

No. 695,697.

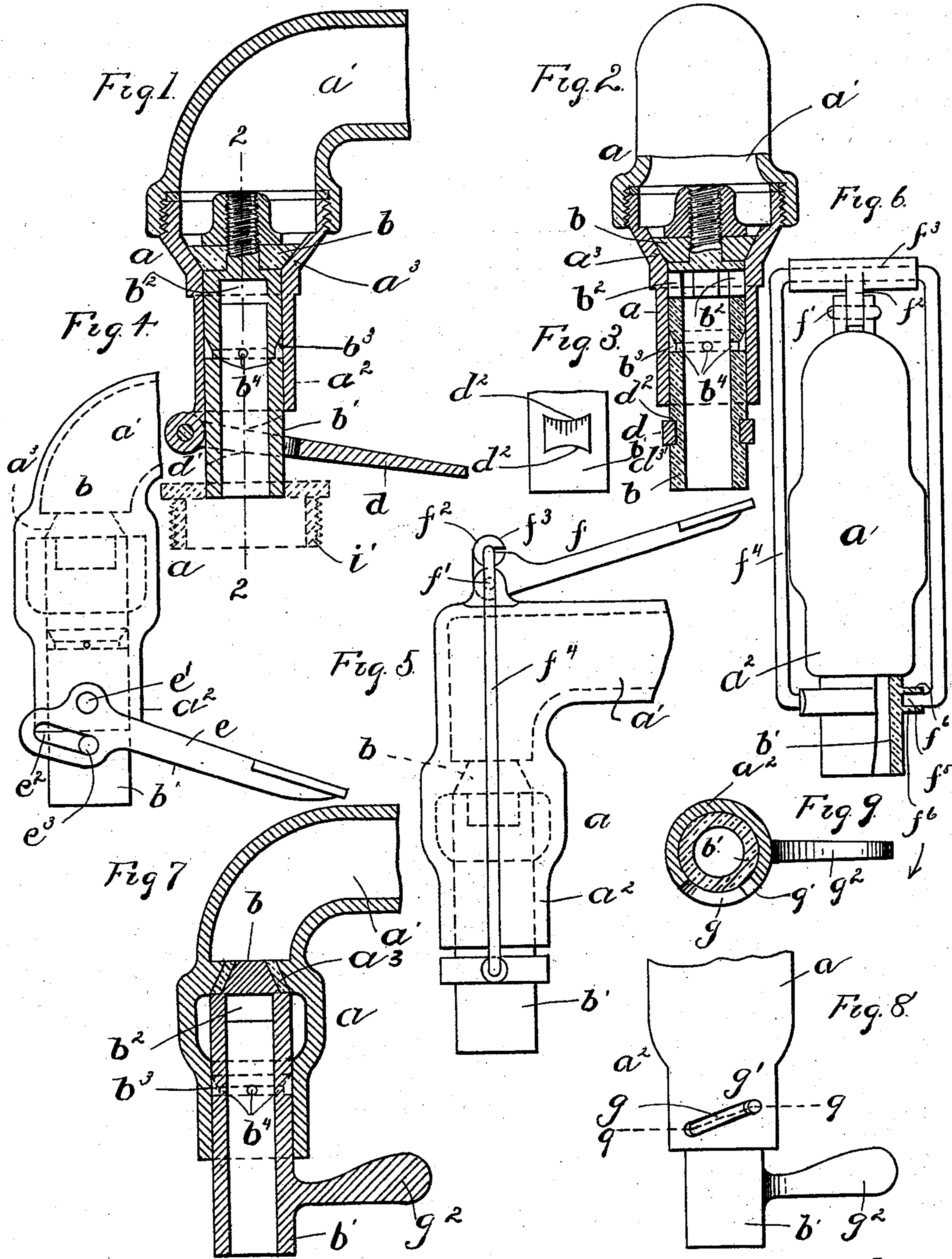
Patented Mar. 18, 1902.

J. E. O'LALLY.

FAUCET.

(Application filed July 25, 1901.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

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FAUCET.

SPECIFICATION forming part of Letters Patent No. 695,697, dated March 18, 1902.

Application filed July 25, 1901. Serial No. 69,613. (No model.)

To all whom it may concern:

Be it known that I, JAMES EMMETT O'LALLY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Faucets, of which the following is a specification.

This invention relates to a faucet the valve of which is actuated from the delivering end or outlet of the faucet-casing by a stem or projection projecting downwardly from the valve or between it and the outlet, there being no valve-stem or operating device above the valve or in that portion of the casing which is subjected to liquid-pressure when the valve is closed, and therefore no packing around the stem or operating device.

The invention has for its object to provide a faucet of the class above mentioned which shall be of simple and relatively inexpensive construction and shall have an unobstructed outlet through which the liquid can pass in an unbroken stream.

The invention consists in the improvements which I shall now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a sectional view of a faucet embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents a side view of a portion of the tubular stem shown in Figs. 1 and 2. Fig. 4 represents a side elevation of another embodiment of my invention. Fig. 5 represents a side elevation, and Fig. 6 a front elevation, of another faucet embodying my invention. Fig. 7 represents a sectional view of still another embodiment of my invention. Fig. 8 represents a side view of the faucet shown in Fig. 7, and Fig. 9 represents a section on line 9 9 of Fig. 8.

The same letters of reference indicate the same parts in all the figures.

