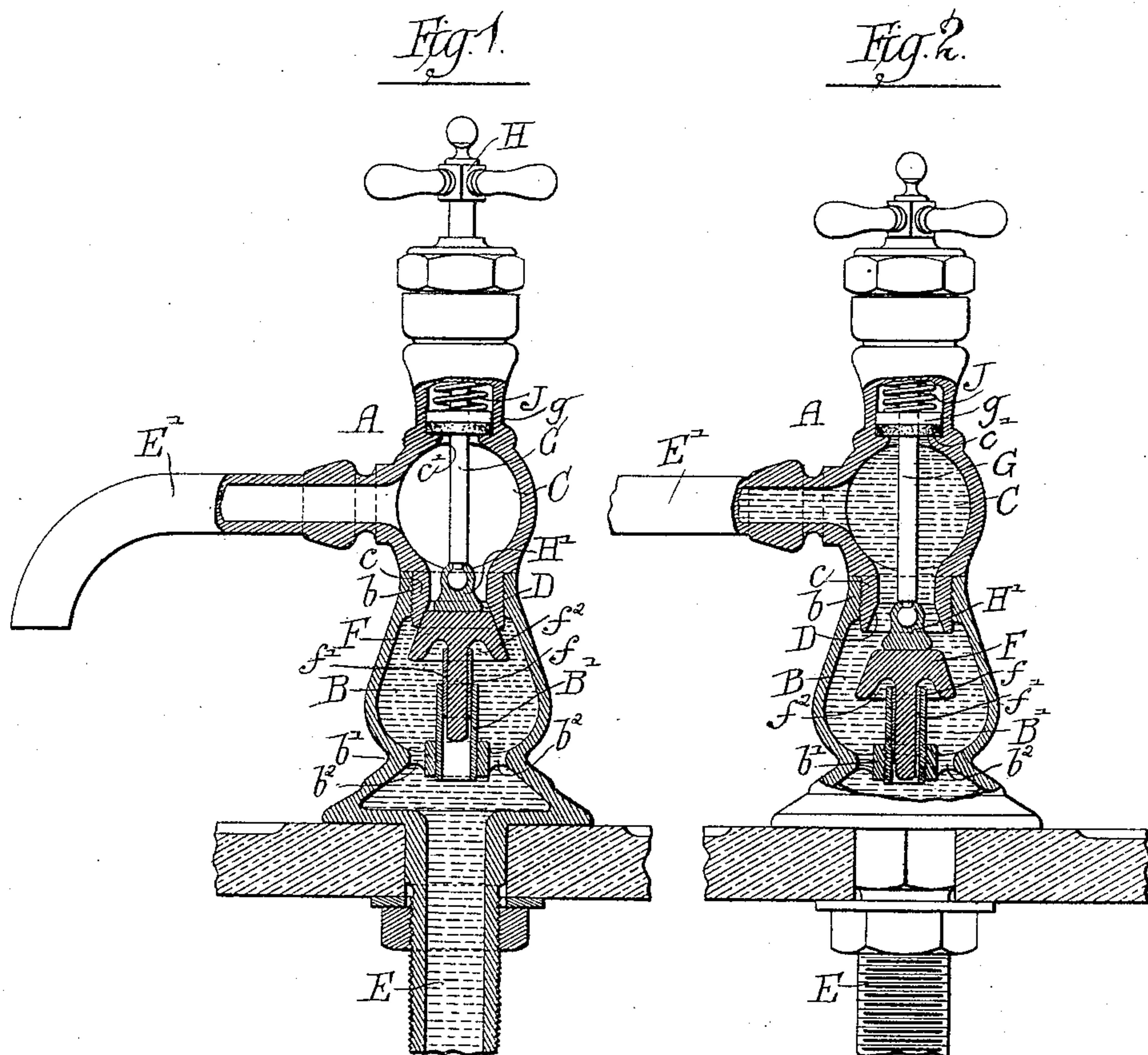


(No Model.)

F. P. WERNER.
VALVE FOR STEAM AND BASIN COCKS.

No. 459,728.

Patented Sept. 15, 1891.



Witnesses:-

Louis M. F. Whipplehead.

Edmund Blecker.

Inventor:-

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By:- Dayton Poole & Brown

His Attorneys:-

UNITED STATES PATENT OFFICE.

FRED P. WERNER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
FRANCIS E. AUGUSTIN, OF SAME PLACE.

VALVE FOR STEAM AND BASIN COCKS.

SPECIFICATION forming part of Letters Patent No. 459,728, dated September 15, 1891.

Application filed January 28, 1891. Serial No. 379,418. (No model.)

To all whom it may concern:

Be it known that I, FRED P. WERNER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Valves for Steam and Basin Cocks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to valves, steam-valves, and basin-cocks of the same general character as shown and described in another application, Serial No. 377,752, filed by me in the United States Patent Office January 14, 1891.

