

P. MUELLER & A. C. SCHUERMANN.

SANITARY DRINKING FOUNTAIN.

APPLICATION FILED MAR. 28, 1911.

1,014,324.

Patented Jan. 9, 1912.

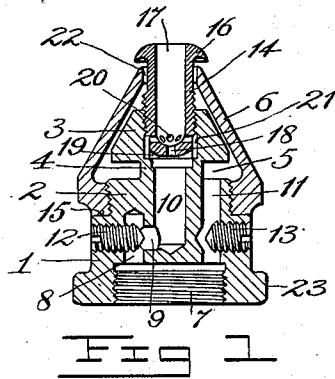


Fig 2

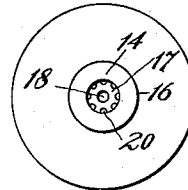


Fig 2

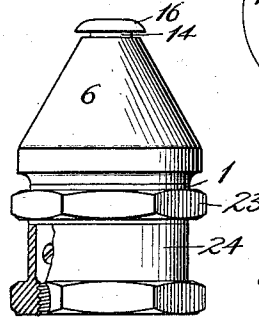
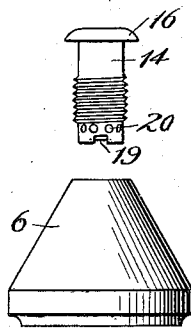


Fig 5

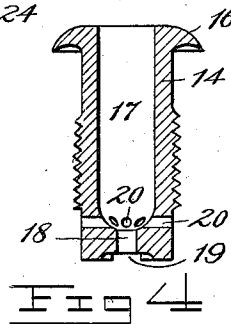
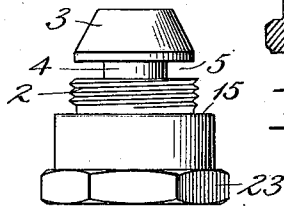


Fig 4

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UNITED STATES PATENT OFFICE.

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SANITARY DRINKING-FOUNTAIN.

1,014,324.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed March 28, 1911. Serial No. 617,477.

To all whom it may concern:

Be it known that we, PHILIP MUELLER and ANTON C. SCHUERMANN, citizens of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented new and useful Improvements in Sanitary Drinking-Fountains, of which the following is a specification.

This invention relates to drinking fountains, and has for its main object to produce a drinking fountain that is thoroughly sanitary and may be installed in schools, public buildings, hospitals and other places where it can be attached to a regular drinking fountain bowl, to a special faucet, or to any other suitable service fitting; suitable means being provided for catching the overflow water.

The basic principle of this invention consists of a circular outwardly flowing sheet of water, which may be directed either upwardly or downwardly, from the center of which sheet of water a small bubbling or upwardly flowing stream of water, for drinking purposes, is projected. This principle is put into practical use by providing a nozzle having a nipple through the center of which the drinking stream flows and around which the circular sheet makes its exit through a separate outlet in the nozzle. Water for the drinking stream and for the circular sheet is received through a single pipe entering one end of the nozzle and flows through separate passageways to the outlets, a regulating means being provided in each passageway for adjusting the force, quantity, and speed of the water, each regulating means being independently adjustable. When the flow of water through the fountain is properly regulated the drinking stream will rise sufficiently high above the circular sheet to enable a person to drink from the top thereof without interfering with the surrounding sheet of water, but should he permit his lips to approach the nipple his face or nose will be filled with water from said circular sheet and cause him to quickly withdraw from the fountain.

With these objects in view, the invention consists of a novel construction, combination and arrangement of parts hereinafter described and pointed out in the claims,

and illustrated in the accompanying drawings, in which—

Figure 1 is a vertical central section through the improved nozzle which forms the basis of the present invention, Fig. 2 is a side elevation of the several parts which go to form the nozzle, said parts being disassembled, Fig. 3 is a top plan view of Fig. 1, Fig. 4 is a sectional view of a detail of the invention, Fig. 5 is a side elevation of a modified form of the improved nozzle.

Similar reference characters are used to indicate the same parts in all of the figures.

In the drawings, the numeral 1 indicates the body of the nozzle, preferably circular in cross-section and held in upright position when in use. In the upper half, more or less, the body 1 is of less diameter than the lower half and comprises two parts 2 and 3, connected by a neck 4, an annular groove 5 separating the two parts exterior of the neck. The lower part 2 is threaded to receive a shell 6. The upper part 3 is made frusto-conical as shown.

A threaded opening 7 is formed in the under side of the body 1 into which is screwed an inlet pipe or other fixture, through which water is conveyed to the nozzle. From the opening 7 a passageway 8 extends into the body for a short distance and is connected by a cross port 9 with a central bore 10 extending downwardly from the top of the body 1 as far as said port. A second passageway 11 is made through the body 1 from the threaded opening 7 to the annular groove 5. The flow of water through the passageways 8 and 11 is controlled and regulated by separate means of any suitable type, such as screw plugs 12 and 13, the former being applied from without the body to the passageway 8, and the latter in a similar manner to the passageway 11. The screw plugs 12 and 13 are preferably notched in their outer ends to receive a screw-driver or other tool for adjusting them, and pointed on their inner ends to engage suitably formed seats when it is desired to greatly reduce or entirely cut off, the flow of water through the passageways.

