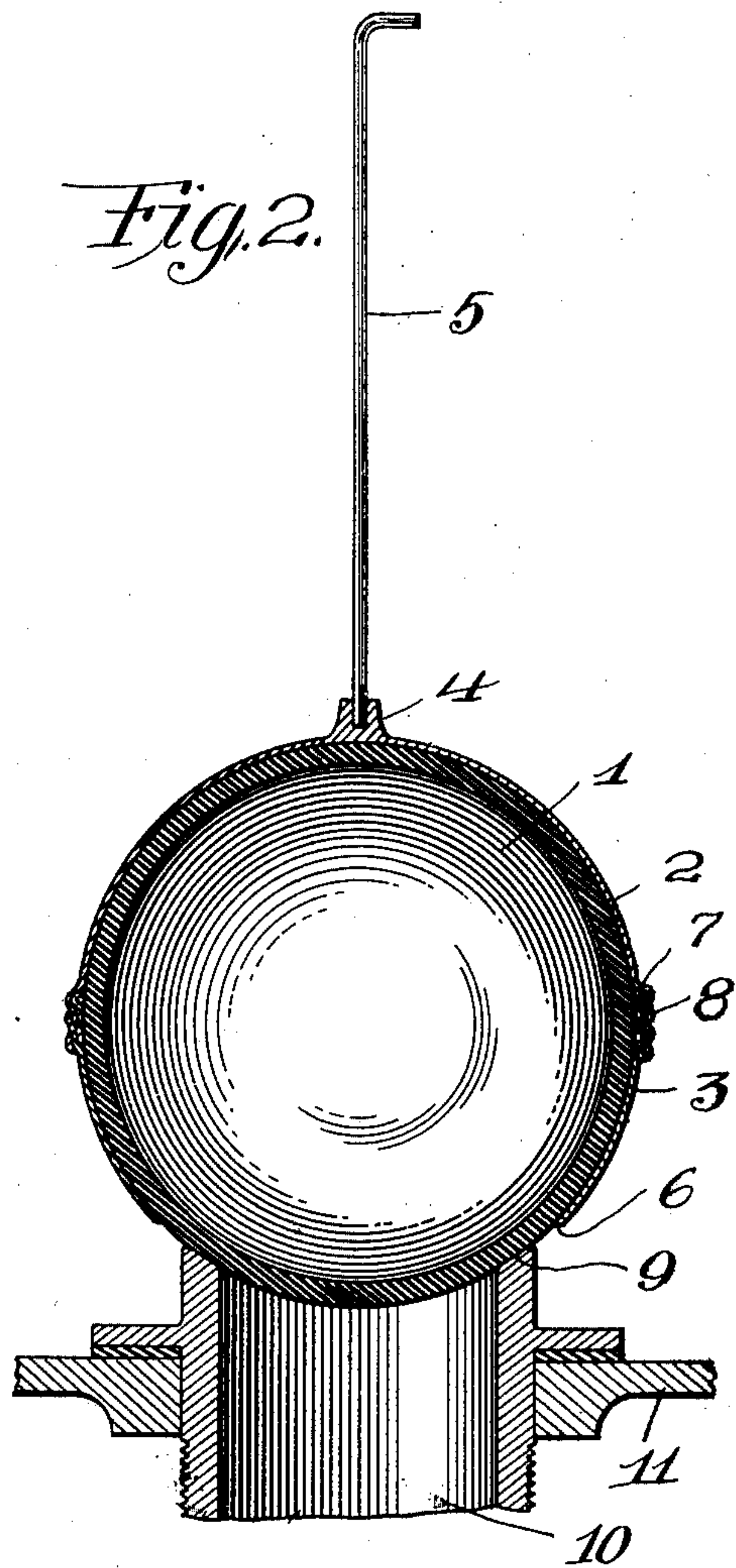
