(No Model.)

W. WRIGLEY.

FAUCET.

No. 515,810. Patented Mar. 6, 1894.

Fig. 2.

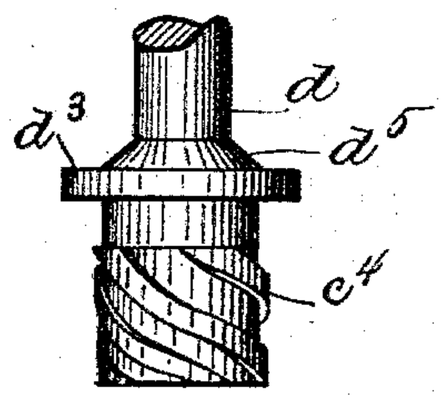


Fig. 3.

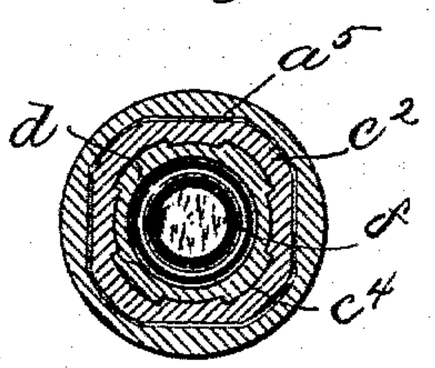
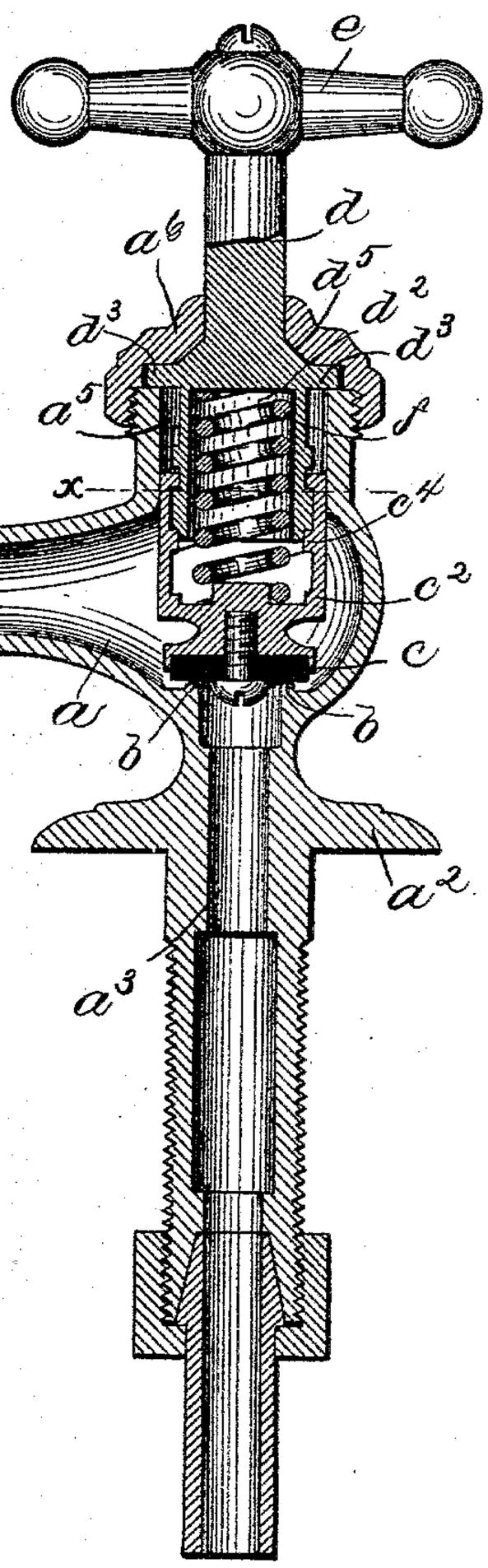


Fig. 1.



Witnesses
Jas. J. McAloney.
W. E. Hill.

Inventor
William Wrigley.
by Jos. P. Livermore
Att'y.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM WRIGLEY, OF BOSTON, MASSACHUSETTS.

FAUCET.

SPECIFICATION forming part of Letters Patent No. 515,810, dated March 6, 1894.

Application filed April 18, 1892. Serial No. 429,633. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WRIGLEY, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Faucets, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is embodied in a self closing faucet and is intended to produce a simple, efficient, and inexpensive faucet.

