G. R. LONG.

PUSH BUTTON FAUCET.

APPLICATION FILED JULY 9, 1920.

1,403,509. Patented Jan. 17, 1922.

Fig. 1.

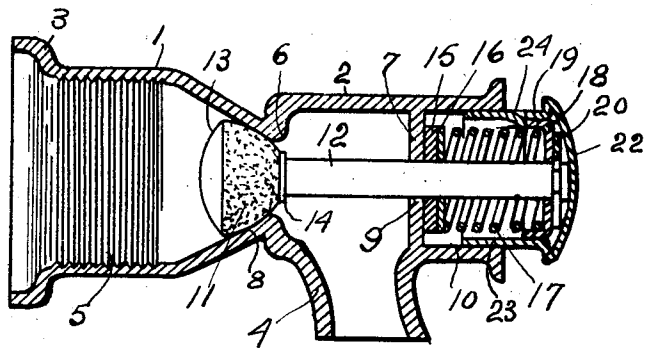



Fig. 4.

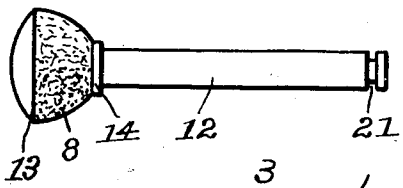



Fig. 2.

Fig. 6.

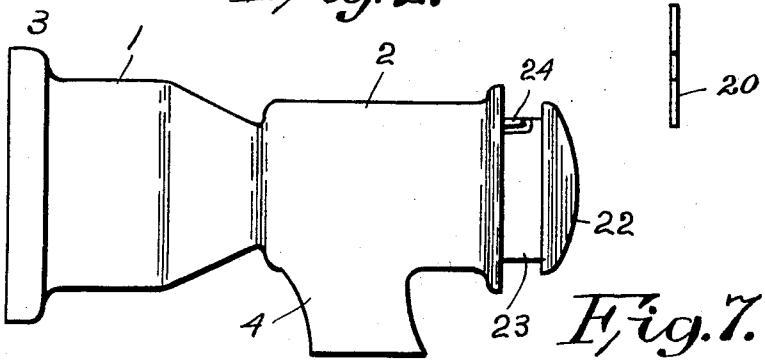




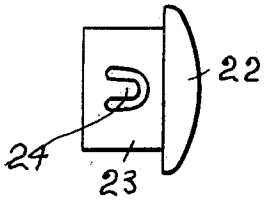


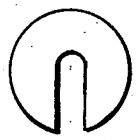
Fig. 7.

Fig. 5.



Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## PUSH-BUTTON FAUCET.

1,403,509. Specification of Letters Patent. Patented Jan. 17, 1922.

Application filed July 9, 1920. Serial No. 395,053.

*To all whom it may concern:*

Be it known that I, GEORGE R. LONG, a citizen of the United States, residing at Waterbury, in the county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Push-Button Faucets, of which the following is a description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to faucets of the push button type adapted for use with water coolers and other liquid dispensing devices as well as for other purposes and is in the nature of an improvement in the faucet which forms the subject-matter of United States Letters Patent No. 1,238,926 dated Sept. 4, 1917. My present invention has for its object to provide a faucet having the general features of construction and arrangement of that shown in the patent referred to but having its body adapted to be formed in one piece by casting and which will require little machining and in which the operating parts may be quickly assembled and disassembled without the use of special tools. A further object of the invention is to provide a construction by which the push button will not only serve to protect the operating parts and retain them in position but may be readily disengaged from them when desired.

With the above described objects and other objects hereinafter explained in view my invention consists in the construction and combination of elements hereinafter described and claimed.

Referring to the drawings,

Figure 1 is a vertical longitudinal central sectional view of a faucet embodying my invention,

Figure 2 is a side elevation of the same,

Figure 3 is a side view of the push button,

Figure 4 is a detail view of the valve and valve rod,

Figure 5 is a detail view of the cap for the forward end of the spring, and

Figures 6 and 7 are respectively an edge view and side view of the retaining key by which the cap for the forward end of the spring is held on the valve rod.

