

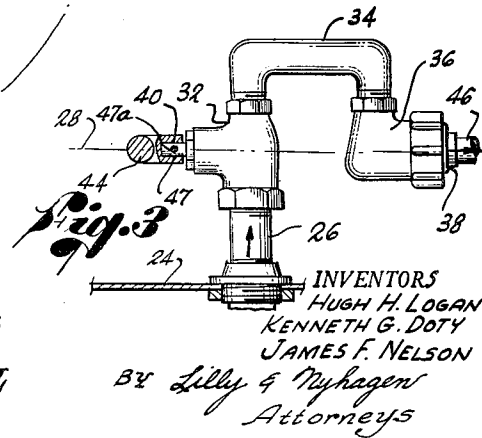
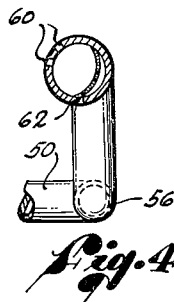
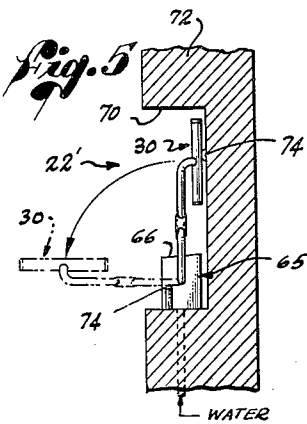
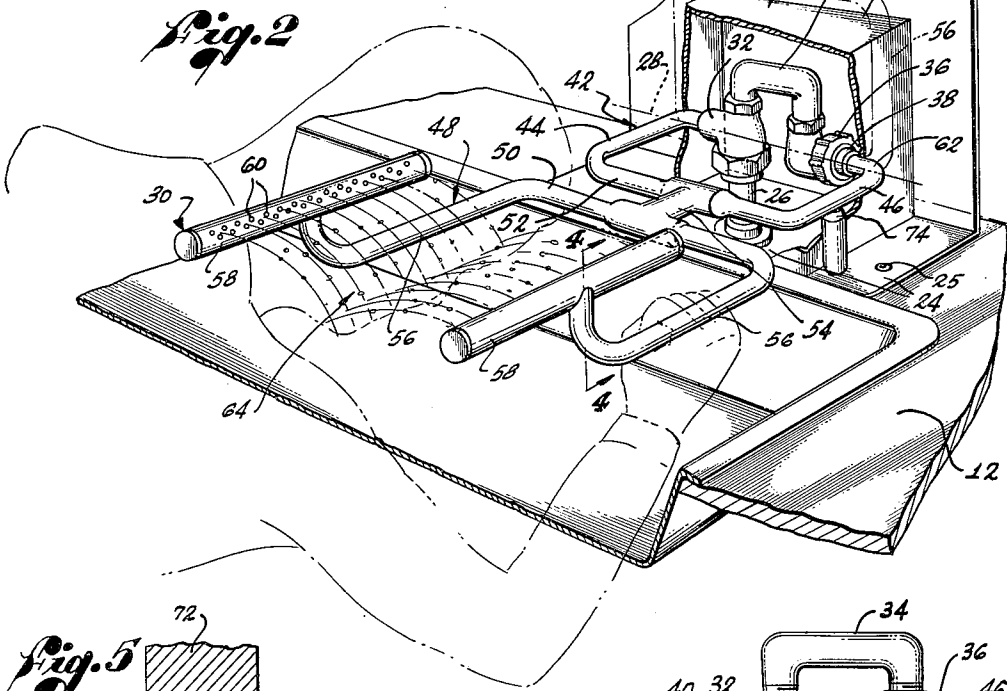
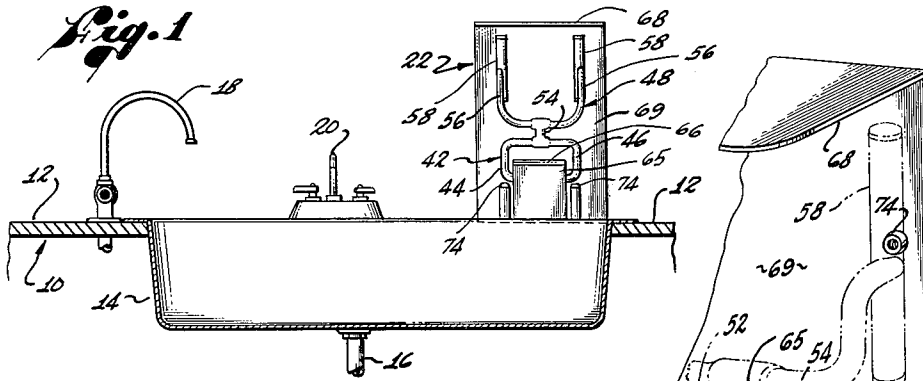
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RETRACTABLE EMERGENCY WASH FACILITY

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2,999,249

RETRACTABLE EMERGENCY WASH FACILITY
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4 Claims. (Cl. 4-166)

This invention deals generally with emergency body washing facilities and, particularly, with an emergency wash fountain of the type commonly used in industrial establishments and the like for washing caustic substances, radioactive matter, bacteriological matter, dust and other contaminating material from a person accidentally exposed to and contaminated with such materials.

A general object of the present invention is to provide an emergency wash fountain of the character described which is designed to be mounted in many different convenient locations, such as on a laboratory sink, drinking fountain or other fixture, in a recess in a wall, or on a wall.

