

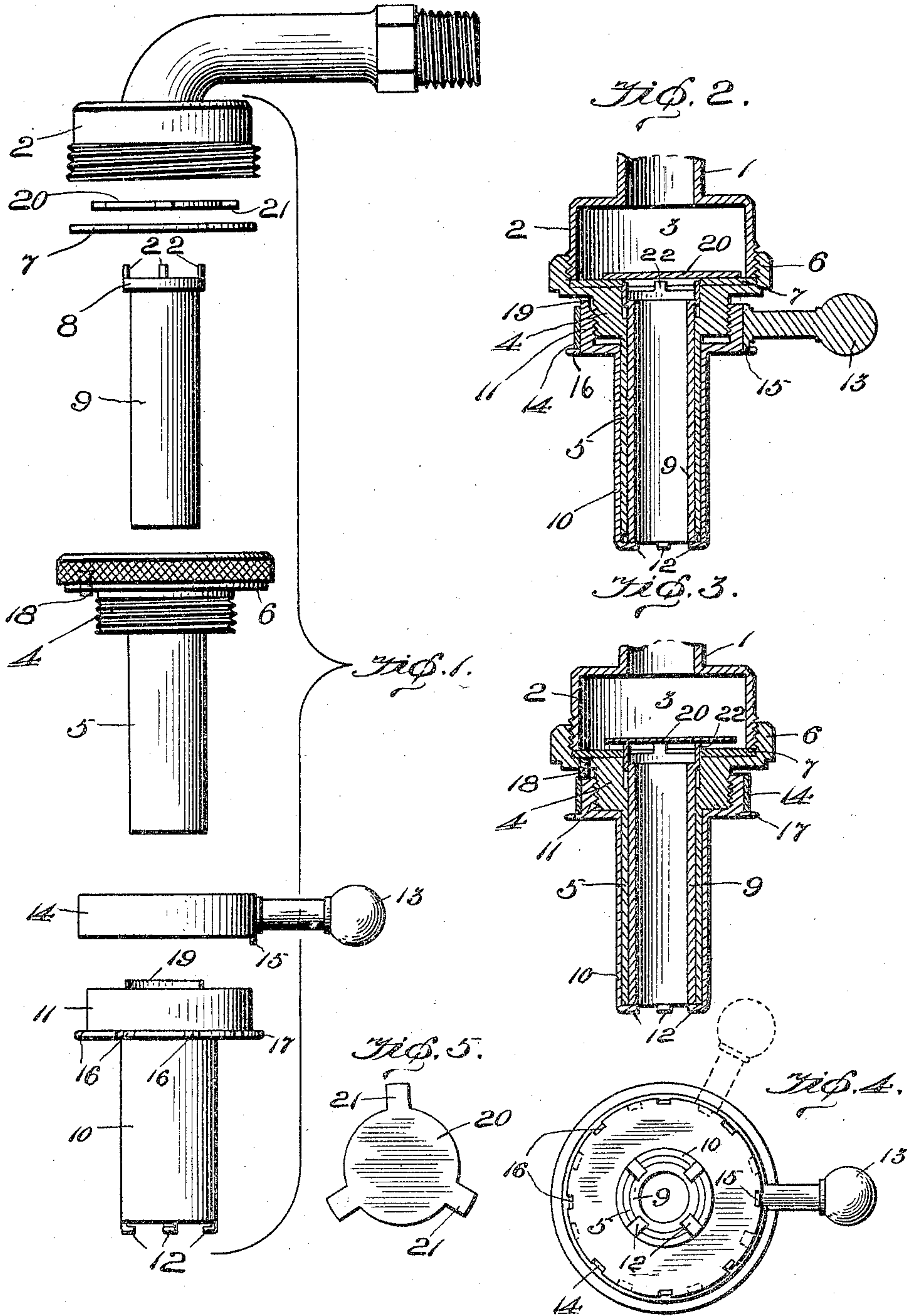
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H. A. SCHROEDER.
FAUCET.

APPLICATION FILED NOV. 29, 1901.

NO MODEL.



Witnesses
Bernard M. Offutt,
H. C. Caldwell.

Inventor
Henry A. Schroeder.
by R. S. Caldwell,
Attorney

UNITED STATES PATENT OFFICE.

HENRY A. SCHROEDER, OF BALTIMORE, MARYLAND.

FAUCET.

SPECIFICATION forming part of Letters Patent No. 770,825, dated September 27, 1904.

