J. A. McCORMICK.

SODA WATER FAUCET.

APPLICATION FILED DEC. 4, 1907.

1,141,472.

Patented June 1, 1915.

2 SHEETS—SHEET 1.

Fig. 1

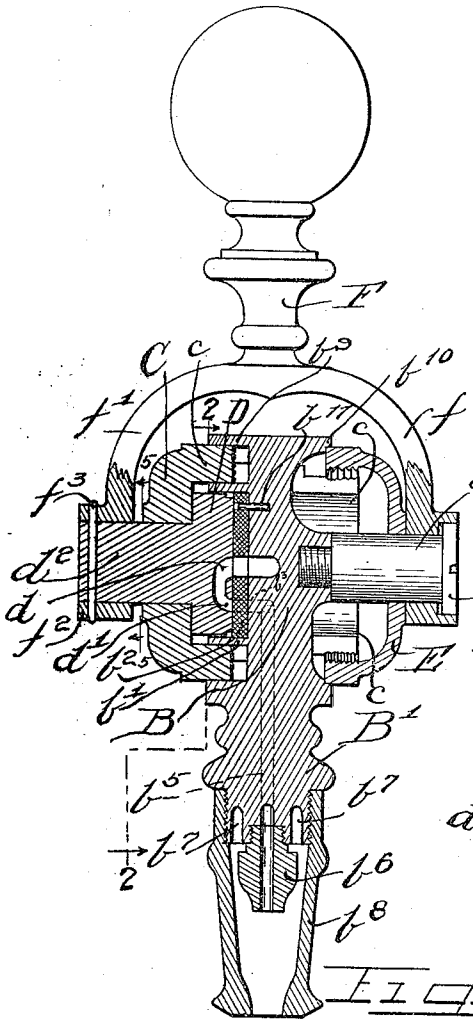


Fig. 2

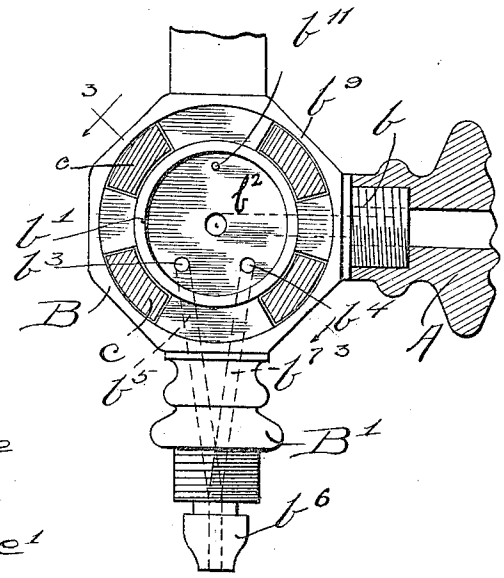


Fig. 3

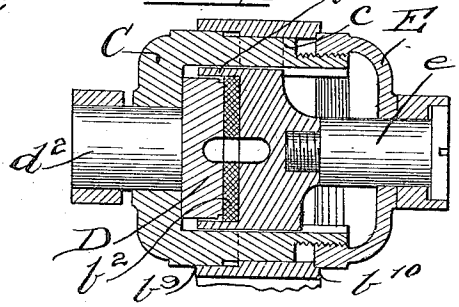


Fig. 5

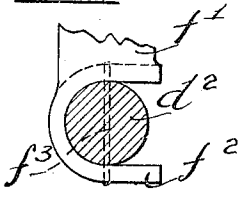
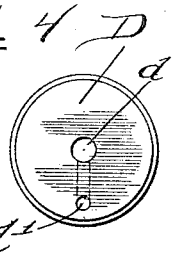


Fig. 4



Witnesses

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2 SHEETS—SHEET 2.

