

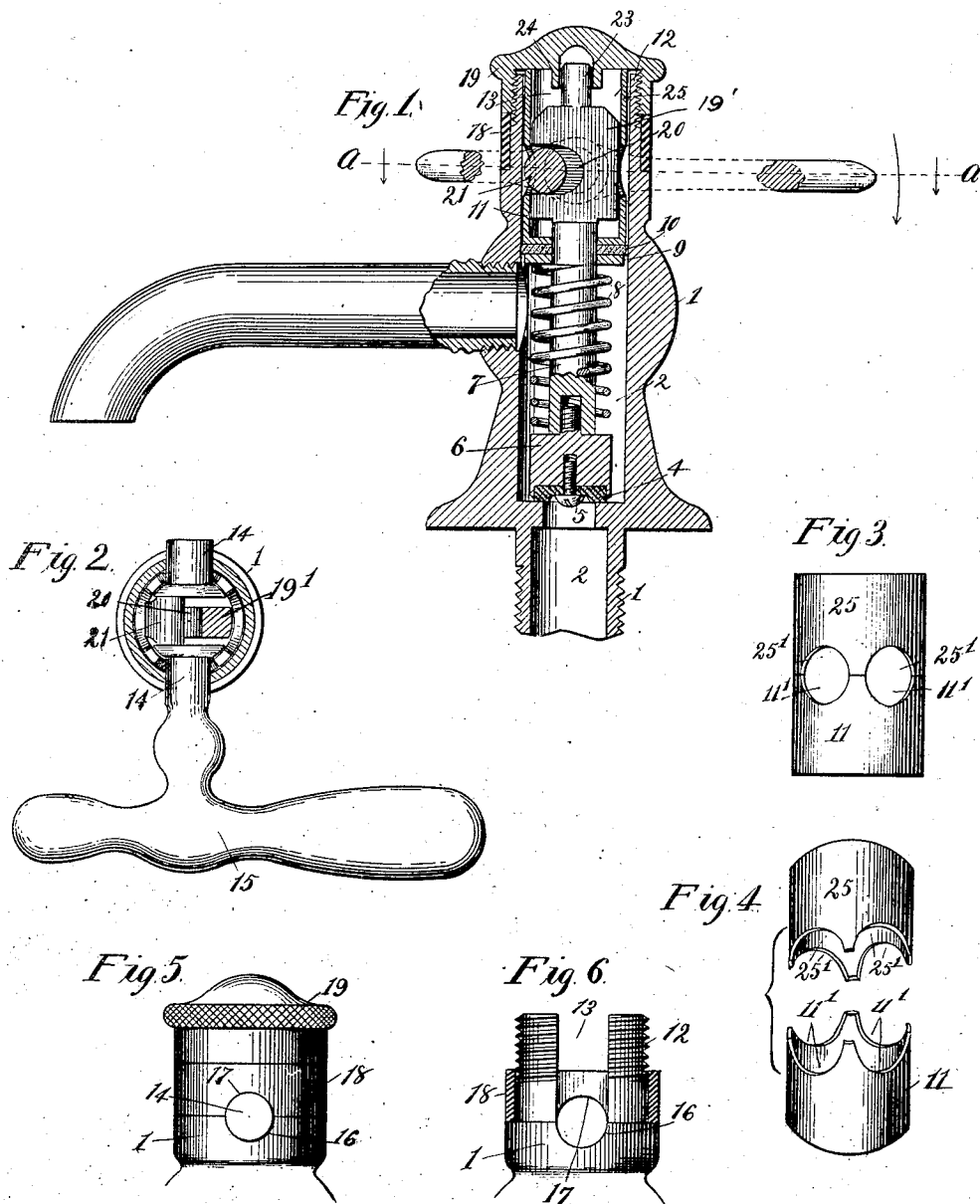
No. 832,589.

PATENTED OCT. 9, 1906.

A. C. BROWN.

FAUCET.

