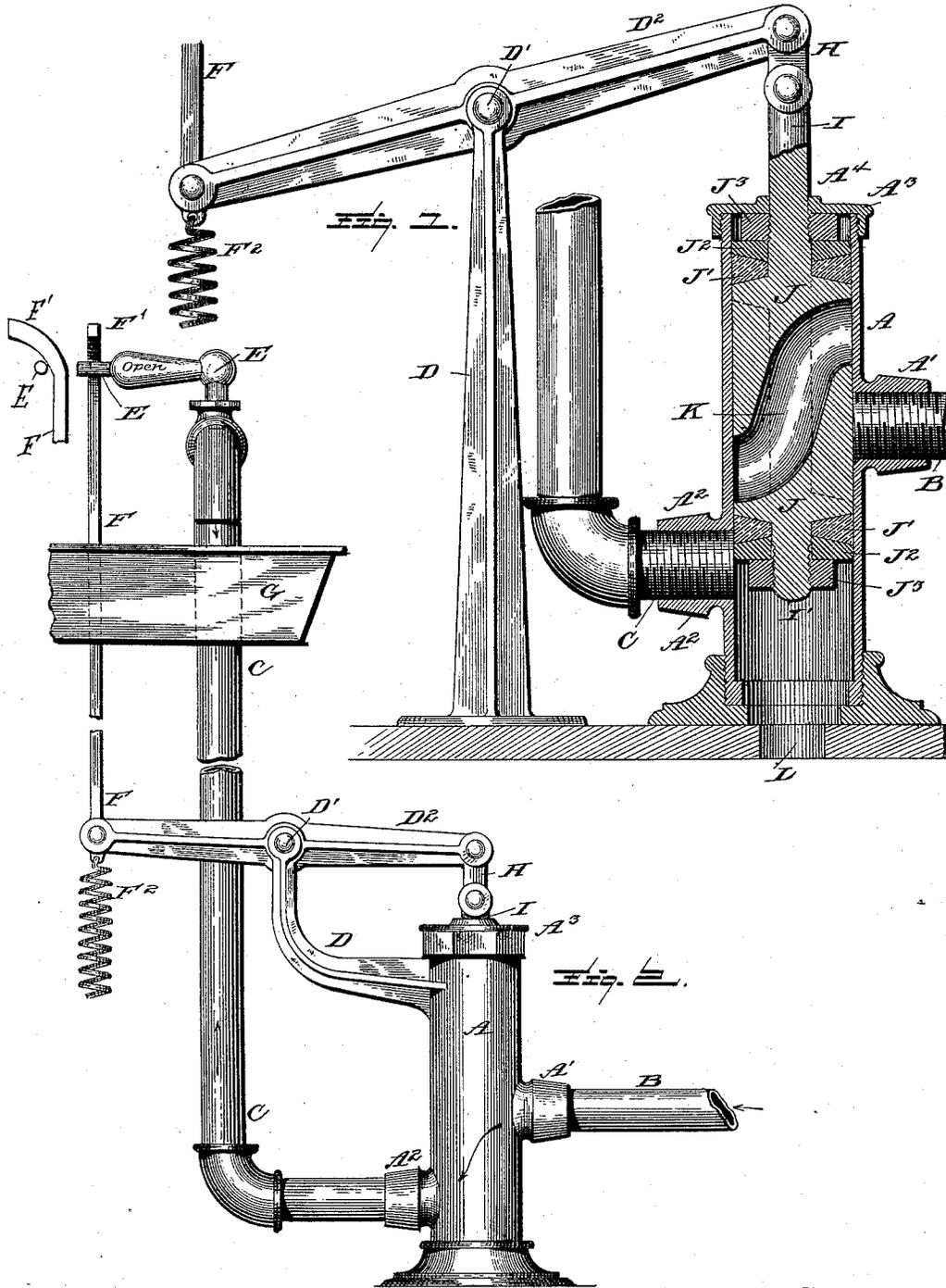


(No Model.)

J. HELTZLE.  
STOP COCK.

No. 417,785.

Patented Dec. 24, 1889.



Witnesses  
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By

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# UNITED STATES PATENT OFFICE.

JULIUS HELTZLE, OF ST. LOUIS, MISSOURI.

## STOP-COCK.

SPECIFICATION forming part of Letters Patent No. 417,785, dated December 24, 1889.

Application filed May 7, 1889. Serial No. 309,848. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS HELTZLE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Stop-Cocks, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide a means of automatically draining delivery-pipes for wash-basins, bath-tubs, sinks, &c., said means to act in connection with a stop-cock supplying said basin. To this end I have constructed my device in the manner described in the following specification, and with such novel features as will be found set forth in the claims at the end of the same.

In the drawings, Figure 1 is a side elevation of my device, the plunger and its casing being shown in vertical section. Fig. 2 is a side elevation of my device in position, showing its connection with delivery stop-cock and its preferred position with relation to the basin.

Like letters of reference indicate like parts in both figures of the drawings.

