

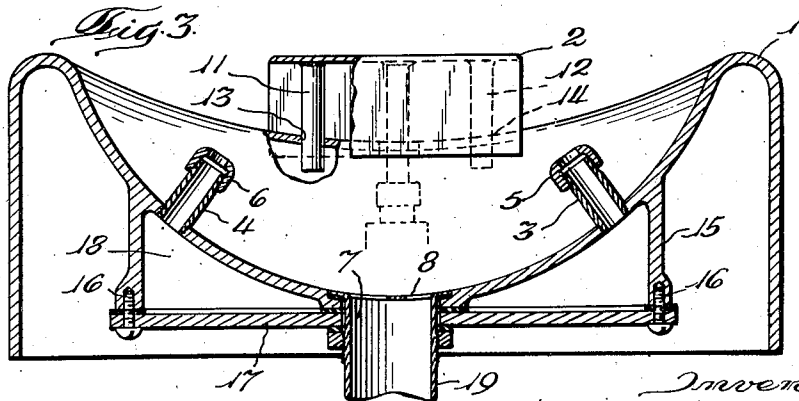
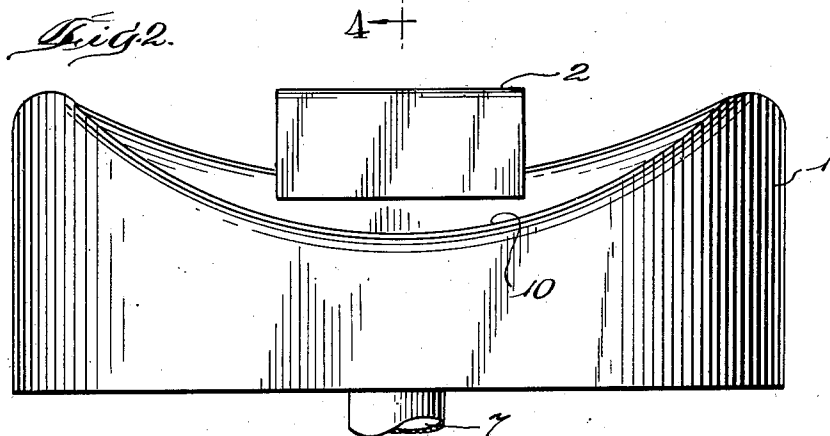
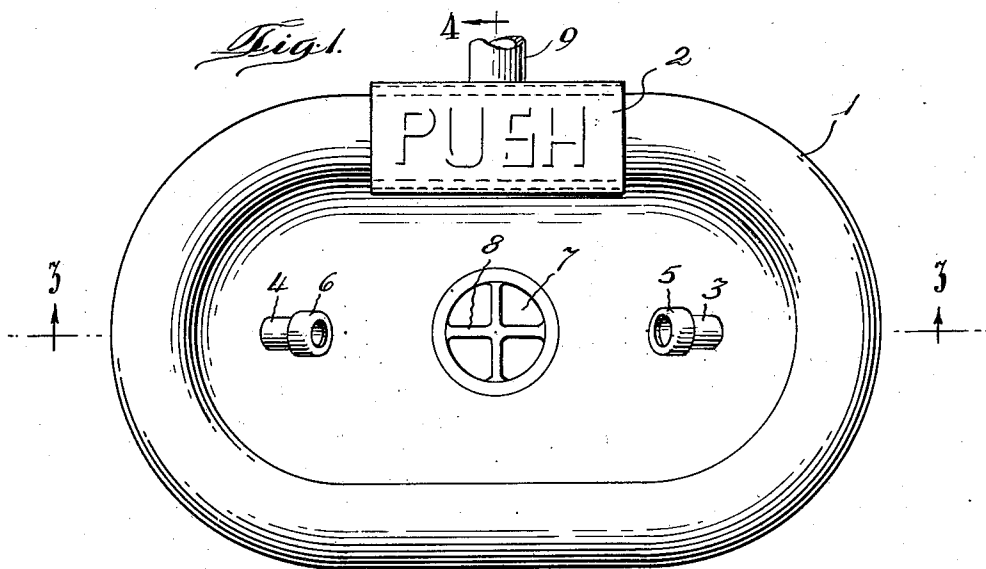
Sept. 27, 1949.

