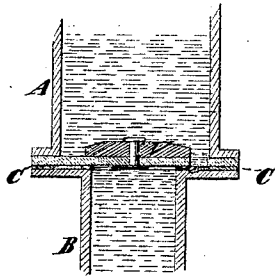


A. P. BROWN.  
Improvement in Pumps.

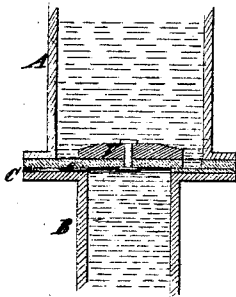
No. 114,403.

Patented May 2, 1871.

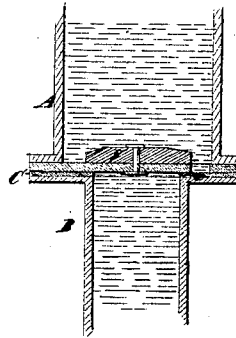
*Fig. 1.*



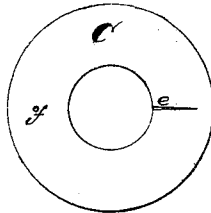
*Fig. 2.*



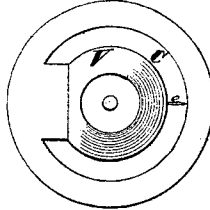
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses.  
*Geo. Haynes*  
*W. J. Tuckey*

*Addison P. Brown*

# United States Patent Office.

ADDISON P. BROWN, OF NEW YORK, N. Y.\*

Letters Patent No. 114,403, dated May 2, 1871.

## IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, ADDISON P. BROWN, of the city, county, and State of New York, have invented a new and useful Anti-Freezing Attachment for Cistern and other Pumps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing forming a part of this specification.

This invention consists in a reversible annular plate, which is interposed between the supply-pipe of the pump and the valve, and forms the seat of the latter, and has formed in it a groove extending from its inner circumference nearly to its outer.

In winter, when the water in the pump is liable to freeze up and prevent the operation of the pump, the groove is arranged opposite the hinge of the valve and forms a channel, through which any water which may remain in the pump after pumping will run back into the supply-pipe and thereby prevent it from freezing in the pump.

In summer time the plate is reversed, so that the groove has no effect on the operation of the pump.

Instead of the groove I may find it more convenient to form a hole in the plate, which shall serve the same end by communicating with the interior of the supply-pipe by a passage formed in its flange, and may be reversed in the same manner.

In the accompanying drawing—

Figure 1 is a central vertical section of a pump having my invention applied and showing it in use;

Figure 2 is a similar view, showing the groove turned round under the hinge, which position it occupies when not in use; and

Figure 3 is a similar view, showing the plate, instead of being turned around, as being turned upside down, which also renders it useless.

Figure 4 is a view of the plate detached from the pump, and

Figure 5 is a plan view of the valve and plate.

Similar letters of reference indicate corresponding parts in all the figures.

A represents the pump;

B, the supply-pipe;  
V, the valve thereof; and  
C, the reversible plate which constitutes my invention.

This plate is of annular form, and is interposed between the valve and supply-pipe, and its inner circumference is of the same radius as the supply-pipe B.

Formed on the plate is a radial groove, *e*, which extends from the inner circumference nearly to the outer.

In cold weather, when the water in pumps is apt to freeze and prevent their working, the plate is arranged so that its grooved side is uppermost and the groove is opposite the hinge of the valve, as shown in figs. 1 and 5. When in this position, as soon as the operation of the pump ceases, all the water left in the pump will run back through the groove into the supply-pipe and back into the cistern or well, with which the pump is in communication.

In summer the plate is reversed either by turning it round to bring the groove under the hinge of the valve, as shown in fig. 2, or by turning it upside down, as represented in fig. 3, in either of which positions it will have no effect whatever upon the operation of the pump.

Instead of the groove *e* I may provide the plate with a hole, *f*, represented opposite the groove in fig. 4, and this will necessitate the formation of a passage through or on the flange of the supply-pipe. When the plate is thus made it can only be reversed by turning it round so that the hole is covered by the hinge of the valve.

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

The reversible plate C, in combination with the valve V and supply-pipe, substantially as and for the purpose herein described.

ADDISON P. BROWN.

Witnesses:

FRED. HAYNES,  
R. E. RABEAU.

\* Assignor to W. B. Douglass of Middletown, Ct.