

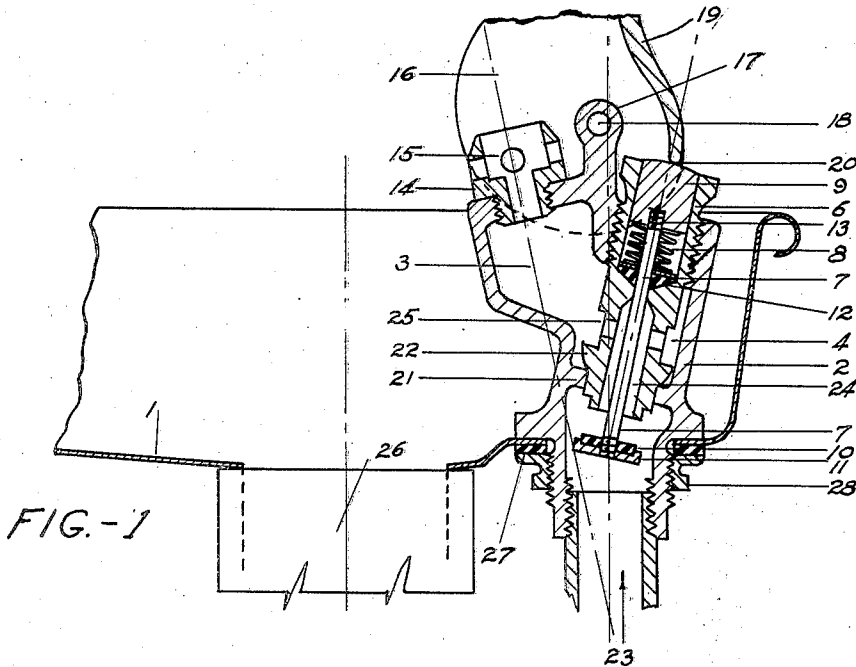
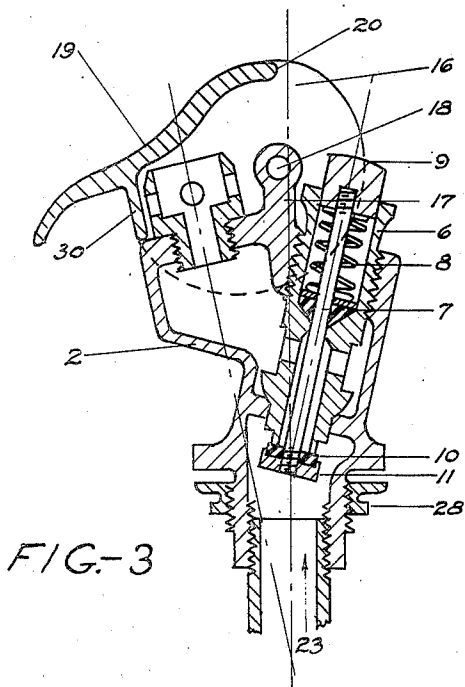
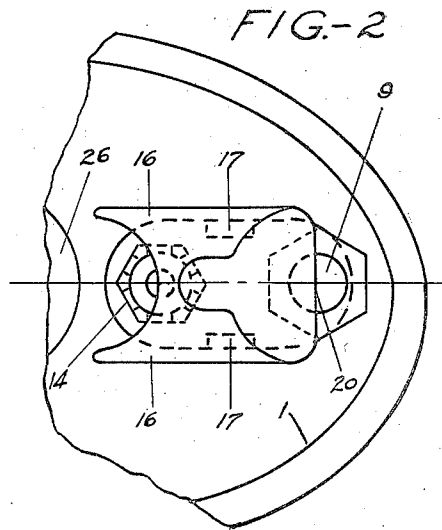
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FOUNTAIN

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FOUNTAIN

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This invention relates to an improved sanitary drinking fountain of the type in which a slanting stream of water is projected over the fountain bowl and the user drinks directly from the stream. More specifically, it relates to a particular type valve structure which, when combined with other essential parts, makes my improved drinking fountain practicable.

Numerous drinking fountains have been developed in the past but in the majority of cases, the fountains have been found to be so designed that sanitary requirements of municipalities and states were met with difficulty. The fountain described herein is so designed that it meets with and surpasses in many cases the most rigid sanitary requirements as required by municipal and state authorities.

It is therefore an object of my invention to create a drinking fountain in which a fountain cover serves as a guard, when the fountain is in operation, to prevent access and contact of fingers or the mouth with the valve cap through which the water flows. It is also an object to have the nozzle, through which the water flows, entirely covered when the fountain is not being operated thereby preventing the accumulation of lint, dust, or any other foreign substances from accumulating on the nozzle. Another object of my invention is to arrange the parts in such a simplified manner so that their proper uses will be self evident. It is also an object to so construct a drinking fountain that the orifice or nozzle on top of the nozzle chamber will be in a plane above the top of the bowl so that any stoppage of the drain may not contaminate the nozzle. Other objects will be self evident and will be clearly demonstrated and revealed to those skilled in the art upon consideration of the following specification.

