No. 786,895. PATENTED APR. 11, 1905.

J. B. HAWKINS.

FLOAT VALVE.

APPLICATION FILED NOV. 28, 1904.

Fig. 1.

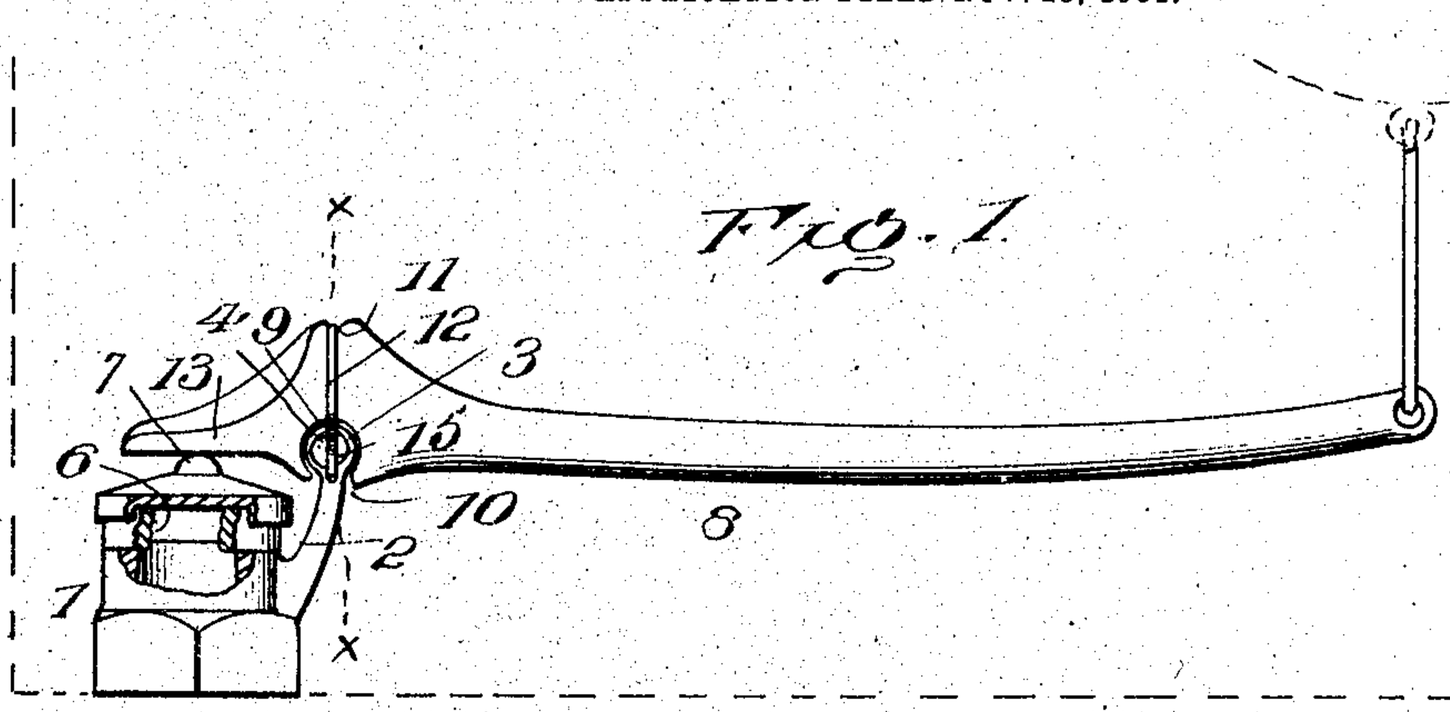


Fig. 2.

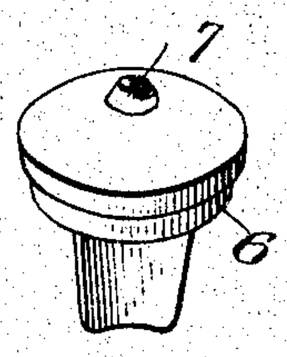
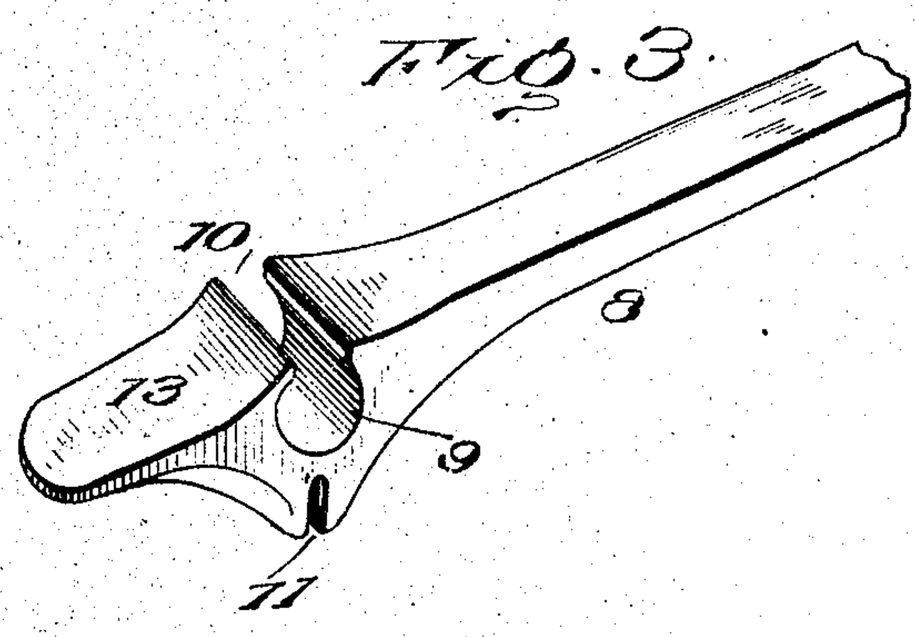


