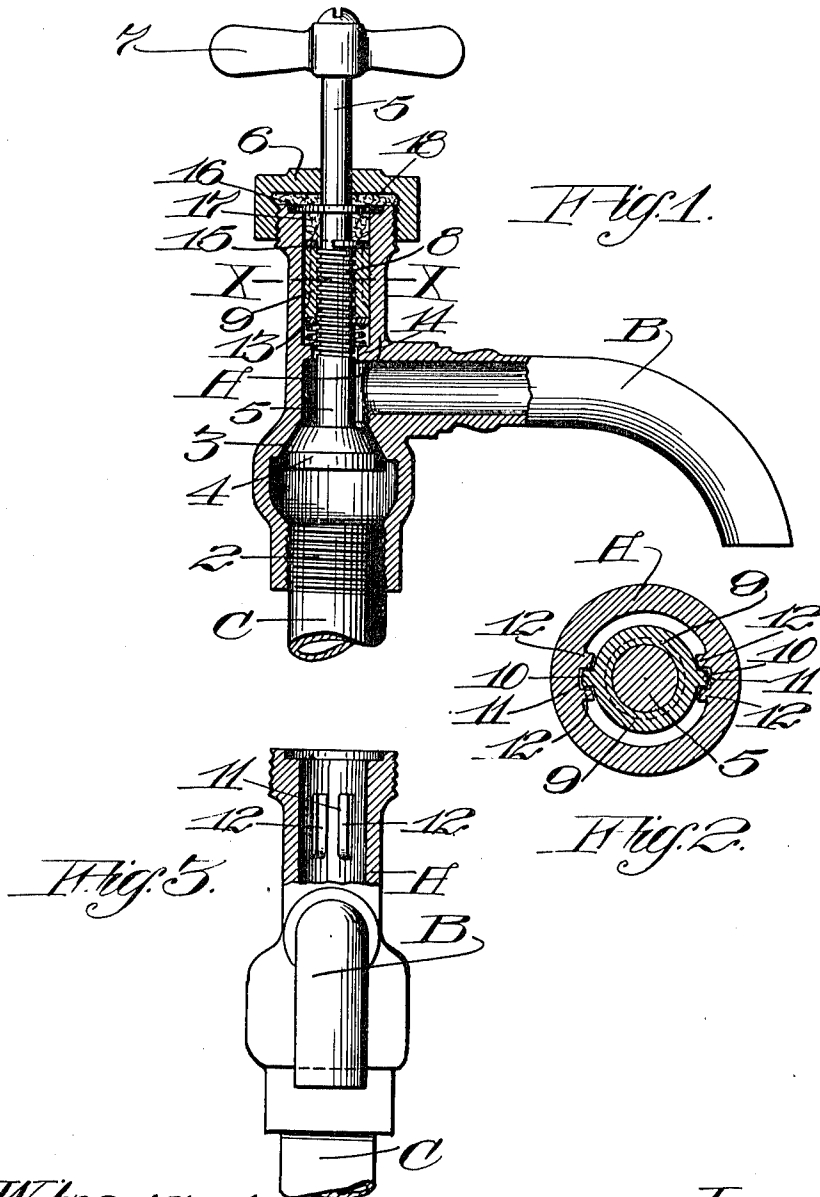


A. J. COLLAR.
FAUCET.

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1,040,624.

Patented Oct. 8, 1912.



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UNITED STATES PATENT OFFICE.

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FAUCET.

1,040,624.

Specification of Letters Patent.

Patented Oct. 8, 1912.

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To all whom it may concern:

Be it known that I, ADONIRAM J. COLLAR, a citizen of the United States, residing at Yreka, in the county of Siskiyou and State of California, have invented new and useful Improvements in Faucets, of which the following is a specification.

This invention relates to a faucet, and has as its object the production of a faucet in which the use of gaskets on the valve and valve seat is obviated.

The principal object of this invention is to provide a faucet which is durable and not liable to get out of order.

Other objects will appear in the following specification.

The invention consists of the parts and the construction and combination of parts, as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a view of the invention in vertical section, partly in elevation. Fig. 2 is a horizontal section on the line X—X, Fig. 1. Fig. 3 is a detail front elevation of the faucet casing with parts broken away.

In the drawings, A represents the faucet casing and B is the spout thereon. The casing A is designed to be screwed on the delivery pipe C and is threaded at 2 on its lower end for that purpose. A valve seat 3 is formed on the interior of the casing A below the point of connection of the spout B; the valve seat 3 being circular in plan with its face diverging outwardly and downwardly so as to receive a tapered or frusto-conoidal shaped valve 4, which is designed to cut off communication between the delivery pipe C and the spout B and normally extends into and contacts the valve seat 3 from the underside thereof.

The valve 4 is mounted on the lower end of a stem 5 which extends through a gland 6 on the upper end of the casing A and has a hand-hold 7 mounted on its upper end, by means of which it is turned to open and close the faucet, as will be presently described. The stem 5 is threaded for a portion of its length within the casing A, as indicated at 8; this threaded portion 8 screwing into an internally threaded sleeve 9 disposed in the casing A.

