

W. MORLOK.
 FAUCET.
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1,386,646.

Patented Aug. 9, 1921.

Fig. 1.

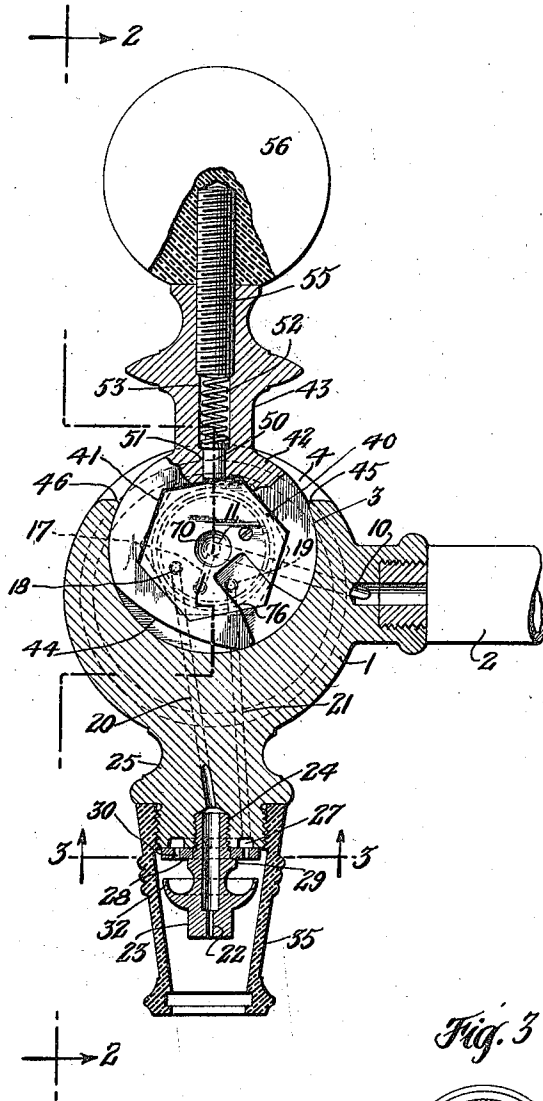


Fig. 2.

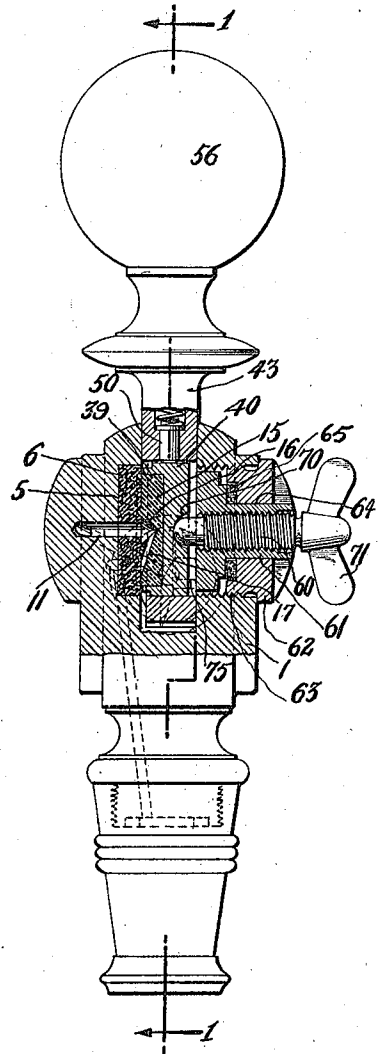
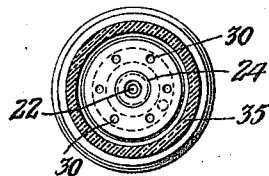


Fig. 3.



WITNESS

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FAUCET.

1,386,646.

Specification of Letters Patent.

Patented Aug. 9, 1921.

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To all whom it may concern:

Be it known that I, WILLIAM MORLOK, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented an Improvement in Faucets, of which the following is a specification.