The invention is embodied in a faucet having a valve which seats on the water inlet against the pressure of the water and is connected with an operating stem, as shown in this instance by a multiple screw thread of steep pitch, the said valve and stem being acted upon by a spring which tends to force them apart, thereby normally pressing the valve against the said seat. The stem is provided with a flange which prevents longitudinal movement, and the valve is engaged with the faucet body or shell in such manner as to prevent rotary movement the consequence being that rotary movement of the stem produces a longitudinal movement of the valve, raising the same from its seat, and at the same time compressing the spring, the force of which tends to restore the parts to their original normal position when the handle is released.

Figure 1 is a longitudinal vertical section of a faucet embodying this invention; Fig. 2 a side elevation of the valve operating stem or handle detached, and Fig. 3 a transverse section on line x Fig. 1.

The body or shell a of the faucet may be of any suitable shape depending upon the purpose for which the faucet is intended, it being shown in this instance as of the kind used as a basin faucet having a supporting foot a^2 through which the water inlet a^3 is made, and a lateral discharge spout a^4. The inlet passage a^8 terminates in a valve seat b and the top or neck a^5 of the faucet body above said valve seat is open as shown to receive the valve and working parts. The valve proper c is secured to a cup shaped body c^2 which has a longitudinal movement in the neck a^5 of the faucet and is restrained from rotary movement therein, this result being attained as shown in this instance by making the passage a^5 flat faced in cross section and the outer surface of the body c^2 of the valve of similar cross sectional shape, as clearly shown in Fig. 3.

The interior of the upper part of the body c^2 is provided with inclined grooves and projections or, with a multiple internal thread of steep pitch as indicated at c^4, which cooperates with a corresponding external thread on the valve stem or handle d. The lower portion of said stem is provided with a recess d^2 and the said stem is provided with an external flange d^3 which is engaged with the faucet body as shown in this instance by a cap a^6 which screws upon the neck a^5 of the faucet body confining the said flange d^3 between the end of the neck and a suitable recess in the said cap. The said stem d is provided with a suitable operating handle e by which it may be turned, and owing to the screw connection between the said stem and the valve body the rotation of the stem in one direction moves the valve from its seat and in the opposite direction moves the valve toward its seat. A spring f is interposed between the valve body and the operating stem d the said spring being contained in the recesses in said valve body and stem as shown and tending by its expansion to move the said parts longitudinally apart from one another, so that as the stem is restrained from longitudinal movement by the flange d^3 the said spring tends to move the valve c toward its seat. Rotation of the stem in the direction to raise the valve from its seat therefore compresses the spring and the screw thread connection between the stem and valve is of such pitch that the longitudinal pressure developed by the spring easily effects the reverse rotation of the stem when the handle is released and thus forces the valve to its seat. When applied in this manner the spring acts by its expansive force wholly, and not by its torsional force and the valve seats without rotary movement on the valve seat b the spring always acting to press it effectively to its seat and compensating for wear in the valve and its seat. The stem d is shown in this instance as provided with a tapering or inclined portion d^5 above the flange d^3 which fits a corresponding recess in the cap piece a^6 which may take the upward

pressure of the spring rather than the flange d^3 which then acts only to prevent the stem from drawing down into the faucet, instead of lifting up the valve when the stem is turned. When the valve is opened pressure of the water in the valve body tends to force the stem upward thus causing it to engage tightly at the flange or inclined portion d^5 with the cap so as to prevent leakage through the cap around the stem, and consequently no packing is required.

It is not necessary that the valve body should have an accurate fit in the passage in the neck nor that it should be square to prevent rotation of the valve as it is obvious that the rotation can be prevented by other well known plans of construction.

I claim—

The within-described self-closing faucet, consisting essentially of a valve seat, the non-rotating valve having a hollow, screwthreaded, cup-shaped body c^2, the rotary valve stem d having a flanged and tapered portion, and a hollow or recessed portion provided with an external screwthread of steep pitch and entering and engaging the screwthreaded body of the valve, an expansion spring interposed between the valve and stem and within their hollow portions and normally seating the valve by movement thereof in a right line as opposed to rotating it, and a cap fitted to the said flanged and tapered portion of the valve stem and engaging the shell of the faucet to secure the said stem to the shell without the use of packing and permit it to rotate in a fixed plane, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM WRIGLEY.

Witnesses:

JOHN H. MORISON,

JAS. J. MALONEY.