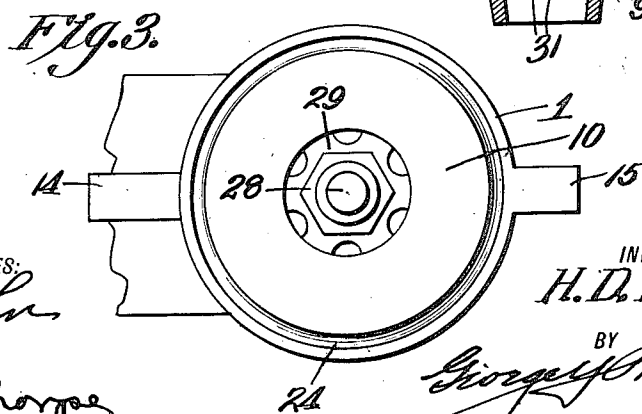
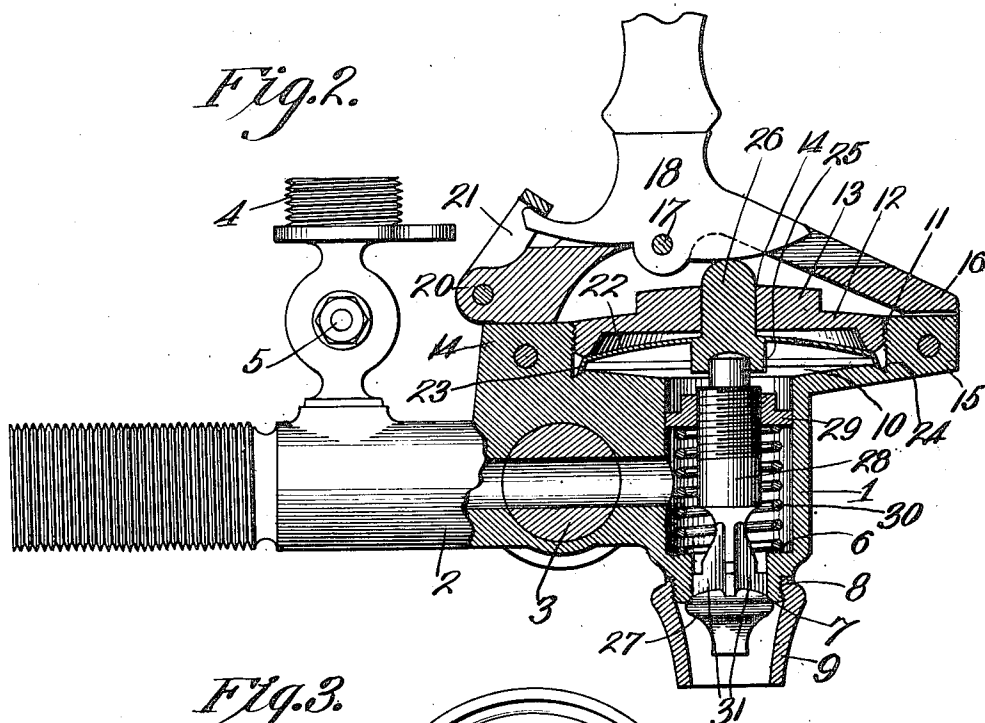
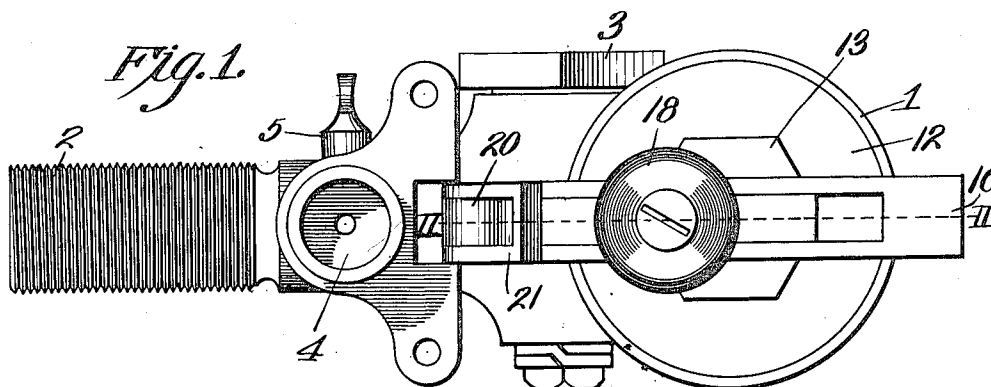


APPLICATION FILED AUG. 21, 1916.