My invention relates to faucets and is designed more particularly for use in dispensing soda water and other like liquids from soda water fountains and the like, and it has for its object generally to simplify the construction and to provide means so that the parts thereof may be readily disassembled or taken apart for any purpose whatsoever and thereafter re-assembled without the use of tools or implements of any kind or character whatsoever.

A further object of the invention is to provide means whereby the valve for controlling the passage of liquid through the faucet and the holder or carrier therefor may be removed from the casing in which these parts are normally contained without removing any other part or element of the structure.

A further object of the invention is to provide means for yieldingly retaining the valve previously mentioned and its immediate support within the holder or container therefor, the said means being adapted to permit ready removal or detachment of the valve and its immediate support from the holder or container and the replacement thereof within the said holder or container when and as may be desired.

A still further object of the invention is to provide means whereby the soft or large stream, as it is called, may be discharged from the faucet in the form of a hollow cylinder or tube instead of in the form of a single solid stream.

Other objects and advantages of my invention will be pointed out in the detailed description thereof which follows or will be apparent from such description.

In order that my invention may be readily understood and its practical advantages fully appreciated, reference may be had to the accompanying drawing in which I have illustrated one convenient form of embodiment thereof. However, it will be understood that the same is susceptible of embodi-

ment in other forms of construction than that shown and that I do not desire to be limited to the particular construction depicted in the drawing.

In the drawing:

Figure 1 is a vertical sectional view taken on the line 1—1 of Fig. 2;

Fig. 2 is a view partly in vertical section and partly in elevation taken on the line 2—2 of Fig. 1; and

Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1.

Referring to the drawing; 1 designates the body portion of a faucet of the character above mentioned which is supported upon the outer end of a hollow tubular arm 2 having communication with a source of supply of the liquid to be dispensed by and through the faucet. The body portion 1 is circular in the direction of the plane on which the view shown in Fig. 1 is taken and it is provided with an opening or cavity 3 which is eccentrically situated therein and which cavity constitutes the larger segment of a circle, as shown in Fig. 1. The upper portion of the body 1 of the faucet is removed or cut away as indicated at 4. The body 1 is provided upon one side of the cavity 3 with a depression or seat 5 in which is situated a member 6 of suitable material such as leather which coöperates with a valve to be hereinafter referred to and described. The body 1 is provided with a liquid passageway 10 which extends from the passageway of the tubular arm 2, as indicated in dotted lines in Fig. 1, to a passageway 11 which extends substantially at right angles to the plane on which the view shown in Fig. 1 is taken. The passageway 11 extends through the valve coöperating member 6, as is shown in Fig. 2, and terminates upon the inner surface thereof. The member 6 may be renewed as occasion may require. It will be observed that the opening 4 is of a width less than the width or diameter of the cavity 3, as is shown in Fig. 1 of the drawing. This particular relationship is for a purpose which will be hereinafter referred to.

Passage or flow of the liquid from the passageway 10—11 is controlled by a valve 15 consisting of any suitable material, such as hard rubber. The inner surface of the valve 15 is seated against the inner surface

of the cooperating member 6 as shown in Fig. 2 and is provided at the region opposite the inner end of the passageway 11 with a cavity 16 into which the liquid is discharged from the passageway 11. The liquid is adapted to flow from the cavity 16 through a lateral passageway 17 within the valve 15, the outer end of said passageway terminating upon the inner surface of the said valve. The valve 15 is adapted to be adjusted or moved in a manner to be hereinafter described into different positions so as to place the outer end of the passageway 17 in registry with openings 18 and 19 upon the inner surface of the valve cooperating member 6. These openings 18 and 19 communicate with passageways 20 and 21, the former of which is in communication with a central small passageway 22 through a nozzle 23 having detachable connection, as indicated at 24, with a projection 25 formed upon the body 1 of the faucet. The liquid which is discharged through the passageways 20 and 22 issues in a fine stream with considerable velocity and constitutes the mixing stream of the faucet. The liquid which passes through the passageway 21 when the valve is adjusted so as to place the outer end of the passageway 17 in registry with the opening 19 is discharged into an annular groove 27 in the outer end of the projection 25 which is adapted to be closed by means of a washer 28 held against the lower end of the said projection 25 by means of a shoulder 29 upon the nozzle 23. The washer 28 is provided with a series of small holes 30 through which the liquid escapes from the annular groove 27 and is delivered to a cup 32 adjacent the lower end of the nozzle 23. As a result of discharging the liquid into the cup 32 through a number of openings 30 as described the said cup will be filled to a uniform height at all points so that the liquid will overflow the same at all points, thus forming a thin, soft, cylindrical or tubular stream, whereas if the liquid were discharged into the trough by means of a single stream it would overflow for the most part at points adjacent that at which such stream might be delivered, consequently a single solid stream would be delivered instead of a hollow cylindrical stream.

