

(No Model.)

C. H. DINSMORE.
SELF CLOSING VALVE.

No. 496,045.

Patented Apr. 25, 1893.

Fig. 1.

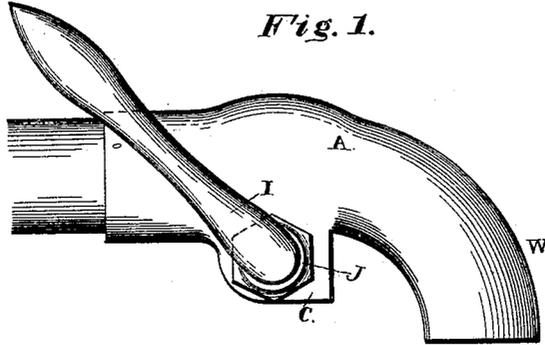


Fig. 2.

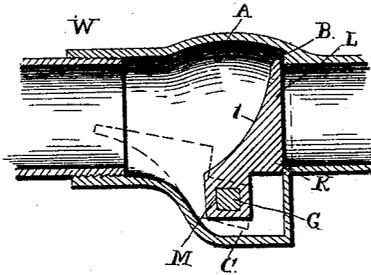


Fig. 3.

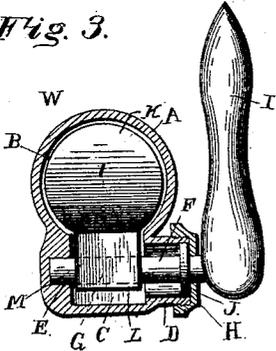


Fig. 4.

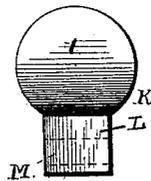
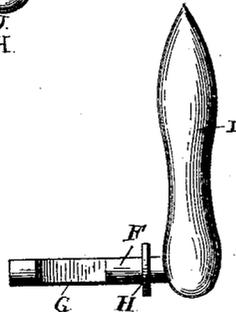


Fig. 5.



Witnesses

Chas. A. Ford.
D. P. Kolchauer.

Inventor

C. H. Dinsmore.

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

CHARLES HERBERT DINSMORE, OF CLAREMONT, NEW HAMPSHIRE.

SELF-CLOSING VALVE.

SPECIFICATION forming part of Letters Patent No. 496,045, dated April 25, 1893.

Application filed February 10, 1892. Serial No. 420,984. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HERBERT DINSMORE, a citizen of the United States, residing at Claremont, in the county of Sullivan and State of New Hampshire, have invented a new and useful Self-Closing Valve, of which the following is a specification.

This invention relates to valves; and it has for its object to provide an improved self closing valve adapted to be used in connection with an ordinary faucet or in any connection for which the same may be adapted.

To this end it is the main and primary object of this invention to provide an improved self closing valve which is actuated by the pressure of the water or other liquid, without the use of springs or other devices for closing, and also to provide an improved valve having but few parts, easily constructed, but yet efficient in operation.

With these and many other objects in view which will readily appear as the nature of the invention is better understood the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a faucet provided with a valve constructed in accordance with this invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view. Fig. 4 is a detail view of the valve plate. Fig. 5 is a detail view of the valve rod.

Referring to the accompanying drawings—A represents the valve casing formed in an ordinary faucet W as illustrated, or in any line of water distribution, and said valve casing is provided with a flat valve seat B, the off-set chamber C projecting below the line of pipe and an upper swelled portion in the top thereof directly over the lower off-set chamber. The said off set chamber C is provided with the outwardly extending threaded neck D projecting from one side of the same, and with the bearing recess E formed in the opposite side thereof. The said off-set chamber accommodates the valve rod F, having a central squared portion G, and projecting through the extended neck D, and having its inner end working in the bearing recess E. A collar H is fitted on said rod F adjacent to the op-

erating handle I, and is adapted to be engaged by the screw cap J, working over the outer end of said threaded neck and bearing against said collar, which thus serves as a washer and securely holds the rod in place. A self-closing circular valve plate K is provided with an extended tongue L having a squared perforation M, which fits over the squared portion of the valve rod F, and thus provides means for the manual controlling of said valve plate. Said circular valve plate L is approximately the diameter of the valve casing proper and is reduced toward its upper free end and is provided with a rear concaved face *l*, against which the water bears and automatically forces the flat face of the valve against the flat valve seat B, and normally holds the same in contact therewith. The rear concaved portion of the valve plate and the upper swell of the casing together form a water chamber into which the entire head of water presses and is concentrated at the top of the valve to hold the same tight against its seat.

In operating the valve to allow the water to flow, the handle I is oscillated to throw the valve L away from the valve seat B. The movement of said valve is limited by the back of the same engaging or resting upon one edge of the extended or drop chamber C and at an angle, so that the top of said valve projects directly into the water passage, and is therefore always in such a position, so that immediately upon releasing the hold upon the handle I, the pressure of the water will quickly throw the valve back to its seat and hold the same in such position, the curved back of said valve allowing the water to easily get behind the same when in its open position. It will be also noted that the upper swell of the casing is struck on a curve with the valve rod as a center, so that the valve rises freely to its seat under the pressure of the water concentrated in the water chamber formed between the rear face of said valve and said swell.

The construction and many advantages of the herein described automatic valve are thought to be apparent without further description.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the valve casing having a flat valve seat, an extended or drop chamber projecting below the valve seat and the plane of the line of pipe, and an upper swelled concaved portion lying directly over said drop chamber, an oscillating valve rod mounted in said drop chamber, and a circular water pressure closing valve plate, mounted upon said rod in the drop chamber, and having its rear face concaved and reduced toward its free end, and adapted when the valve is opened to rest on one edge of the drop chamber, so as to dispose the valve at an angle within the line of pipe to receive the closing pressure of the water, and adapted when the valve is closed

to have such reduced free end combine with the upper swelled portion of the casing to form a pressure water chamber whose apex is at the free end of the valve, the swing of said valve being concentric with the curvature of the upper swell of the casing, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES HERBERT DINSMORE.

Witnesses:

HERMON HOLT,
EDWIN S. BAILEY.