Broadly, my invention comprises the combination of a bowl and an integral valve and nozzle, the valve and nozzle structure extending at opposed acute angles into a main hollow body portion structure. The combined valve and nozzle structure and the main hollow body portion form a substantially Y-shaped structure. When the valve in the valve structure is operated, water is forced through the nozzle structure and is projected at an angle into the space above the bowl. The user of the fountain can then conveniently drink from the slanting stream but due to a novel arrangement of the nozzle guard and valve operating means, either mouth or finger access to the nozzle is substantially impossible.

In order to more clearly set forth a full understanding of my invention, a detailed description of a typical fountain structure embodying the features of my invention in the preferred form will now be given in connection with the accompanying drawing.

In the drawing:

Fig. 1 is a vertical sectional view of the fountain structure with the valve open. When the valve is in the position as shown water will flow through the nozzle chamber and form a slanting stream of water as illustrated by the dotted lines.

Fig. 2 is a partial plan view of Fig. 1 with the guard in the open position, and

Fig. 3 is a detailed section view of the valve and nozzle structure including the main hollow body portion into which the valve and nozzle structures extend at opposed acute angles. In this figure the valve is closed.

Referring to the drawing in detail, 1 represents a fountain bowl having an integral valve and nozzle structure 2 extending through the bowl, preferably the bottom. The integral valve and nozzle structure includes a hollow nozzle chamber 3 and a hollow valve chamber 4 extending at opposed acute angles into a main hollow body portion 5. The lower portion of the main hollow body portion extends through the bottom of the bowl as illustrated in Fig. 1, and is held rigidly in place by means of a fastening means 28 screwed tightly up to the bottom of the bowl.

A valve structure 6 preferably actuated by a push button is fitted into the valve chamber 4. The valve structure 6 includes a valve stem 7 which is threaded at point 13 into the stem head or push button 9. The valve is operated by means of valve spring 8 and is compressed as the valve is opened and is expanded when the valve is closed. Fig. 1 shows the compressed spring and the open valve while Fig. 2 shows the expanded spring and closed valve.

A seat washer 10 is positioned at the end of the valve stem 7 and is held fixed in place by means of a seat retainer 11. Suitable packing material 12, such as graphite, rubber, asbestos or other equivalent packing material, is packed at the base of valve spring 8 which is adapted to prevent water from flowing upwardly from the valve chamber 24 at the time the valve is being operated.

A nozzle and squirting guard 14 is mounted on top of the nozzle chamber 3 and is threaded to the structure as illustrated in the drawing. Small openings 15 serve as pressure retainers or overflow holes and prevent squirting of water

if the top opening of the nozzle guard should be closed by some object.

A nozzle cover and stream guard 16 is pivoted at point 18 on the supporting posts 17 and is raised and lowered as shown in Fig. 1 and Fig. 3. If the user of the fountain should neglect to lower the guard 16 after having raised it, the guard would automatically drop into the closed position due to the eccentric manner of pivoting the guard 16 on the posts 17. A finger insert 19 is positioned at the forward edge of the guard 16 and is adapted to be used to raise guard 16 from the closed position when it is desired to use the fountain. As the guard is being raised (Figs 1 and 2), the rear portion or edge 20 of the guard will contact and depress the valve stem head 9 and tend to operate valve 6.

In assembling the structure, as valve 6 is being fastened into the valve chamber 4, the depth to which it may be threaded is limited by the enlarged portion 22 making contact with the seat 21 thereby sealing the main hollow body portion from the valve and nozzle chambers. It is through the medium of this seal that the water is prevented from flowing from the main hollow body portion into the valve and nozzle chambers except through the valve passage 24 when the valve is open.

In actual operation, the described structure is attached to a conventional supply of water and water will be forced through pipe 23 as indicated by the arrow in the drawing. When the valve is depressed, as illustrated in Fig. 1, water will flow from the main hollow body portion through passage 24 along valve stem 7 and thence through the openings 25 into chamber 3. Inasmuch as the water is under pressure, it will be forced through nozzle 14 and projected upwardly in a slanting stream preferably at an acute angle not exceeding 30° from the vertical line. The excess water drops back into the fountain bowl 1 and flows into drain 26. Pipe 23 is united with the main hollow body portion 5 through the medium of a tightly fitting threaded collar or nut 29. Conventional packing materials 27 are used to create water tight joints at the various connections as illustrated.

Guard 16 has a projection 30, adjacent to the finger insert 19, which is adapted to hold the guard in a slightly elevated position so that the guard, when in a closed position, will not rest on nozzle 14 as illustrated in Fig. 2. It will be quite evident that the guard, when in a closed position (Fig. 2), creates a perfect enclosure for nozzle 14 and it is substantially impossible to contaminate the nozzle by access of the fingers thereto. Furthermore, foreign materials such as lint, etc., cannot readily drop or accumulate on the nozzle.

