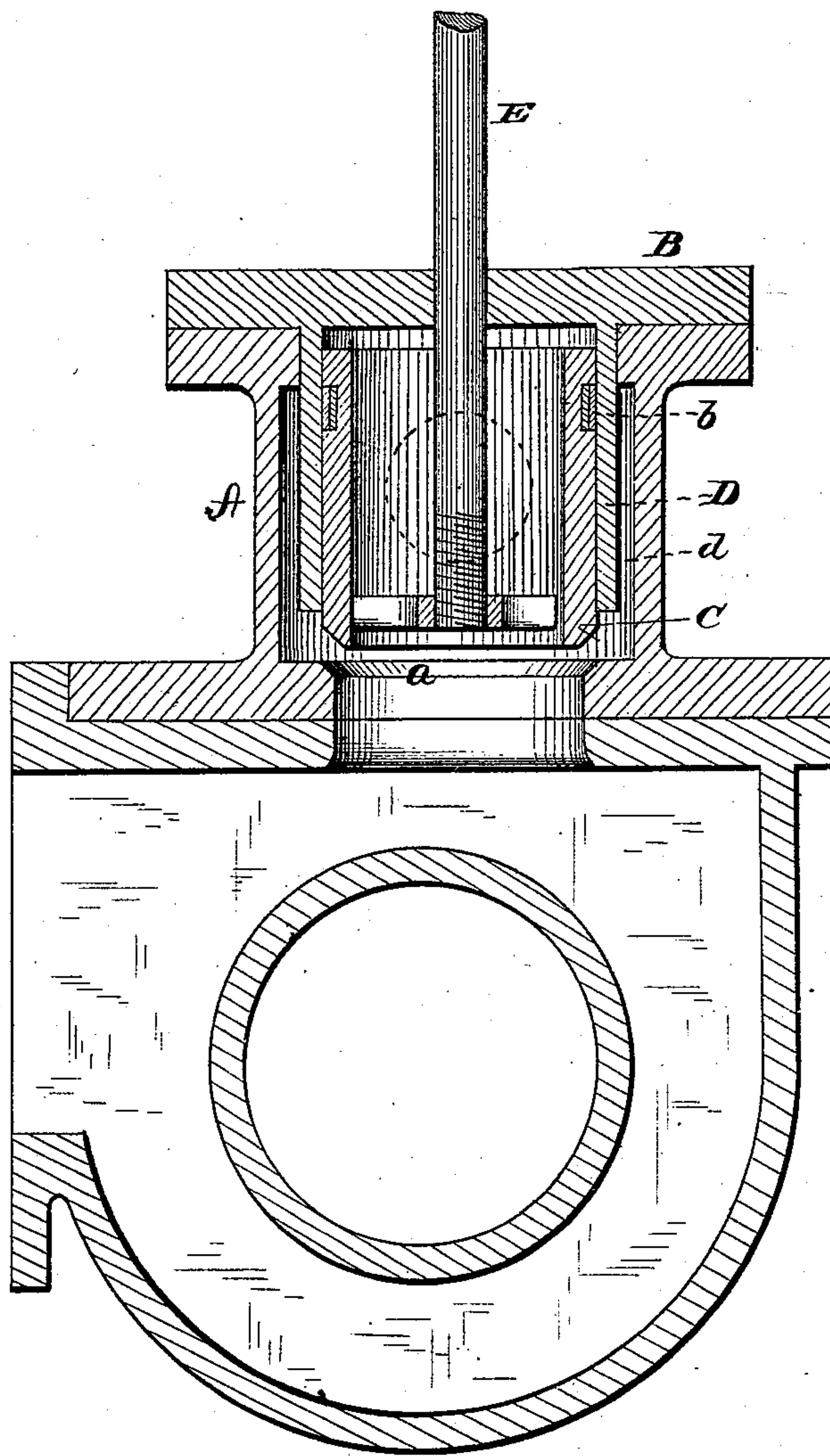


H. F. FRISBIE.  
Puppet-Valve.

No. 204,018.

Patented May 21, 1878.



WITNESSES  
*Frank L. Curand*  
*H. A. Toulmin*

By

INVENTOR.  
*Hamilton F. Frisbie*  
*Alexander Mason*  
Attorneys

# UNITED STATES PATENT OFFICE.

HAMLIN F. FRISBIE, OF DANVILLE, ILLINOIS.

## IMPROVEMENT IN PUPPET-VALVES.

Specification forming part of Letters Patent No. 204,018, dated May 21, 1878; application filed April 15, 1878.

*To all whom it may concern:*

Be it known that I, HAMLIN F. FRISBIE, of Danville, in the county of Vermillion, and in the State of Illinois, have invented certain new and useful Improvements in Puppet-Valves; 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.

My present invention is intended as an improvement on the puppet-valve for which Letters Patent No. 198,098 were granted to me December 11, 1877; and it consists in the construction and arrangement of the valve and chest, 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, which represents a section of my valve, showing the same applied to a steam-cylinder.

A represents the valve-chest, provided with a cover, B, at one end, the other end being open, to lead into the cylinder or other machinery with which the chest is connected. In this open end of the chest A is formed an annular valve-seat, *a*, upon which the valve C is seated. This valve is constructed in cylindrical form, with an interior spider or similar device for attaching the stem E.

The exterior surface of the valve C, at the lower end, is constructed in such a manner as to fit on the valve-seat *a*, while the upper end or body of the valve fits within a cylinder, D, formed on and projecting inward from the chest-cover B, the valve-stem E passing through the center of said cover.

The valve C is formed, near the top, with an exterior circumferential groove, in which are placed packing-rings *b b*, to form a tight joint. A chamber, *d*, is formed entirely around the cylinder D between its outer surface and the inner surface of the chest, which chamber stands full of steam, water, or air, as the case may be.

In my former patent, above referred to, the valve passed around the outside of a solid head, while in the present case it is passed inside a hollow cylinder. By this latter construction the steam passes inside of the valve when up off the seat. The steam, water, or air, standing all over the same, makes a perfect balance-valve.

When the valve is up off its seat the steam goes up through and stands all over the valve; and when the valve is seated the steam stands all around the outside, but not all over it, because it cannot get on the seat and above the packing-rings. The valve in this case acts as a piston.

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

The cylindrical valve C, with exterior packing-rings *b b*, and fitting within a cylinder, D, formed on the valve-chest cover B, in combination with the chest A, seat *a*, and chamber *d*, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of March, 1878.

H. F. FRISBIE.

Witnesses:

GEO. A. WALTERS,  
GEO. M. FORSTER.