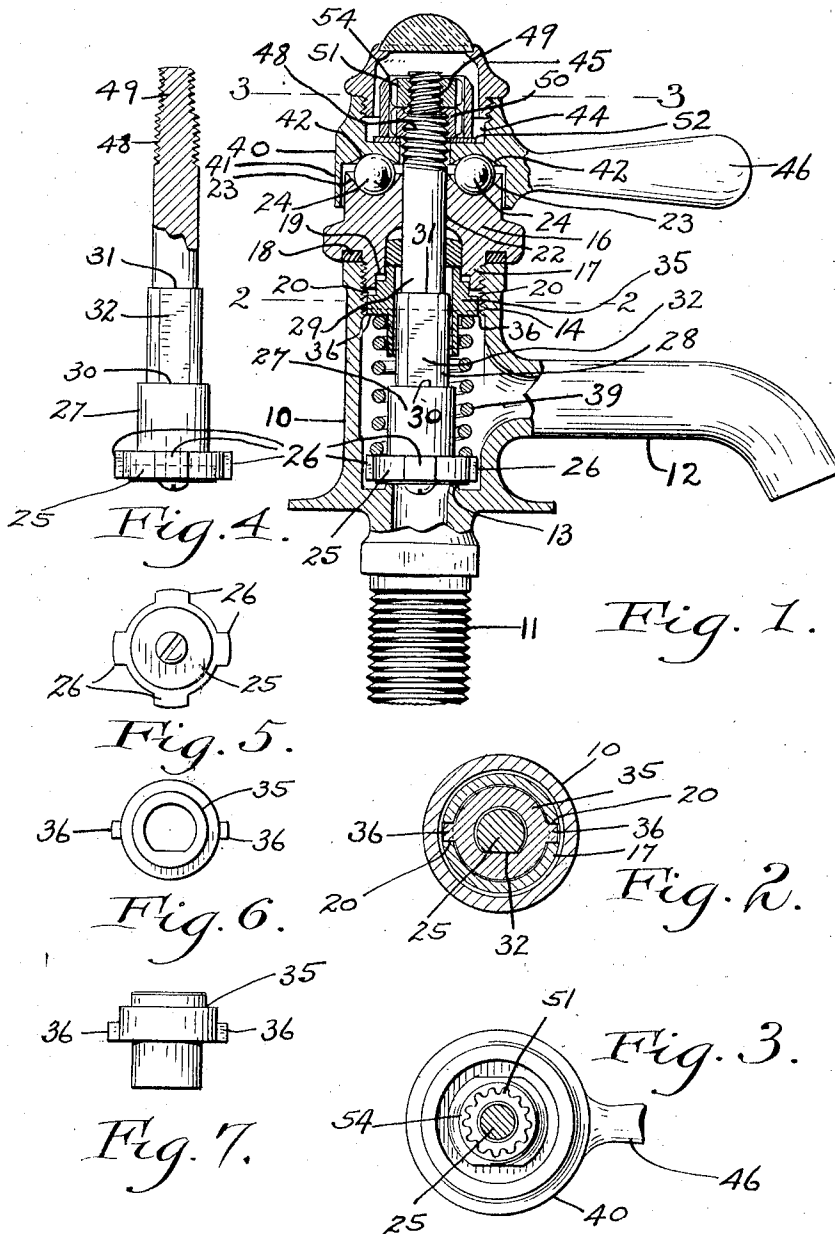


H. J. GEURINK.
 SELF CLOSING FAUCET.
 APPLICATION FILED MAR. 18, 1918.

1,331,865.

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Witnesses:
 H. T. Lettins
 B. C. Brown.

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UNITED STATES PATENT OFFICE.

HARRY J. GUERINK, OF CLEVELAND, OHIO, ASSIGNOR TO THE VULCAN BRASS MFG. CO.,
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SELF-CLOSING FAUCET.

1,331,865.

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To all whom it may concern:

Be it known that I, HARRY J. GUERINK, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Self-Closing Faucets; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to new and useful improvements in self-closing faucets.

The object of this invention is to provide a faucet which will be very compact in construction, durable in operation and having such an arrangement of parts as will prevent the members from working loose when the faucet is in use.

My invention therefore consists in certain new and useful features of construction and combination of parts hereinafter described in the specification, pointed out in the claims and illustrated in the accompanying drawings.

Referring to the accompanying drawings, Figure 1 is a central vertical sectional view of a faucet embodying my invention. Fig. 2 is a section on line 2—2, Fig. 1. Fig. 3 is a section on line 3—3, Fig. 1. Fig. 4 is a detail view in elevation of the valve and valve stem. Fig. 5 is a bottom plan view of the same. Fig. 6 is a top plan view of the locking sleeve. Fig. 7 is a view in elevation of the same.

