No. 674,004. Patented May 14, 1901.

O. R. HESS.

VALVE FOR FLUSHING TANKS.

(Application filed Mar. 20, 1901.)

(No Model.)

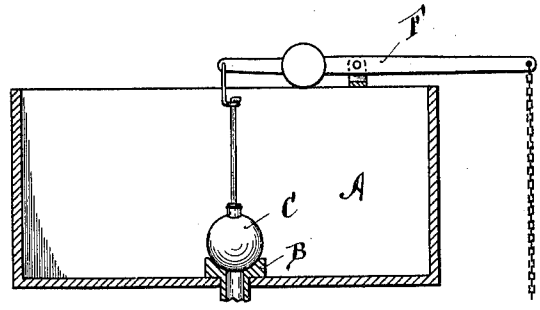


Fig. 1.

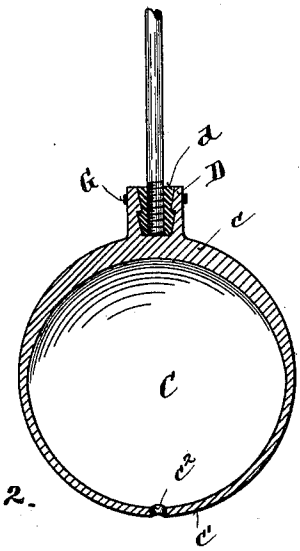


Fig. 2.

Inventor

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Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OSCAR R. HESS, OF CINCINNATI, OHIO.

VALVE FOR FLUSHING-TANKS.

SPECIFICATION forming part of Letters Patent No. 674,004, dated May 14, 1901.

Application filed March 20, 1901. Serial No. 52,093. (No model.)

To all whom it may concern:

Be it known that I, OSCAR R. HESS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Valves for Flushing-Tanks, of which the following is a specification.

My invention relates to an improved flexible or elastic spherical valve.

The principal object of my invention is to provide a spherical hollow valve with greater thickness of material at its upper portion, from which the neck for suspending the same in position projects, and tapering toward its lower or suction portion, thus rendering the same more durable without adding to its cost.

The features of my invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central section of a reservoir, showing valve in its seated position. Fig. 2 is a central vertical section of my improved valve.

This form of valve is particularly adapted for use in flushing-tanks of water-closets or the like, in which after the valve has been unseated it will float on the water and recede into position as the tank empties. The tank being provided with a small outlet, forming also the seat for the valve, causes a whirling action of the water while it is being emptied, creating a vacuum between the valve and its seat and which after the water has flowed out will securely seal the same.

It is very essential in regard to the practicability that the valve be very light to enable it to float on the water after it has been lifted from its seat and also have the proper elasticity for providing suitable suction to properly seal the outlet. Thus to bring about this desired result valves have heretofore been constructed hollow and very thin in cross-section. This greatly weakened the same at the neck projection, and as the suction causes the valve to very tightly seal itself to the seat some considerable pressure is required to pull it therefrom and which has a tendency in a very short period of time to tear the neck from the body portion of the valve. By my improved means I overcome this objection, retaining the proper elasticity and lightness, thus materially extending the life of the valve.

A represents a tank or reservoir having an outlet B, forming a seat for the valve C.

C represents a spherical hollow valve, the upper portion *c* being of greater thickness than the lower portion *c'*, tapering toward the same. This permits the lower portion to be very thin and give the proper elasticity, while the upper portion *c* is provided the proper rigidity for supporting the neck D and sustaining the strain applied thereto when the valve is lifted from the seat.

c^2 represents an orifice in the lower portion *c'* of the valve. This orifice when the valve is seated is directly in the center of the outlet, permitting the water which may get into the valve to flow out and not interfere with its operation. If the valve were closed, as heretofore constructed, water in the course of time soaks through the same, weighting the valve, preventing its floating, and having a tendency, further, of pulling it oval-shaped, defeating its operation.

D represents a neck projecting from the upper portion *c* of the valve. It is provided with a spud *d*, the outer surface of which is notched for suitably securing the same within the neck. This spud is provided with a screw-threaded orifice for attaching a for suspending the valve from the lever F.

G represents a ring or band around the neck to prevent the same from spreading and allow the spud to be pulled out.

Having described my invention, I claim—

1. An elastic hollow spherical valve provided with greater thickness of material at its upper portion and tapering toward the lower portion thereof, substantially as specified.

2. An elastic hollow spherical valve having a neck for suspending the same, said valve being provided with greater thickness of material at its upper portion and tapering toward the lower portion thereof, substantially as specified.

3. An elastic hollow spherical valve provided with greater thickness of material at its upper portion and tapering toward the lower portion thereof, a neck projecting from said upper portion and an orifice at the lower portion thereof, substantially as specified.

In testimony whereof I have hereunto set my hand.

OSCAR R. HESS.

Witnesses:
CHAS. H. HESS,
CATHERINE C. CORDERS.