The sleeve 9 is provided with diametrically opposed vertical ribs 10—10, which are adapted to extend into grooves 11—11 formed between parallel vertical ribs 12—12 on the

interior of the casing A. The engagement of the ribs 10 on the sleeve 9 by the ribs 12 on the casing A prevent the former from rotating so that when the stem 5 is revolved, it will travel longitudinally within the sleeve 9. The sleeve 9 is designed to have a vertical movement within the casing A and is normally retained in its uppermost position by means of a helical spring 13 which surrounds the stem 5 and bears between a shoulder 14 on the inner face of the casing A and the lower end of the sleeve 9.

A loose ring 15 is disposed on the stem 5 adjacent the upper end of the sleeve 9, and a similar ring 16 surrounds the stem 5 a short distance above the ring 15; the ring 16 resting on the end of the casing A. A packing 17 of any suitable material is placed around the stem 5 in the space between the rings 15 and 16, inclosed by the casing A, and a packing ring 18 is disposed between the ring 16 and the gland 6; the packing rings 17 and 18 preventing the passage of liquids around the stem 5.

In opening the faucet the stem 5 is turned in such direction as to cause it to move downward in the sleeve 9 and thereby unseat the valve 4 to allow fluid to pass from the delivery pipe C out the spout B. In closing the faucet the stem 5 is turned in the direction opposite that required in opening, which causes the valve 4 to move upwardly into the valve seat; the sleeve 9 moving downwardly a short distance in opposition to the spring 13 the moment the valve is seated, thereby cushioning the closing of the valve.

The pressure of the liquid in the delivery pipe being against the lower side of the valve 4, tends to retain it tightly seated; upward pressure being confined to the valve 4 and stem 5, and not transmitted to the valve casing except through the seat 3 by reason of the sleeve 9 being slidable vertically in relation to the faucet casing. The flow of water may be regulated when the valve 4 is wide open by bringing it close to, or in contact with, the end of the pipe C. As the threaded sleeve or nut 9 is movable up and down in its case A, it will be manifest that the valve 4 may be opened either by screwing the threaded stem through the threaded sleeve, or by pressure upon the head 7. The spring acts to close the valve 4 when opened by direct pressure. The ring or washer 15 approximately fits the case, but the central

hole through which the stem passes is large enough to allow water to follow slowly when the stem is forced down by pressing quickly upon the head 7, and when the stem is released and the valve closed by the action of the spring, this trapped water can only escape downward slowly as the valve closes, thus preventing what is known as "water hammer" by a sudden closing of the valve.

10 The threaded sleeve held up by the spring is important because after the valve is closed, the latter may be turned and the spring allows it to move down against the tension of the spring and the valve being thus

15 turned on its seat, may be ground and a fit maintained without a gasket.

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

20 1. A faucet comprising a casing, a downwardly diverging valve seat therein, a conical valve seated therein, a stem on which said valve is mounted, threads on said stem a portion of its length, a sleeve reciprocally

25 mounted in the casing and threaded to receive said stem, means for preventing the sleeve from rotating, said sleeve being also capable of being forced down by pressure to allow the valve to be opened by direct

30 pressure, and a packing ring surrounding the stem above the sleeve.

2. A faucet comprising a casing, a downwardly diverging valve seat therein, a conical valve seated therein, a stem on which

35 said valve is mounted, threads on said stem a portion of its length, a sleeve reciprocally mounted in the casing and threaded to receive said stem, means for preventing the sleeve from rotating, said sleeve being also

40 capable of being forced down by pressure to allow the valve to be opened by direct pressure, a packing ring surrounding the stem above the sleeve, and resilient means for

45 normally retaining the sleeve in its uppermost position.

3. A faucet comprising a casing, a downwardly diverging valve seat therein, a conical valve seated therein, a stem on which

50 said valve is mounted, threads on said stem a portion of its length, a sleeve reciprocally

mounted in the casing and threaded to receive said stem, means for preventing the sleeve from rotating, said sleeve being also capable of being forced down by pressure to allow the valve to be opened by direct pressure, a packing ring surrounding the stem above the sleeve, and resilient means for normally retaining the sleeve in its uppermost position, comprising a helical spring surrounding the stem and bearing between the sleeve and a shoulder on the casing.

4. A water controlling valve comprising a valve opening downwardly from its seat against the current flow, and a guided threaded sleeve normally held up by a spring, through which the valve stem is turnable, said sleeve being also capable of being forced down by pressure to allow the valve to be opened by direct pressure.

5. A water controlling valve comprising a valve opening downwardly from its seat against the current flow, a guided threaded sleeve normally held up by a spring, through which the valve stem is turnable, said sleeve being also capable of being forced down by pressure to allow the valve to be opened by direct pressure, and a ring or washer approximately fitting the casing and having an opening around the valve stem to allow a slow passage of water when the valve stem is forced down or up by direct pressure to prevent sudden closing of the valve.

6. A water controlling valve comprising a valve opening downwardly from its seat against the current flow, and a guided threaded sleeve normally held up by a spring, through which the valve stem is turnable, said sleeve being also capable of being forced down by pressure to allow the valve to be opened by direct pressure, said valve arranged to check the flow of liquid when in its lowermost position.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ADONIRAM J. COLLAR.

Witnesses:

JAS. A. THOMAS,
JAS. R. TAPSCOTT.