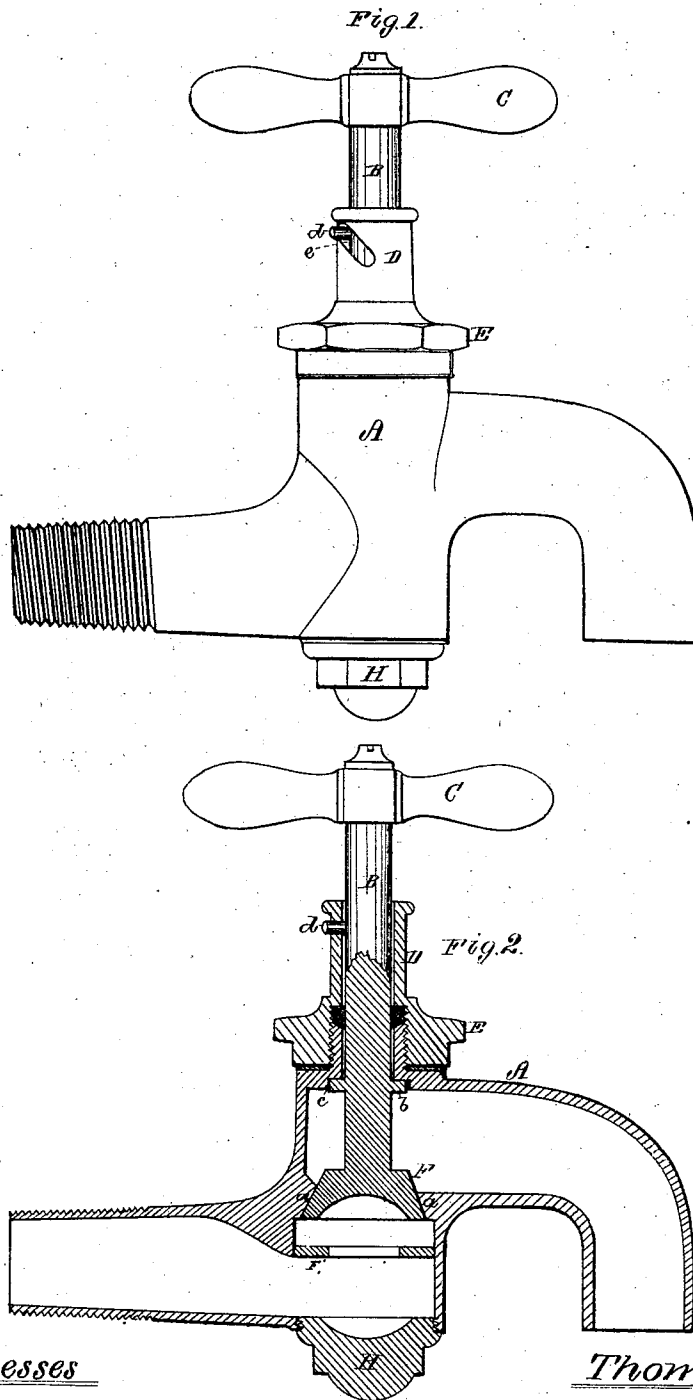


T. MILLER.
Self-Closing Faucets.

No. 155,198.

Patented Sept. 22, 1874.



Witnesses

Geo Gray
L. G. Hale

Thomas Miller

by his attorney,
J. T. Hale

UNITED STATES PATENT OFFICE.

THOMAS MILLER, OF EAST BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SELF-CLOSING FAUCETS.

Specification forming part of Letters Patent No. **155,198**, dated September 22, 1874; application filed March 11, 1874.

To all whom it may concern:

Be it known that I, THOMAS MILLER, of East Boston, of the county of Suffolk and State of Massachusetts, have invented an Improved Stop-Cock or Faucet; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawing, in which—

Figure 1 is a side elevation, and Fig. 2 a longitudinal section, of a faucet constructed in accordance with my invention.

My invention has reference to a faucet or stop-cock which, when in use, is closed by the direct action of the water.

The object of my invention is to produce a simple and effective faucet, which shall be self-closing without the use of rubber or springs, as heretofore employed; and my invention consists in a peculiar construction of the lower end of the valve—viz., with a concave arch or chamber—and forming and arranging underneath the same a fixed perforated diaphragm, whereby the water, in passing through the same, shall be concentrated and caused to rush directly up against the center of the concave arch of the valve, and thus impel the valve against its seat with sufficient force to maintain a tight connection; second, in combining with the valve and its stem a check-disk or annular collar to work with a chamber formed in the case of the valve, the same operating, as hereinafter described, to prevent any concussion that might otherwise arise from a too rapid closing of the valve upon its seat.

In the drawing, A denotes the body or shell of the faucet, which may be constructed of brass or other suitable material. B is the stem, which is provided, at its upper end, with a turning-lever, C. The said stem extends down through the neck D and packing-cap E, and carries on its lower end a tapering or frusto-conical plug or valve, F, which closes upward against a seat, *a*, formed and disposed in the body of the shell, as shown in Fig. 2. The lower end of the valve is formed of a concave dished shape. F' is a diaphragm, which is arranged at a short distance from and underneath the valve-seat, the said diaphragm having an opening through its center, having a diameter somewhat less than that of the ver-

tical portion of the water passage or chamber in which it is placed, and equal, or about equal, to the smaller diameter of the valve-opening, the object of such perforated diaphragm being to concentrate the water and cause it to impinge directly against the crown of the arch of the plug or valve, and thereby force it upon its seat. *b* is an annular collar formed upon the stem B, and being of a little less size than a chamber, *c*, having a corresponding shape and formed for its reception in the shell A, as seen in Fig. 2, the object of this collar and its chamber being to prevent the force of the water from closing the valve too suddenly upon its seat, which, it will be readily seen, it accomplishes, by reason that when the valve is open the water rushes up into and fills the chamber *c*, and when the valve is raised upward by the pressure of the water to close upon its seat, the collar *b* is also raised, and entering its chamber gradually displaces the water, thereby preventing a too sudden action or concussion of the valve upon its seat. H is a screw-cap inserted in the bottom of the shell, the same being for the purpose of allowing the plug to be placed in or removed from the shell, as circumstances may require. *d* is a stud, which is screwed or otherwise inserted in the stem, and extends into and works in an inclined slot, *e*, formed in the neck of the valve-case, as shown in Fig. 1, the object of such stud and slot being to enable the plug, when its stem is turned in the proper direction, to be moved from its seat.

Having described my invention, what I claim is—

1. In a faucet, substantially as described, the combination of the perforated diaphragm F' and the chambered plug F with the stem B and the case A, the whole being constructed and arranged for operation as set forth.

2. The plug F, provided with the collar *b*, in combination with the chamber *c*, when the latter is arranged to discharge its fluid directly into the main eduction-passage, as shown and described.

THOMAS MILLER.

Witnesses:

F. P. HALE,
F. C. HALE.