J. D. RAMSEY.

DRINKING FOUNTAIN.

APPLICATION FILED FEB. 21, 1912.

1,265,955.

Patented May 14, 1918.

2 SHEETS—SHEET 1.

Fig. 1

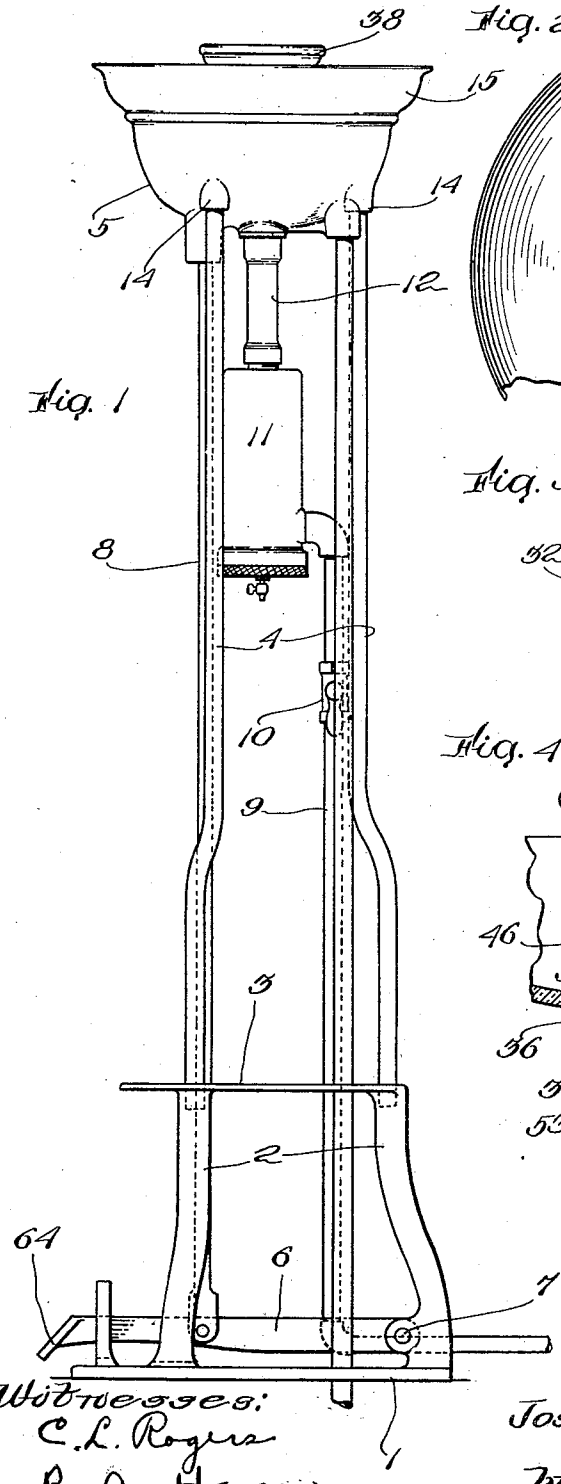


Fig. 2.

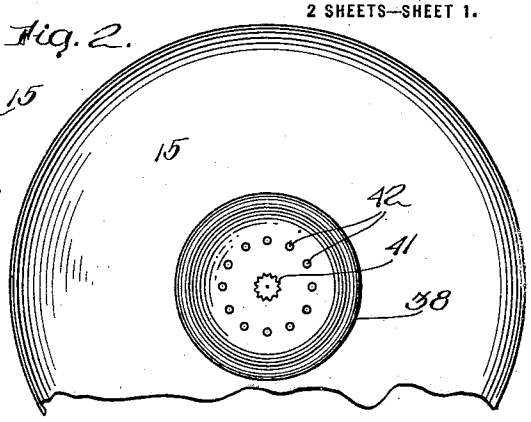


Fig. 3.

