

H. CARRUTHERS.
Self-Closing Hopper-Cock.

No. 159,900

Patented Feb. 16, 1875.

Fig. 1.

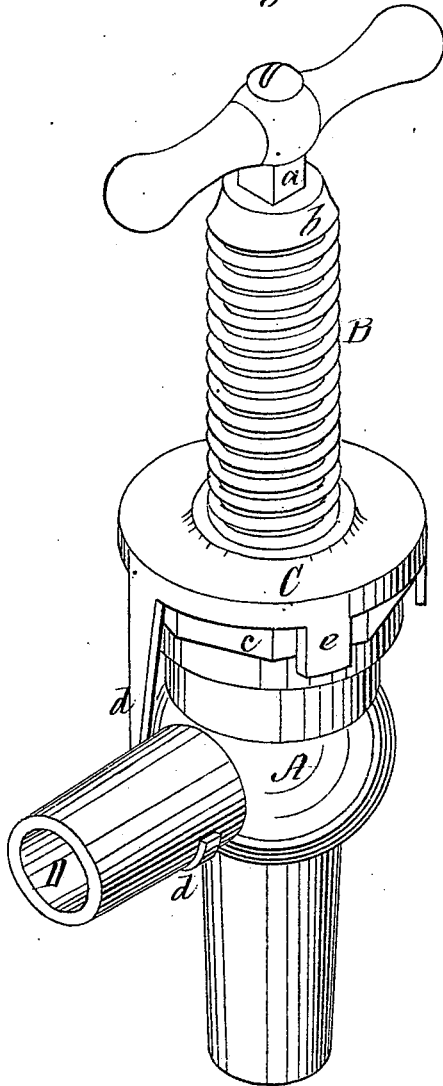
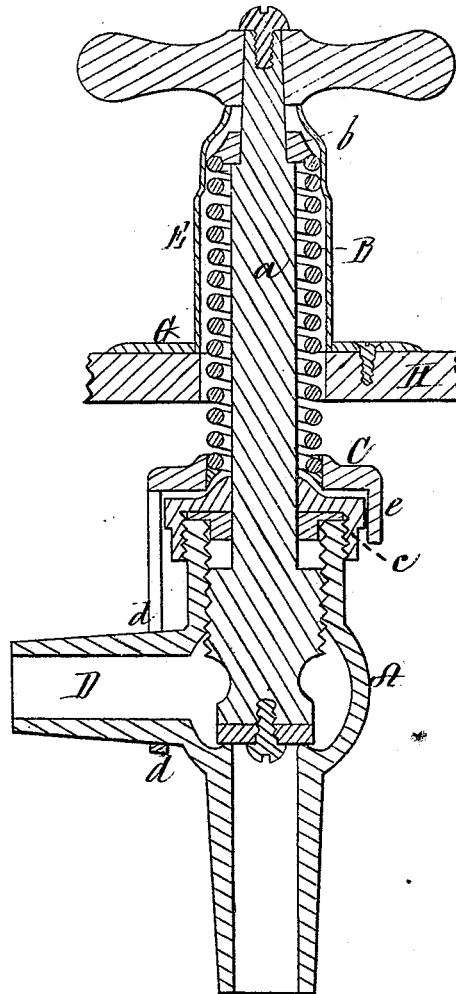


Fig. 2.



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UNITED STATES PATENT OFFICE

HENRY CARRUTHERS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SELF-CLOSING HOPPER-COCKS.

Specification forming part of Letters Patent No. 159,900, dated February 16, 1875; application filed January 22, 1875.

To all whom it may concern:

Be it known that I, HENRY CARRUTHERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Self Closing Hopper-Cocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a hopper-cock with my improvement applied thereto, the outer sleeve being removed. Fig. 2 is a vertical section through the center of the same, the sleeve being in place.

The ordinary hopper water-closet as now constructed is provided with a compression-cock, which has to be turned by hand when it is required to let on or shut off the water, and it frequently happens that this cock is left open through neglect, resulting in a great waste of water.

My invention has for its purpose to overcome this objection without removing or altering the construction of the cock already in use; and consists in applying to the spindle of the cock a spring provided with a foot-piece having a bent arm or hook at its lower end, the foot-piece resting on the screw-cap, and the hook catching under the outlet-pipe, whereby the foot-piece is kept snugly down upon the cap, and the latter is prevented from turning or unscrewing, as heretofore, when the spring is wound up, by turning the spindle, in order to open the outlet-passage.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a hopper-cock, of ordinary construction, surrounding the spindle *a* of which is a tight spiral spring, B, the upper end of which is closed by a bushing, *b*, in which is formed a rectangular opening, corresponding in size to that of the

top of the spindle *a* in cross-section, the lower end of the spring B terminating in a foot-piece, C. This foot-piece rests upon the screw-cap *c*, and is provided with a long hook or bent arm, *d*, which catches under the outlet-pipe D, one or more projections, *e*, extending down from the foot-piece, and fitting over the sides of the cap, by which construction the screw-cap is prevented from turning, as would otherwise be the case when the spindle was turned in a direction to open the outlet-passage, the friction of the foot-piece being sufficient to turn the cap were it not for the hook *d*.

The upper portion of the spindle and spring may be inclosed within a sleeve or casing, E, the lower end of which is provided with a circular plate, G, which is intended to be screwed to the top of the seat H.

From the foregoing it will be seen that the tendency of the cap to be unscrewed from its seat is thus effectually prevented, and the liability of water being wasted from this cause is thereby avoided.

It is evident that my improved attachment may be readily applied to any hopper water-closet already in use without removing or altering the hopper-cock, and without even shutting off the water, and I am thus enabled to render a cock automatic or self-closing at a small cost, and in a ready and convenient manner.

What I claim as my invention, and desire to secure by Letters Patent, is—

The foot-piece C, secured to the spring B, and provided with a hook, *d*, in combination with the spindle *a* and screw-cap *c* of an ordinary hopper-cock, A, substantially as described, for the purpose set forth.

Witness my hand this 15th day of January, A. D. 1875.

HENRY CARRUTHERS.

In presence of—

N. W. STEARNS,
W. J. CAMBRIDGE.