The preferred form of the shell 6 is frusto-conical as shown in the drawing, the smaller upper end of which has an open-

ing communicating with the interior of the shell through which opening projects a nipple 14 threaded on its lower end to engage the threaded upper end of the bore 10 in the body 1. The lower end of the shell 6 is formed with an interiorly threaded opening to engage the part 2 of the body and fit tightly against a shoulder 15 on the body as shown. The nipple 14 has a spreading head 16, the under surface of which may be inwardly curved in cross-section as shown, or otherwise formed for a purpose to be hereinafter described. The nipple has a central bore 17 through which flows the drinking stream, said bore extending only to the bottom of the nipple, but not quite through it. A small hole 18 connects the bore 17 with the bore 10 in the body 1. Lateral slots 19 are cut in the bottom of the nipple and, if desired, a number of small holes 20 made in the sides thereof a short distance above said notches through which notches and holes water may enter the nipple from the bore 10 as well as through the hole 18. To permit the water passing around the lower end of the nipple the upper end of the bore 10 which receives the same is slightly enlarged as shown at 21. The opening in the upper end of the shells 6 through which the nipple 14 passes is slightly larger than said nipple, thereby leaving a narrow annular space 22 through which water from the passageway 11 makes its exit to form a circular sheet surrounding the nipple.

In the form of device shown in Figs. 1 and 2 the lower end of the body is provided with a polygonal collar or flange 23 to fit a wrench or other tool by means of which the nozzle may be held firmly or rotated when attached to the inlet pipe or other fitting. In Fig. 5 the collar or flange 23 is placed just below the shoulder 15 and the lower half of the body lengthened to permit a cylindrical shield 24 being screwed thereon for the purpose of covering and protecting the outer ends of the screw plugs 12 and 13 from malicious or mischievous interference by unauthorized parties.

Water entering the nozzle through the opening 7 from a pipe or fitting device flows upwardly through the passageways 8 and 11. That which enters the passageway 8 runs through the port 9 into the bore 10 and thence up through the holes 18 and 20 into the bore 17 of the nipple and thence upward to form the drinking stream, the height of which is regulated by turning the screw plug 12. The water which enters the passageway 11 flows upwardly through the body into the groove 5 and strikes the under surface of the frusto-conical part 3, there it is deflected laterally and its force reduced. After filling the space within the lower part of the shell the water passes through the

narrow channel between the part 2 and the inner surface of the shell to the annular opening 22 emerging through said opening in a thin annular stream which, striking against the under side of the flaring head 16 of the nipple, is caused to spread outwardly in a thin circular sheet. This sheet will be deflected outwardly in a horizontal plane or inclined above or below said plane as the shape or conformation of the under surface of the nipple head directs, the object being to produce an unbroken circular sheet sufficiently near the plane of the top of the nozzle to enter the face of a person who attempts to place his lips upon the nipple while drinking. The head of the nipple is thin. The protecting sheet of water may be horizontal or even deflected downwardly, but if the head is made thick it will be advisable to cause the sheet to rise above the plane of its emergence from the nozzle at an angle thereto.

Having fully described our invention, we claim:—

1. A drinking fountain comprising a nozzle, the body of which is formed with passageways for independent streams of water, a deflector spaced a short distance above the top of the body over one of said passageways, a shell provided with an opening in its outer end inclosing said deflector and removably connected at its other end to the body, a narrow annular space separating the shell from the deflector, and a nipple extending inwardly through the opening in the outer end of said shell and threaded into said deflector, and provided with a bore in communication with the other passageway, said nipple being slightly less in diameter than the opening to form an annular outlet for water.

2. A drinking fountain comprising a nozzle, the body of which is formed with passageways for independent streams of water, separate means in each passageway for regulating the flow of water therethrough, a deflector integral with the body and spaced a short distance above the top of the same over one of said passageways, a shell formed with an opening in its outer end inclosing said deflector and removably connected at its other end to the body, a narrow annular space separating the shell from the deflector, and a nipple extending inwardly through the opening in the outer end of the shell and threaded into said deflector, and provided with a bore in communication with the other passageway, said nipple being slightly less in diameter than the opening to form an annular outlet for water.

3. A drinking fountain comprising a nozzle, the body of which is formed with passageways for independent streams of water, a shell secured at one end to said body and having an opening through its other end, a

nipple of slightly less diameter than said opening extending inwardly through the same and attached to the nozzle body, said nipple having an expanded head close to and
 5 projecting over the annular outlet surrounding the nipple, and a deflector within the shell over one of said passageways and lying in close relation to the wall of said shell to form a narrow channel for water passing
 10 through the said annular outlet surrounding the nipple, which latter is provided with a central bore communicating at its lower end with the other passageway.

4. A drinking fountain comprising a nozzle, the body of which is formed with passageways for independent streams of water, separate means in each passageway for regulating the flow of water therethrough, a deflector integral with said body extending
 20 over one of said passageways, a frusto-conical shell surrounding the deflector, a narrow space being left between them, and a nipple having a flaring head and a central bore adjustably connected to the deflector, a
 25 plurality of small holes being formed in the inner end of said nipple to connect the bore thereof with the other passageway.

5. A nipple for a drinking fountain com-

prising a body having an expanded head and a central bore extending nearly through
 30 said body with a plurality of small holes passing through the lower end of said nipple into said bore, and radial slots in said bottom extending from one of said holes to the periphery of the nipple.

6. A nipple for a drinking fountain having a thin laterally expanded head shaped on its underside to spread a stream of water striking the same and provided with a central cylindrical bore open at its upper end
 40 and extending nearly through said nipple, a relatively small opening being made through the bottom of the nipple into the bore, a plurality of similar openings formed radially through the nipple slightly above
 45 the bottom, and radial slots extending from the opening through the bottom to the periphery of said nipple.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

PHILIP MUELLER.

ANTON C. SCHUERMAN.

Witnesses:

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