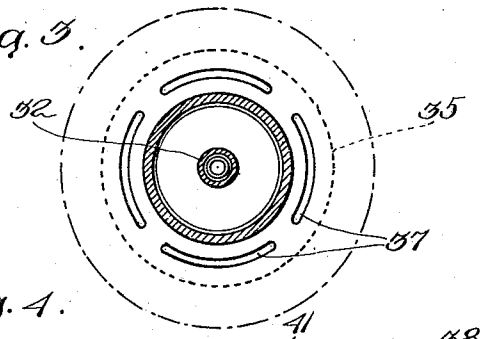
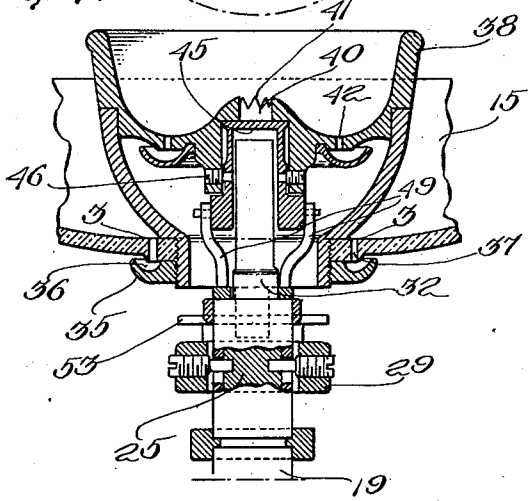


Fig. 4.



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2 SHEETS—SHEET 2.

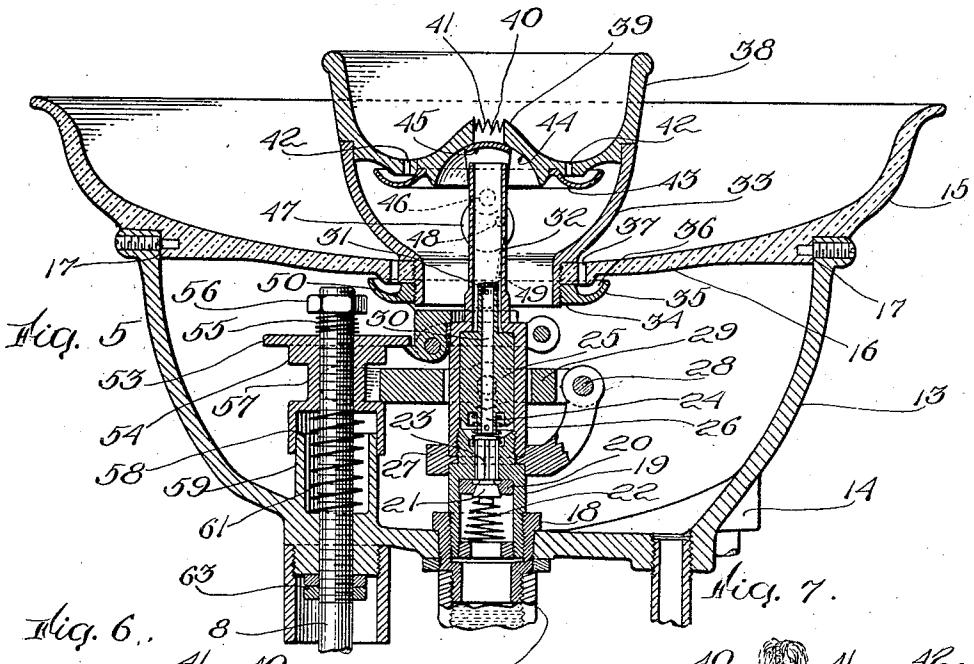


Fig. 5

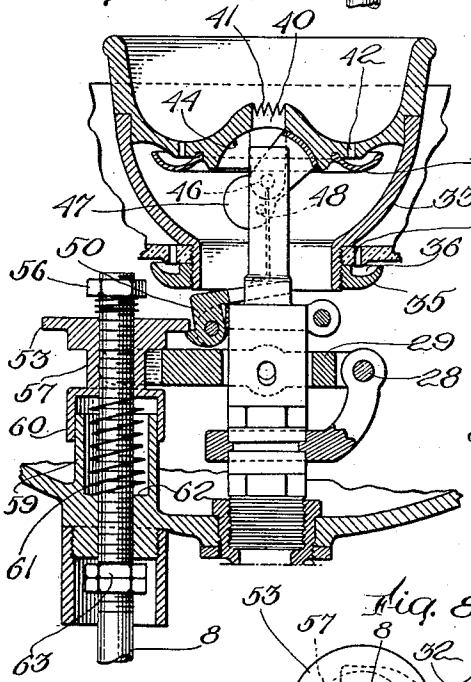


Fig. 6.