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Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT C. BROWN, OF CHICAGO, ILLINOIS.

FAUCET.

No. 232,589.

Specification of Letters Patent.

Patented Oct. 9, 1906.

Application filed April 24, 1905. Serial No. 257,128.

To all whom it may concern:

Be it known that I, ALBERT C. BROWN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Faucets, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to faucets, and has for its object the provision of an improved faucet whereby the wear upon the casing surrounding a portion of the primary actuating element is materially reduced and binding action on the upper bearing eliminated and whereby the wear upon and enlargement of the casing-bearings will not be followed by leakage.

Hitherto the faucet-valves have usually been seated by a spring mechanism and unseated by hand-lever mechanism operating oppositely to the spring mechanism, in which structures the spring mechanism not only forced the valve upon its seat, but always forced the hand-lever against its casing-bearings to secure the seating of the valve. If therefore the bearings in the casing became worn materially, the spring could not well perform its function.

It is the main object of my invention normally to remove the spring-pressure from the hand-lever and at the same time afford a mechanical connection between the hand-lever and the valve, whereby when the valve is to be opened the hand-lever will act in opposition to the spring and when the handle is normal the spring will have a properly-located abutment that will prevent the water from unseating the valve in opposition to the spring. To this end I employ a plunger that carries or operates the valve, a spring for seating the valve, mechanism for moving the plunger against the force of a spring and operable by a handle, and a limiting stop, abutment, or device normally receiving the pressure of the spring to relieve the handle thereof.

I will explain my invention more fully by reference to the accompanying drawings, showing the preferred embodiment thereof, in which—

Figure 1 is an elevation, mainly in section, of a faucet constructed in accordance with my invention. Fig. 2 is a sectional plan view thereof on line *a a* of Fig. 1. Fig. 3 is a detail view showing the limiting stop or de-

vice that I preferably employ. Fig. 4 illustrates in perspective the element shown in Fig. 3, but indicated in Fig. 4 in separated relation for the sake of illustration. Fig. 5 is a side elevation of the upper portion of the faucet structure, taken in the same direction as Fig. 1. Fig. 6 is a detail view of certain parts of the structure belonging to the portion thereof indicated in Fig. 5.

Like parts are indicated by similar characters of reference throughout the different figures.

The faucet shown is of a common type from external appearances, there being a casing 1, having a vertical bore 2 and a discharge faucet-mouth communicating with said vertical bore. The water rises within the lower portion of the bore 2, the passage of which to the mouth 3 is normally prevented by a valve 4, made of some suitable material, such as a rubber composition. This valve 4 is secured in position by a screw 5, passing through the center of the valve and into the plunger-section 6, the plunger being desirably formed in two sections 6 7, having threaded engagement for purpose of assembling. The portion 7 of the plunger is preferably reduced in diameter, so that the spring 8, surrounding this plunger portion, may find lodgment upon the plunger portion 6 at its lower end. The upper end of the spring 8 rests against a plate 9, surrounding the plunger portion 7 and movable longitudinally thereon, a disk of packing 10 being clamped by the spring 8 between the plate 9 and the bottom of a cup-shaped element 11, through which bottom the plunger-section 7 is adapted to reciprocate. The packing is employed to prevent the water from flowing into the space in the upper part of the casing 1, where the mechanism for elevating the plunger against the force of the spring is located. The upper part of the casing 1 is threaded at 12 and has two diametrically opposite slots 13 for the reception of the shaft 14, operated by a handle 15. Semicircular recesses 16 are provided in the casing to act as part of the bearings for the shaft 14, the balance of these bearings being afforded by complementary semicircular recesses 17 in a collar 18, slipped over the threaded element 12 and held in position by an interiorly-threaded cap 19, engaging the threads at 12. The upper end of the plunger terminates in an operating element 19', having a transversely-extending cam-slot 20, in which the actuating element 21 upon the

shaft 14 moves back and forth, the plunger being guided in its travel by the element 11 and the plunger extension 23 working within a guide 24, provided upon the interior of the cap 19. When the handle 15 is rotated in a clockwise direction, the actuating element 21 is elevated and the plunger is correspondingly elevated against the force of the spring 8, whereby the valve 4 is opened to permit the flow of liquid through the duct 3. When the handle is released, the spring restores said valve.