Fig. 6

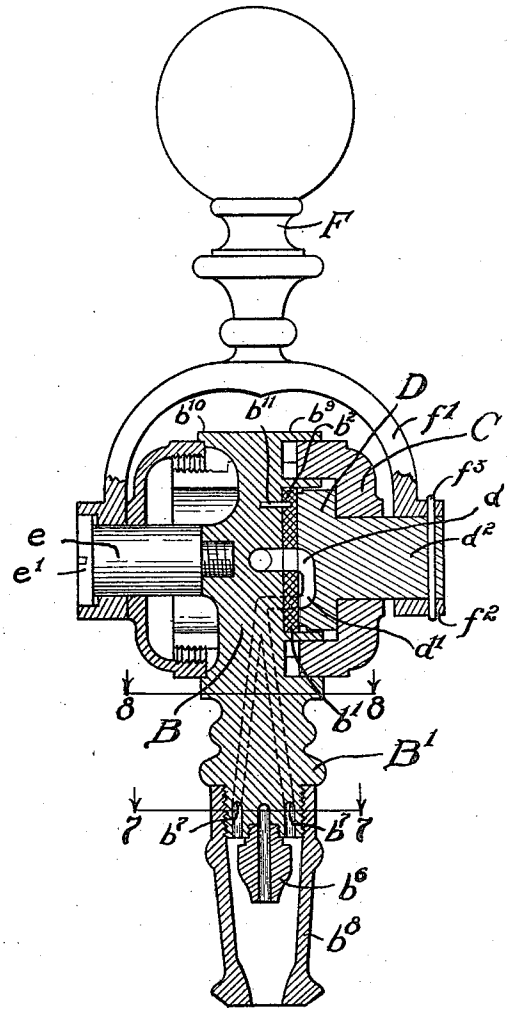


Fig. 8

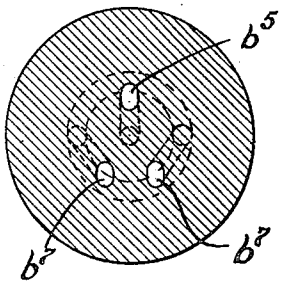
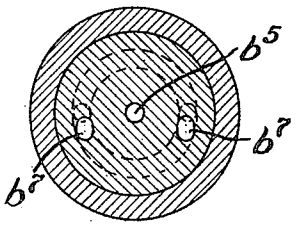


Fig. 7



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH A. McCORMICK, OF CHICAGO, ILLINOIS.

SODA-WATER FAUCET.

1,141,472. Specification of Letters Patent. Patented June 1, 1915.

Application filed December 4, 1907. Serial No. 405,053.

To all whom it may concern:

Be it known that I, JOSEPH A. McCORMICK, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Soda-Water Faucets; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in that class of faucets from which may be delivered a solid stream of soda or a fine spray, depending upon the adjustment of the valve. Of the various devices heretofore constructed for this purpose considerable difficulty has been experienced in providing a valve capable of delivering the fluid in a solid stream or in a spray as preferred, and which when once adjusted will operate for a long period of time without danger of leaking. Various devices for this purpose have been tried including faucets embodying my former invention "soda arm" or faucet, patented Aug. 9, 1904, No. 767,115. It is of course important to provide means for adjusting the valve to take up wear and when adjusted to positively lock the same in adjustment so that the operation of the valve cannot possibly tend to vary the adjustment either to set the valve tighter or to loosen the valve permitting leakage.

The object of this invention is to afford a construction of the class described adapted to be very easily adjusted to withstand any desired pressure and which permits the ready adjustment to take up any possible wear of the packing material used but which when adjusted absolutely locks the parts in adjusted position.

It is also an object of the invention to afford a symmetrical construction in which the mechanism is wholly concealed but which permits of readily assembling and disassembling the device without the services of a skilled plumber.

It is a further object of the invention to afford an exceedingly cheap, simple and effective device of the class described and adapted to work indefinitely without attention or repairs.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

As shown in the drawings: Figure 1 is a view partly in front elevation and partly in central vertical section of a device embodying my invention. Fig. 2 is a sectional view on line 2—2 of Fig. 1 with parts shown in side elevation. Fig. 3 is a section on line 3—3 of Fig. 2. Fig. 4 is a face view of the valve closure. Fig. 5 is a section taken on line 5—5 of Fig. 1. Fig. 6 is a view partly in front elevation and partly in section, illustrating the opposite half of that part of the device shown in Fig. 1. Fig. 7 is a section on line 7—7 of Fig. 6. Fig. 8 is a section on line 8—8 of Fig. 6.

In said drawings: A indicates the pipe or stub connected to the soda tank or reservoir and B the body of a faucet which contains the valve seat and casing and is provided on one side with a threaded nipple b for threaded engagement with the stub A as shown in Fig. 2. Said nipple and body are cored or drilled to afford a passageway communicating with the passageway in said stub and opening laterally, as shown in Figs. 1 and 2, at the center of the faucet body at which point said faucet body is planed to afford a plain surface surrounded by a flange b' concentric with said aperture and within which fits a packing washer b^2 apertured to register with said passage from the tank or reservoir. Said washer and the seat or planed face in said body are also provided with registering apertures b^3—b^4 of which the aperture b^3 communicates with a passage b^5 shown in dotted lines in Figs. 1 and 2 leading downwardly through the body and centrally through the downward extension or nozzle B′ and through the nozzle tip b^6 to afford a central free discharge. The aperture b^4 communicates with passages b^7, also leading downwardly through the nozzle B′, opening through the lower end thereof one on each side of the central passage b^5, as shown in Fig. 1 and Fig. 6. Threaded upon the lower end of the nozzle is a nozzle extension b^8 affording a relatively large internal bore and constricted at its lower end and adapted to direct the flow from either the passage b^5 or the passages b^7 therethrough.

