

J. A. & D. H. COCHRANE.
 QUICK CLOSING FAUCET.
 APPLICATION FILED SEPT. 8, 1908.

1,007,338.

Patented Oct. 31, 1911.

Fig. 1.

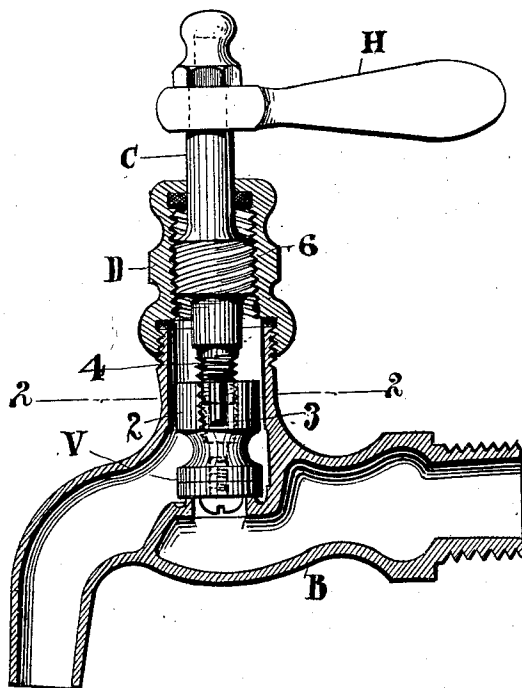


Fig. 2.

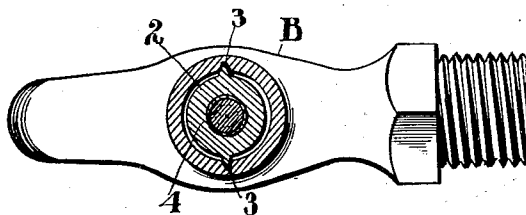
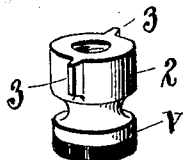


Fig. 3.



ATTEST
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QUICK-CLOSING FAUCET.

1,007,338.

Specification of Letters Patent.

Patented Oct. 31, 1911.

Application filed September 8, 1908. Serial No. 452,027.

To all whom it may concern:

Be it known that we, JOHN A. COCHRANE and DAVID H. COCHRANE, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Quick-Closing Faucets; and we do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to quick closing faucets, and the invention consists in a faucet having a valve stem with two sets of threads running reversely to each other and a sliding valve operatively engaged by said stem and subject simultaneously to the action of both said threads, substantially as shown and described and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of our new and original construction of faucet, and Fig. 2 is a cross sectional plan view on line 2-2, Fig. 1.

As thus shown, B represents the body of the faucet and C the valve controlling stem rotatable axially therein. A handle H is provided to turn said stem and control the valve. To this end the said valve V is provided with a head 2 having a rib or ribs 3 vertically disposed on its outside adapted to slide in corresponding grooves or channels in the barrel shaped wall of body B and serve as a guide and bearing for the valve to keep it from turning. This or any equivalent construction for slidably supporting and guiding the valve to and from its seat may be adopted.

The stem C has a relatively reduced externally threaded lower extremity or end 4 engaged in a correspondingly threaded bore or hole centrally in said valve head 2, and at about its middle portion, or midway between its ends, has a hub shaped enlargement provided with a quick external thread, 6 which engages a corresponding interior thread in cap D surmounting the faucet body and forming an extension on said body or casing. The said part D has all the depth needed to turn or run the valve stem with its quick thread 6 up as far as may be needed to open valve V to its maximum, and the complete construction and coöperation of parts is such that the two threads,

4 and 6, operate conjointly to raise and lower the valve. To this end the said threads are not only quick or steep in themselves but they are right and left respectively, so that while the larger or steeper upper thread 6 operates to effect a quick lift of the stem, and would raise the valve correspondingly if it had only a rotatable lift connection therewith, it is supplemented by the left thread 4 rotating in valve head 2 and exercising a lifting action exclusively its own. Thus, while the stem and the valve are under the primary lift by or through the quicker thread 6, there is an additional lift by thread 4, making the lift a double one and hence exceptionally quick. This is so manifest that we find a quarter turn of the handle sufficient to raise the valve high enough to afford what may be termed the full or maximum flow of the faucet. A similar reverse turn will of course seat the valve. In these operations only the valve stem turns and the valve slides up and down but is carried by the stem from and to its seat. Initially the stem is threaded into the valve head far enough to allow it to turn therein without running out or disengaging during the operation of the valve, and the raising of the valve occurs when the end or point 4 runs inward or downward into the valve while the thread 6 runs upward in cap D, the handle being turned to the right in the present construction. As to the valve stem, it is to be especially observed that the pitch of the threads 4 and 6 differ proportionately to the cross section of the said parts, and that in addition the said threads are right and left respectively, so that while thread 6 is lifting stem and valve together the valve rises more rapidly than the stem by reason of the accelerating lift by thread 4. The right hand thread 6 is in fact a quadruple thread, thus giving an extremely quick action in lifting or seating the valve.

What we claim is:—

A faucet body having a tubular neck on its top, open above and provided with vertical grooves in its side, a cap threaded on said neck and having an annular shoulder seated on said neck and narrowed above said shoulder and provided with a quadruple quick thread inside and packing above said thread, in combination with a valve stem having a relatively enlarged body portion 6 between its ends provided with a

quadruple right hand thread engaged in the
said thread in said cap and ribs 3 engaged
in said grooves and provided with a rela-
tively reduced extremity provided with a
5 left hand screw of less inclination than said
quadruple thread, a valve with a threaded
socket in which said extremity is rotatably
engaged, and a seat for said valve, said
right and left hand threads being adapted
10 to work in unison downward to effect a

quick opening and closing of the valve with
about a quarter stroke of the handle.

In testimony whereof we sign this speci-
fication in the presence of two witnesses.

JOHN A. COCHRANE.
DAVID H. COCHRANE.

Witnesses:

R. B. MOSER,
F. C. MUSSUN.

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