Application filed November 29, 1901. Serial No. 84,047. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. SCHROEDER, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Faucets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in faucets, and has for its object to produce a device of this nature which shall be proof against dripping when in its closed position.

A further object is to construct such a faucet so that it will be simple in its operation, durable in wear, neat in its appearance, and readily separable for cleansing purposes.

Briefly, my invention consists in forming a box or valve-casing in two sections threaded together with a circular washer therebetween, the lower section being provided with a central depending tubular stem within which is a free tube provided with upwardly-projecting fingers adapted to lift a disk valve from its seat on the washer when the tube is elevated. A sleeve having an adjustable handle is threaded on a shoulder of the lower section and extends to the lower end of the tubular stem, where it has inwardly-projecting lugs on which the central tube is supported. By turning the sleeve on its threads it is raised or lowered, as the case may be, and in turn raises or lowers the disk valve by means of the central tube, and so opens or closes the passage through the faucet.

With the above and other objects in view my invention further consists in the novel details of construction and combination of parts, to be clearly described in the following specification, and fully set forth in the claims.

Referring to the accompanying drawings, forming a part of this application, in which like characters of reference indicate same parts throughout the several views, Figure 1 is an elevation of the several members of my invention shown disjointed. Fig. 2 is a central section of the assembled faucet in its closed position. Fig. 3 is a similar view with the

parts in the open position. Fig. 4 is a bottom plan view of the faucet as shown in Fig. 2 and indicating in dotted lines the position of the handle when the valve is open, and Fig. 5 is a plan view of the disk valve.

In the drawings, 1 represents a connecting-pipe provided with wrench-shoulders and screw-threads at one end, by which it may be attached to a supply-pipe, and having its other end bent downward and terminating in an enlarged flat cylindrical box 2 with its bottom open. The box 2 forms the upper section of a valve-chamber 3, which is completed by the flat head 4 of a tubular stem 5, held in position by an upwardly-projecting annular knurled ring 6, which is threaded to the exterior of box 2. A circular washer 7, of rubber, leather, or other suitable material, lies flat upon the upper end of head 4 and extends to the ring 6, so that the lower end of box 2 presses upon it to render the valve-chamber 3 water-tight. The tubular stem 5 has its bore slightly enlarged at the top to accommodate the enlarged upper end 8 of a tube 9, which loosely fits within said stem 5. The washer 7 has a central opening of the same diameter as this enlarged portion of the bore of stem 5, so that the tube 9 is free to move upward there-through. A sleeve 10 loosely fits around the stem 5 and has its enlarged cylindrical head 11 threaded to the shoulders of the head 4 of said stem 5. At its lower end this sleeve 10 is provided with inwardly-projecting lugs 12, on which the tube 9 rests and by means of which the said tube is caused to move up and down by the rotation of the sleeve on the threads of the stem 5. A knob-handle 13 is mounted on a collar 14, which fits around the outside of head 11 of sleeve 10, and has a depending lug 15 adapted to fit into any one of a number of notches 16 in the annular flange 17 around the lower edge of said head 11. To limit the movement of sleeve 10, a small screw 18 is threaded through the flat top of stem 5 from the interior of the valve-chamber and projects into the path of a lug 19 on the top of head 11.

A disk valve, preferably of sheet metal, consisting of a central disk with radiating arms 21 is located within the valve-chamber 3 and

being entirely free rests flat upon the washer 7, with its disk portion covering the opening of said washer, as shown in Fig. 2, the arms 21 serving to keep the disk centrally over the tube 9 without closing the passage around said disk.

The enlarged upper end 8 of the tube 9 is provided with upwardly-extending fingers 22, which lie just below the level of the top of washer 7 when the tube is in the position shown in Fig. 2 to permit the valve 20 to be pressed tightly upon said washer by the liquid-pressure from above, and thereby effectively close the outlet through the tube and confining the liquid above the valve. On raising the tube, by turning the handle 13, as before described, the fingers 22 press up against the valve 20 and lift it above the washer 7, as shown in Fig. 3, against the liquid-pressure, and so open the outlet, the liquid passing around the valve in between the fingers 22 and down tube 9. On turning the handle 13 in the reverse direction the tube 9 is lowered and the fingers 22 withdrawn from the valve 20, when the valve reseats itself on washer 7, as before, by the liquid-pressure from above.