The nozzle 23 is surrounded by means of an outside or inclosing nozzle 35.

The valve 15, previously referred to, is mounted in a seat 39 formed in a support 40 of hexagon shape and may be relatively stationarily retained therein by any suitable means such as a screw having connection therewith, the outer end of which is shown in Fig. 1. The valve casing or support 40 is detachably mounted in a hexagon shaped opening 41 in the inner end portion 42 of a manually operable lever 43, the said inner

end portion having oppositely disposed flat sides as shown in Fig. 2 and being for the most part circular in the opposite direction, as shown in Fig. 1. A small segment, as indicated at 44, is removed from the circular member 42 for a purpose to be hereinafter described. The portion 42, constituting the valve holding or containing part of the lever 43, is rotatable within the cavity 3. The lever 43, together with the head portion 42 thereof constituting the valve holding portion, is shown in the drawing in such position that the outer end of the passageway 17 is situated intermediate the outlet openings 18 and 19 which respectively communicate with the discharge passageways 20 and 21. When it is desired that the liquid shall be discharged through the passageways 20 and 22 the lever 43 is moved or adjusted toward the right until the part thereof adjacent the enlarged or head-like portion 42 contacts with the edge 45 of the opening 4. When in this position the liquid is permitted to flow through the passageways 10, 11, 17, 20 and 22. If it be desired to cause the discharge of the liquid through the passageway 21 into the annular groove 27 the lever 43 should be moved or adjusted into position with the portion thereof adjacent the head-like portion 42 in contact with the edge 46 of the opening 4.

In order that the member 40 upon which the valve 15 is immediately supported may be held within the hexagonal opening 41 within the member 42 I have provided a plunger 50 which is seated in an opening 51 which opens upon the surface of one of the sides of the said opening 41. The plunger 50 is held yieldingly in an inward position by means of a coiled spring 52 situated in an opening 53 in the handle 43. The inner end of the spring is seated against the outer end of the plunger 50 while the outer end of said spring is seated against the inner end of a screw threaded bolt 55 upon the outer end of which a ball or equivalent member 56 is secured, as shown.

It will be observed that the valve supporting member 40 is seated loosely within the hexagonal opening 41 and that the yielding pressure of the plunger 50 thereagainst, while retaining the same within the said opening, permits adjustment thereof which may be necessary to conform to any inequalities in or upon the surface of the valve cooperating member 6 against which the inner surface of the valve 15 is seated.

For the purpose of pressing and holding the valve 15 against the inner surface of the member 6, I have provided a screw threaded adjusting member 60 which is in screw threaded engagement with the member 61 which is rotatably supported upon the supporting plug 62 having screw threaded engagement with the internal screw

threads of the opening 63 in one side of the body 1 of the faucet. The member 61 comprises a head or disk like portion which is situated inside of the inner end of the plug 62 and with a reduced portion which extends outwardly through an opening 64 in the said plug. A washer 65 of suitable material such as leather is secured to the outer side of the enlarged inner portion of the member 61 and rotates therewith. The inner spherically shaped end of the member 60 projects into a socket or seat 70 in the outer side of the member 40 as shown in Fig. 2. Rotation of the member 60 so as to clamp or unclamp the member 40 is effected by means of the wing projections 71 upon the outer end thereof.

