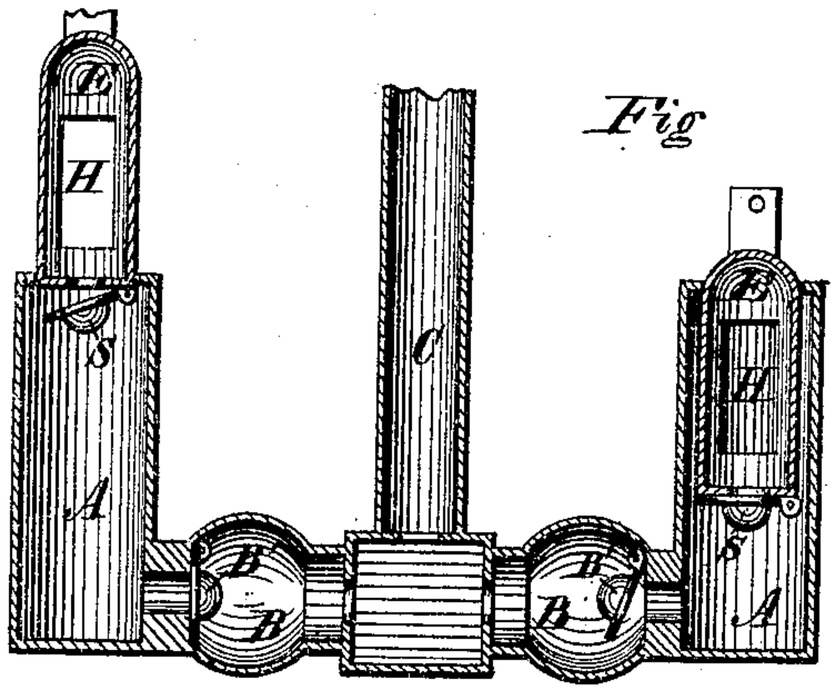
W. W. GREEN.

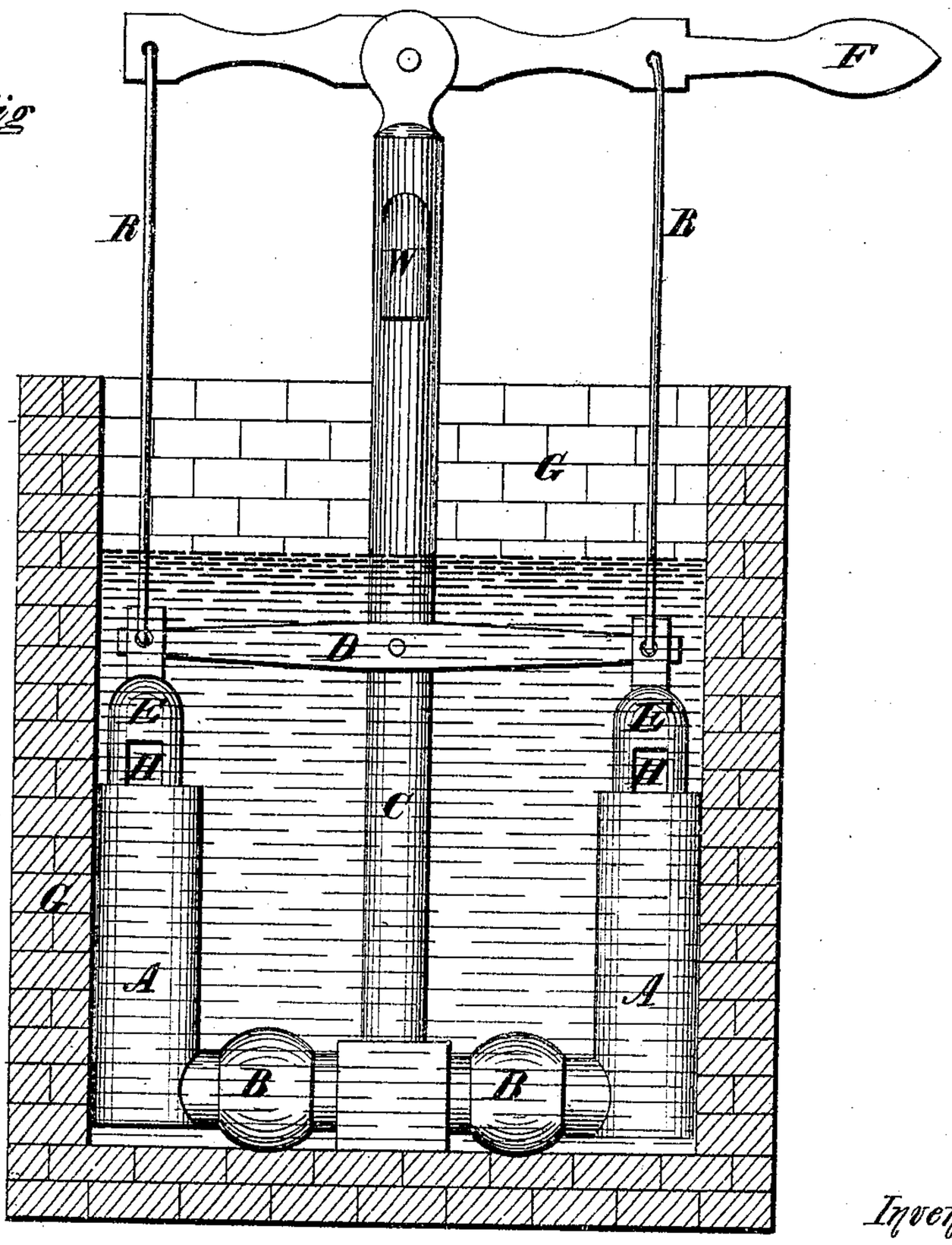
Pumps.