In the drawings 1 indicates the socket portion of the faucet screwthreaded at 5 and having protecting flange 3 at its rear end, and 2 indicates the main portion of the faucet body. 6 indicates an inwardly projecting annular shoulder between the socket portion 1 and the spout 4 which extends downward from about the midlength of the main portion 2. This shoulder 6 has its rear face 8 adapted to serve as a valve seat. 7 indicates an inwardly extending annular shoulder between the spout and the front end of the faucet body having a central opening 9 for the passage of the valve rod. Between the shoulder 7 and the front end of the body portion is formed a cylindrical chamber 10. The valve seat 8, the opening 9 in the shoulder 7, the forward face of the shoulder 7 and the interior of the cylindrical chamber 10 are preferably machined true, and, of course, the screw threads 5 are cut but otherwise the faucet body needs no machining.

11 indicates the valve preferably formed of rubber or similar resilient material, and is held on the rear end of the valve rod 12 by a head 13 and a shoulder 14 and is adapted to fit the valve seat 8. The valve rod 12 extends forward through opening 9 in the shoulder 7 and, forward of this shoulder carries a washer 15 of rubber or other resilient material and a metallic washer 16 against which bears the rear end of a coiled spring 17 carried by the valve rod the forward end of which bears against a cap 18 the rearwardly extending flange 19 of which encloses the forward end of the spring. This cap 18 is held on the valve rod by a key 20 suitably notched to fit an annular groove 21 in the valve rod near its forward end.

Over the cap 18 and key 20 fits a push button cap 22 preferably formed of resilient sheet metal, the body portion 23 of which fits loosely in the cylindrical chamber 10. In this body portion 23 of this push button cap is formed a forwardly extending tongue 24 which is adapted to be bent inward to engage the rear edge of the flange 19 of the cap 18. This tongue is preferably somewhat resilient so that when the operating parts are assembled and the push button cap is put over the key 20 and cap 18 and is pushed rearward the tongue will spring inward into engagement with the rear edge of the flange 19 and will thus be securely locked in place. When it is desired to disassemble the parts the tongue 24 is disengaged from the flange 19 in any convenient manner as by lifting the point of the tongue by the

point of a knife or other sharp pointed instrument, and the push button cap is pulled off. By then slipping the key 20 off from the valve rod the cap 18 and the spring 17 may be removed and the valve and valve rod may then be pushed rearward and removed from the rear the faucet being, of course, unscrewed from the pipe on which it is used.

While the tongue 24 is the preferred form of resilient device for engaging the cap 18 I do not desire to be limited to this particular means for this purpose it being obvious that other engaging means might be carried by the push button cap to engage the cap 18.

Having thus described my invention what I claim is—

1. In a push button faucet the combination with a faucet body having an abutment therein and a rearwardly opening valve having a valve rod extending through the abutment, of a spring on the valve rod bearing at its rear end against the abutment, an abutment on the valve rod against which the forward end of the spring bears, a push button cap having a flange enclosing the abutment on the valve rod, and means integral with said push button cap adapted to engage said abutment on the valve rod to retain said push button cap in position thereon.

2. In a push button faucet the combination with a faucet body having an abutment therein and a rearwardly opening valve having a valve rod extending through the abutment, of a spring on the valve rod bearing at its rear end against the abutment, an abutment on the valve rod against which the forward end of the spring bears, a push button cap having a flange enclosing the abutment on the valve rod, and resilient means carried by said push button cap adapted to engage said abutment on the valve rod to retain said push button cap in position thereon.

3. In a push button faucet the combination with a faucet body having an abutment therein and a rearwardly opening valve having a valve rod extending through the abutment, of a spring on the valve rod bearing at its rear end against the abutment, an abutment on the valve rod against which the forward end of the spring bears, a push button cap having a flange enclosing the abutment on the valve rod, and means carried by the flange of said push button cap and extending inward therefrom to engage the abutment on the valve rod to retain said push button cap in position thereon.

4. In a push button faucet the combination with a faucet body having an abutment therein and a rearwardly opening valve having a valve rod extending through the abutment having an annular groove formed therein near its forward end, of a spring on the valve rod bearing at its rear end against said abutment, an abutment on the valve rod against which the forward end of the spring bears, a key fitting the annular groove in the valve rod for retaining the abutment on the valve rod, a push button cap having a flange enclosing the abutment and key on the valve rod to hold the key against displacement, and inwardly extending means carried by the flange of the push button cap adapted to engage the abutment on the valve rod to retain said push button cap in position thereon.

In testimony whereof I affix my signature this 2nd day of July, 1920.

GEORGE R. LONG.