Fig. 3.



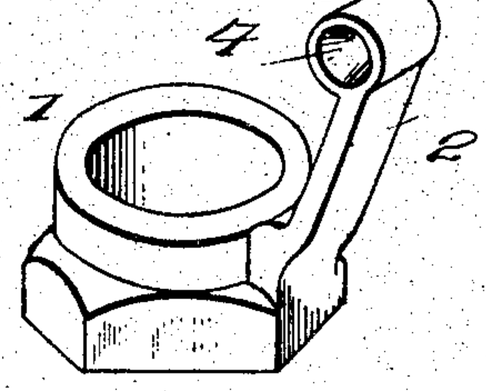


Fig. 4.

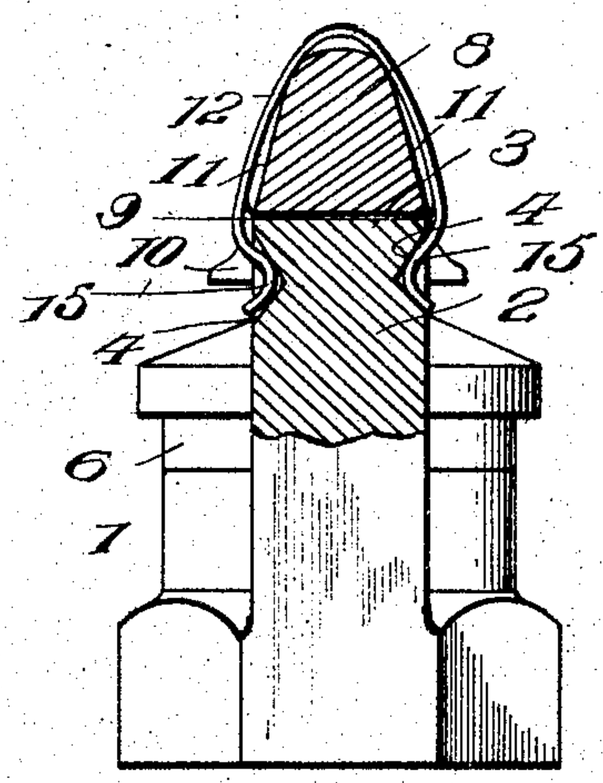
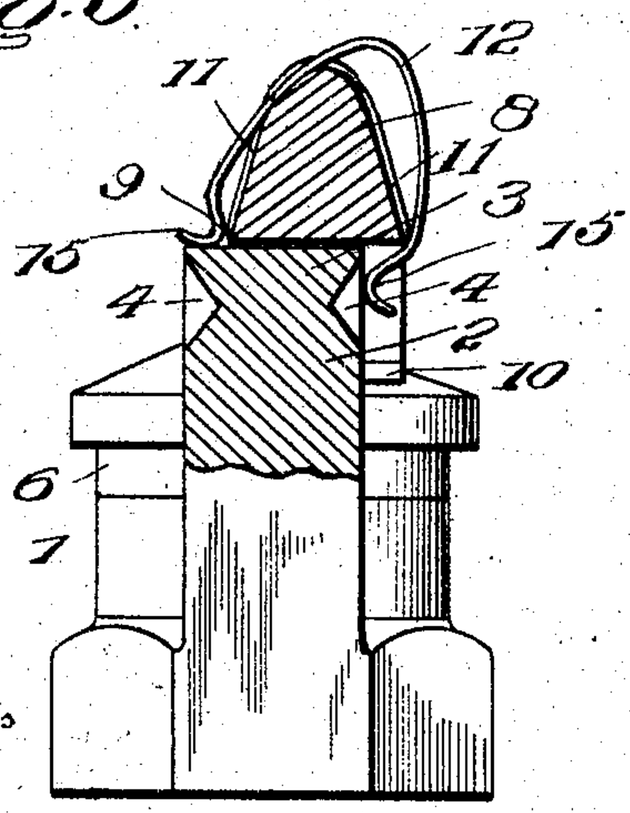


Fig. 5.



