E. G. WATROUS.

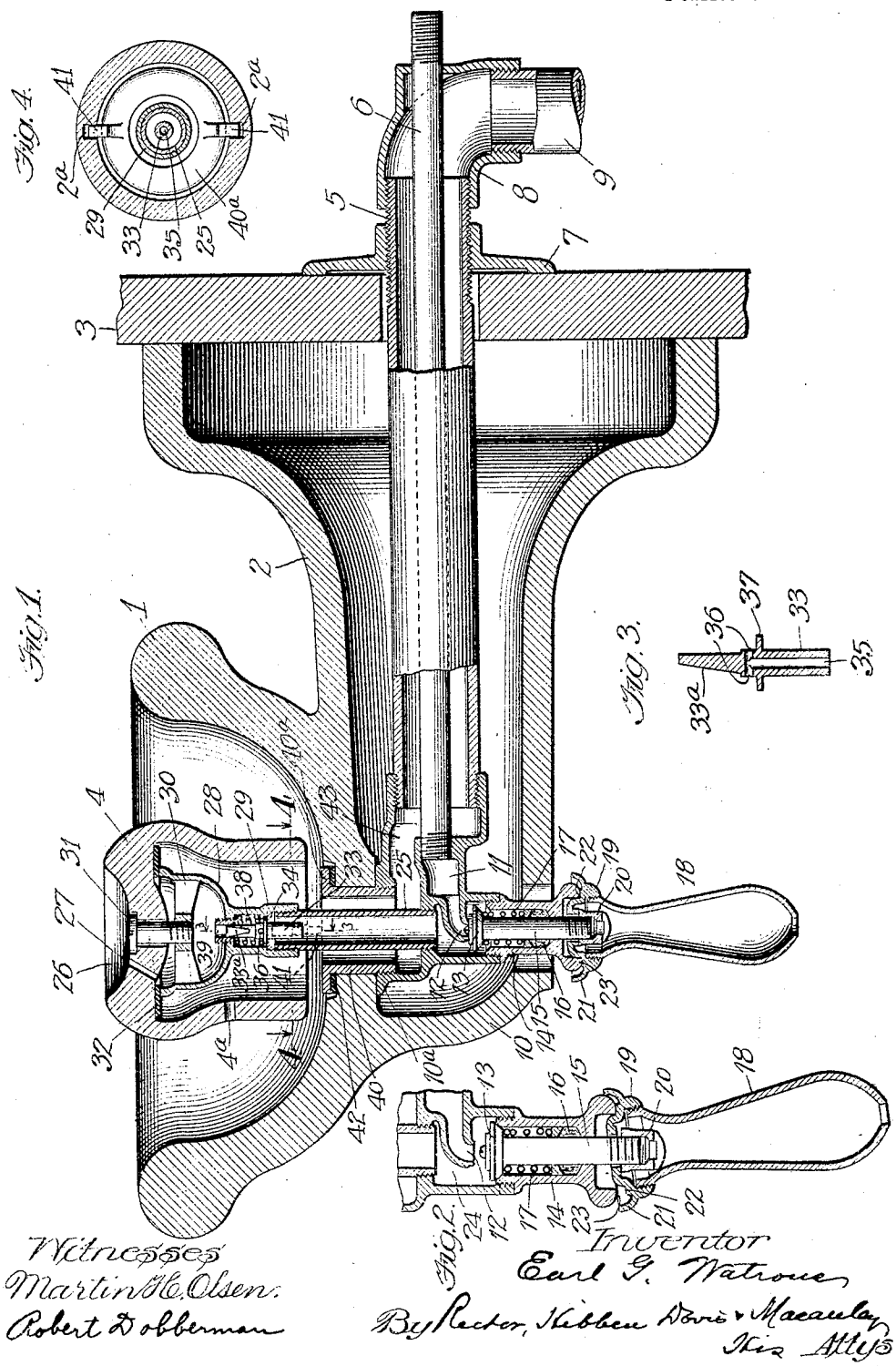
DRINKING FOUNTAIN.

APPLICATION FILED FEB. 26, 1915.

1,304,003.

Patented May 20, 1919.