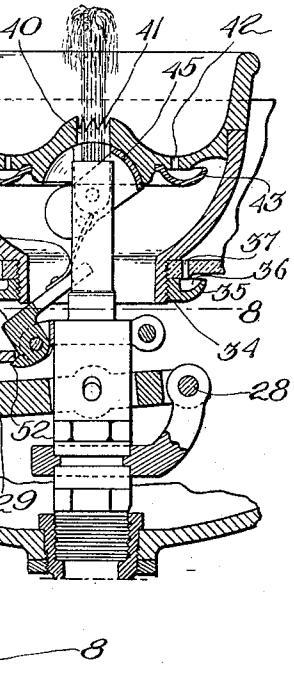


Fig. 7.

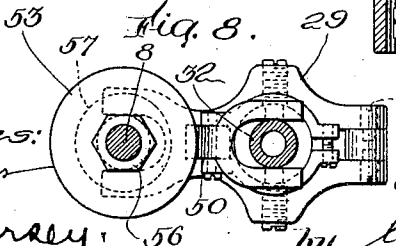


Fig. 8.

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UNITED STATES PATENT OFFICE.

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DRINKING-FOUNTAIN.

1,265,955. Specification of Letters Patent. Patented May 14, 1918.

Application filed February 21, 1912. Serial No. 679,203.

To all whom it may concern:

Be it known that I, JOSEPH D. RAMSEY, a citizen of the United States, and resident of Dorchester, county of Suffolk, State of Massachusetts, have invented an Improvement in Drinking-Fountains, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My present invention relates to drinking fountains designed especially for public or semi-public installations, and more particularly, to a type of such fountains wherein the water supply is manually controlled by hand or foot operated means, so that the water is delivered in a continuous bubble as required and shut off when not in use. One of the prime objects of the invention is to provide a fountain of this character wherein the bubble is projected upward without any possibility of being contaminated or polluted by contact with any part which could possibly have come in contact with the mouth of the previous user; the construction preferably being such as to prevent mischievous children or others from touching any parts of the mechanism with which the water comes in contact. For this purpose the bubble is projected up from beneath through an aperture in a protector top member sufficiently larger than itself so that it does not touch any part of this protector member, and as a further safeguard to this end, the protector member itself is preferably formed so that the part thereof adjacent and surrounding the aperture through which the bubble is delivered cannot be reached by the mouth of the user. The aperture in the protector member is made small enough so that children cannot put their fingers therethrough to reach the valve orifice or meddle with any part touched by the issuing water. Further features of the invention have to do with an improved construction of movable guard adapted to close the water delivery aperture and prevent the entry of foreign matter when the device is not in use; to an improved construction and arrangement of operating connections, preferably, though not necessarily, controlled by a foot operated treadle; to improved means for preventing the entrance of dirt and miscellaneous debris to the operative parts of the mechanism through the drain aperture or otherwise, and to other matters and to other special features of construction.

The above and other objects of the invention will be better understood from the following detailed description, taken in connection with the accompanying drawings, and will be thereafter pointed out in the appended claims.

Referring to the drawings,

Figure 1 is a side elevation of an illustrative form of drinking fountain wherein my improvements are embodied;

Fig. 2 is an enlarged plan view thereof;

Fig. 3 is a partial transverse sectional view on line 3—3 of Fig. 4;

Fig. 4 is a view partly in central vertical section and partly in elevation, showing the principal elements of the mechanism;

Fig. 5 is a central vertical section at right angles to Fig. 4, with the lower parts of the apparatus broken away and showing the apparatus at rest with the valve closed;

Fig. 6 is a broken away view similar to Fig. 5 showing the parts at an intermediate stage in the operation of the parts;

Fig. 7 is a view similar to Fig. 6, showing the parts operated to deliver the bubble; and

Fig. 8 is a transverse sectional view on line 8—8 of Fig. 7.

