

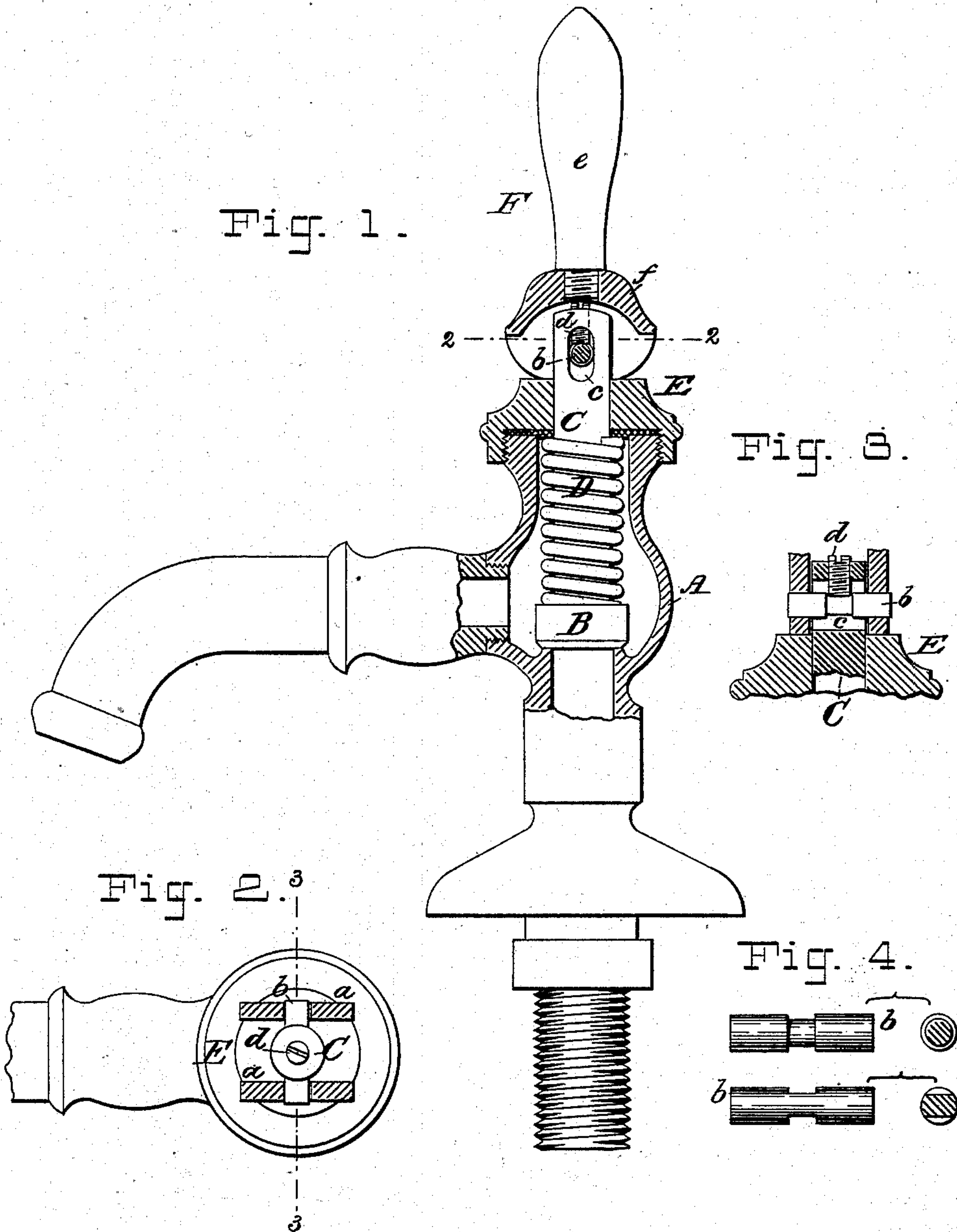
(No Model.)

J. E. BOYLE & H. HUBER.

SELF CLOSING FAUCET.

No. 249,579.

Patented Nov. 15, 1881.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES E. BOYLE, OF BROOKLYN, AND HENRY HUBER, OF NEW YORK, N. Y.,
ASSIGNORS TO SAID HUBER.

SELF-CLOSING FAUCET.

SPECIFICATION forming part of Letters Patent No. 249,579, dated November 15, 1881.

Application filed May 25, 1881. (No model.)

To all whom it may concern:

Be it known that we, JAMES E. BOYLE and HENRY HUBER, both citizens of the United States, residing, respectively, in Brooklyn, Kings county, New York, and in New York city, New York, have invented certain Improvements in Self-Closing Cocks or Faucets, of which the following is a specification.

This invention relates to that class of cocks or faucets in which the valve is held down upon its seat normally by a spring, and is lifted from its seat by means of a lever connected with the stem of the valve.

The purpose of our invention is not to effect any change in the operation of the cock, but in its construction, whereby its parts may be put together and taken apart with greater facility.