No. 132,462. Patented Oct. 22, 1872.

Fig



Fig



Witnesses.

A. B. Richmond

Ros Reisinger

Inventor.

William Wilson Green

UNITED STATES PATENT OFFICE.

WILLIAM WILSON GREEN, OF CAMBRIDGE, PENNSYLVANIA.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **132,462**, dated October 22, 1872.

To all whom it may concern:

Be it known that I, WILLIAM WILSON GREEN, of Cambridge, in the county of Crawford and State of Pennsylvania, have invented a new and Improved Pump; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and the letters of reference marked thereon.

My invention relates to improvements in that class of force-pumps which operate without suction, and are entirely submerged in the water of the well or reservoir in which they may be placed at any desired depth; my improved pump being more particularly adapted for pumping liquids of different densities, as in the oil regions, from tanks containing light and heavy oils and water, when it is necessary to pump the contents in proper proportion, simultaneously. The invention consists in the peculiar construction and operation of the plungers or pistons, as hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is an elevation of a submerged pump having my improvements. Fig. 2 is a sectional view of a portion of the same, showing the arrangement of the valves.

A A represent two pump cylinders or barrels, open at the top. B B are two horizontal pipes or ducts leading from the bottoms of the cylinders to a vertical discharge-pipe, C, placed between the cylinders B and extending to the top of the well G. E E are two hollow metal or wooden pistons or plungers, the lower ends of which are made cylindrical so as to truly fit the cylinders B, in which they are inserted. The upper portions of these pistons are pierced with vertical ports or slots H H, and each has a projecting neck formed on its upper end. On the bottom of these pistons are valves S S, which open downward. D is a lever or brake pivoted at its center to the discharge-pipe C, and at its ends to the necks or upper ends of the pistons E. F is a brake, pivoted to the top of the pipe C, and connected with the tops of the pistons by rods R R. W is the spout. The horizontal connecting-pipes B B are enlarged about midway between the bottoms of the cylinders and the discharge-pipe, and are provided with valves B′ B′, which are situate at the ends of these enlargements next to the cylinders, and open inwardly toward the discharge-pipe.

With a pump of this construction it will be obvious that by working the brake F the pistons will rise and fall alternately. The water and oil or other fluids pass through the ports H, and down into the cylinders through the valves S on the upward stroke of the pistons. On the downward stroke the contents of the cylinder are forced through the valves B′, and up to the top of the well through the discharge-pipe C.

I am aware that pumps operating on this principle have before been invented; and I do not, therefore, broadly claim a pump of this general construction. My invention lies in the peculiar construction of the pistons with the ports or slots described, for the entrance of the water and oil in proper proportions into the cylinders without any obstruction being offered to its passage.

I therefore claim as my invention—

The piston E, constructed as described, with ports or slots H and valves S, operating in combination with the cylinder A, pipes B and C, valves B′, brake F, and rods R, substantially as and for the purpose specified.

W. WILSON GREEN.

Witnesses:

A. B. RICHMOND,

ROE REISINGER.