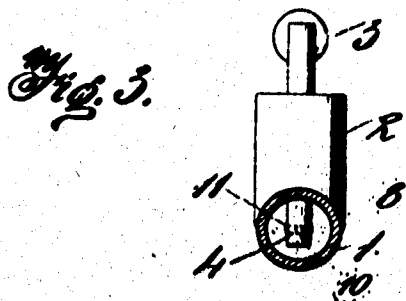
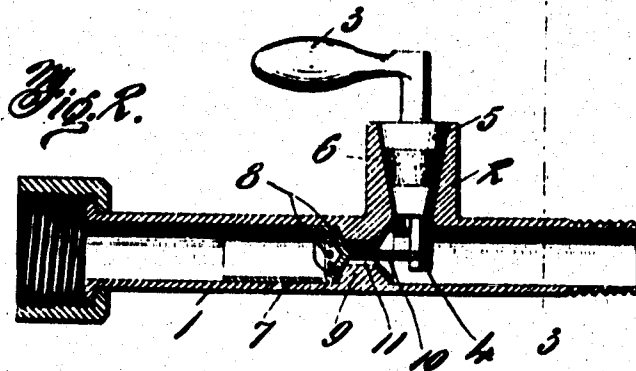
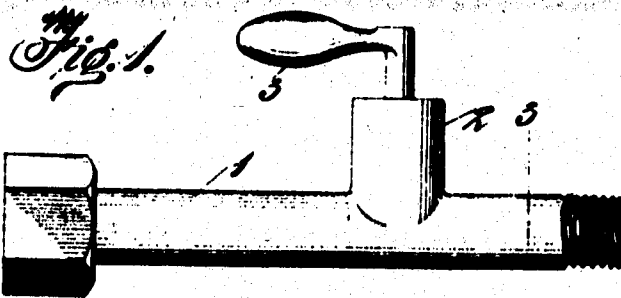


W. B. BURKE.
VALVE.

APPLICATION FILED MAY 2, 1908. RENEWED JAN. 10, 1910.

972,677.

Patented Oct. 11, 1910.



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UNITED STATES PATENT OFFICE.

WILBUR B. BURKE, OF CLEVELAND, OHIO.

VALVE.

272,677.

Specification of Letters Patent.

Patented Oct. 11, 1910.

Application filed May 2, 1900, Serial No. 430,533. Renewed January 10, 1910. Serial No. 537,343.

To all whom it may concern:

Be it known that I, WILBUR B. BURKE, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Valves, of which the following is a specification.

The present invention relating, as indicated, to valves, has for its object the improvement of a valve of the self-closing type adapted for use in faucets and the like and the provision of means for preventing the deposition of sediment or other material on the valve seat that might keep the valve from forming a perfect closure.

To the accomplishment of the foregoing and related ends said invention, then, consists of the means hereinafter fully described, and particularly pointed out in the claims.

The annexed drawings and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing—Figure 1 is a side elevation of a faucet wherein has been incorporated my improved construction of valve; Fig. 2 is a longitudinal vertical section of such faucet and valve; and Fig. 3 is a cross section on the line 3—3 of the preceding figures.

Referring to the illustrative construction of the drawing just described, the faucet there shown will be seen to comprise a pipe or casing 1 having an upwardly projecting branch or boss 2 that is formed with a taper seat for the reception of the turning plug or stem 5. The latter is provided intermediate between its ends with a packing ring 6 that conforms to the taper of such seat. A handle 8 is mounted on the outer end of the plug, while at its inner end such plug has an eccentric projection or cam 4 that extends within the bore of the casing 1.

The casing 1 is provided with an annular seat of conical form that faces in a direction away from the end 4 of the plug that thus projects within the casing, and has an opening 11 at its center through which the liquid or other fluid is designed to pass when permitted by the valve 7. The latter consists of a cylindrical cup, the closed end of which is provided with openings 8 and is made conical in form and properly inclined to

have substantially a line contact with the edge of annular seat 9. Such closed end of the valve which thus forms the valve head has a rod 10 which extends longitudinally through opening 11 in the valve seat into position to contact with cam 4 on the inner end of the turning plug 5.

From the foregoing construction it will be seen that the valve is movable lengthwise in the pipe to and from the seat. When the valve is moved from its seat, the liquid is designed to flow through the holes 8 therein, and thence through the opening 11 in the valve seat, the latter being large enough to afford passage around the valve stem 10. When the valve is closed it obviously contacts with the seat on a circular line nearer its axis than the holes 8, so that the latter are in effect closed. The valve is normally retained in such closed position by the pressure of the liquid behind it, but it may be opened when desired by turning the plug 5 which causes the cam 4 to engage with the stem 10 so as to force the valve away from its seat. It is intended that the plug shall work sufficiently easy in its own seat in boss 2 of the casing that when the handle 8 is released the pressure of the water or the liquid on the valve will, by reason of the leverage afforded by the eccentricity of the cam 4, be sufficient to turn the plug and thus make the valve self closing. Inasmuch as the plug is located beyond the valve there will be no lifting pressure exerted thereon from within the casing while the valve is closed, and while it is open it may be held down by hand if necessary. The disposition of the apertures in the head of the valve opposite to or over the valve seat has the further advantage, namely, that the liquid when passing through the valve upon the lifting of the latter from such seat is directed against the seat, and thus tends to prevent the deposition of any sediment or other material on the seat that might keep the valve from forming a perfect closure.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a device of the character described, the combination of a casing having therein a

discharge port surrounded by an inwardly directed annular valve seat; and a tubular valve member reciprocably held in said casing and provided with a head adapted to contact with said seat, said valve being adapted to close with the flow of fluid, and such head having apertures in such alignment with said seat as to direct the fluid thereagainst when said valve member is open.

2. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat; a tubular valve member reciprocably held in said casing and provided with a head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and such head having apertures in such alignment with said seat as to direct the fluid thereagainst when said valve member is open; and an operating member adapted for opening said valve member.

3. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat of conical form; a tubular valve member reciprocably held in said casing and provided with a conical head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and apertures being provided in the conical face of such head in such alignment with said seat as to direct the fluid thereagainst when said valve member is open; and an operating member for said valve member.

4. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat; a tubular valve member reciprocably held in said casing and provided with a head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and such head having apertures in such alignment with said seat as to direct the fluid thereagainst when said valve member is open; and an operating member adapted to engage said valve member to open the same, but not to close it.

5. In a device of the character described, the combination of a casing having therein a discharge port surrounded by an inwardly directed annular valve seat of conical form; a tubular valve member reciprocably held in said casing and provided with a conical head adapted to have substantially a line contact with the inner edge of said seat, said valve being adapted to close with the flow of fluid, and apertures being provided in the conical face of such head in such alignment with said seat as to direct the fluid thereagainst when said valve member is open; a stem on said valve member extending forwardly through the opening in said valve seat; and an operating member adapted to engage said stem to move the same inwardly, but not forwardly.

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

WILBUR B. BURKE.

Witnesses:

MONROE E. MILLER,
JOHN A. BOMMARDT.