Again referring to the drawings, 10 represents the body of the faucet which is provided with the usual threaded connection 11 for the water pipe and a spout 12. In the bottom of the body portion of the faucet is arranged an annular valve seat 13. At its upper end the body portion is provided with an internal screw thread 14. On the upper end of the body portion of the faucet is arranged the bonnet 16 which has an annular exteriorly screw-threaded flange 17 adapted to screw into the body portion. A washer 18 is preferably arranged between the rim of the body portion and the bottom of the bonnet and the exterior of the bonnet is adapted to be engaged by a wrench so that the bonnet can be firmly screwed into the body portion. On the interior of the flange 17 of the bonnet is preferably formed an annular shoulder 19 and in the bottom rim

of said flange 17 are formed two notches 20 which are arranged diametrically opposite each other. The purpose of these notches will appear later. The bonnet is provided with a central bore 22 for the reception of the valve shank or stem; and on the top of the bonnet around said bore are formed a series of cam grooves or inclines 23. In each of the cam grooves is a ball 24. The valve is shown at 25 and around the perimeter of the valve are formed extensions 26 which engage the walls of the body portion and insure the alinement of the valve stem and the true seating of the valve. The valve stem is shown at 27 and the diameter thereof is reduced upwardly as at 28 and 29, forming two annular shoulders 30 and 31. The portion 28 of the valve stem is cut away at one side forming a flat face 32. On the valve stem 27 within the body portion is arranged a locking sleeve 35, and the opening or bore in said sleeve corresponds in shape to the cross sectional shape of the portion 28 of the valve stem so the valve stem is free to move up and down through said sleeve but can not turn therein. On the outer surface of the said sleeve 35 are formed a pair of lugs 36 which are arranged diametrically opposite each other and are adapted to enter the notches 20 in the rim of the flange 17 of the bonnet 16. It will therefore be understood that when the said lugs 36 are in the notches 20 of the flange 17 the said sleeve 35 will be held against rotation and consequently the valve stem will be held against rotation. The sleeve 35 is provided with an annular shoulder 37 arranged to contact with the shoulder 19 of the flange 17. A packing ring 38 is arranged on the valve stem within the flange 17 and is adapted to be engaged by the rim of the sleeve 35. On the valve stem is arranged a coil spring 39, one end of which abuts against the valve and the other end abuts against the sleeve 35.

The handle of the faucet consists of a round head 40 which is provided with an annular flange 41 adapted to fit over and telescope with the upper part of the bonnet 16. In the bottom surface of the head 40 are formed cam grooves 42 which correspond to the cam grooves 23 in the top surface of the bonnet. In the top surface of the head 40 is formed a chamber 44 and a screw threaded cap 45 is provided for closing the top of said chamber. The head is preferably provided

with a grip piece or handle 46. The upper end of the valve stem extends through said head and into the chamber 44 and the upper end of the valve stem is provided with two screw threads shown at 48 and 49, one being a right hand screw thread and the other being a left hand screw thread. The valve stem is somewhat reduced at its extreme end so that the end screw thread 49 is smaller in diameter than the other screw thread 48. On the said screw threads are arranged circular nuts 50 and 51, and between the bottom nut and the upper surface of the head is preferably arranged a washer 52.

The object of the locking sleeve heretofore described is to prevent the rotation of the valve stem while said nuts 50 and 51 are being screwed onto the end of said valve stem, for, of course, if the valve stem were free to rotate it would be impossible to tighten said nuts. The perimeters of the nuts are serrated and a locking sleeve 54 interiorly serrated is adapted to fit over the said nuts so that the teeth on the interior of the sleeve interlock with the teeth on the nuts. Therefore the nuts are prevented from turning or becoming loose because one nut has a right hand thread and the other nut has a left hand thread, and being thus locked together by the sleeve, if either nut were to turn in a direction to loosen itself, the other nut would be turned in the direction to tighten itself.

To open the faucet the handle is turned or rotated and as the head portion rotates the cam grooves will ride up on the balls and cause the head portion of the handle to move up and away from the body portion of the faucet which, of course, will raise the valve stem and lift the valve from its seat. When the valve stem has moved up the proper distance to open the valve the annular shoulder 30 on the valve stem will come in contact with the sleeve 35 which makes a positive mechanical stop preventing the handle from being turned too far.

What I claim is:—

1. In a self-closing faucet, the combination of a body portion having a water inlet and outlet, and provided with a valve seat, a valve stem, a valve arranged on the lower end of said valve stem, a bonnet mounted on the body portion and having a flange provided with notches, a sleeve arranged on the

valve stem and having lugs adapted to fit into said notches, a coil spring arranged on the valve stem below the sleeve and bearing against the sleeve and the valve, a handle arranged on the valve stem and nuts secured on the end of the valve stem.

2. In a self closing faucet, the combination with a body portion having a water inlet and outlet and provided with a valve seat, of a valve stem, a valve at the lower end of said stem, a bonnet mounted upon the body portion and having a flange provided with notches, a sleeve arranged on the valve stem and having lugs adapted to engage said notches, a coil spring arranged on the valve stem and bearing against the sleeve and the valve, and a handle operatively connected with said stem.

3. In a self closing cock, the combination with a body portion having a water inlet and outlet and a valve seat, of a valve and its stem together with means for actuating said stem, including a handle, said stem having a right hand thread, and a left hand thread, a circular nut having a serrated periphery adapted to screw upon the right hand threaded portion, a circular nut similarly serrated and adapted to screw upon the left hand threaded portion, and a sleeve, having its interior face serrated and adapted to engage both nuts when brought into register.

4. In a self closing cock a body portion having a water inlet and outlet and a valve seat, of a valve, a stem for said valve, means for holding said valve against rotation but permitting vertical movement of the same, means for so moving said stem, the upper end of said stem having a right hand thread and a left hand thread, circular nuts adapted to screw upon said reverse threads, said nuts being circular and having their peripheries serrated and a sleeve having a serrated interior adapted to fit upon said serrated nuts, when brought into register.

In testimony whereof I sign the foregoing specification, in the presence of two witnesses.

HARRY J. GEURINK.

Witnesses:

B. C. BROWN,
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