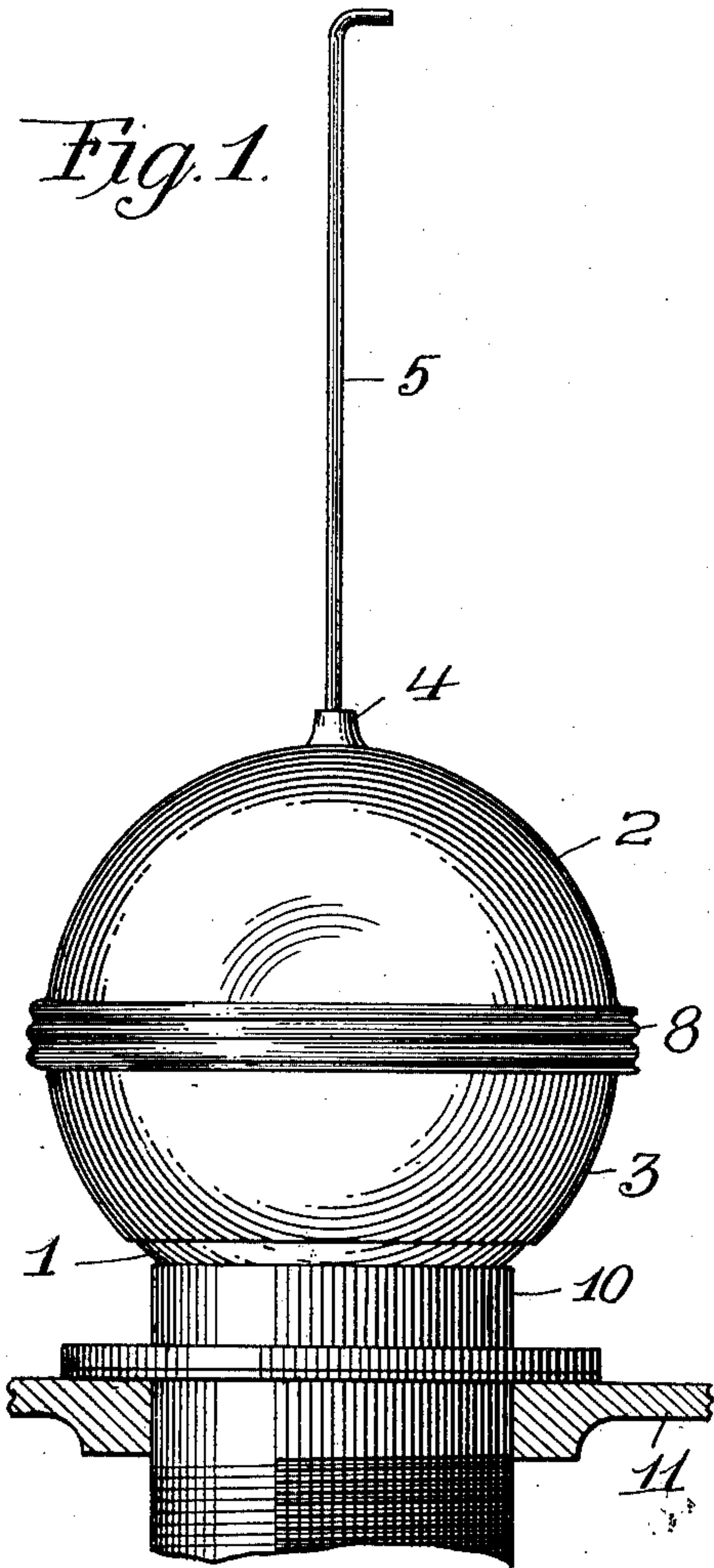