In the ordinary construction of these cocks the cheeks of the operating-lever embrace the projecting end of the valve-stem, and are connected with the stem by means of a pin which passes through all and screws into one of the cheeks of the lever. To cause the spring around the valve-stem to draw the cheeks of the operating-lever down snugly and elastically upon the cap of the valve-chamber, (whereby looseness and rattling is prevented,) and at the same time permit the spring to seat the valve properly, it is necessary that the aperture in the stem through which the pin passes shall be drilled with absolute accuracy. To this end the valve is seated, and the cap through which the stem passes is screwed down firmly to its seat. The cheeks of the operating-lever, already drilled to receive the pin, are now set to embrace the valve-stem in the position they are to occupy, and the stem marked or punched where it is to be drilled. The lever is then removed and the stem drilled, "draw-boring," so called, being usually resorted to, for the purpose of insuring the firm setting of the lever on the cap of the cock. If the drilling of the stem be not accurately done, either the valve will be lifted from its seat by forcing in the pin, or the cheeks of the lever will not rest firmly upon the cap. Moreover, if the holes in the cheeks of the lever do not coincide with that in the stem, it is

difficult to enter the pin, and in any case the cost of putting the cocks together, where such accuracy is required, is necessarily excessive.

To obviate the above-named difficulties and render the parts of the cock not only easy to put together, but interchangeable, is the object of our present invention, which we will now describe with reference to the accompanying drawings, in which—

Figure 1 is a vertical mid-section through the operative parts of a cock constructed according to our invention. Fig. 2 is a cross-section of the same, taken in the plane of the line 2 2 in Fig. 1. Fig. 3 is a fragmentary section taken in the plane of the line 3 3 in Fig. 2. Fig. 4 comprises views of different forms of the cross-pin removed.

Let A represent the ordinary valve-chamber, B the valve, C the valve-stem, D the spring, and E the cap, of an ordinary self-closing cock. These are all constructed and arranged in the usual way.

To lift the valve from its seat against the elastic resistance of the spring, a lever, F, is employed, the cheeks *a a* of which rest on the cap E, which serves as a fulcrum, the lever being connected with the stem by means of a pin, *b*, which passes through the cheeks *a a* and the valve-stem. The arrangement and operation of these several parts are, broadly speaking, old; but the construction which we will now describe is new, so far as we are aware.

The aperture *c* in the stem C, through which the pin *b* passes, is elongated in the nature of a slot, and an axial screw, *d*, is provided, which screws down into said slot through the end of the valve-stem. The pin *b* is, by preference, slightly reduced in diameter where the said screw impinges upon it, so that it cannot play longitudinally. It may be turned to a smaller diameter at its middle, or it may there be flattened on one or both sides, as shown in Fig. 4.

The handle *e* of the lever F is detachable, and screws into the bridge or tie *f*, which connects the cheeks *a a*.

In putting the parts of the cock together the valve and spring are properly placed and the cap E screwed firmly down to its seat.

The cheeks of the lever F are now caused to embrace the protruding end of the valve-stem and the pin *b* passed through. This is rendered easy by the elongation of the aperture

5 *c*. The handle *e* is now unscrewed, and the screw *d* inserted and run down upon the pin by inserting a screw-driver at the hole in the tie *f*, from which the handle has been removed. The screw is run down only far enough to seat
10 the cheeks *a a* firmly on the cap E, and not far enough to lift the valve from its seat; and after this adjustment is properly effected the handle *e* is screwed firmly in, and the cock is ready for use. The parts made in this man-
15 ner are interchangeable, and may be put together and adjusted with ease, accuracy, and rapidity, and with very little expenditure of skill or judgment.

We have shown our invention as applied to a
20 cock having a vertically-arranged operating-lever; but it may as well be employed in cocks having horizontally-arranged levers.

Having thus described our invention, we claim—

25 1. A self-closing cock or faucet in which the pin connecting the operating-lever with the valve-stem passes through a longitudinally-elongated aperture in the stem, and a screw is arranged axially in the stem and adapted
30 to bear upon the said connecting-pin, whereby the proper adjustment and seating of the operating-lever is effected, substantially as set forth.

35 2. A self-closing cock or faucet comprising a valve-chamber and cap, a valve and its stem, and a spring to hold the valve down to its seat, all arranged in the usual way, an operating-

lever with two cheeks to embrace the valve-stem, a pin to pass through the two cheeks of the lever, and an elongated aperture in the
40 stem, and an axial screw in the end of the stem, arranged to enter the aperture in the stem and bear upon the connecting-pin, substantially as and for the purposes set forth.

3. The combination, with the valve-chamber, 45 its cap, the valve, and the spring, of the valve-stem with an elongated aperture to receive the connecting-pin, and an axial screw to enter said aperture and bear upon said pin, the said connecting-pin and the operating-lever provided
50 with a removable handle, whereby the axial screw in the valve-stem may be reached, substantially as set forth.

4. The combination, with the valve-chamber, the valve, its spring, and the valve-stem pro- 55 vided near its upper end with an elongated slot, and having a screw entering said slot from its upper end, the rocker-lever, and a pin adapted to pass through the cheeks of said lever and the said elongated slot, and reduced
60 in diameter opposite the end of the said screw, whereby the end of the screw enters between two shoulders thereon, and the longitudinal displacement of the pin is prevented, substantially as set forth. 65

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

JAMES E. BOYLE.
HENRY HUBER.

Witnesses:

ARTHUR C. FRASER, .
GEO. BAINTON.