In the use of the faucet the screw 60 should be adjusted inwardly sufficiently to press the valve 15 closely against the inner surface of the valve cooperating member 6 but not with sufficient tightness or closeness to prevent rotation of the said valve with respect to the said member 6. As already pointed out the valve 15 may be moved or adjusted into positions so as to place the outer end of the passageway 17 in registry with the openings 18 and 19. In order to permit or allow this movement or adjustment it is necessary that the clamping screw threaded member 60 shall not be adjusted so as to clamp the valve 15 too tightly or with too great force against the inner surface of the valve cooperating member 6.

For the purpose of causing rotating movement of the member 61 when the lever 43, together with the valve structure carried thereby, is moved or oscillated back and forth in the cavity 3, I have provided a projection 75 upon the inner end of the said member 61 which projection extends into the recess 76 provided therefor upon the outer sides of the parts 42 and 40. This recess extends from the outer circular edge of the member 42 as shown in Fig. 1.

When it is desired to disengage the valve holding or containing part 42 of the lever 43 from the body 1 of the faucet the screw threaded clamping member 60 is unscrewed to sufficient extent to remove the inner end thereof from the socket 70. The lever 43 is turned toward the right, having reference to Fig. 1, to substantially the limit of its movement in that direction, whereupon the portion 42 may be removed through the opening 4 by reason of the presence of a flattened surface portion as indicated at 44 produced by the cutting away or removal of a portion of the circular part 42, as described. The presence of the flattened surface reduces the diameter of the portion 42 so that it is of a length less than the distance between the oppositely disposed edges 45 and 46 of the opening 4.

It is apparent that by my invention I

provide a very simple and easy means whereby the lever 43, together with the valve structure carried thereby, may be removed and disengaged readily from the body 1 of the faucet.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is:

1. In a faucet, the combination of a body member having a circular recess therein, the opposite sides of which are practically flat and the said recess being situated eccentrically of the said body member, and an opening from the adjacent surface of said body member leading into the said recess, the length of said opening being less than the diameter of the said recess, a lever having a practically flat sided head portion which is situated in said recess, the periphery of said head comprising circular and flattened portions whereby the said head may be removed through said opening, the said lever and a portion of the said head projecting outwardly through said opening, a valve supported upon the said head portion, and means for rotatably securing the said valve and the head portion within the said recess.

2. In a faucet, the combination of a body member having a flattened circular recess therein situated eccentrically of the said body member and the said body member having an elongated opening leading into the said recess, said opening being situated within the planes of the opposite sides of the said recess and the distance between the edges of the opposite ends of said opening being less than the diameter of the said recess, a lever having a circular flattened head portion situated in said recess, said head portion having a segment removed to form a flattened surface whereby the said head portion may be introduced into and removed from the said recess through the said opening, a valve supported upon the said head portion, said valve and head portion being adapted to be rotated in unison, and means for detachably securing the said valve and head portion within the said recess.

3. In a faucet, the combination of a body member having a recess therein with oppositely disposed practically flat sides, the said recess being circular in planes substantially parallel to the said sides and said recess being situated eccentrically of the said body member and the latter being provided with an opening extending from the top surface thereof into the said recess, the distance between the edges of the opposite ends of said opening being less than the diameter of the said circular recess, a valve holding flattened circular member situated within the said recess, and a portion of which projects into the said opening, the said valve holding member having a segmental portion removed forming a flattened

surface portion upon the edge thereof whereby the diameters of the said valve holding member along lines cutting the said flattened edge surface portion are less than
 5 the distance between the edges of the opposite ends of said opening, a detachable valve holding casing supported upon the said valve holding member, means for detachably retaining the said valve holding casing within the said valve holding member, and means
 10 for rotatably securing the said valve holding casing and the said valve holding member within the said recess.