In order that the spring-pressure may normally be removed from the shaft 14, I cause the element 11 to engage the lower end of a cylinder 25, that engages the bottom surface of the cap 19 at its upper end and the top edge of the cylindrical element 11 at its bottom end. The cylindrical elements 11 25 are each provided with four semicircular scallops 11' 25', respectively, so that when the said cylinders are placed together circular openings are formed. The shaft 14 extends through the diametrically opposite openings thus formed, there being preferably four such openings for the sake of convenience, though two diametrically opposite ones are only required. The cap 19 in being screwed in position depresses the cylinder 25 against the cylinder 11 and against the force of the spring 8, so that the positions of the recesses 11' 25' may be determined with respect to the shaft 14, so as to normally relieve the said shaft 14 from the pressure of the spring 8. The elements 11 25 thus constitute an abutment normally removing the spring-pressure from the shaft 14, but permitting said shaft to elevate the plunger against the force of said spring when the faucet is to be opened.

The ring 18 constitutes, in effect, a part of the casing and provides with the balance of the casing bearings for the shaft 14.

I do not wish to be limited to the precise characteristics of the preferred embodiment of my invention herein shown; but,

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A faucet including a casing for the passage of fluid, a valve within the same, a plunger carrying the valve and provided with a slot, a spring in engagement with the plunger for seating the valve, a handle having its shaft mounted within the casing, an operating element carried by the shaft and moving within the aforesaid slot, and an abutment device substantially normally relieving the handle of spring-pressure but permitting the operation of the handle against the force of the spring to unseat the valve, said abutment device being made of two separable tubular

elements, one above the shaft and engaging the upper portion of the casing and one below the shaft and engaging the spring.

2. A faucet including a casing for the passage of fluid, a valve within the same, a plunger carrying the valve and provided with a slot, a spring in engagement with the plunger for seating the valve, a handle having its shaft mounted within the casing, an operating element carried by the shaft and moving within the aforesaid slot, and an abutment device substantially normally relieving the handle of spring-pressure but permitting the operation of the handle against the force of the spring to unseat the valve, said abutment device being made of two separable tubular elements, one above the shaft and engaging the upper portion of the casing and one below the shaft and engaging the spring, the tubular elements of the abutment device being provided with semicircular recesses adapted to inclose the handle-shaft.

3. A faucet including a casing for the passage of fluid, a valve within the same, a plunger carrying the valve, a spring in engagement with the plunger for seating the valve, a handle having its shaft mounted within the casing, an operating element carried by the shaft, and an abutment device substantially normally relieving the handle of spring-pressure but permitting the operation of the handle against the force of the spring to unseat the valve, said abutment device being made of two separable tubular elements, one above the shaft and engaging the upper portion of the casing and one below the shaft and engaging the spring.

4. A faucet including a casing for the passage of fluid, a valve within the same, a plunger carrying the valve, a spring in engagement with the plunger for seating the valve, a handle having its shaft mounted within the casing, an operating element carried by the shaft, and an abutment device substantially normally relieving the handle of spring-pressure but permitting the operation of the handle against the force of the spring to unseat the valve, said abutment device being made of two separable tubular elements, one above the shaft and engaging the upper portion of the casing and one below the shaft and engaging the spring, the tubular elements of the abutment device being provided with semicircular recesses adapted to inclose the handle-shaft.

In witness whereof I hereunto subscribe my name this 22d day of April, A. D. 1905.

ALBERT C. BROWN.

Witnesses:

LEON STROH,
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