The valve as shown, comprises a cylindric rotatable plate D adapted to fit within the flange b' as shown in Figs. 1 and 3 and slightly reduced in diameter at its inner periphery and provided with a central aperture d adapted to register with a central

bore or aperture through the valve seat and cored inwardly and radially outward as shown in Figs. 1 and 4 to communicate with an aperture d' opening through its face and adapted to register as said valve is rotated with either the apertures b^3 or b^4 to direct the flow from the tank through either. Integrally connected with the valve and concentric therewith is a cylindric stem d^2 which affords means for rotating the valve as hereinafter described. Said faucet body as shown in Figs. 1, 2 and 3 is provided with segment shaped apertures therethrough between the flange b' surrounding the valve seat and an outer flange b^9 concentric therewith. Said apertures as shown, are four in number and spaced equal distances apart and adapted to receive therethrough the arms c of a clamping member C. Said clamping member as shown, comprises a collar through which the stem d^2 of the valve extends and is provided with a flat inner face adapted to bear on the outer side of said valve to hold the same inwardly upon its seat. Said arms c as shown in Figs. 1 and 3 are externally screw threaded and are of a sufficient length to extend through and beyond the body. Threaded on said arms and seated within a flange b^{10} on the opposite side of the body from the flange b^9 is a nut E concave on its inner side as shown, and on its outer side conforming generally with the exterior of the conformation of the collar C and provided with a central aperture therethrough adapted to receive the stud screw e the inner end of which is threaded into a suitable aperture at the center of the faucet body and consequently in axial alinement with the stem d^2. The lever F for operating said valve is forked at its lower end to afford rigid axially alined arms f and f', the former of which is provided at its lower end with an aperture through which said stud screw extends to afford a pivot for said arm and is flanged outwardly to receive and partly conceal the head e' of said stud screw. The arm f' as shown in Fig. 5 is slotted on the rear side to receive the stem d^2 therein and is likewise provided with a flange f^2 through which extends a drift pin f^3 rigidly securing the stem to said arm.

The operation is as follows: In assembling, the valve D is placed in position, the collar slipped over the same with the arms extending through the apertures in the body and the nut E screwed into place and bearing against an inner seat within the flange b^{10} binds the valve with any desired pressure upon the bearing washer. The stem d^2 is then engaged in the arm f' of the operating lever and secured by the pin f^3 and the stud screw e is inserted through the arm f and the nut E and threaded into the faucet body as shown in Fig. 1. By turning the lever in one direction the seat is rotated to bring its aperture d' into register with one of the apertures b^3 or b^4 and when turned in the other direction registers with the other of said apertures thus enabling the flow to be directed at will either through the central passage b^5 in which event the pressure from the tank causes the fluid to be delivered in a solid or continuous stream or through the passages b^7 breaking the flow against the sides of the nozzle extension b^8 and in consequence delivering the same in a fine spray from the nozzle. Should wear ever occur in the packing washer the pressure of the valve thereon may be increased by setting up the nut E, and should it be necessary or desirable to disassemble the construction, the removal of the drift pin f^3 and the stud screw e permits the removal of the handle or operating lever after which the nut E may be removed and the collar C and the valve lifted from place to permit the renewal of the packing washer b^2.

As shown a pin b^{11} is engaged in the valve seat and extends through an aperture in the packing washer to hold the same always in adjustment with its apertures registering with those in the seat.

Obviously, one or more arms or extensions c, on the clamping collar C, may be used and the means for securing the operating lever in place may be varied and numerous other details of construction may be varied without departing from the principles of this invention. I therefore do not purpose limiting this patent otherwise than necessitated by the prior art.

I claim as my invention:

1. In a faucet the combination with a valve seat, of a rotatable valve, a collar fitted over the valve, one or more arms on said collar, and clamping means engaged on said arm adapted to adjustably clamp said valve upon its seat.

2. In a faucet the combination with a valve seat, of an outwardly directed flange around said seat, a rotatable valve fitting in said flange, a packing washer between the valve seat and valve, a collar fitted over the valve and around the flange, arms on said collar and clamping means engaged on said arms adapted to adjust the collar longitudinally to hold the valve upon its seat.