A is a cylindrical casing provided with two opposite ports A' and A<sup>2</sup>, the former being higher than the latter. These ports are interiorly screw-threaded for the insertion of the pipes B and C, for supply and outlet, respectively. The top of the cylinder is closed by a cap screwed or otherwise fastened thereon, said cap being apertured at A<sup>4</sup> for the passage of the plunger. The supply-pipe B is connected with the higher port A', while the delivery-pipe C is connected with the lower port. As seen in Fig. 2, the casing is placed, preferably, beneath the level of the basin or sink, and the supply-pipe B rises to a considerable elevation above the level of the delivery-port.

D is a standard, either connected to the case A, as shown in Fig. 2, or separate therefrom. To the top of this standard is pivoted, as at D', a walking-beam D<sup>2</sup>, to one end of which is attached a closing-rod F, having a cam F' at the top thereof, preferably formed, as shown in Fig. 2, by curving the upper end of the rod. This rod is actuated by contact with the rear end of the stop-cock handle E, and attached below this rod and at the under side of the walking-beam is the spring F<sup>2</sup>, which acts to

return the rod to its lowest position, thus closing the inlet-valve. At the end of the walking-beam opposite to that at which the closing-rod is pivoted there is pivotally attached a link H, to the other end of which is pivoted the top of the plunger-rod I.

Within the casing A is a plunger J, perforated, as shown at K, with a passage having one opening higher than the other, and so formed that its upper opening will register with the port A' at the same time that the lower opening registers with A<sup>2</sup>. The top and bottom of this plunger are preferably beveled, as shown, for the reception of leather washers J', which are held on by means of metal washers J<sup>2</sup>, held in place and adjusted at will by means of nuts J<sup>3</sup>, screwed onto the plunger-rod I and the plunger-tip I', respectively.

Fig. 1 shows the plunger in its closed position, the sides thereof entirely stopping the entrance-pipe B, while the opening of the delivery-pipe C is left free, thus allowing of the drainage of the standing pipe C through the opening L at the bottom of the casing, this opening communicating with an open sink or waste-pipe, as desired.

The plunger need not necessarily be constructed as above described, but may consist instead of a central spindle, (shown in dotted lines in Fig. 1,) and provided with water-tight heads, as therein shown. When thus constructed, the supply-pipe B will never be closed, and there will be a body of water always included between the heads of the plunger, the depression of the plunger merely bringing this body of water into communication with the delivery-pipe C.

Whichever construction is employed the operation of my device will be as follows: The stop-cock E being turned to the open position, as shown in Fig. 2, its rear end impinges against the concave surface of the closing-rod F, raising the same into the position shown in Fig. 2. The raising of this rod depresses the link H and through it the plunger J, bringing the opposite openings of the perforation K into position to register with the ports A' and A<sup>2</sup>. Connection being thus established between these ports, the water is allowed to flow into the basin above. If desired, the rod F may be operated by hand and the faucet or cock E may be dispensed with.

The valve E being now closed, the closing-rod F is liberated and the spring F<sup>2</sup> depresses its end of the walking-beam, raising the plunger into the position shown in Fig. 1. The opening at the bottom of the pipe C being thus left free, said pipe is permitted to drain through the opening L, thus preventing stagnation of the water in contact with pipes often made of poisonous material. By this means I am enabled to drain my delivery-pipes without making any perforations in the plunger which shall by any possibility be the occasion of waste during the operative action of the valve.

15 What I claim is—

1. A valve-casing having supply and delivery ports, one placed higher than the other, a plunger sliding therein and having an inclined passage, a standard, and a walking-beam pivotally connected with said plunger, in combination with a closing-rod pivotally attached to said walking-beam at the end opposite to that of the attachment of the plunger, and a spring attached beneath said walking-beam near said closing-rod, substantially as specified.

2. A casing provided with a drip-opening, a supply-port, and a delivery-port, one higher than the other, and a plunger sliding in said casing and provided with an inclined perforation the ends of which are adapted to register simultaneously with said ports, the bottom of said plunger being adapted to rise above a portion of said delivery-port when in a closed position, substantially as specified.

3. A casing provided with a valveless drip-opening, a supply-port, and a delivery-port, one placed higher than the other, in combination with a plunger sliding in said casing and provided with a perforation of the same diameter as said ports, and its openings so disposed as to register simultaneously with said ports, the bottom of said plunger being adapted to rise above a portion of said delivery-port when in a closed position, substantially as specified.

4. A casing provided with a drip-opening, a supply-port, and a delivery-port, a delivery-pipe connected to said delivery-port, a plunger sliding in said casing and provided with an inclined perforation the ends of which are disposed to register simultaneously with the two ports, and a plunger-rod rising from the top of said plunger, in combination with a standard, a walking-beam pivotally attached at one end to the top of said plunger-rod, a closing-rod pivotally attached at the other end of said walking-beam and provided with a cam at the top thereof, a spring attached to said walking-beam near said closing-rod, and a stop-cock adapted to move in a path intersected by the cam on said closing-rod, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JULIUS HELTZLE.

Witnesses:

EDW. J. TARLING,  
FRANK WILCOX.