

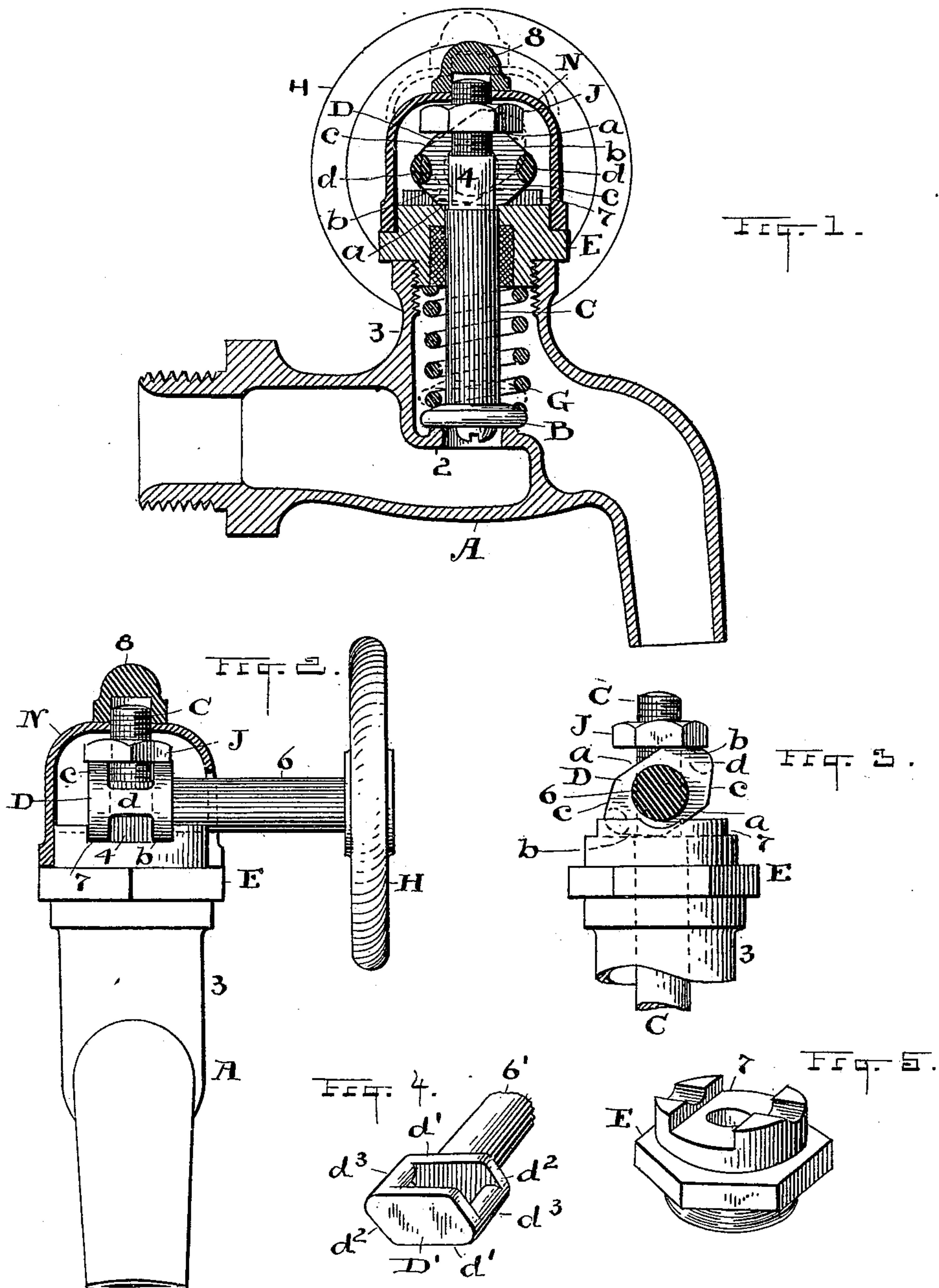
No. 622,342.

Patented Apr. 4, 1899.

I. N. GLAUBER.
SELF CLOSING COCK OR FAUCET.

(Application filed Nov. 26, 1898.)

(No Model.)



ATTEST

H. E. Meyer
H. E. Meyer.

INVENTOR.

Isaac N. Glauber

BY

H. F. Fisher

ATTY

UNITED STATES PATENT OFFICE.

ISAAC N. GLAUBER, OF CLEVELAND, OHIO.

SELF-CLOSING COCK OR FAUCET.

SPECIFICATION forming part of Letters Patent No. 622,342, dated April 4, 1899.

Application filed November 26, 1898. Serial No. 697,527. (No model.)

To all whom it may concern:

Be it known that I, ISAAC N. GLAUBER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Self-Closing Cocks or Faucets; and I 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.

My invention relates to self-closing cocks and faucets; and the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

Figure 1 is a vertical central sectional elevation of the faucet lengthwise of the body or barrel thereof. Fig. 2 is a direct front elevation with a part of the cap and outer nut broken away. Fig. 3 is a plain elevation of the neck and the operative mechanism above the barrel, the inclosing cap seen in Figs. 1 and 2 being omitted. Fig. 4 is a perspective view of a modification of the eccentric or lifting member alone and as hereinafter fully described. Fig. 5 is a perspective view of the packing-nut for the valve-spindle and operating-base for the eccentric.

The invention as thus shown comprises the body or barrel of a faucet of a well-known style or form; but, although the invention is shown in connection with this particular style of faucet, I desire it to be understood that it is not limited thereto and that it may as well be used in connection with basin cocks or faucets and generally where a self-closing valve is desirable and the construction is such as to render my improvement available.

