

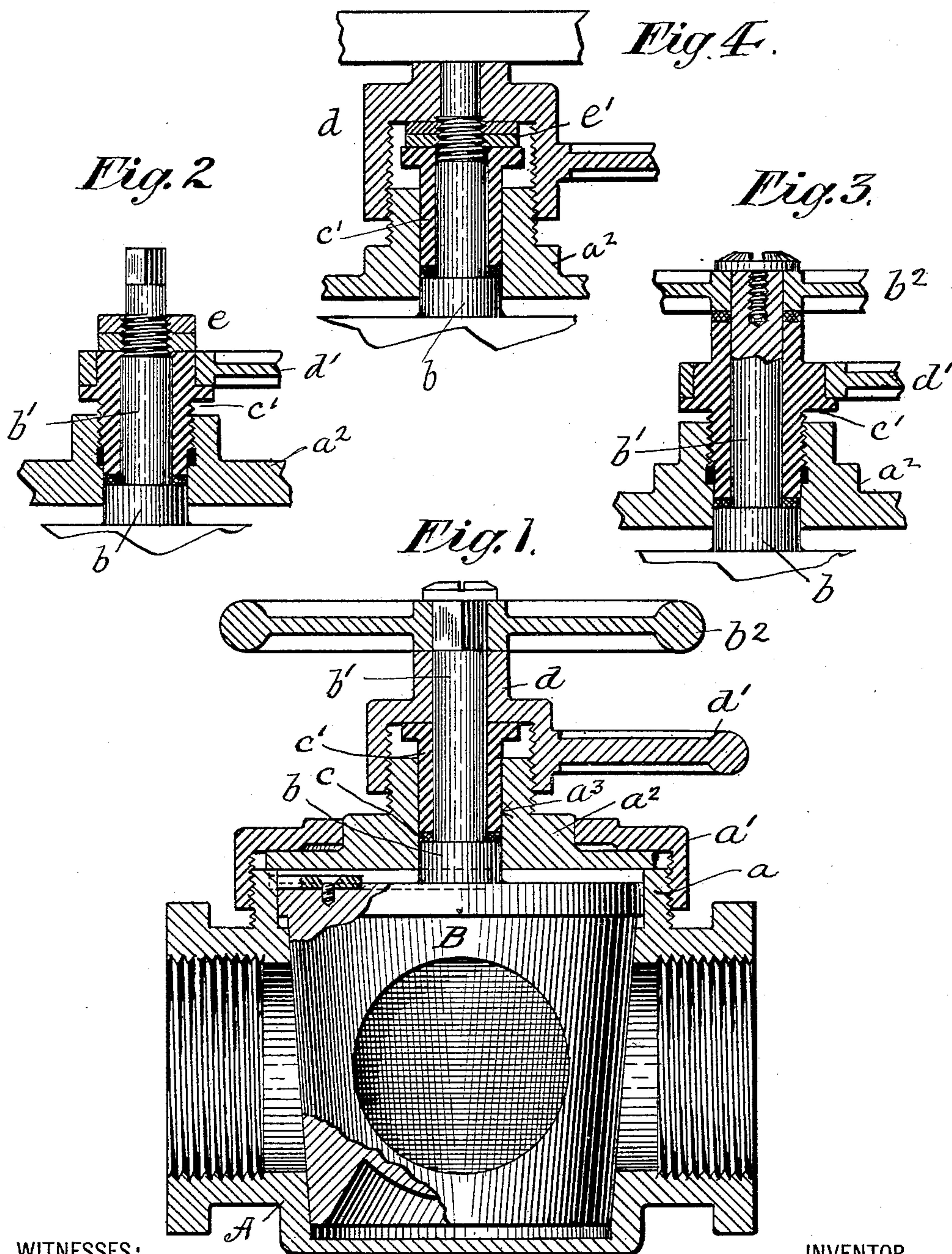
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Patented Sept. 12, 1899.

F. M. ASHLEY.
VALVE.

(Application filed Apr. 10, 1899.)

(No Model.)



WITNESSES:
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VALVE.

SPECIFICATION forming part of Letters Patent No. 632,934, dated September 12, 1899.

Application filed April 10, 1899. Serial No. 712,370. (No model.)