W. E. SNAMAN.  
VALVE.

APPLICATION FILED JULY 26, 1910.

997,158.

Patented July 4, 1911.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM E. SNAMAN, OF PITTSBURG, PENNSYLVANIA.

## VALVE.

997,158.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed July 26, 1910. Serial No. 573,892.

*To all whom it may concern:*

Be it known that I, WILLIAM E. SNAMAN, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Valves, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to float valves especially designed for controlling the outlet of water from flushing tanks, although the valve can be used in connection with other structures wherein float valves are used.

The objects of my invention are to provide a hollow spherical valvular member with a metallic jacket or casing adapted to retain the valvular member in an operable shape or condition, and to provide means, as will be hereinafter set forth for bodily moving the valvular member, thus preventing distortion ordinarily caused by elevating the valvular member.

Further objects of the invention are to provide a yieldable or flexible valvular member that can be easily procured, placed in position, and adjusted whereby it will positively close the end of a water outlet, and to accomplish the above results by a float valve that is durable, inexpensive to manufacture, easy to install, free from being water-logged and efficient for the purposes for which it is intended.

These and such other objects as may hereinafter appear are attained by the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:

Figure 1 is an elevation of the float valve, and Fig. 2 is a vertical sectional view of the same.

A float valve in accordance with my invention comprises a hollow spherical flexible valvular member 1, preferably made airtight and of rubber. The greater part of the member 1 is covered or inclosed by a metallic jacket or casing that can be made of one piece, but which is preferably made of two sections 2 and 3 suitably connected together. The section 2 is semi-spherical or dome-shaped to cover the upper half of the member 1, said section having the top thereof provided with a boss 4 to which is suitably connected an operating rod 5 adapted

to be actuated by the ordinary mechanism used in connection with a flushing tank. The section 3 has its greater circle the diameter of the sphere and the smaller circle has for its diameter practically one-half the diameter of the sphere, thus exposing a portion of the valvular member at the lower open end 6 of the section 3. As heretofore stated the sections 2 and 3 are connected together and it is preferable to do so by the use of screw threads, the upper edges of the section 3 being threaded, as at 7, to screw in the lower threaded edges 8 of the section 2, these threads constituting one means of detachably connecting the sections 2 and 3 together. It is a fact that said sections can be made integral and the valvular member sufficiently collapsed to be fitted in the one-piece jacket.

The exposed lower portion of the valvular member 1 is adapted to engage a seat 9 provided therefor at the upper end of a water outlet pipe 10, this pipe being illustrated in connection with the bottom 11 of a flushing tank. The metallic jacket, which can be made of aluminum or in some instances of celluloid, according to the nature of the water in which the same is immersed, is adapted to normally retain the valvular member in a spherical form, prevent elongation and loss of flexibility due to the suction or vacuum formed in the water outlet pipe 10 when the valvular member seats and closes the upper end of said pipe. Continuous seating of the valvular member will produce a groove, annular indentation, or worn place upon the valvular member, and it is through the medium of the sectional jacket that the valvular member can be shifted within the jacket to present a new seating surface to engage the upper end of the water outlet pipe, thus preventing uneven wear upon the valvular member and insuring a non-leakable connection when said member is seated upon the water outlet pipe.

It has been the practice heretofore in connection with spherical flexible float valves to connect the actuating rod 5 direct to the valve, consequently when the valve is elevated an elongation takes place that not only distorts the valvular member, but eventually causes a leakage at the juncture of the lower end of the actuating rod and the valvular member. I obviate the elongation of the valvular member and the possi-



bility of leakage through the medium of the jacket, which permits of the valvular member being bodily elevated without distortion or strain upon any part thereof. It is also  
 5 true in connection with hollow spherical float valves made of rubber that they often become perforated and water-logged and are rendered useless for the purpose for which they are intended. The water-log-  
 10 ging of a valve equipped with a jacket is impossible, insomuch that if the top or other portion of the valvular member becomes perforated, the valvular member can be additionally perforated at a point on the bot-  
 15 tom over the outlet pipe to allow water to drain therefrom into the outlet pipe, and even with the bottom of the valvular member provided with an aperture and perforations on the upper portion of the valvular  
 20 member, it will serve the purpose for which it is intended.

What I claim, is:

1. A float valve comprising a spherical valvular member, and a jacket covering the  
 25 greater part of said member and providing means whereby the valvular member can be shifted to present a new seating face and further constituting means to prevent distortion of the valve.

30 2. A float valve comprising a spherical valvular member, and a sectional jacket covering the greater part thereof and providing means whereby the valvular member can be shifted to present a new seating face and  
 35 further constituting means to prevent distortion of the valve.

3. A float valve comprising a spherical valvular member, a sectional jacket covering the greater part of said member and

providing means whereby the valvular mem- 40  
 ber can be shifted to present a new seating face and further constituting means to prevent distortion of the valve, and means for detachably connecting the sections of said  
 45 jacket together.

4. A float valve comprising a hollow spherical flexible valvular member, and a metallic jacket covering the greater part of said member and providing means whereby  
 50 the valvular member can be shifted to present a new seating face and further constituting means to prevent distortion of the valve.

5. A float valve comprising a hollow spherical flexible valvular member, a sec- 55  
 tional jacket covering the greater part of said member, one of said sections being semi-spherical and covering the upper half of said member, the other section covering a  
 60 part of the lower half of said member said jacket providing means whereby the valvular member can be shifted to present a new seating face and exposing the bottom of  
 65 said member, and means for detachably connecting said sections together.

6. A float valve comprising a rigid jacket, and a flexible valvular member adjustably held in said jacket and having the lower  
 70 part thereof exposed and capable of being shifted within said jacket to present a new seating face.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM E. SNAMAN.

Witnesses:

KARL H. BUTLER,  
 EVA A. MILNE.