2 SHEETS—SHEET 1.



Witnesses
Martin E. Olsen.
Robert Dobberman

Inventor
Earl G. Watrous
By Rector, Hibben Davis & Macaulay
His Attys

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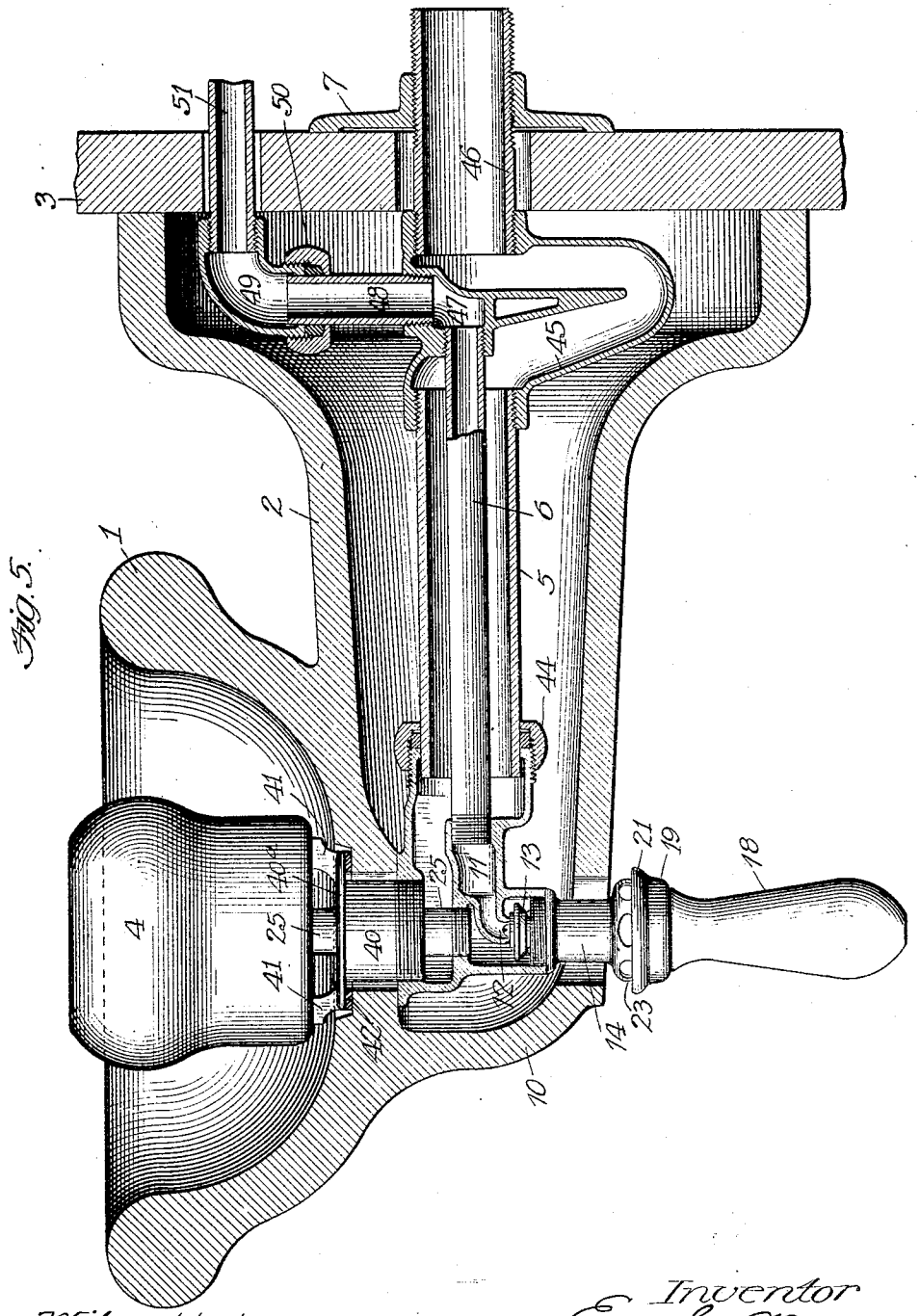

Fig. 5.

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UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

DRINKING-FOUNTAIN.

1,304,003. Specification of Letters Patent. Patented May 20, 1919.

Application filed February 26, 1915. Serial No. 10,702.

To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Drinking-Fountains, of which the following is a specification.

My invention relates to a drinking fountain provided with a bubbling cup or the like and the object thereof is to provide a simple, efficient and reliable device of this kind. My fountain is characterized more particularly by a compact construction and arrangement with respect to the fixture proper and the bowl and attached housing thereof and also the bubbling cup proper and its associated parts. My fountain is also characterized by a construction and arrangement whereby the bowl and its casing as well as the bubbling cup are supported by the fixture rather than vice versa, thereby relieving said parts which are generally made of porcelain of the strain incident to the support of the fixture thereby.