In the drawings, a represents the casing of my improved faucet, the same having an inlet a' at one end, a guide a^2 at the other end, and a valve-seat a^3 between said inlet and guide.

b represents a valve fitted to the seat a^3 , and b' represents an outlet-tube having a sliding fit in the guide a^2 and affixed to the valve, whereby positive movement of the

valve in both directions with the tube is insured, said tube projecting below the guide a^2 and constituting the stem of the valve. The tube has ports b^2 in its upper portion close to the valve, the arrangement of the ports and the form of the casing being such that when the valve is removed from its seat liquid flowing through the seat will enter the tube b' through said ports and will pass out through the open end of the tube. The valve and casing may be formed, as shown in Figs. 1 and 2, so that the valve will be opened by an upward movement, or, as shown in the other figures, so that a downward movement will open the valve.

The close sliding fit of the tube in the guide a^2 prevents the liquid from finding its way in any considerable quantity into the crevice between the tube and its guide, and to prevent the small quantity of liquid that enters said crevice from escaping at the lower end of the guide I provide a peripheral groove b^3 in the exterior of the tube and orifices b^4 , extending from said groove to the interior of the tube, said groove being formed as shown in Fig. 1 and receiving the liquid that may flow down said crevice from the upper end of the tube, the liquid entering the tube through the orifices b^4 . There may be more than one groove b^3 , if desired.

The tube is moved lengthwise to open and close the valve, suitable means being provided for this purpose. I have shown several devices for moving the tube, and in each case the operating device is wholly outside the tube, so that there is no obstruction to the flow of liquid from the tube and nothing to cause deflection or spattering of the stream of liquid issuing therefrom. In Figs. 1 and 2 I show a forked lever d , fulcrumed at d' to the casing, its branches being engaged with the edges d^2 d^2 , formed in the exterior of the tube b' , movements of the lever being imparted to the tube.

In Fig. 4 I show a lever e , fulcrumed at e' to the casing and having an eccentric slot e^2 , the walls of which bear on the upper and lower surfaces e^3 e^3 of a stud projecting from the exterior of the tube b' . An upward movement of the lever depresses the tube and valve, opening the latter.

In Figs. 5 and 6 I show a lever f , fulcrumed at f' on the casing and having a shorter arm f^2 and a socket f^3 thereon. A wire bail f^4 hangs from this socket and has ears f^5 at its lower end, which enter sockets formed in the exterior of the tube b' , the upper and lower sides f^6 f^6 of the sockets bearing on the said ears. An upward movement of the lever f depresses the bail and tube and opens the valve.

In Figs. 7, 8, and 9 I show the casing provided with an inclined groove g , the walls of which bear on the upper and lower sides g' g' of a stud projecting from the exterior of the tube b' . The tube has a handle g^2 , by which it may be turned. A movement of the handle and tube in the direction of the arrow in Fig. 9 causes the downward movement of the tube and valve, the latter being thus opened. The inclined slot and stud last described constitute the equivalent of a screw-threaded connection between the tube and casing.

In each of the above-described constructions the tube has an external operating member which coöperates with a complementary member on the casing in moving the tube to positively open or positively close the valve. Various other devices may be used for operating the tube and valve without departing from the spirit of my invention.

The lower end of the tube may be provided with a coupling member i , as shown in dotted lines in Fig. 1, adapted to secure a filter or a hose to the tube. The member i here shown is simply an enlargement of the tube externally screw-threaded.

In each of the forms illustrated and described the valve is rigidly connected with the outlet-tube, and hence moves positively with said tube. The means for operating the tube give positive movement thereto and to the valve in both directions. Hence when a downwardly-closing valve is employed the lever or handle may be utilized to positively and firmly seat the valve in case the pressure of the liquid is insufficient to accurately seat it. Furthermore, the weight of said handle or valve, in some of the forms shown, aids in holding the downwardly-movable valve closed. Furthermore, owing to the fact that

the valve is rigidly connected with the tube the latter serves as the guiding-stem of the valve, and hence no separate mechanism or device is necessary to guide the valve in its movements.

I claim—

1. A faucet comprising, first, a casing having an inlet at one end, a guide at the other end, and a valve-seat between the inlet and guide; secondly, a sliding outlet-tube movable lengthwise in the guide and provided at one end with a valve formed to fit the said seat and with ports adjacent to and below said valve, whereby liquid is permitted to enter the outlet-tube from the casing when the valve is open; thirdly, means for moving the tube lengthwise to open or close the valve; and fourthly, means for preventing leakage of water between the outlet-tube and the lower end of the guide.

2. A faucet comprising, first, a casing having an inlet at one end, and a guide at the other end, and a valve-seat between the inlet and guide; secondly, a sliding outlet-tube movable lengthwise in the guide and provided at its upper end with a valve formed to fit the said seat and with ports adjacent to and below said valves, the lower end of the said outlet-tube being provided with external grooves on opposite sides thereof, and a forked lever pivoted to the lower end of the casing and having its branches engaging the edges of the grooves in the outlet-tube.

3. A faucet comprising a casing having an inlet, a guide, and an intermediate valve-seat, a sliding outlet-tube movable in the guide and provided with a valve, ports adjacent thereto, an external peripheral groove, and orifices connecting the groove with the interior of the tube, said groove and orifices permitting liquid to pass from between the guide and the tube into the latter, and means for moving the tube to open and close the valve.

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

JAMES EMMETT O'LALLY.

Witnesses:

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