J. W. CHAMBERLAIN.

FAUCET.

No. 184,279. Patented Nov. 14, 1876.

Fig. 1.

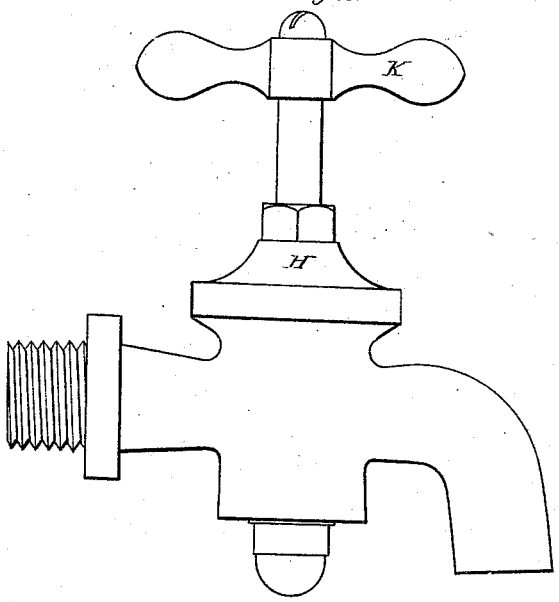
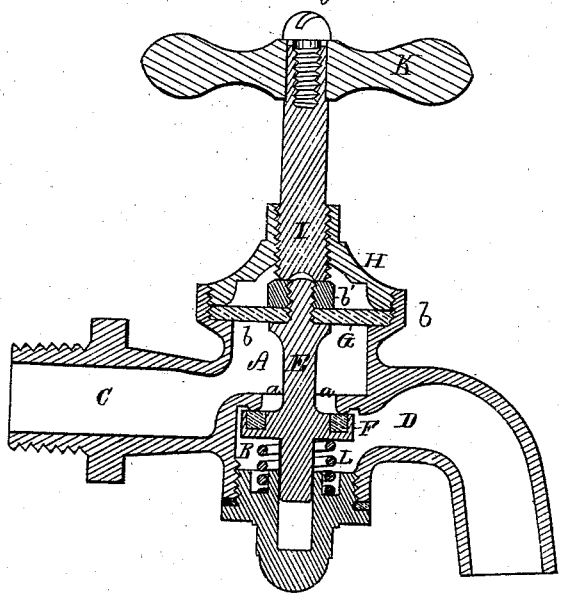


Fig. 2.



Witnesses.
S. N. Piper
L. W. Miller

Joseph W. Chamberlain
by his attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE.

JOSEPH W. CHAMBERLAIN, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN FAUCETS.

Specification forming part of Letters Patent No. **184,279**, dated November 14, 1876; application filed February 7, 1876.

To all whom it may concern:

Be it known that I, JOSEPH W. CHAMBERLAIN, of the city and county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Faucets; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side view, and Fig. 2 a longitudinal section, of a faucet with my improvement.

In this faucet there are two chambers, A and B, one of which is arranged directly over the other, and opens into it by a hole, *a*, at the bottom of the upper and top of the lower of said chambers. An induction-passage, C, leads into the upper chamber, and an eduction-passage, D, leads out of the lower chamber. A valve-stem, E, extending through the hole *a* concentrically, and into each of the chambers, has fixed upon it, and to bear against the top of the lower chamber, a valve, F. The stem is also suspended from the central part of a water-tight and flexile or elastic disk or diaphragm, G, having a diameter larger than that of the opening *a*. The disk, near and around its circumference, rests on an annular seat, *b*, and is confined thereupon by a cap or cover, H, which is screwed into the top of the upper chamber. A depression-screw, I, provided with a handle, K, screws into and through the cover, and against the screw-nut *b'*, which screws upon the stem E, and serves to confine it to the diaphragm or flexile or yielding disk G.

On letting water under pressure into the upper chamber, such water, by its action against the disk, will force it upward, and cause it to draw the valve closely up to its seat. To open the valve or force it off its seat the screw I has to be resorted to.

By revolving the screw, so as to cause it to descend, the valve will be pressed from its seat, and the water, flowing through the opening *a*, will rush into the lower chamber, and from thence through the eduction-passage or nose of the faucet.

From the above it will be seen that the yielding disk not only serves to effect closing of the valve under pressure of the water, but answers as an auxiliary cap to the upper chamber, and as a means of preventing leakage of water through the connection of the main cap therewith.

As under a light head of water the weight of the valve and its stem might suffice to overcome the pressure tending to lift the valve, I use with said valve, and in the lower chamber B, a light spring, L, arranged to rest on the bottom of the said chamber, and to press the valve up to its seat.

I am aware that what are termed "self-closing faucets" have been made like my faucet, with the exception that the screw for actuating the valve has had a pitch which would cause it, under the upward pressure of the water, to revolve, such screw, during the flow of water through the faucet, requiring to be held stationary by the hand of a person applied to its handle.

In my faucet the screw is single-threaded, or has a pitch which, by its friction in the cap, prevents the faucet from becoming self-closing, or being closed by the pressure of the water. Thus my faucet does not require to have its handle held by the hand to prevent it from turning under the pressure of the water.

I would also remark that I am aware of the faucets shown in the United States Patents Nos. 29,263 and 55,784, in each of which the induct opens into the chamber beneath the valve-seat, the educt leading out of the chamber over the valve-seat; whereas in my faucet the reverse is the case—that is, the educt D leads out of the spring-chamber B, or that below the valve-seat, while the induct C leads into the chamber A over the valve-seat.

When the induct leads directly into the spring-chamber the spring and valve are liable to become clogged by deposits; but where the spring-chamber has the educt leading directly out of it, deposits from the induct will, on the valve being depressed, be driven down through the valve-seat, and directly into the educt D, the spring being shielded by the valve; and, in case of any sand or deposits passing into the spring-chamber, they will

also be washed out of it and directly into the educt. Therefore,

I claim—

The combination of the cap H, screw I, diaphragm G, valve-stem E, valve F, spring L, and two chambers, A B, with the induct C, to open into the chamber A, and the educt D, to lead out of the lower or spring chamber B, all being substantially as shown and described.

JOSEPH W. CHAMBERLAIN.

Witnesses:

R. H. EDDY,

J. R. SNOW.