Other novel and advantageous features of construction and operation will be apparent from the description hereinafter given.

In the drawings, Figure 1 is a vertical section of a drinking fountain embodying my invention; Fig. 2 a detail view of the valve mechanism for controlling the supply to the bubbling cup showing the valve handle moved to open position; Fig. 3 a section on the line 3—3 of Fig. 1; Fig. 4 a section on the line 4—4 of Fig. 1, and Fig. 5 a vertical sectional elevation of a modified form of construction according to which a trap is provided in the waste pipe.

Referring to the particular embodiment of my invention as shown in Figs. 1 to 4, the fountain comprises three main parts, that is the bowl 1 and its preferably integral laterally-extending casing 2 adapted to fit against the wall 3 but not attached to or supported thereby and the fixture including the supply and waste pipes and valve mechanism on which said bowl and its casing are supported, and also the bubbling cup 4 and associated parts which are also supported by said fixture.

Referring to Fig. 1, a waste pipe 5 and supply pipe 6 in concentric relationship, the supply pipe being arranged axially of the waste pipe, pass horizontally through an opening in the wall 3 and the same are secured or supported by the wall by means of the wall flange 7 secured upon the exteriorly screw-threaded portion of the waste pipe. The supply pipe passes through the elbow 8 which connects the horizontal waste pipe 5 and the vertical waste pipe 9. While I refer to the part 3 as a wall it will be understood that I do not limit myself to a vertical wall inasmuch as it may be any suitable support for attachment of the fixture thereto, particularly the waste pipe.

At its outer end a combined valve casing and supply and waste connection 10 is mounted, preferably by screw-threading one part upon the other to permit of ready attachment and detachment. The supply pipe 6 is also screw-threaded into the valve casing and adapted to communicate with an inlet space or inlet chamber 11 terminating in a port 12 which is governed by the vertically movable valve 13. This valve is mounted in a sleeve 14 screw-threaded into the valve casing and having a central bore through which the stem 15 of the valve passes in its reciprocating movements. This valve stem is properly packed as by means of a packing gland 16, and is surrounded at its upper portion by means of the spiral spring 17 pressing against the under side of the valve and normally closing the port 12. The valve is operated by means of a handle of the peculiar formation shown in Figs. 1 and 2, the same consisting of a handle portion proper marked 18 and a removable head portion 19 having a central opening through which the valve stem passes. A nut 20 screws onto the lower end of the valve stem and is located within or rather below the head of the handle. This head is provided with a curved marginal flange 21 and circular shoulder 22 which is caused to bear, by means of the pressure of the spring 17 against the lower edges of the depending flange 23 on the sleeve 14.

It will be understood that when the handle 18 is turned in any direction, that is tilted, as shown in Fig. 2 for instance, the shoulder 22 will bear on flange 23 as a fulcrum and act as a lever between the handle and the sleeve 14 so that the head of the handle bearing downwardly against the nut 20 will withdraw the valve from its seat, as shown in Fig. 2, thereby admitting the water from the chamber 11 into the chamber 24 in the valve casing. A vertical supply tube or pipe 25 is screw-threaded into the valve casing to communicate with the chamber 24,

and on this pipe the bubbling cup 4 and contained parts are mounted so that the valve casing or rather the entire fixture supports the bubbling cup as well as the bowl and casing.

The bubbling cup, which is made of any suitable material such as porcelain, is cylindrical in general outline and is hollow with the exception of its extreme upper portion which is provided with a shallow cavity 26 and a series of holes 27, preferably three in number, and converging to supply a bubbling stream of water. This cup is mounted upon and secured to a casing 28 having a depending tubular extension 29 here shown as screw-threaded upon the vertical supply pipe 25. The casing 28 is provided with a spider 30 having a central screw-threaded bore into which screws the fastening screw 31 extending through the top of the cup for clamping such cup and casing 28 together, a gasket 32 being preferably interposed between them.