3. In a faucet the combination with a faucet body, of a valve seat, concentric flanges surrounding the valve seat, a rotatable valve fitted within the inner flange, a stem integral with said valve, a collar fitted over the stem and valve having its inner end fitting between the flanges, arms on said collar extending through apertures in the body and clamping means engaged on said arms adapted to adjust the pressure of said valve upon its seat.

4. In a device of the class described the combination with a faucet body, of a valve

seat on one side of said body, a rotatable valve, a washer fitted between the seat and valve, a collar fitted over the valve and bearing against the same, a plurality of arms on said collar extending to the opposite side of the body from the collar, and clamping means threaded on said arms on the opposite side of the body from the valve, adapted to draw said valve upon its seat with any degree of pressure.

5. In a device of the class described a body provided with a central inlet passage and a plurality of outlet passages, a flat valve seat, a washer fitted thereagainst having apertures to register with said passages, a valve bearing against the washer, said valve having a passage therein adapted to connect the inlet with any of the outlet passages, and coacting clamping members on the opposite sides of the body adapted by rotation of the member opposite the valve to draw the other member to adjust said valve against the washer to afford a tight joint at all times.

6. In a device of the class described the combination with a faucet body having a flat seat therein, of a central inlet bored therethrough, said body having apertures arranged about the inlet at equal radial distances therefrom, passages communicating with the apertures and leading to the point of discharge, a valve having connected apertures to register with the inlet bore and with said adjacent apertures, a stem on said valve, a collar fitting over the stem, arms thereon projecting to the opposite sides of the body, and a nut threaded on the ends of said arms and bearing against the body and adapted to adjust the pressure of the valve on said seat.

7. In a device of the class described the combination with an apertured faucet body having a flat seat therein, of an inlet passage opening centrally through the seat, said body being provided with apertures arranged about the inlet at equal radial distances therefrom, passages communicating with the apertures and leading to the point of discharge, concentric flanges around the valve seat providing a channel therebetween, a valve fitted to rotate within the inner flange and having connected apertures to register with the central inlet passage and with any one of said adjacent apertures to deliver either a solid stream or spray, a collar fitting over the valve and bearing against the same, having its end extending into said channel, arms thereon projecting through the body to the opposite side of the same, and a nut threaded on the ends of said arms and adapted to adjust the pressure of the valve on said seat.

8. In a device of the class described the combination with a faucet body having a seat therein, a central inlet opening therethrough, apertures arranged about the same at equal radial distances therefrom, passages communicating therewith and leading to the point of discharge, a packing washer bearing against the seat having apertures therethrough adapted to register with the inlet and aforesaid apertures, means preventing displacement of the washer, a valve seating against the washer having connected apertures to register with the inlet and the other apertures, a stem on said valve, a collar fitting over the stem and valve, arms thereon projecting to the opposite side of the body, a nut threaded on the ends of said arms and bearing against the body and adapted to adjust the pressure of the valve on said seat, a screw threaded stud secured to the body opposite the stem and in axial alinement therewith, and a handle rigidly secured to the stem and journaled on the stud for adjusting the valve.

9. In a device of the class described the combination with a faucet body having a planed seat therein, an inlet passage in said body, apertures arranged about the passage opening through the valve seat, passages communicating therewith and leading to the point of discharge, one of said passages adapted to deliver a solid stream from the device, other of said passages adapted to deliver a spray stream from the device, a valve having apertures to register with the inlet and said apertures in the valve seat, and a passage connecting said apertures in the valve, axial alined means secured to opposite sides of the body, an actuating handle on said means adapted to operate the valve, and inwardly adjustable members on the alined means on opposite sides of the faucet body for varying the pressure of the valve on its seat.

10. In a device of the class described the combination with a body having a valve seat on one side thereof with inlet and outlet passages opening therethrough, of a valve adapted to bear on said seat having a passage adapted to communicate with the inlet and outlet passages, members secured to the opposite sides of the body, one being rigid and the other rotatable with the valve, and a member on each of said members, one adapted to bear against the valve and the other adapted to adjust the same to exert the desired pressure of the valve on said valve seat.

11. In a device of the class described a faucet body provided with apertures, a valve apertured to open and close the apertures in the faucet body, and members on opposite sides of the faucet body for drawing the valve to its seat, one bearing against the valve and held from rotation, and the other adapted to move the non-rotatable member inwardly.

12. In a faucet the combination with a

body, of a valve seat on one side of said body, a valve, a collar fitted over the valve and bearing against the same, arms on said collar, and clamping means threaded on said arms adapted to draw said valve upon its seat with any degree of pressure.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

JOSEPH A. McCORMICK.

Witnesses:
K. E. HANNAH,
J. W. ANGELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington. D. C."