The body A has a diaphragm 2, providing a seat for the valve B, and a neck 3 on its top above said seat, with which is connected the valve mechanism. This mechanism comprises, first, the valve-stem C, having the valve B fixed upon its lower end, and, extending thence up through said neck, projects above the same somewhat and has a reduced and threaded extremity. Immediately beneath the said threaded extremity the stem is provided with a right-angled shank 4, adapted to receive the eccentric D, which has flat sides internally to fit over or upon said angular or

flat-sided portion 4 and be held operatively thereon, as hereinafter described.

A nut E is threaded into or upon neck 3 of body A, and valve-stem C passes centrally through said nut and is packed therein to prevent leakage. Between the said nut and the valve B is interposed a spiral spring G, encircling the valve-stem and exerting a normal downward pressure on the valve. This spring may have more or less tension, according to the water-pressure or other requirements at the place where it is used and according as an easy or a hard pressure is preferred.

When the parts are assembled, as in Fig. 1, the valve B necessarily is seated and the spring holds it there notwithstanding any pressure from the water, and the valve is raised and held open by hand through the eccentric D, above described. The said eccentric has a passage through its center adapted to seat over the angular shank 4 of the valve-stem, and may be either double-acting, as in Figs. 1, 2, and 3, or single-acting, as in Fig. 4. To these ends the eccentric is shown as provided with a laterally-projecting spindle 6 and a hand-wheel H, preferably, for rotating the spindle and eccentric. The eccentric, as seen in Figs. 1, 2, and 3, can be rotated to either right or left and do exactly the same work, and to this end is provided with six active sides divided into three different groups. Thus we have first the two main sides *a* and *a*, which are employed when the eccentric is at rest, Fig. 1, the lower side resting in the channel 7 in the upper side of nut E and the upper side engaged by the securing and adjusting nut J on valve-spindle C. At an angle to these two sides and parallel to each other in pairs are the other two opposite sides *b* and *b* and *c* and *c*. These sides *b* and *c* are preferably straight, but may be more or less rounded, and run from the faces *a* to the opposite central extremities *d* of the eccentric. The eccentric, therefore, has greater length than depth and the sets of faces *b* and *c* are farther from the spindle 6 than faces *a*, and hence when rotated in either direction from its normal position the eccentric will cause the valve B to rise the difference between the depth of either faces

b and c from the spindle 6 as compared with the faces a. This depth may be made greater or smaller when the eccentric is constructed and in any event determines the distance the valve can be opened. Internally the eccentric is constructed to provide for this rotation about its own axis as it is confined on and by the valve-stem, and its bearing is in the channel 7, which fixes its relative position and from which it cannot be moved or turned horizontally without turning the nut E. Otherwise the said nut might have a flat top. Of course the spindle 6 can be set to the right or the left, as may be most convenient in any given position, and in some instances the eccentric might be most conveniently operated by a handle or spindle connected with one of its ends or possibly from above to either or both ends. An inclosing cap N confined by a nut 8, is shown in Figs. 1 and 2; but these serve for appearance and cleanliness rather than for any other purpose. They are not essential to the operation of the valve and might be omitted.

Now I claim a number of material advantages as resulting directly from the foregoing construction, among which I may mention the convenience it affords for fixing the valve to its seat. It will be noticed that after the parts are assembled it is not necessary at any time to take them apart to adjust the valve so that it will come just right to prevent leakage, whether the seat be found for the first time, as when the faucet is set up, or afterward on account of leakage. In either case the adjustment is determined wholly by the nut J and through which the valve and valve-stem are raised or lowered, as the case may require. Any one with a wrench can make the adjustment, and all this can be done in a moment while the faucet is being used and without turning off the water.

As above intimated, this construction of faucet is admirably adapted to be right or left handed, according as the position it is to occupy may require, and it is not only simple in construction, but avoids the use of small pin-holes and pins and small parts here or there on which the strain of operation might come, as in many faucets in common use.

What I claim is—

1. The faucet-body and the valve and its stem, and a nut on the upper end of the stem,

in combination with a rotatable lifting device for the valve interposed between said nut and the faucet-body having an enlarged passage through its center and provided with a plurality of sets of bearings parallel to each other in sets, and means to rotate said device from one set of bearings to the other, substantially as described.

2. The faucet-body and the valve and valve-stem and the spring about the stem and the nut on the top of the stem, in combination with the device engaged over the valve-stem and having two parallel bearings engaging the faucet-body and the said nut, respectively, and opposite parallel bearings at a greater distance from its center than said two first-mentioned bearings, and means to rotate said device about its own transverse axis from one set of bearings to the other, substantially as described.

3. The faucet-body provided with a valve-seat and a nut on its top having a channel for the lifting device, and the valve-stem through said nut, in combination with the said lifting device having a free opening engaged on said stem and confined in the channel of said nut, and having a plurality of sets of opposite parallel bearings at an angle to one another, and means to rotate said device about its transverse axis from one set of bearings to the other, one of said sets of bearings being nearer the axis of the lifting device than the others, substantially as described.

4. The faucet-body and the valve-stem having flat sides and the nut on the stem, in combination with the lifting device confined between the flat sides of said stem and rotatable on said stem on a transverse axis, the said lifting device being provided with the two normal parallel bearings on its opposite sides proper, and other parallel bearings at an inclination thereto at the ends of the device and farther from the axial center than the side bearings, whereby when the said device is rotated from the side bearings to the end bearings the valve is opened, substantially as described.

Witness my hand to the foregoing specification this 17th day of November, 1898.

ISAAC N. GLAUBER.

Witnesses:

H. T. FISHER,
 R. B. MOSER.