By preference and as herein shown a governor is provided in the line of supply of water to the bubbling chamber, the same consisting of a vertical plunger 33 arranged axially of the tubular extension 29 and pipe 25 and adapted to reciprocate through a central opening of a washer 34 interposed between the inner end of the tube 25 and an interior shoulder in the extension 29. This plunger has a central bore 35 extending upwardly to a point midway of its length where it commuicates with side ports 36. This plunger is also provided intermediate its length at a point below said ports with a lateral flange 37 adapted to be held normally on top of the washer 34 with a yielding pressure by means of the coil spring 38. One side or face of the upper end of the plunger is cut away on a taper as shown in Fig. 3, and such end is positioned within an adjustable bushing 39 which is screw-threaded in the bottom of the casing 28. It will be understood that the object of the regulator is to control the volume of the water admitted to the bubbling chamber. Under normal or adjusted conditions the water would flow through the bore or passage 35 and through the ports 36 and thence along the inclined face of the plunger and into the bubbling chamber without causing any movement of the plunger. However, in case of too great pressure, that is a pressure above a predetermined amount, the plunger would be raised by the force of the water with the result that its upper end which is of increasing size from its extreme upper end downwardly will be raised in the bushing 39 and the passageway therethrough will be restricted. The volume of water thus admitted into the bubbling chamber can be regulated by screwing the bushing downwardly the said passageway will be restricted and by screwing it outwardly, that is upwardly, such passageway will be enlarged.

In order to prevent any possible rotation of the bubbling cup I prefer to employ an interlocking connection between the lower edge of the cup and a bushing 40, which passes through an opening in the bottom of the bowl 1. In the present instance this bushing which has a marginal outwardly directed flange 40^a is provided with upwardly extending lugs 41 which engage corresponding recesses 2^a in the inner walls of the cup, as shown in Fig. 4. If desired the bubbling cup may be provided with an air hole 4^a intermediate its height to supply air thereto in case the lower end of the cup should become sealed by any accumulation of the water in the bowl, thereby preventing any water hammering in the fixture.

As above stated the bowl 1 and its housing 2 are attached to and supported by the fixture being directly attached in the present instance to the valve casing 10. To this end the bushing 40 is screw-threaded into the upper end of the valve casing thereby clamping the bottom of the bowl between the flange 40^a of the bushing and the flange 10^a of the valve casing, a gasket 42 being preferably interposed between the bowl and the flange 40^a.

The water supply pipe 25 extends upwardly through the bushing 40 leaving an annular space through which the water drains directly from the bowl 1 downwardly into the chamber 43 in the valve casing, which chamber is in direct communication with the waste pipe 5.

The casing 2 is here formed as a part of the bowl 1, the same inclosing the valve mechanism and the waste and supply pipes, and also supported thereby by being a part of the bowl itself.

Referring to Fig. 5 the construction is the same as in Fig. 1 with the exception of the provision of a trap in the waste pipe and with the further exception that the supply pipe does not extend through the wall or support in concentric relationship with the waste pipe. The corresponding parts are indicated by the same reference characters as in Fig. 1. At its outer end the waste pipe 5 is connected with the valve casing by means of a slip joint and a coupling nut 44. At its inner end the waste pipe is secured to a trap 45, one branch of which communicates with such waste pipe and the other with a short pipe connection 46 secured to and supported by the wall or other support 3, the same being in the present instance in axial alinement with the pipe 5. As shown, this short pipe connection 46 is secured to the wall by means of the flange 7. The supply pipe 6 is also secured to the trap in the present instance by being screw-threaded

thereinto so as to communicate with a chamber 47 therein. A short pipe 48 is screw-threaded into the trap and communicates at its lower end with the chamber 47 and at its upper end as a slip-joint connection with an elbow 49 coupled thereto by the coupling nut 50 and secured to the main supply pipe 51 which passes through the wall or other support 3. In this case as in the case of the structure of Fig. 1, the fixture is secured to and supported by the wall or other support 3 and the bowl and its casing as well as the cup and associated parts are mounted upon and supported by such fixture.

I claim:

1. A drinking fountain comprising contiguous horizontal supply and waste pipes, a valve casing connected with and supported by said pipes, a bowl and bubbling cup separately and independently mounted upon and supported by said casing, said bowl having a hollow arm and inclosing the valve-casing and pipe-ends, a water supply valve in said casing, and a depending handle free from said bowl and arm and arranged below said valve casing for operating the valve.

2. A drinking fountain comprising contiguous horizontal supply and waste pipes, a valve casing connected with and supported by said pipes, a bowl and bubbling cup mounted upon and supported by said casing, said bowl having a hollow arm and inclosing the valve-casing and pipe-ends, a water supply valve in said casing, and a depending operating handle beyond the bowl arm movable in any direction to operate said valve.