To all whom it may concern:

Be it known that I, FRANK M. ASHLEY, a citizen of the United States, residing at the city of New York, in the borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Valves, of which the following is a full, clear, and exact description.

This invention relates to valves for fluid-passages, the object being to provide a construction which will prevent leakage of the valve when in its normal state and by means of which any sticking of the valve when it is operated may be easily and simply overcome.

The invention relates more particularly to what are known as "plug-valves," in which a conical plug rotates upon its axis in a correspondingly-shaped valve-chamber. It is well known that such a valve when forced downward into its seat will effectually prevent leakage of the fluid around its sides, and at the same time it becomes stuck or locked in its seat by the friction in the contacting surfaces, and rotary motion cannot be imparted to the valve without first releasing it by a longitudinal movement. It has been proposed heretofore to operate these valves by means of a threaded stem which simultaneously moves the plug in a longitudinal direction and rotates it upon its axis; but in operating such devices joints are usually opened through which the fluid escapes. My improved valve may be moved longitudinally and then rotated without permitting of the escape of the fluid.

The invention will be described with reference to the accompanying drawings, in which—

Figure 1 is a section of one form of my improved valve, parts being broken away; Figs. 2, 3, and 4 illustrate modifications of my invention.

The valve-casing, which is a part of the fluid-passage, is represented by A. It is provided with the usual conical seat for a plug-valve B. The casing has an annular flange a surrounding the head of the valve and threaded externally to receive a nut a' . Upon the top of the flange rests a fixed collar a^2 , the same being clamped in place by the nut a' . This collar is provided with a large central opening a^3 . The top of the valve-plug is

provided with a circular projection b , which passes up into the opening in the collar a^2 , as shown, and in the center of this projection the valve-stem b' rises. Around the base of the valve-stem a packing-ring c is located, upon which rests a sleeve c' . This sleeve, as shown in Fig. 1, is confined by another sleeve d , which is threaded onto the stationary collar a^2 and is provided with a handle d' or other means for rotating it. The upper end of this sleeve d rests against the cross-head or handle b^2 on the valve-stem. By rotating the sleeve d it will be observed that the valve-plug may be moved vertically in either direction, and in whichever direction it is moved the packing c is always compressed, thus preventing leakage.

In Figs. 2 and 3 the sleeve c' is shown to be threaded directly into the collar a^2 , and upon it is fitted a wrench or handle d' , whereby it may be rotated. In Fig. 2 the upper end of the sleeve rests against threaded washers e upon the valve-stem, and in Fig. 3 it rests directly against the handle b^2 of the valve-stem. In either case the valve itself may be moved axially by turning the handle d' .

In Fig. 4 by means of the lock-nuts e' a certain tension may be put on the packing c and maintained regardless of the pressure of the part d on the nuts.

Having described my invention, I claim—

1. In a plug-valve, the combination of the plug provided with a central cylindrical projection, a fixed collar provided with an opening into which said projection fits, a valve-stem projecting from said cylindrical projection through said opening in the collar and provided with a cross-head, a sleeve surrounding the valve-stem and also projecting into said opening in the collar and confining a packing-ring between itself and the cylindrical projection, and another sleeve threaded to the collar and bearing at one point against said first-named sleeve and at another point against said cross-head on the valve-stem and means for rotating said second sleeve, substantially as described.

2. In a plug-valve, the combination of the plug provided with a central cylindrical projection, a fixed collar provided with an opening into which said projection fits, a valve-stem projecting from said cylindrical projec-

tion through said opening in the collar and provided with a cross-head, a sleeve surrounding the stem, and confining a packing-ring between itself and the cylindrical projection
5 and means for raising and lowering the plug, substantially as described.

3. In a plug-valve, the combination of the plug provided with a central cylindrical projection, a fixed collar provided with an opening into which said projection fits, a valve-
10 stem projecting from said cylindrical projection through said opening in the collar and

provided with a handle, a sleeve surrounding the stem and confining a packing-ring between itself and the cylindrical projection, 15 means for maintaining a constant pressure on said packing-ring and means for raising and lowering the plug, substantially as described.

In witness whereof I subscribe my signature in presence of two witnesses.

FRANK M. ASHLEY.

Witnesses:

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