

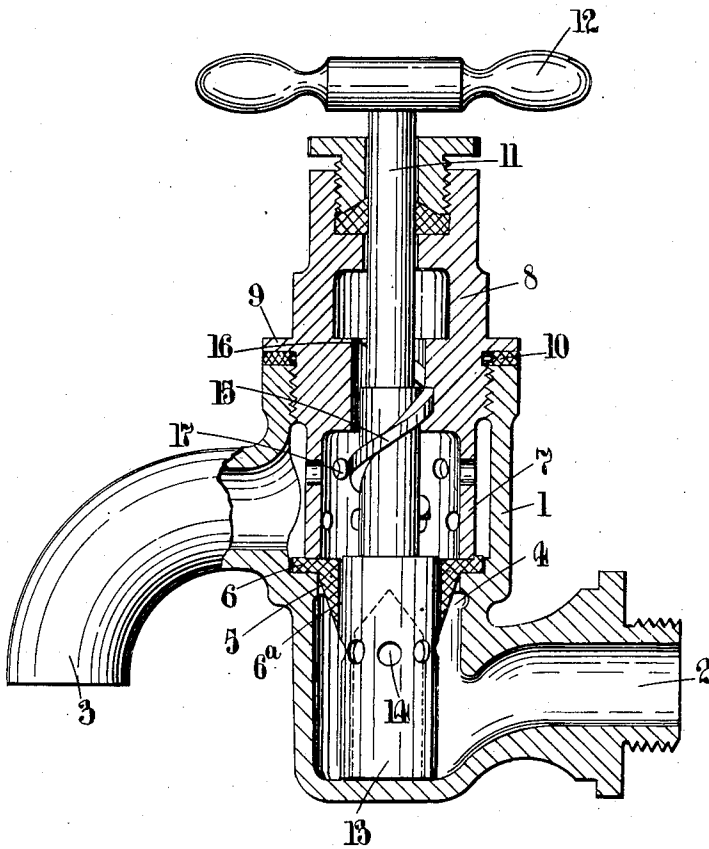
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VALVE AND COCK

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INVENTOR

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BY *[Signature]*
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RICHARD HOWELL, OF LONDON, ENGLAND.

VALVE AND COCK.

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To all whom it may concern:

Be it known that I, RICHARD HOWELL, a British subject, residing at 40 Jerningham Road, New Cross, London, S. E. 14, England, have invented certain new and useful Improvements in Valves and Cocks, of which the following is a specification.

This invention relates to bibcocks and has for its object to provide an improved device of the kind in which a hollow piston valve having perforated walls is moved axially to open and close the cock through a tapered flexible cone or hat joint.

In the improved form of bibcock constructed in accordance with the present invention, the flange of the tapered cone or hat joint is seated on an internal shoulder formed in the casting of the body of the bibcock and held down on said shoulder by means of a perforated skirt detachably attached to the body of the cock. The piston valve is carried by a spindle operated by means of a screw thread engaging a groove in the inner surface of the plug which closes the opening in the body casting.

The invention is illustrated in the accompanying drawing which shows a central vertical cross-section of the improved bibcock.

Referring now to the drawing.

The body comprises a casting 1 having an inlet passage 2 and an outflow pipe 3, both leading to a central recess 4. The central recess is closed at the bottom by a wall which is positioned at a lower level than the lower wall of the inlet passage 2 for a reason that will hereinafter appear. The interior recess of the casting is provided with an internal annular shoulder 5 on which is adapted to be seated the tapered cone 6 of vulcanized rubber, the diameter of the chamber above the recess 4 being greater than that of the recess. It will be seen that the cone is formed of substantial thickness and that it extends downwardly for a considerable distance within the upper region of the recess 4.

The cone 6 is adapted to be held down by a perforated skirt 7 forming part of a screwed plug 8 adapted to be screwed into the upper cylindrical wall of the casting 1, and provided with a flange 9 adapted to engage the top of said casting with the interposition of an elastic washer 10. The plug 8 is centrally bored to receive the

spigot or spindle 11 provided with a handle 12 and carrying at its lower end the hollow piston valve 13 of which the walls are perforated as shown at 14. Above the piston valve the spigot is provided with a quick thread 15 adapted to be seated in a spiral groove 16 formed in the inner wall of the plug 8. It will be seen that in the position shown liquid entering by the passage 2 will apply a pressure to the conical outer face 6^a of the cone 6, and as the material is susceptible of a certain amount of flexibility, will depress the tapered lip of the cone against the wall of the valve 13 making a tight joint between the cone and the valve. In the position shown the flow of liquid is arrested by the valve.

If now the handle is rotated, the quick thread 16 causes the valve to be lifted within the cone so that the holes 14 are positioned above the upper surface thereof, in which case liquid passes upwardly through the piston valve, through the perforations 14, and thence through the perforations of the skirt 7 which is spaced outwardly of the valve 13, and finally out of the pipe 3. The provision of two spaced perforated baffles 13 and 7 tends to break up the movement of the liquid and serves to some extent as an antisplash device. The upper part of the central boring of the plug 8 is closed by a gland in the usual manner.

The complete bibcock thus comprises only four principal metallic elements, the cone being the part most likely to wear and owing to its construction being susceptible of taking up wear during a considerable initial stage. It is an important feature of the invention that the cone extends down the surface of the piston valve for a considerable distance and is tapered to a fine angle as shown in the drawing, producing a lower lip of substantial flexibility and sensitiveness to pressure. Owing to the fact that the bottom closure of the recess is lower than the inflow passage any grit or other solid matter brought by the incoming water tends to collect in the bottom of the recess whence it can be cleared from time to time.

I claim:—

1. In a bibcock, a hollow body having an inflow passage and an outflow passage and formed with an internal shoulder, a flanged tapering cone or hat joint supported on the shoulder, a hollow plug mounted within the body and having a perforated skirt to

bear upon the flange of the joint and hold the same on the shoulder, said plug having an end projecting beyond the body, a perforated hollow piston valve reciprocable in
5 and cooperating with said joint, and means movably mounted in the plug for operating said piston valve.

2. In a bibcock, a hollow body, an inflow passage, an outflow passage, an internal
10 annular shoulder to said body, a flanged tapering cone or hat joint, a hollow plug adapted to be mounted within said body said plug having a perforated skirt adapted to
15 hold the flange of said joint on said shoulder, a perforated hollow piston valve reciprocable in said joint, a rod to said valve, a quick pitch thread to said rod, and a thread to said hollow plug engaging the thread of
20 said rod.

3. In a bibcock, a hollow body closed as to its lower end, an inlet passage arranged

at a higher level than said bottom closure, an outflow passage, a hat joint arranged within said body, a perforated hollow piston valve reciprocable within said joint.

4. In a bibcock, a hollow body, an inflow passage, an outflow passage, an internal annular shoulder to said body, a flanged tapering cone or hat joint, a hollow plug, a perforated skirt to said plug, means for mounting
30 said plug within said body so that said skirt holds the flange of the hat joint on said shoulder, a hollow perforated piston valve reciprocable in said joint, the outside diameter of said valve being substantially less
35 than the inside diameter of said skirt so as to be spaced therefrom when in the position giving communication between said passages.

In testimony whereof I affix my signature.

RICHARD HOWELL.