

Self-Closing Bibbs or Faucets.

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Fig: 2.

Fig: 4.

Fig: 5.

Witnesses,
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IMPROVEMENT IN SELF-CLOSING BIBBS OR FAUCETS.

Specification forming part of Letters Patent No. **155,724**, dated October 6, 1874; application filed March 4, 1874.

To all whom it may concern:

Be it known that I, JAMES T. HAYDEN, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improved Self-Closing Bibb or Faucet; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to a new combination of devices by which, through a slight rotative movement of the valve-spindle in either direction, the valve is raised from its seat, against which seat it is instantly closed by the stress of a strong spring as soon as the spindle is released, the valve being raised to open the cock against the stress of the spring. The movement of the valve to and away from its seat in self-closing cocks or faucets has usually been effected through a screw-threaded nut and spindle; but in my invention I dispense with the screw, and form the spindle with a stout flange, between which and the cap are rocking lifters acting as toggles, setting in sockets in the cap, and corresponding sockets in the spindle-flange, rotation of the spindle in either direction causing these lifters to turn up, and thereby lift the flange and the valve fixed to the flange-spindle, and release of the spindle causing the spring to force down the valve to its seat, bringing the links or rockers to horizontal positions in their respective sockets, a headed sleeve surrounding the spindle, but somewhat shorter in length, acting as a stop to keep the faucet always self-closing. My invention consists in the construction and arrangement of the parts thus generally described.

The drawing represents a construction embodying my invention.

Figure 1 shows the faucet partly in section, and partly in elevation. Fig. 2 is a section of the screw-cap and spindle, showing one of the lifters in section, and the other in elevation. Fig. 3 is a plan of the screw-cap, with one of the lifters in its socket, and the other socket without its lifters. Fig. 4 is a bottom view of the spindle-flange. Fig. 5 shows one of the lifters in elevation.

a denotes the valve-tube of the faucet; *b*

and *c*, the inlet and outlet tubes; *d*, the valve-seat between the same; *e*, the valve on the foot of the spindle *f*; *g*, the cap, between which and the valve is a strong spring, *h*, that holds the valve to its seat, the spindle sliding in the cap. At the top of the spindle is its handle *i*, and between the handle and cap the spindle is enlarged to form a flange, *k*, the bottom of this flange preferably forming a close joint with the top of the cap. In the top of the cap are formed two sockets, *l m*, and in the bottom of the flange two corresponding sockets, *n o*, and in two of these sockets, *l n*, is placed a lifter, *p*, acting as a toggle, and in the other two a similar lifter, *q*, each lifter being forked or notched at each end, so that force exerted against either of its upper corners causes the rocker to tip or rise on its diagonally-opposite corner, thus bearing against the side walls or abutments of the sockets, the tip of the lifters lifting the valve-spindle and valve, and such tip being effected by turning the spindle in either direction, and the descent of the spindle and valve being effected by the spring *h* as soon as the force holding the spindle against the stress of the spring is withdrawn. Thus the valve can only remain open while the spindle is held by the hand, and all waste of the water is thereby prevented. Immediately encompassing the spindle (between it and the spring) is a sleeve, *r*, having a head, *s*, which comes between the cap and the head of the spring. This sleeve is a little shorter than the spindle, and as the valve-spindle is turned and raised by the rockers the valve comes in contact with the bottom of the tube, thereby preventing the lifters coming into vertical position, where they would support the spindle, the sleeve thus acting as a stop to keep the faucet always self-closing.

The construction is very simple, effective, inexpensive, and enduring.

I claim—

1. The combination, in a self-closing faucet, of a pair of sockets or abutments on and holding fixed relations with the body of the faucet, a valve stem or spindle capable of rotation and of upward movement, a pair of sockets or abutments on and holding fixed relations with the valve-stem, a spring pressing together

the two pairs of abutments in the axial line of the valve-stem, and a pair of lifters acting as toggles, each engaging with one of each pair of abutments, and so arranged as to oppose the rotation of the valve while yielding to it, substantially as shown and described.

2. A self-closing cock or faucet, having, in combination with a valve held to its seat by the stress of a spring, the loose rocking lifters *p q*, placed between the cap *g* and spindle-flange *k*, and operating as described, to effect

the rise of the valve against the stress of the spring, and by the rotation of the spindle *f*, substantially as described.

3. In combination with the valve-spindle *f* and loose rocking lifters *p q*, the loose sleeve *r*, substantially as shown and described.

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Witnesses:

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