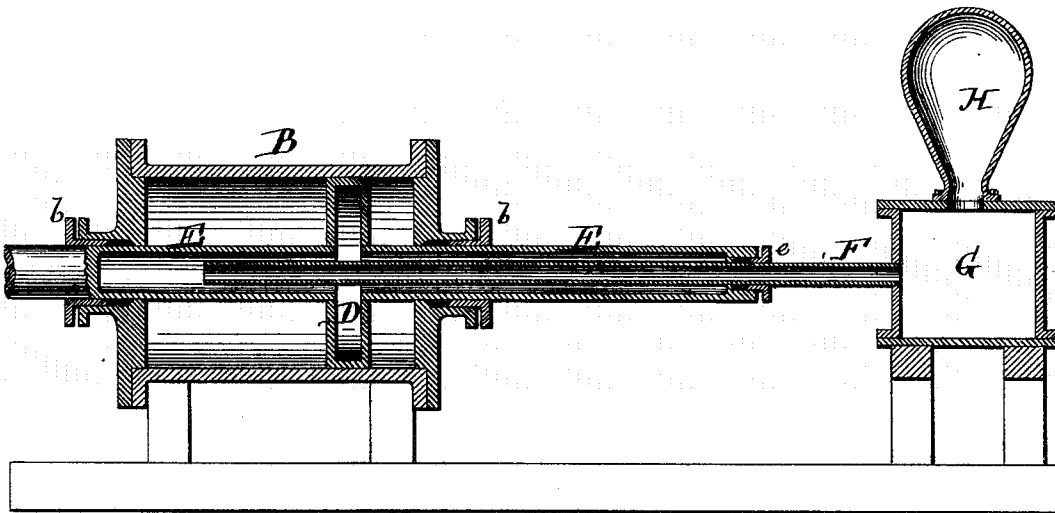


B. T. BABBITT.

AIR-PUMP.

No. 176,265.

Patented April 18, 1876.



Witnesses:
Michael Ryan
Jas. Hayes

B. T. Babbitt
By his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

BENJAMIN T. BABBITT, OF NEW YORK, N. Y.

IMPROVEMENT IN AIR-PUMPS.

Specification forming part of Letters Patent No. **176,265**, dated April 18, 1876; application filed October 6, 1875.

To all whom it may concern :

Be it known that I, BENJAMIN T. BABBITT, of New York, in the county and State of New York, have invented a new and useful Improvement in Air-Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention is to prevent the heating of the piston and rod of an air-pump; and it consists in constructing the piston and rod hollow, and connecting it with a water chamber or reservoir by a pipe entering the piston-rod, whereby the heating is prevented by means of water circulating in the interior of the hollow piston and rod.

The accompanying drawing represents a sectional view of an apparatus constructed according to my invention.

The cylinder B is of any suitable construction, and provided with valves arranged and operating in any suitable manner. The piston D and piston-rod E are made hollow, and attached together by any suitable means. The piston is attached to the rod about midway of its length, so that the ends of said rod work through the opposite ends of the cylinder. The end of the rod which is nearest to or connected with the driving-power is closed, and the opposite end is open and receives a water-supply pipe, by means of which water may be made to circulate in the interior of the piston and rod.

The water-supply pipe F may communicate with any suitable source of supply. It is here shown as connected with a stationary reservoir, G, provided with an air-chamber, H, whereby provision is made for the displacement of the water on the forward stroke of the piston, and the replacement thereof on the backward stroke. The cylinder B is provided with stuffing-boxes *b b* for the piston-rod, and the open end of the piston-rod is provided with a stuffing-box, *e*, for the pipe F. The water chamber or reservoir may be large enough to hold a sufficient quantity of water to prevent the necessity of replenishing it, or it may be provided with inlet and outlet pipes, by means of which it may be kept constantly supplied with cold water.

By this or a similar construction and arrangement of parts, a constant circulation of water is kept up in the interior of the hollow piston and piston-rod, and said parts are thereby prevented from becoming heated.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of a hollow piston and piston-rod and a stationary water-supply pipe entering the piston-rod, substantially as and for the purpose herein described.

B. T. BABBITT.

Witnesses:

JOHN E. DOWLEY,
FRED C. MEYER.