Witnesses

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No. 786,895. Patented April 11, 1905.

UNITED STATES PATENT OFFICE.

JAMES B. HAWKINS, OF SLATER, MISSOURI.

FLOAT-VALVE.

SPECIFICATION forming part of Letters Patent No. 786,895, dated April 11, 1905.

Application filed November 28, 1904. Serial No. 234,590.

To all whom it may concern:

Be it known that I, JAMES B. HAWKINS, a citizen of the United States, residing at Slater, in the county of Saline and State of Missouri, have invented certain new and useful Improvements in Float-Valves, of which the following is a specification.

This invention relates to float-valves for flush-tanks of closets or other water-fixtures controlled by the change of level of the water, the purpose being to facilitate access to the parts for cleaning or making repairs without requiring the use of tools such as a wrench or screw-driver.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a side view of a float-valve embodying the invention. Fig. 2 is a perspective view of the valve and its fitting, the lever being omitted. Fig. 3 is a perspective view of the pivotal end of the float-lever. Fig. 4 is a detail section on the line *x x* of Fig. 1. Fig. 5 is a view similar to Fig. 4, showing the relation of the parts when the fastener is moved to a position to admit of detachment of the lever.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The fitting 1 is of the type usually applied to a service-pipe or like part for supplying water to the tank or reservoir equipped with a float-valve. A bracket or arm 2 extends from the fitting 1 and terminates in a head 3 of approximately circular form in cross-section and of a length corresponding to the width of the bracket, the ends of the head being indented, as shown at 4. A valve coöperates with the fitting 1 to shut off the supply of water when seated and comprises a head and stem either integrally formed or made separate and connected in any determinate way. Packing 6, of rubber or other material, is fitted to the valve-stem and underlaps the head thereof, the latter being preferably recessed upon its under side to receive a portion of the packing, and thereby prevent its spreading. A projection 7 extends from the head of the valve and is centrally disposed and is of rounded or conoidal form, whereby pressure thereon is equally distributed in all directions, thereby insuring a firm seating of the valve upon the fitting.

The float-lever 8 is thickened near its pivotal end and is formed with a circular opening 9 of a size to receive the head 3 without binding and admit of a free oscillatory movement of the lever within certain limits. A transverse slot 10 extends through a side of the lever and is in communication with the circular opening 9 and forms a space to receive the bracket or arm 2 adjacent to the head 3. The slot 10 is of a width slightly greater than the thickness of the bracket or arm 2 to admit of the lever 8 having a limited movement. Grooves 11 are formed in opposite sides of the lever in line with the opening 9 and slot 10 and serve to retain the fastening 12 in proper position. The lever is extended beyond the opening 9 a short distance and is widened and tapered and is adapted to exert a pressure upon the projection 7 of the valve. This extension is indicated at 13. A float 14 is adapted to be connected to the opposite end of the lever 8 in any accustomed manner.

The fastening 12 is constructed of spring-wire and is approximately of staple form, the legs being slightly diverged and terminating in inner crimps or bends 15, which are adapted to enter the indentations 4 of the head 3 and prevent lateral displacement of the lever when in proper position upon said head. The side members or legs of the fastener are sprung into the grooves 11, and the crimps or bends 15 at the extremities of said legs enter the

ends of the circular opening 9, thereby preventing displacement of the fastener when the lever is removed from the fitting 1. When the lever is mounted upon the head 3 and the crimps or bends 15 enter the indentations 4, said lever is prevented from casual displacement, as will be readily comprehended. When it is required to remove the lever to admit of access to the fitting or valve, the fastener is moved to the position substantially as shown in Fig. 5, thereby clearing the opening 9 at one end and admitting of displacement of the lever by a sidewise sliding movement upon the head 3. It will thus be seen that the parts may be separated and replaced without requiring use of tools of any kind, which is of vital importance.

Having thus described the invention, what is claimed as new is—

1. In combination, a fitting, a valve coöperating therewith, a float-lever, a joint between the float-lever and support consisting of an approximately circular head and mating opening separable by a sliding movement, and a fastener coöperating with the joint to prevent casual separation thereof, said fastener being of spring metal and approximately of staple form and embracing opposite sides of the lever and the joint and interlocking with the respective parts.

2. In combination, a fitting, a valve coöperating therewith, a bracket extended from the fitting and terminating in a circular head, a lever having a circular opening to receive the aforesaid head, and a spring-fastener embracing opposite sides of the lever and engaging with opposite ends of the circular head to prevent casual displacement of the lever.

3. In combination, a fitting, a valve coöperating therewith, a bracket extended from the fitting and terminating in a circular head having indentations in its extremities, a float-lever having a circular opening, and a slot in communication therewith to receive said circular head and bracket, and a spring-fastener of approximately staple form embracing opposite sides of the lever and having its extremities extended inward to enter the indentations of said head.

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

JAMES B. HAWKINS. [L. S.]

Witnesses:
CLAUDE E. FIELD,
S. B. BURKS.