With a full knowledge of the construction of my invention as given above it will be readily understood that my improved faucet is well adapted for use in regulating the flow of water or any other liquid, but is especially suitable for the purpose of drawing beer, inasmuch as the parts are all so constructed and assembled that they may be easily taken apart by any one and each part thoroughly cleaned and replaced, there being no part not entirely accessible during the cleansing operation. It will be also seen that the false drip so common with faucets having a valve of the plunger type is entirely avoided by this invention, as there is no grinding action of the valve on its seat, but a straight up-and-down movement of a perfectly-free valve which is held seated by the liquid-pressure itself. The absence of this turning of the valve on the washer tends to prolong the life of the washer, and, in addition, the fact that my valve is free to turn when elevated renders the seating thereof in the same position on the washer each time an impossibility, and so the wear is distributed throughout the surface of the washer, and this helps to preserve its life.

It will be noted that with a valve construction such as I employ a very slight movement of the valve is sufficient to open the flow to its full extent, and in practice I find that it is not necessary to give the handle a complete turn to fully raise the valve without noticeable resistance for water at the ordinary city pressure and with parts substantially the size as shown in the drawings. I therefore provide for a partial turn only to the extent as shown in Fig. 4, and to enable this arc of movement to be adjusted to any position desired I have made the collar 14 adjustable on

the sleeve, this adjustment being performed without taking the members apart by simply sliding the collar 14 upward on the head 11 until the lug 15 is free of the notch 16, when the collar is turned to the desired position and then lowered, so that the lug again engages a notch 16.

By my construction a single washer is required, which besides forming the valve-seat acts as a gasket between the upper and lower sections of the valve-chamber and as a covering for the opening in which screw 18 is threaded to prevent any possible passage of liquid therethrough.

I do not wish to confine myself to the exact details of construction as here given, for it is obvious that numerous changes and alterations may be resorted to in these without departing from the spirit of my invention; but I reserve the right to include all substitutions and alterations which fall under the true scope of this invention.

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

1. In a device of the character described, a casing comprising a valve-chamber and a tubular outlet-stem, a free disk valve in the valve-chamber normally closing the mouth of the outlet-stem, a tube slidable in the outlet-stem and provided with upwardly-projecting separated fingers on its upper end adapted to strike against the free valve near the periphery thereof, and means for elevating the tube to lift the valve by means of the fingers, substantially as described.

2. In a device of the character described, a casing comprising a valve-chamber and an outlet-stem, a free valve within the valve-chamber normally seated over the outlet-stem, a free tube slidable in the outlet-stem, fingers on the upper end of the tube adapted to strike against the free valve, a sleeve threaded on the exterior of the outlet-stem with its tubular extension slidably fitting around the outlet-stem, the said outlet-stem being continued in a tubular form below the threads thereof and the free tube and tubular extension of the sleeve extending below the outlet-stem, and inwardly-projecting lugs on the lower end of the sleeve upon which the tube is supported, substantially as described.

3. In a device of the character described, a casing comprising a valve-chamber and an outlet-stem, a flat washer in the valve-chamber having an opening registering with the bore of the outlet-stem, a free disk valve in the valve-chamber normally seated on the washer, a tube slidable in the outlet-stem, separated fingers on the upper end of the tube adapted to strike against the free valve near the periphery thereof, and a sleeve threaded on the outlet-stem and connected with the tube, substantially as described.

4. In a device of the character described, a casing comprising a valve-chamber and an out-

let-stem, a free valve in the valve-chamber normally closing the outlet-stem, means slidable in the outlet-stem for opening the valve, a sleeve threaded on the exterior of the outlet-stem and connected to the valve-opening means, a loose collar on the sleeve, a lug on the collar to engage notches of the sleeve, and a handle on the collar, substantially as described.

10 5. In a device of the character described, a valve-box, an outlet-stem having a flat head with an upwardly-projecting flange threaded to the box and a tubular extension, a tube slidable in the outlet-stem, a sleeve threaded to
15 shoulders of the outlet-stem above the tubular extension thereof and provided with inwardly-

projecting lugs at its lower end on which the tube rests, a flat washer in the valve-box with its edges confined between the outlet-stem head and the edges of the valve-box, a free 20 disk valve in the valve-box normally seated on the washer, and fingers on the tube projecting through an opening in the washer and adapted to strike against the free valve to lift it from the washer, substantially as described. 25

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

HENRY A. SCHROEDER.

Witnesses:

CHAS. H. GUNDARDORFT,
L. G. MATTHEWS.