The improved mechanism is herein shown as mounted on a suitable base 1, having an upstanding skeleton frame composed of a series of upright supports 2 with an intermediate pedestal 3, and continuing upward in a series of rod or bar supports 4 at the top of which is fitted the bowl 5 in which the valve mechanism is arranged. It is to be understood that this construction is merely illustrative and that any preferred form of housing or pedestal support, either in open skeleton form or closed, may be employed for supporting the bowl and valve without departing from the spirit of the invention. In the illustrative embodiment shown I have set forth a foot operating means consisting in a treadle 6 mounted at 7 at the base of the frame and with a pivot connection to a vertical operating rod 8 connected to the valve, but it is likewise to be understood that this is not material to the invention in its broader aspects, as any suitable manually controlled means may be employed. A water supply connection is shown at 9 having a usual shutoff 10 connected to a water purifier 11, and thence through a regulator 12 to the valve mechanism. The water purifier 11 and regulator 12 may be of any suitable type, being shown as a water purifier of the kind set forth in my application Ser. No.

671,708, filed January 7, 1912, and a regulator of the type shown in my application Ser. No. 603,373, filed January 18, 1911; these elements, while desirable and advantageous, are not essential to the practice of the present invention and may be omitted without departing therefrom.

The bowl 5, within which the valve mechanism is mounted preferably consists in a metallic basin formation 13, which is provided with sockets 14 or other means to receive the supporting rods 4, and an upper portion 15 of vitreous material, as marble or the like, with a relatively shallow bottom 16 fitted to the top of the metallic portion 13, preferably by being inset therein, and with holding pins extending into recesses therein, as seen at 17, to enable this top portion to be readily removed and replaced as required, without liability of breakage. The water supply connection shown as from the regulator 12 extends through the lower bowl portion 13, this connection being preferably threaded to a collar 18 extending through and clamped to the bowl, and this collar having threaded therein the lower end of the valve mechanism 19. The specific character of this valve mechanism is not material to the broader aspects of the present invention, but it is preferably and as shown, of the type described and claimed in my patent for valve for drinking fountain No. 1,016,956, issued February 13, 1912, so that its construction need be only briefly summarized herein. The lower casing portion 19 of the valve mechanism is shouldered to receive a seat 20 for an upwardly closing valve 21 normally pressed to its seat by a spring 22 and having wings 23 extending up through a reduced passage through the upper end of this casing portion to be engaged by a downwardly extending projection 24 from a plug 25 slidably mounted in the upper portion 26 of the valve housing. This upper valve housing portion 26 is threaded on to the reduced upper end of the lower portion 19 and between these members a bracket 27 is clamped, this bracket having upstanding ears provided with pivot bearings 28 and an operating lever 29, which is engaged by a pin and slot connection with the plug 25, these parts being constructed and operating similarly as in my said patent. The slidable plug 25 has a central passage 30 therethrough extending up through a tubular extension of the plug, which is provided with lateral openings 31 adjacent its closed top end. The end of passage 30 is up within a tubular extension 32 of the upper housing portion 26. The passage through this extension is considerably larger than the passage 30, and the purpose of this construction, in connection with the lateral openings 31, is to dissipate the force of upward projection of the stream, so that it is not projected too far above the end of the tubular extension for its required purpose. A smaller inner bowl is fitted to the bottom portion 16 of the outer bowl, this inner bowl consisting of a lower portion 33 having its bottom formed as a threaded neck which is fitted through an opening in the bottom 16 and is clamped thereto by a nut member 34, which has an upturned rim 35 to cooperate with a downward annular projection 36 from the bottom 16 surrounding a series of drain passages 37 to serve as a water barrier or seal which effectively prevents dust and small particles of foreign matter from dropping down through on to the valve mechanism and accumulating there between intervals of use. The lower portion 33 of the inner bowl has fitted thereon a top portion 38, having its bottom convexed upward, as seen at 39, with a passage 40 therethrough registering with the passage through the tubular extension 32, and somewhat larger than this passage, so that the bubble as it is projected up from the tubular extension 32 does not touch the walls of the passage 40 and is thus precluded from any possibility of contamination thereby. The upper portion 38 of the inner bowl extends up sufficiently above the convexed center 39 of its bottom and is of such a dimension that the user, while he may readily imbibe from the bubble above the passage 40, is prevented from getting the mouth into contact with the convexed bottom 39, or any portion of the inner bowl near the bubble, thus further precluding any possibility of contamination. It will be observed that the top of the tubular extension 32 is some little distance below the passage 40 and the top of the convexed bottom 39 surrounding this passage is preferably serrated, as seen at 41, the purpose of this construction being to prevent any possibility of squirting the stream by michievous boys or others, the water, if the top of the passage 40 be closed, simply flowing over the top of the extension 32 down through the bowl, and the serrations 40 permitting the escape of any small pressure of water that might be directed up against a closure at the top of passage 40, so that it would be quite impossible to control the outflow or direct it to serve as a plaything. The inner bowl portion 38 is formed with a series of drain passages 42 and an upwardly dished plate 43 is fitted underneath the same with its periphery extending upward above a depending portion of the bowl bottom around the passages 42, this construction providing a water barrier or trap similar to that formed by the flange 35. The under surface of the bowl portion 38 beneath the convexed part 39 is concaved as seen at 44 to permit swinging movement