R. G. BENSON
FOUNTAIN EYE BATH

2,482,960

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2 Sheets-Sheet 1



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Fig. 4.

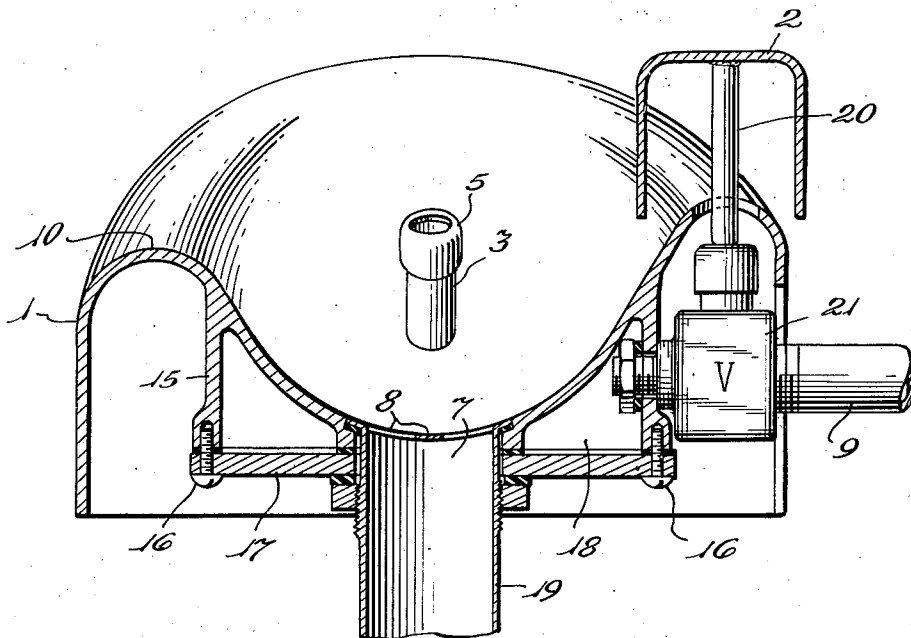
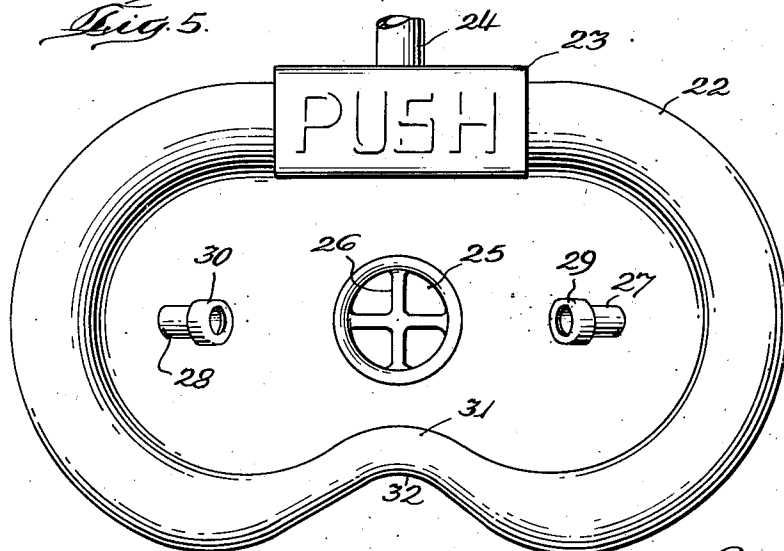


Fig. 5.