The present invention relates more particularly to the construction of the parts, as herein described and claimed.

One of the great difficulties with devices of this character has heretofore resulted from the fact that when the water was turned off from the source of supply the valve was not automatically opened, so that air might rush in behind the water and press it downwardly in the pipe, and hence the water in the basin-cock becomes frozen. It will be noticed that by the construction herein illustrated the valve automatically opens as soon as the water is turned off from the supply-pipe and permits the entrance of air to the pipes, thus avoiding any liability of any water remaining in the valve or in the supply-pipe above the shut-off or supply-pipe valve, and consequently preventing all liability of freezing in cold weather.

In the accompanying drawings, Figure 1 is a central vertical sectional view of a basin-cock embodying my invention, showing the valve closed. Fig. 2 is the same view showing the valve open.

In the said drawings, A indicates, as a whole, the outer casing or shell of the basin-cock of any familiar form, B the valve-chamber thereof, and C an extension of the casing above the valve-chamber. For convenience I make the parts B and C separable and connect the same together by means of an internally-screw-

threaded flange *b* upon the top of the casing on chamber B and an externally-screw-threaded flange *c* on the lower part of extension C.

D is a wedge-shaped valve-seat of convenient form in the lower portion of the annular flange *c*, so that when the parts B and C are screwed together the valve D will occupy a central position with respect to the upper end of the valve-chamber B.

E is the water-inlet passage in the lower part of the valve-chamber B.

E' is the faucet proper or spout, through which the water makes its escape from the upper chamber C.

In the lower portion of the chamber B, I provide an internally-screw-threaded hub *b'*, and connected with the housing or shell A by radial ribs or arms *b*².

Within the hub *b'* I secure a tube B' by means of external screw-threads, which engage the screw-threads on the interior of the hub *b'*.

F is a valve, preferably of rubber. Its upper surface is flat, its sides tapering, the largest diameter being at the lower end, so that when said valve F is raised it will fit nicely within the valve-seat D.

Depending from the lower end of the valve-seat F is a centrally-located stem *f*, having a sliding or vertically-movable action with the tube B'.

f' is a tube or thimble, preferably of metal, surrounded and secured to the stem *f* of such diameter as to fit within the tube B'.

*f*² is an annular groove cut in the lower portion of the valve F.

Any desired or convenient form of mechanism may be employed for depressing the valve—that is, for moving it away from the valve-seat D—as, for instance, the device shown in the drawings, which comprises a rod G passing through the upper end of the case or shell A, and which is provided upon its upper end with a handle H and upon its lower end with a head H'. The head H' is loosely connected to the rod G and rests upon the top flat surface of the valve F.

J is a spring secured by the rod G in such manner as to tend to firmly hold the rod G in

its upright or raised position, as illustrated in Fig. 1, in which it firmly presses the flange or collar *g* against the annular shoulder *c'*.

In operation the pressure of water through the inlet *E* will cause the valve *F* to press firmly against the seat *D*, and thus prevent the flow of water through the spout *E'*. By depressing the rod *G* the valve *F* is of course depressed, as shown in Fig. 2, in which position the water is free to pass through the shell and spout *E'*. When the pressure of water from the main or other source of supply is taken off from the pipe *E*, the valve *F* will drop by its own weight from the position shown in Fig. 1 to the position shown in Fig. 2, thus permitting the air to enter the spout *E'* and pass through the chamber *C* and *B* and into the tube *E*. It is obvious that when the water again flows upwardly through the pipe *E* the valve *F* will be raised until it again comes in contact with the valve-seat *D*.

The construction herein illustrated is applicable to steam-valves, and hence I do not desire to limit myself to the precise form of valve herein shown. The thimble *f* may of course be omitted; but I prefer to use it to diminish the friction of the stem *f* in the tube *B*.

What I claim is—

1. As a new article of manufacture, in combination with a valve-casing having a tapered valve-seat therein, a detached rubber valve provided with a stem depending centrally

from the side thereof opposite the valve-seat, an annular groove in the lower face of said valve surrounding said stem, and a suitable bearing in said casing adapted to receive and guide the stem, the periphery and bearing-face of the valve being tapered to correspond with the tapered valve-seat, substantially as described.

2. The combination, with a valve-casing having inlet and exit passages, of a tapered valve-seat located between said inlet and exit passages, a valve tapered on its upper surface to correspond with the tapered valve-seat and adapted to be closed against said seat by pressure from the inlet-passage, said valve being provided with a centrally-depending stem and said inlet-passage being provided with a suitable bearing to support and guide said valve-stem, whereby the said valve may be retained normally in position away from said valve-seat when the pressure is removed, and means, substantially as described, for positively moving said valve away from said valve-seat when the pressure is on, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

FRED P. WERNER.

Witnesses:

TAYLOR E. BROWN,
FRANCIS E. AUGUSTIN.