4. In a faucet, the combination of a body
 15 member having an eccentrically situated flat sided circular recess therein opening upon the surface of the said body member, a manually operable lever having a flat sided circular head portion situated within the said
 20 recess, a part of the said head portion and the said lever projecting through the opening from the said recess and the said head portion being provided with an opening therethrough of polygonal shape, a valve
 25 casing of like shape situated loosely within said opening, a valve carried by the said valve casing, and means pressing yieldingly against an edge surface of the said valve casing, substantially as described.

5. In a faucet, the combination of a body
 30 member having an eccentrically situated flat sided circular recess therein, a section of said recess opening upon the surface of the body member, a manually operable handle
 35 having a flat sided circular head portion situated with said recess, said head portion having a segmental part removed to form a flattened edge section, and the said head portion being also provided with an
 40 opening therein of polygonal shape, and the said handle being provided with an opening extending longitudinally thereof and terminating upon the surface of one of the sides of said polygonal opening, a valve holding
 45 casing situated in said polygonal shaped opening, a spring pressed plunger projecting through the longitudinally extending opening of said handle and contacting with a side of the said valve casing, and adjustable
 50 means contacting with the said valve casing for retaining the same together with the said head portion within the said recess, substantially as described.

6. In a faucet, the combination of a body
 55 member having an eccentrically situated circular recess therein, said body member having an opening communicating with said recess, a rotatable valve holding member situated in and being of substantially the
 60 same shape as said recess, said valve holding member having an edge portion cut away to form a flattened surface, and the said valve holding member also having a central opening extending therethrough, a valve casing situated in said opening, means for de-

tachably retaining the said valve casing within said opening, means for causing said valve casing to rotate with the valve holding member, and adjustable means for adjustably engaging the said valve casing for
 70 retaining the latter together with the said valve holding member rotatably within the said recess, substantially as described.

7. In a faucet, the combination of a body
 member having an eccentrically situated circular recess therein, said member having an
 75 opening therein in communication with said recess, said opening extending at right angles to the axis of said recess, and the said member also having an enlarged opening in axial
 80 alinement with the axis of said recess, a manually operable handle provided with a circular head portion situated within the said recess, said handle projecting outwardly through the first named opening and the said
 85 head portion having a part cut away to form a relatively flat surface upon the edge thereof, and the said head portion being provided with an opening extending therethrough, said opening being co-incidental with
 90 the axis of the said recess, a valve support mounted in said opening, a plug having detachable engagement with the second named opening in the said body member, said plug having a central opening therethrough, a rotatable
 95 member situated in said opening, and a valve clamping adjustable device having adjustable engagement with the said rotatable member, the inner end of which device is adapted to engage the inner end of
 100 the said valve support to tightly clamp the valve carried thereby against the opposite side of said recess, substantially as described.

8. A faucet comprising a body member
 105 having passageways extending therethrough for the discharge of a liquid, a nozzle having a central opening in communication with one of the said passageways, an annular groove in the said body member surrounding
 110 the said nozzle, a washer seated against the said body member and closing the said groove, said washer being provided with a series of openings and the said nozzle being provided with an annular receiving cup directly underneath the said openings, and one of the said passageways communicating with the said annular groove, and an adjustable valve supported within the said body portion for controlling the passage of liquid
 120 through the said passageways, substantially as described.

9. In a faucet, the combination of a body
 member having a circular recess therein and an opening leading from said recess to the
 125 exterior of said member, said opening being situated within the planes of the opposite sides of said recess and being of a length less than the diameter of the said opening, a lever having a practically flat sided circular
 130

head portion situated in the said recess, the
said lever projecting outwardly through said
opening and the periphery of the said head
having circular and flattened portions
5 whereby when the said head portion is ad-
justed to proper position with respect to the
said opening it may be removed there-

through, and means for rotatably securing
the said head within the said recess.

In testimony that I claim the foregoing as 10
my invention, I have hereunto signed my
name this 17th day of November, A. D. 1920.

WILLIAM MORLOK.