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UNITED STATES PATENT OFFICE

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FOUNTAIN EYE BATH

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3 Claims. (Cl. 4—166)

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This invention relates to fountain eye baths and more particularly refers to an improved eye bath for continuously washing the eyes with copious amounts of flowing water.

Today, more than ever, because of the vast increase in industry, in factories, chemical plants, and laboratories, there exists an increasing number of cases where foreign material lodges in the eyes. These substances are solid, liquid, vapors and gases. Washing the affected eye is the most effective way of removing the foreign material; this is particularly true in the case of liquid, vapor and gases where water washing the eyes is the only practical method of cleaning them. Bathing the eyes with water also dilutes as well as removes most chemical compounds. To eliminate the last traces of material, continuous flushing of the eyes for at least 5 minutes is recommended by most modern authorities. Thus, it will be appreciated, that when a chemical enters the eye, it should be flushed with water as quickly as possible and such washing should be continuous for long periods of time.

The conventional methods of bathing the eyes are crude and inadequate and consist primarily in rushing to the sink, scooping up handfuls of water and splashing it in the eyes. Another practice is to bathe the eye by means of an eye-cup which procedure has several disadvantages, namely, only one eye can be bathed by an eye-cup, too much time is consumed before water is applied to the eye, and only a small stagnant body of water treats the eye.

One object of the present invention is to provide a new and improved eye bath whereby copious amounts of flowing water continuously and simultaneously wash both eyes.

Another object of the invention is the employment of a valve with its motivating end disposed on the rim of the bowl in such manner that when the head rests on the bowl it causes the valve to open and release streams of water into the eyes.

Another object of the invention is to provide a substantially elliptical bowl circumscribing both eyes and depressed at its front end to better fit the contour of the face.

Another object of the invention is to provide an eye bath whereby the discharge of water is disposed at points above the bottom of the bowl whereby an accumulation of water in the bottom of the bowl will not retard the upward flow of water.

Another object of the invention is to provide

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an eye bath whereby the liquid inlet to the bowl first discharges into a reservoir to equalize the pressure thereby providing uniform discharge pressure of the liquid through each of the discharge nozzles.

An additional object of the invention is to provide an eye bath which is interposed in a circulating system of liquid whereby one or more different liquids such as physiological salt solution will flow from a source of supply to and through the discharge nozzles of the bowl to wash the eyes and thence through the drain of the bowl and returned to the source of supply.

A further object of the invention is to provide an eye bath whereby two apertures are spaced at a distance so that a separate stream of water is directed toward each of the eyes.

Other objects and advantages of the invention will be apparent during the course of the following description:

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a plan view of the fountain eye bath.

Figure 2 is a front view of the fountain eye bath.

Figure 3 is a cross sectional view of the fountain eye bath taken on line 3—3 of Figure 1.

Figure 4 is a cross sectional view of the fountain eye bath taken on line 4—4 of Figure 1.

Figure 5 is a plan view of the fountain eye bath shown in modified form.

Referring to Figure 1, the bowl 1 is preferably shaped in an elliptical form sufficient to embrace the upper portion of the face and embrace both eyes. The width of the bowl may extend from approximately the center of the nose to the middle of the forehead. The length of the bowl should be equal to or slightly exceed the width of the face. Of course, the dimensions of the face varies with the individual but I have found that a bowl width $4\frac{1}{2}$ " and a bowl length $6\frac{1}{2}$ " to be satisfactory for most faces. The advantage of having the bowl encompass only the upper portion of the face is that it leaves the individual bathing his eyes free to breathe easily through the nose and mouth and without the danger of having water splash those organs. I do not limit myself to these specific dimensions as they may be varied without departing from the scope of the invention. Bowl 1 may be constructed of any suitable rigid material

such as plastic, aluminum, Monel metal, or porcelain.