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WITNESSES;

NEB

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UNITED STATES PATENT OFFICE.

HENRY D. KELLY, OF KANSAS CITY, MISSOURI.

FAUCET.

1,252,702.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY D. KELLY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Faucets, of which the following is a specification.

This invention relates to faucets for coffee urns and the like, and has for its object to produce a faucet which can be locked against accidental operation or open for drainage; which has no obstruction below the valve, tending to retain liquid and thereby produce noticeable drippage after the valve is closed; which can be operated easily and is self-closing; from which liquid cannot flow or escape except through the nozzle when the valve is open, and which has a removable nozzle to give access to the valve and valve seat for dislodgment of obstructions to the seating of the valve.

To this end the invention consists in certain novel and peculiar features of organization and construction of parts as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which:

Figure 1, is a top plan view of a faucet embodying the invention.

Fig. 2, is a vertical longitudinal section taken on the line II—II of Fig. 1, with certain of the parts in elevation.

Fig. 3, is a fragmentary plan view with the diaphragm, cap and other parts omitted.

In the said drawing, 1 indicates the head of the faucet and 2 the stem thereof, the latter adjacent the head being controlled by a plug valve 3, and back of said plug valve is a connection 4 for a gage glass, not shown, the connection being provided with a controlling plug valve 5.

The head is provided with a vertical cylindrical valve chamber in communication with the stem, and below the said point of communication, said chamber is diametrically reduced to form an upwardly-facing shoulder 6, the head at the lower end of the reduced portion of said chamber, constituting a downwardly-facing valve seat 7. The

head is externally threaded as at 8, at its reduced or lower end for engagement by a short nozzle 9.

At the upper end of the valve chamber the head is diametrically enlarged to form a shallow diaphragm chamber 10, and the wall of said diaphragm chamber is internally threaded at 11 for engagement by the externally threaded cap 12, the cap being provided with an upstanding hexagonal head 13, to facilitate the securing of the cap in or removing it from position, and said cap and hexagonal or nut-head is provided with a central opening 14.

At diametrically opposite points of the enlargement of the head are horizontally-perforated lugs 14 and 15.

A longitudinally-slotted arch 16 spans the enlargement of the head and is secured at its ends to the lugs 14 and 15, and fitting in the slot of the arch and pivoted at 17 thereto rearward of the vertical plane of the opening in the cap, is an inverted T-shaped lever 18, provided with a handle of wood or other material which is a poor conductor of heat to avoid the chance of an operator burning his hand.

The forwardly projecting end of the head of the T-shaped lever, limits operation of the latter in the opening movement of the valve, by contact with the arch at the front end of the slot thereof, and the other end of the head of the lever limits reverse movement of the lever by contact with the arch at the rear end of the slot thereof. To lock the lever in its opened or closed position, the arch is provided with a lug 20 and a U-shaped dog 21 which is pivoted to said lug, said dog being adapted to be swung forwardly against the arch after the lever is thrown forward, in which position the dog underlies the rear end of the head of the lever and thus locks the latter in open position so that the urn, not shown, may be drained of its contents if such result is desired. When it is desired to lock the lever against opening movement, the dog is swung forward as explained, but in this case as the lever is normally in its closed position, the

dog will overlies the rear end of the head of the lever and thus lock the same against forward movement.

Arranged in the diaphragm chamber is a spring-metal diaphragm 22 having a downwardly-flaring marginal flange 23 engaging a circular groove 24 in the bottom of said chamber, the inner wall of the groove sloping downwardly and outwardly, for a purpose hereinafter explained.