3. A drinking fountain comprising contiguous horizontal supply and waste pipes, a valve casing connected with and supported by said pipes, a bowl and bubbling cup separately and independently mounted upon and supported by said casing, said bowl having a hollow arm and inclosing the valve casing and pipe-ends, a water supply valve in said casing, and a depending operating handle in alinement with said bowl and cup and movable in any direction to operate said valve.

4. A drinking fountain including a supply pipe, a valve casing connected with said supply pipe, a manually operable supply valve in said casing, a bubbling cup, a supply passageway connecting said valve casing and said cup and removably carrying said cup, an automatic regulating valve arranged in said passageway and a flow-adjuster for said regulating valve disposed in said passageway and accessible on removal of the cup.

5. A drinking fountain comprising contiguous horizontal supply and waste pipes, a valve casing connected with and supported by said pipes, a bowl having a central bottom outlet and mounted upon said casing, a bushing arranged in said outlet and arranged to clamp the casing and bowl together, a manually operable valve in said valve casing, a supply tube governed by said valve and extending through said bushing, a bubbling cup communicating with and mounted upon and supported by said supply tube, and an automatic regulating valve for controlling the passage of water through said supply tube.

6. A drinking fountain comprising a water supply and waste fixture including a valve casing and water supply valve therein, a bowl having a central bottom outlet and mounted upon the casing, a bushing arranged in said outlet and constructed and arranged to clamp the casing and bowl together, a bubbling cup located within the bowl and connected with and supported by the casing.

7. A drinking fountain comprising a water supply and waste fixture including a valve casing and a water supply valve therein, a cup, means securing said cup on said casing and rotatable to release the cup for detachment, and means for locking the cup against rotation consisting of interlocking lugs on, and recesses in, the cup and waste fixture.

8. A drinking fountain comprising a water supply and waste fixture including a valve casing and water supply valve therein, a bowl and cup mounted upon said casing and supported thereby, and means for preventing rotation of the cup consisting of interlocking lugs and recesses in the cup and waste fixture.

9. A drinking fountain comprising a water supply fixture, an automatic regulating valve mounted thereon having a casing and an adjustable element for varying the regulating operation, and a bubbling cup mounted on said casing, and removable therefrom to give access to said adjusting means.

10. A drinking fountain comprising a water supply and waste fixture, a bowl mounted thereon, a bubbling cup including an inverted cup-shaped body provided with water bubbling hole at its top, a casing arranged within the cup and bearing against the inner wall of such top, said casing forming a bubbling chamber, means for securing the casing and cup proper together, and a valve governed means of communication between such chamber and the supply fixture.

11. A drinking fountain comprising a water supply and waste fixture, a bowl mounted thereon, a bubbling cup including an inverted cup-shaped body provided with water bubbling holes at its top, a casing arranged within the cup and bearing against the inner wall of such top, said casing forming a bubbling chamber, a valve governed conduit between such chamber and the supply fixture, and a water volume regulator arranged in said conduit.

12. A drinking fountain comprising a water supply and waste fixture, a bowl mounted thereon, a bubbling cup including an inverted cup-shaped body provided with water bubbling holes at its top, a casing arranged within the cup and bearing against the inner wall of such top, said casing forming a bubbling chamber, a supply tube connected at its lower end to the casing and the casing having a depending extension removably secured to the upper end of said tube, and a water volume regulator arranged within such extension.

13. A drinking fountain comprising a water supply and waste fixture including a valve casing and water supply valve therein, and a bowl and bubbling cup both mounted directly upon and separately and independently supported by such fixture, said bowl also having a lateral casing surrounding said fixture.

14. A drinking fountain comprising a water supply and waste fixture, a bowl mounted thereon and having a bottom discharge, a bubbling cup including an inverted cup-shaped body provided with bubbling holes in its top and equipped with a depending casing inclosing said holes and forming a bubbling chamber, the skirt of said cup surrounding said casing and having its lower open end located adjacent the bottom of the bowl, said cup having an air opening entering the interior thereof to supply air thereto when such lower end is sealed by water in the bowl, and means for supplying water to the cup.

15. In combination, a bubbling cup having an apertured crown and a dependent skirt, a casing fitting against the underside of the crown and secured thereto, forming a bubbling chamber, said casing having an extension, an automatic regulating valve in said extension, and a waterflow pipe supporting said extension, and thereby supporting the cup.

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