Mounted on the rim of bowl 1 is plate 2 on which is inscribed the word "Push." When the forehead rests on the bowl, it pushes the plate 2 down which opens a valve shown in Figure 4 thereby releasing a flow of water. In this manner the necessity for speedily getting water to the eyes wherein foreign material has lodged, is accomplished. Also, a continuous stream of water bathes the eyes as long as the individual rests his head on the bowl.

In certain special instances, an individual may desire to elevate his face slightly above the rim of the bowl for the purpose of inserting his hands to hold his eyelids open in order to get more effective washing of the eyes or the individual may desire to insert his hands in the bowl for the purpose of diverting some water against the face which has been splashed with chemicals, particularly acids and alkalis. In these instances, the eye bath may be provided with a mechanism to actuate the flow of water in such manner that the hands are free for insertion in the bowl. One method of accomplishing this result is to provide a foot operated valve actuating means.

Disposed inside and at each end of the bowl are two outlet nipples designated 3 and 4 on which are mounted protective caps 5 and 6. When plate 2 opens the valve, water flows upwardly through the two outlets 3 and 4 in two streams in such manner that they are directed against the eyes. In the center of bowl 1 is a drain 7 through which the overflow water is removed from the bowl. Drain 7 may be provided with a guard 8 or screen to trap and prevent clogging of drain 7 by solid matter. Inlet 9 is connected to a source of water supply. Interposed between the water supply and inlet 9 may be a pressure regulating device, not shown in the drawing, to control the force of the streams of water emitted from outlets 3 and 4.

Figure 2 is a front view of the fountain eye bath showing bowl 1, plate 2, and drain 7. It will be noted that the front lip 10 of bowl 1 is depressed for the purpose of allowing the nose to fit into the depression thereby permitting a snugger fit between the bowl and the contour of the face. If desired, sponge rubber may be fitted on to the bowl to give a softer resting place for the face.

Figure 3 is a cross section of the eye bath taken on line 3—3 of Figure 1. Bowl 1 is so constructed that the two discharge outlets 3 and 4 are elevated to a level above that of drain 7. In this manner, any accumulation of water in the bottom of the bowl will not retard the flow of water from the orifices 3 and 4. My preference is to have the two outlet nipples 3 and 4 with protective caps 5 and 6 inclined at an angle slightly toward one another.

Extending vertically down from plate 2 are two guide arms 11 and 12 which are inserted in holes 13 and 14 in lip of bowl 1 thereby eliminating any tilting or rocking of plate 2. Extending from the bottom of bowl 1 and surrounding drain 7 is a wall 15. Attached to wall 15 by means of screws 16 is plate 17, thereby forming a reservoir 18 bounded by the bottom of bowl 1, wall 15 and plate 17. Extending through this reservoir 18 is conduit 19 connected to drain 7. Water from a suitable source of supply flows into reservoir 18 and discharges upwardly at the same pressure through nipples 3 and 4.

Figure 4 is a cross section of the fountain eye

bath taken on line 4—4 of Figure 1. Bowl 1 has mounted on its lip, plate 2 connected to arm 20 which, when plate 2 is depressed, opens any suitable spring loaded valve 21. Water flows from inlet 9 through valve 21 and discharges into cavity 18. Water then is forced upwardly through nipple 3 and cap 5. The accumulation of water in Bowl 1 is discharged through drain 7 and conduit 19.

Figure 5 is a plan view of an alternative form of eye fountain bath, with bowl 22, plate 23, water inlet 24, drain 25, guard 26, nipples 27 and 28, and protective caps 29 and 30. The front wall 31 of bowl 22 is bent in a depressed inwardly direction to form a recess 32 into which the bridge of the nose fits.

An alternative form of my eye bath, not illustrated in the drawings, comprises a series of vessels containing various medicinal liquids suitable for treating the eyes for different types of injuries, said vessels connected by conduits to the discharge nozzles of a bowl substantially as previously described. The liquid accumulating in the bowl passes through the drain of the bowl and thence returns to the source of supply. Although mechanical means may be employed to force the liquid to circulate from the vessel to the bowl and returned to the vessel, I prefer that the vessels be sufficiently elevated to cause a free and copious flow of liquid by gravity to the bowl. The return of liquid from the bowl to the vessel may be accomplished by a small centrifugal pump. The vessels are fitted with valves to allow liquid from one or more of the vessels to discharge into the bowl.