of a guard gate 45 pivoted at 46 to legs depending from bowl 38 and equipped with a counterweight 47 so that it normally stands vertical as seen in Fig. 5, to close the passage 40 and prevent the entrance of foreign matters or sticks in the hands of mischievous children. This swinging guard is adapted to be moved to uncover the passage 40, and out of the way of the bubble when the valve is operated, by a connection from the valve operating means, this connection consisting, as shown, in a pin 48 on the guard engageable by projections 49 at either side, shown in the form of leaf springs mounted on an arm 50 pivoted at 51 with a projection 52 engageable by the periphery of a disk portion 53 at the top of a sleeve 54 mounted on the valve operating rod 8. The projections 49 are preferably formed as a spring so as to avoid the necessity of any nice adjustment between the relative movements of the guard 45 and its actuating lever 50, the spring yielding for any excess movement of the lever and causing the guard movement to take place under yielding pressure. The sleeve 54 is slidably fitted on the rod 8 and is engaged from above by a spring 55 abutting against a stop nut 56 threaded on the top of rod 8, this spring being of the proper tension to afford a resilient action between the valve opening sleeve 54 and its operating rod under all ordinary water pressures at which the valve has to be opened. The valve operating sleeve 54 has a reduced neck portion 57 engaged by forked extremities of the operating lever 29, these lever extremities having a small amount of relative play between the shoulders at the end of this neck portion 57, as best seen in Figs. 5 and 6, the purpose of this being to permit a movement of the sleeve 54 sufficient to actuate the lever 50 and fully open the guard gate 45 before the valve is actuated to start the bubble flow. The top of the sleeve 54 has the disk formation 53, as noted, for engagement with the projection 52 so as to afford continually renewed engaging portions on the working parts thereof as the sleeve works around on the rod 8, thus preventing any considerable wear on this portion and making it of great durability. The lower portion of sleeve 57 is formed with a shoulder 58 to engage with a collar 59 upwardly extending from the bowl bottom with a shroud portion 60 fitting down over this collar, the purpose of this being to afford a positive stop not liable to damage from the downward movement of the treadle rod so that any tendency to excess movement or pressure on the treadle is taken up on the collar 59 and is not imparted to the valve operating lever, this lever being always moved just the right amount and no further, owing to the engagement of the shoulder 58 with the top of collar 59. The collar 59 being integrally formed with the bowl bottom, in conjunction with the depending shroud 60, serves a further function in preventing any leakage down through the opening through which the valve rod passes. As a means for holding the valve rod and treadle normally lifted, a spring 61 may be interposed between the sleeve 54 and a seat 62 therefor at the base of collar 59, and the upward movement of the rod 8 is limited by a stop nut 63 threaded on the rod for engaging a projection beneath the bowl, this stop preventing the upward momentum of the rod 8 damaging the valve. The described connections require only a very small treadle movement for operating the valve, and in practice the foot engaging portion 64 of the treadle may be down close to the base 1 with its operative range of movement so small that the foot of the user does not need to be lifted from the ground to engage therewith for operating the valve.

In use, and starting with the parts in the position shown in Fig. 5, where the valve is closed and the passage 40 closed and protected by the guard 45, the first movement of the treadle pulling down the rod 8 swings the guard 45 away from the opening 40, as seen in Fig. 6, the movement to effect this being a yielding one by reason of the interposed spring 55, and the spring projection 49. During this initial movement and until the guard is fully out of the way, the valve is not opened, the valve operating lever 29 remaining stationary by reason of the lost motion between it and the sleeve 54,—this position of parts being shown in Fig. 6. A further downward movement of the valve operated rod 8 opens the valve so that the bubble is delivered up through the passage 40 as seen in Fig. 7, the spring connection yielding to permit this additional movement. By reason of the relatively enlarged passage 40, which permits the bubble to pass up freely therethrough without coming in contact with any part of the inner top bowl portion, and further, by reason of the relatively small size of this inner bowl portion, whereby the user is prevented from getting his mouth in contact with any part of the bowl near the bubble, the water is delivered without any possibility of being contaminated in any way. The water barriers or seals provided by the members 35, 43 prevent foreign matter from getting down into the interior spaces of the bowl and on the operating mechanism between intervals of operation, and when the device is operated any dust or dirt which may have accumulated in these barriers is washed out by the free flow of the water. The special construction of valve operating device arranged to also