When the finger is placed in insert 19 and the guard is raised to the position as shown in Figs. 1 and 2, the presence of the hand and also the forward edge of the guard 16 form obstacles or barriers in the immediate vicinity of nozzle 14 and will substantially prevent possible contact of the user's mouth with the nozzle. Mouth contact with water nozzles on fountains is not generally practiced but it seems that the unsanitary practice is sometimes followed by less discrete users and through the arrangement of the parts on my fountain such possibility of contact is made quite difficult.

It was stated above that the slanting stream of water flowing from the nozzle should preferably not exceed an angle of 30°. In constructing the valve and nozzle body used in my invention, I

have found that if the valve chamber 4 and nozzle chamber 3 are arranged to extend into the main hollow body portion 5 at opposed acute angles of not less than 10° or greater than 30° a convenient and satisfactory slanting stream of water will flow from the nozzle. The most satisfactory results were obtained in structures when the nozzle chamber and valve chamber extended at opposed acute angles of 12° to 15° into the main hollow body portion. It will be evident that the angles under consideration will necessarily vary with the pressure on the water supply, as for example, if the pressure is very low the angles necessary to create a satisfactory stream must be necessarily increased. However for normal pressures usually found on municipal water supplies, angles between 12° to 15° can ordinarily be used in the structure as described.

It will be clear from the drawing and description given above that I have, through the novel structure disclosed herein, provided a highly advantageous and satisfactory structure for a very sanitary drinking fountain. Inasmuch as widely different modifications of my invention may be made without departing from the spirit and scope thereof, it is to be understood that the drawing and description herein are given by way of illustration and not by way of limitation.

I claim:

1. In a fountain, an integral valve and nozzle structure fitted to a water supply, said valve and nozzle structure comprising a main hollow body portion, a valve chamber and a nozzle chamber extending at opposed acute angles into the main body portion, a spring valve inserted within the valve chamber and extending into the main hollow body portion, a nozzle attached to the top of the nozzle chamber, a pair of supporting posts positioned between said valve chamber and nozzle chamber and means including a nozzle guard mounted on said posts.

2. In a fountain, an integral valve and nozzle structure fitted to a water supply, said valve and nozzle structure comprising a main hollow body portion, a valve chamber and a nozzle chamber extending at opposed acute angles not exceeding 30° into the main body portion, a spring valve inserted within the valve chamber and extending into the main hollow body portion, a nozzle attached to the top of the nozzle chamber, a pair of supporting posts positioned between said valve chamber and nozzle chamber and means including a nozzle guard mounted on said posts.

3. In a fountain, an integral valve and nozzle structure fitted to a water supply, said valve and nozzle structure comprising a main hollow body portion, a valve chamber and a nozzle chamber extending at opposed acute angles into the main body portion, a spring valve inserted within the valve chamber and extending into the main hollow body portion, a nozzle attached to the top of the nozzle chamber, a pair of supporting posts positioned between said valve chamber and nozzle chamber and means including a nozzle guard mounted on said posts adapted to cover the nozzle when the guard is in the down position, and said means adapted to operate said spring valve when the nozzle guard is in the raised position.

4. In a fountain, an integral valve and nozzle structure fitted to a water supply, said valve and nozzle structure comprising a main hollow body portion, a valve chamber and a nozzle chamber extending at opposed acute angles into the main body portion, a spring valve inserted within the

low body portion, a nozzle attached to the top of the nozzle chamber, a pair of supporting posts positioned between said valve chamber and nozzle chamber and means including a nozzle guard mounted on said posts, said means adapted to operate the spring valve when the nozzle guard is in the raised position and said nozzle guard forming a cover for the nozzle when said means is in the inoperative position.

5 5. In a fountain, an integral valve and nozzle structure fitted to a water supply, said valve and nozzle structure comprising a main hollow body portion, a valve chamber and a nozzle chamber extending at opposed acute angles into the main body portion, a spring valve inserted within the valve chamber and extending into the main hollow body portion, a nozzle attached to the top of the nozzle chamber, a pair of supporting posts, and means pivoted on the supporting posts adapted to operate said spring valve, said means being constructed and arranged to form at all times such a guard within the vicinity of said

nozzles as to prevent normal contact of the mouth with the nozzle.

6. In a fountain, an integral valve and nozzle structure fitted to a water supply, said valve and nozzle structure comprising a main hollow body portion, a valve chamber and a nozzle chamber extending at opposed acute angles into the main body portion, a spring valve inserted within the valve chamber and extending into the main hollow body portion, a nozzle attached to the top of the nozzle chamber, a pair of supporting posts and means pivoted on the supporting posts, said means being so arranged relative to the nozzle and the valve chamber that the means may be moved to operate the valve and when moved by the user's hand to open the valve, the means and hand of the user simultaneously tend to form such a barrier and guard respectively within the vicinity of said nozzle as to prevent contact of the mouth with the nozzle but at the same time not to impede the flow of water.

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