From the foregoing, it will be seen that I have provided a fountain-eye bath which will instantaneously and continuously direct streams of flowing water into the eyes.

While I have shown and described a few embodiments of my invention, this is illustrative only and in no way limits the scope of my invention. My invention is limited solely by and in the following claims in which I wish to claim the features inherent therein.

I claim:

1. An emergency eye bath for continuously washing both human eyes simultaneously comprising an elliptical bowl adapted to embrace the upper part only of the human face, the internal length of said bowl corresponding approximately to the width of the human face, the internal width of the bowl corresponding approximately to the distance between the center of the forehead and the center of the nose, the front rim being depressed in relation to the side and rear rims of the bowl, a pair of opposed nozzles one at each end of the bowl, said nozzles being directed upwardly and inwardly at an angle to discharge solid streams of liquid in upward arcs from the nozzles during operation of the device, said arcs intersecting midway the length of the bowl and intermediate its width, said nozzles being located above the drain, a drain in the bowl, a spring loaded valve having an inlet adapted to be attached to a source of continuously flowing liquid, said valve being mounted on said bowl, the valve stem of said valve extending upwardly through the rear rim of said bowl, a valve-actuating plate and head rest attached to the valve stem, said valve and actuating plate being disposed midway the ends of the bowl, said plate being adapted to operate the valve when the forehead rests thereon, and said plate being disposed above the rear rim at a point such that when the

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valve is so actuated the upper portion of the face only is embraced by said bowl, and liquid distributing means connecting the outlet of said valve with said nozzles.

2. An emergency device for simultaneously and continuously washing both human eyes, which comprises an elliptical bowl having an internal length approximately that of the face, an internal width approximately that of the distance between the middle of the nose and the middle of the forehead, the front rim of said bowl being depressed below the rear and side rims, a drain in said bowl, a pair of opposed nozzles disposed above the drain adjacent the ends of the ellipse, said nozzles being directed upwardly and inwardly and adapted when the device is in operation to discharge liquid in solid streams in an arc intersecting midway the length of the bowl and intermediate its width, means connectable to a continuous source of liquid, a spring loaded valve mounted on said bowl, a valve stem extending above the rear rim of said bowl, said valve being designed to open when said stem is pressed downwardly, a valve actuating plate and forehead rest mounted on said valve stem intermediate the length of said bowl, said plate being adapted when pressed by the forehead to leave the upper part of the face embraced by said bowl, and liquid distributing means connecting the outlet of said valve with said nozzles whereby liquid may be supplied thereto.

3. An emergency device for continuously washing the human eyes, which comprises an elliptical bowl the internal length of which is approximately the width of the human face, the internal width of which is approximately the length of the face from the middle of the forehead to the middle of the nose, the forward rim of said bowl being depressed below the side and rear rims, the rims

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of said bowl forming a downwardly extending skirt, a pair of opposed nozzles positioned adjacent the ends of the ellipse and being directed upwardly and inwardly at an angle such that when said device is in operation said nozzles discharge solid streams of liquid in an arc intersecting midway the length of the bowl and intermediate its width, a spring actuated valve mounted on said bowl beneath said skirt, means for attaching said valve to a continuous supply of liquid, a distributing manifold connecting the outlet of said valve to said nozzles, a valve stem extending through the rear rim, a valve actuating plate and head rest mounted on the valve stem in a position such as when said valve is actuated by resting the forehead on said plate the upper part only of the face is embraced by said bowl, the arc of said streams of fluid being directed so as to be intercepted by the eyes when the forehead rests upon the plate, and a drain in said bowl.

ROY G. BENSON.

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