move the guard 45, is of particular importance in that it insures the timed operation of the guard relative to that of the valve, so that the guard is always moved out of the way before the valve opens, and is always in place to protect the delivery passage when the valve is closed. The construction, including the collar 59 and coöperating shoulder 58 on sleeve 54, is also of importance in preventing undue pressures or thrusts from the treadle being transmitted to the valve or its immediate operating connection to the possible damage thereof.

Various of the details of construction may be modified without departing from the spirit of the invention, and I therefore do not desire to be limited in these, or any other particulars, except as set forth in the appended claims.

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

1. A drinking fountain, comprising water delivery mechanism including an upwardly directed delivery orifice, and a housing therefor, having a top portion formed as a removable bowl with a central upwardly convexed portion having an aperture in line with said delivery orifice and spaced away therefrom.

2. A drinking fountain, comprising water delivery mechanism having an upwardly opening delivery orifice, and a housing therefor, having a top portion formed as a removable bowl with a central upwardly convexed portion having an aperture in line with said delivery orifice and spaced away therefrom, said bowl having its bottom around said convexed portion provided with drain apertures having a water seal associated therewith, and having upwardly extending side walls of dimensions to prevent the mouth of the user coming in contact with the convexed portion of said bowl bottom.

3. A drinking fountain, comprising water delivery mechanism having an upwardly opening delivery orifice, a housing therefor having a top portion formed with an aperture in line with said orifice and larger in size, but small enough to prevent entrance of a finger therethrough to reach said orifice, and a movable guard gate adapted to normally close said aperture.

4. A drinking fountain, comprising water delivery mechanism having an upwardly directed delivery orifice, a housing therefor having the top portion with an upwardly convexed formation spaced away from said orifice, and having an aperture in line therewith small enough to prevent insertion of a finger therethrough, a guard pivoted and counter-weighted to swing into position to close said aperture and located beneath the same to be protected by said housing, and operating means therefor to swing it out of the way as the water delivery mechanism is operated.

5. A drinking fountain, comprising water delivery mechanism having an upwardly directed orifice, a housing therefor having an aperture to permit issuance of the water delivered by said orifice and small enough to prevent insertion of a finger therethrough, and a guard movably mounted to open and close said aperture at will, said guard being located within said housing whereby it is protected from casual meddling.

6. A drinking fountain, comprising water delivery mechanism having an upwardly projecting delivery orifice, a housing therefor with an aperture in line with said orifice and small enough to prevent insertion of a finger therethrough, and a guard movably mounted to open and close said aperture with operating connections arranged to hold it normally closed and to automatically close it after operation.

7. A drinking fountain, comprising water delivery mechanism having a controlling valve and an upwardly projecting outlet orifice, and a housing therefor consisting in an outer bowl and an inner bowl secured thereto, said inner bowl having an aperture in line with said outlet orifice and spaced away from the same small enough to prevent insertion of a finger therethrough, said inner bowl having an open bottom to open into the outer bowl and thence to a drain passage.

8. A drinking fountain, comprising water delivery means having a controlling valve, a housing therefor, valve operating means having an operating rod extending up through said housing, said housing having an upstanding collar around said rod, and said rod having a depending sleeve fitted over said collar, said sleeve having operating connection to the valve, and a spring for normally holding said rod lifted, said spring being housed within said collar and sleeve.

9. A drinking fountain, comprising water delivery mechanism having a controlling valve, said valve having a casing formed in two parts, operating means for said valve having a pivotal support clamped between the two parts of said casing, and means for delivering the water from said mechanism in the form of a drinking bubble.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOSEPH D. RAMSEY.

Witnesses:
C. L. ROGERS,
R. G. HERSEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."