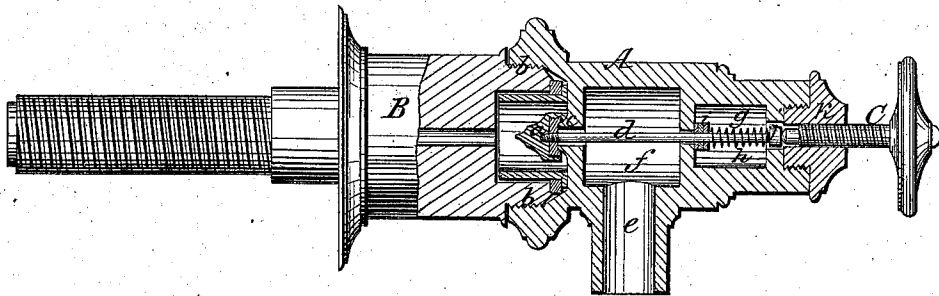


*Schultz & Warker,*

*Basin Faucet,*

*N<sup>o</sup> 100,561.*

*Patented Mar. 8, 1870.*



*Witnesses.*

*E. F. Kastenkuber*

*C. Wahlers*

*Inventor.*

*Carl Schultz*

*Thomas Warker*

*per  
Van Santvoord & Knapp  
Attys.*

# United States Patent Office.

CARL SCHULTZ AND THOMAS WARKER, OF NEW YORK, N. Y.

Letters Patent No. 100,561, dated March 8, 1870; antedated February 21, 1870.

## IMPROVEMENT IN SELF-CLOSING FAUCETS.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that we, CARL SCHULTZ and THOMAS WARKER, both of the city, county, and State of New York, have invented a new and useful Improvement in Self-Closing Faucets for Mineral-Waters, &c.; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, which drawing represents a longitudinal central section of this invention.

This invention relates to a faucet, which is provided with a flat spring valve, which closes up from the inside against its seat by the combined action of the pressure of the mineral-water or other fluid, and by that of a spring, and the stem of which passes through a small opening and through an expansion-chamber into a second chamber, which incloses the spring, said spring being made to act at one end against packing-rings surrounding the valve-stem, and at its other end against a head on said valve-stem, while a screw with a double or triple thread acts against the outside of said head in such a manner that, by turning the screw, the valve is forced off from its seat, and, at the same time, the packing-rings in the spring-chamber are firmly compressed against the stem, and the mineral water or other fluid is allowed to discharge through the expansion-chamber and spout, without being permitted to leak past the valve-stem into the spring-chamber; and as the liquid passes through the expansion-chamber its velocity is reduced in proportion to the increase in the area of the transverse section of said chamber over the area of the transverse section of the opening in the valve-seat, and a large volume of liquid can be discharged with great rapidity, without danger of spilling any portion thereof by the force of the discharge from the tumbler into which it is received; and furthermore, when the hand-screw is released the valve closes automatically, said screw being carried back by the pressure of the liquid against the valve, combined with the force of the spring.

In the drawing—

The letter A designates the head which incloses the valve *a*.

Said head is secured by a screw-thread, *b*, to the tubular shank B, which is intended to be secured to a mineral-water fountain, or to another vessel or reservoir containing fluid under pressure by a screw-thread and nuts, or by any other suitable means.

The inner end of the head A forms a seat, *c*, for the valve *a*, and this seat is provided with a hole, through which passes the stem *d* of the valve, said hole being of such a size that it leaves sufficient room round the stem to allow the fluid from the fountain or other reservoir to pass out freely to the spout *e* whenever the valve is forced back from its seat.

The spout terminates in the expansion-chamber *f*,

through which the valve-stem extends, and which communicates by an opening just large enough to let the valve-stem pass, with the spring-chamber *g*.

This chamber incloses a spiral spring, *h*, which bears with its inner end against one or more packing-rings *i*, situated at the bottom of the spring-chamber and embracing the valve-stem, while the outer end of said spring bears against the head *j* of the valve-stem, and thereby assists in forcing the valve up against its seat.

The valve is opened by a hand-screw, C, which is tapped into a screw-thimble, *k*, secured in the outer end of the head A, said screw being provided with a hand-wheel and with a double or triple thread, so that a portion of a revolution is sufficient to open the valve far enough for the discharge of the liquid, and that, when the hand-wheel is released, the pressure of the liquid acting against the valve, assisted by the force of the spring *h*, is sufficiently powerful to carry the screw back to its original position, and to close the valve automatically.

The area of the cross-section of the expansion-chamber *f* and that of the cross-section of the spout are considerably larger than that of the annular space left in the valve seat for the discharge of the liquid when the valve is opened, and as the liquid passes into the expansion-chamber its velocity is reduced in proportion to such increased area, so that, if the valve is thrown wide open, the liquid will discharge with great rapidity, and still sufficiently quiet to prevent any spilling from the tumbler into which it is received, even if the pressure of the liquid is one hundred and twenty pounds to the square inch, while in discharging liquid subjected to such a high pressure through an ordinary faucet the discharge takes place in puffs, and even with the greatest care spilling can hardly be prevented.

With our faucet, therefore, a tumbler can be filled much more rapidly than it can with a faucet of the ordinary construction, and the faucet closes automatically as soon as the hand-screw is released.

By the packing-ring or rings *i* in the bottom of the spring-chamber the liquid is prevented from leaking past the valve-stem into said spring-chamber, for as the valve is forced back from its seat the packing-rings are compressed and caused to hug the valve-stem tightly by the increased pressure of the spring against them.

Having thus described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

A self-closing faucet, containing a valve *a*, seat *c*, expansion-chamber *f*, spring-chamber *g*, and hand-screw C, all as shown and described.

CARL SCHULTZ.  
THOMAS WARKER.

Witnesses:

W. HAUFF,  
C. WAHLERS.