The diaphragm is provided centrally with a depending boss 25 having a central recess in its lower end, and with a boss 26 which projects upwardly through the opening in the cap and nut-head thereof, to a point within the range of the downward movement of the forwardly-projecting head of the lever. When the cap is screwed home it applies pressure on the marginal portion of the diaphragm and thus clamps the flange of the latter firmly down on the inclined wall of the groove 24 with a liquid-tight joint, and in this connection it will be seen that when the lever is thrown forward and thereby applies pressure on the boss 26 of the diaphragm, the latter is sprung downward or flattened, and that in accommodating this movement, the flange of the diaphragm is spread outward or expanded by the inclined wall of the groove 24, the wedging action of said wall thus making the liquid-tight joint more perfect if possible, at the time when the diaphragm is sprung downward.

The downward movement imparted to the diaphragm by the lever is for the purpose of opening the faucet. Controlling the discharge from the head of the faucet is a valve 27 fitting against the downwardly-facing seat 7, and provided with a stem 28 extending upwardly through the valve chamber and fitting in the recess in the depending boss 25 of the diaphragm, and adjustably secured on said stem is a collar or nut 29 to form an abutment for the upper end of an expansion spring 30 surrounding the valve stem and bearing at its lower end against the upwardly-facing shoulder 6, this spring holding the valve normally seated but being adapted to yield under force transmitted through the diaphragm from the lever.

It will be noted that the collar or nut fits snugly in the valve chamber to prevent lateral movement of the upper end of the valve stem, and that the latter likewise fits snugly in the reduced portion of the said chamber to prevent lateral movement of the valve, the stem within the said reduced portion of the said chamber, having longitudinal grooves or channels 31 through which the

coffee flows to the nozzle.

To open the valve the lever is swung forward to cause the front end of its head to press downward on the upwardly project-

ing boss 26 of the diaphragm, and thus spring the latter downward and transmit the power to the upper end of the valve stem 28. This overcomes the resistance of the spring 30 and unseats the valve, and as this occurs discharge of liquid around the valve takes place, the surrounding nozzle 9, causing the liquid to flow in a cylindrical column into a receptacle placed to receive it. The instant the handle is released, the spring 30 reseats the valve, and incidentally returns the diaphragm and lever to their initial positions, it being of course understood that the resiliency of the diaphragm tends to assist in returning the lever to its initial position.

Should an obstruction become lodged between the valve 27 and its seat 7, the nozzle can be quickly unscrewed and the obstruction dislodged, and if it is desired to draw a large quantity of liquid from the urn or to drain all of the liquid therefrom, the operator will first open the valve and then throw the dog forward to lock the valve unseated.

From the above description it will be apparent that I have produced a faucet embodying the features of advantage enumerated as desirable in the statement of the object of the invention, and I wish it to be understood that while I have illustrated and described what now appears to me to be the preferred type of construction, I reserve the right to make all changes properly falling within the spirit and scope of the appended claim.

I claim:

A self-closing faucet having a head provided with superposed communicating valve and diaphragm chambers and provided also with an upwardly-facing internal shoulder at the bottom of said valve chamber and a downwardly-facing external seat below the plane of said shoulder, a valve underlying said seat and provided with a stem extending up through the valve chamber, a removable collar secured on said stem, a spring surrounding said stem and bearing against the said internal shoulder and said collar to seat the valve, a diaphragm within and bearing at its margin on the bottom of the diaphragm chamber with a liquid-tight joint, and provided with an upwardly projecting boss, a cap closing the diaphragm chamber and provided with an opening through which said boss extends, a slotted arch extending diametrically of the cap and secured to the head of the faucet, an inverted T-shaped lever pivoted in the slot of the arch; one end of the head of the lever being adapted for exerting downward pressure on the boss of the diaphragm to unseat the valve and then engage the arch to arrest the movement of the lever, and the

other end of the head of the lever being adapted to limit reverse movement of the lever by engagement with the arch, and a dog movably mounted on the arch and adapted to underlie the last-named end of the head of the lever or to overlie said end of the head of the lever.

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

HENRY D. KELLY.

Witnesses:

K. M. THORPE,
G. Y. THORPE.