Another object of the invention is to provide an emergency wash fountain of the character described which is movable between a retracted, out-of-the-way position and an easily accessible washing position.

Yet another object of the invention is to provide an emergency wash fountain of the character described which is automatically turned on when moved to its washing position and turned off when moved to its retracted position.

A further object of the invention is to provide an emergency wash fountain of the character described which is shielded, when in its retracted position, against contamination by contaminants dropping from above.

Yet a further object of the invention is to provide an emergency wash fountain of the character described which is simple in construction, relatively inexpensive to manufacture, easy to install, and otherwise especially well suited to its intended functions.

Other objects, advantages and features of the invention will become apparent as the description proceeds.

Briefly, these objects are attained by providing an emergency wash fountain equipped with a base for attachment to a supporting surface, a spray head means mounted on this base for movement between a retracted, out-of-the-way position and an easily accessible washing position, a valve for controlling the flow of washing liquid to the spray head means, and means for operating this valve in response to movement of the spray head means so that the valve is opened to admit washing liquid to the spray head means upon movement of the latter to its washing position and closed to cut off the supply of liquid to the spray head means upon movement of the latter to its retracted position.

In the illustrative embodiment of the invention, the spray head means comprise a pair of parallel spray bars which are arranged in the manner described in U.S. Patent No. 2,775,774 for washing the eyes and face of a user. These spray bars are operatively connected to the rotary stem of a control valve so that the valve is turned off and on by swinging of the spray bars between retracted and washing positions.

The invention will be best understood from the following detailed description taken in connection with the annexed drawing, wherein:

FIG. 1 is a view, partially in section, illustrating the present emergency wash fountain installed on a laboratory sink and showing the spray head means of the fountain in its retracted position;

FIG. 2 is an enlarged view, in perspective and partially broken away, of the emergency wash installation of FIG.

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1 showing the spray head means of the present emergency wash fountain in solid line washing position and phantom line retracted position;

FIG. 3 is an enlarged detail illustrating the control valve and a swivel coupling embodied in the emergency wash fountain;

FIG. 4 is an enlarged section taken along line 4-4 of FIG. 2; and

FIG. 5 illustrates, on reduced scale, a modified version of the present emergency wash fountain.

In FIGS. 1-4 of this drawing, the numeral 10 denotes a conventional laboratory sink. Such a sink is equipped, in the well-known way, with drainboards 12 and a bowl or basin 14. The basin has a drain 16. Mounted at the sides of the basin are water faucets 18 and 20.

The numeral 22 denotes the present emergency wash fountain. It will be observed that this wash fountain is mounted on the sink 10 to the rear and adjacent one end of the bowl 14 so as to clear the water faucet 20. The wash fountain will now be described in detail by particular reference to FIGS. 2-4.

The emergency wash fountain is equipped with a base 24 for attachment to a supporting surface. This base illustratively comprises a mounting flange or plate through which extends a water supply pipe 26 and which is secured by bolts 25 to the drainboard 12 of the sink. It will become clear as the description proceeds that the use of a mounting plate as a base for attaching the wash fountain to the horizontal drainboard 12 is purely illustrative in nature since the base may assume numerous other shapes and may be attached to other than a horizontal drainboard, as shown for descriptive purposes.

Hingably mounted on this base 24, for swinging on a horizontal axis 28 between its solid line and phantom line positions of FIG. 2, is a spray head means 30. This swingable mounting of the spray head means can be accomplished in various ways. In the drawing, this spray head means is swingably mounted as follows.

The numeral 32 denotes a shut-off valve attached to the upper end of the water supply pipe 26 which opens to the inlet side of the valve. Extending from the outlet of the valve is a short, generally U-shaped pipe 34. A liquid-tight swivel joint 36, having a swivel part 38, is attached to the end of the pipe 34, as shown best in FIG. 3. Valve 32 has a valve stem 40 which is rotatable to open and close the valve. The turning axes of the swivel part 38 and valve stem 40 are aligned, the common turning axis of these parts comprising the swinging axis 28 of the spray head means 30, as will presently be seen.

The spray head means includes a yoke-shaped part 42 having two arms 44 and 46. The end of arm 44 is bent inwardly and has a bore 47 receiving the valve stem 40. A pin 47a extending through the arm 44 and valve stem locks these parts together so that the valve stem is turned by swinging of the arm 44. The end of arm 46 is also bent inwardly and connected to the swivel part 38 of the swivel joint 36.

Spray head means 30 comprises a second, generally yoke-shaped part 48. The center of the connecting arm 50 of this latter yoke is rigidly joined to the center of a connecting arm 52 of yoke 42 by a short connecting arm 54. The forward end of the side arms 56 of yoke 48 are bent outwardly from the plane of the arms 56, i.e., bent upwardly as the wash fountain is viewed in FIG. 2.

Rigidly attached at their centers to the bent ends of the yoke arms 56 are a pair of parallel spray heads or bars 58. These spray bars have liquid outlet openings or orifices 60 and lower drain openings 62. Spray bars 58 define therebetween a washing space 64 toward which the orifices 60 open.

Yoke arm 46, connecting arm 54, and the yoke arms

56 comprise liquid conduits or pipes. When the valve 32 is opened, therefore, washing liquid flows from the inlet pipe 26, through the valve, pipe 34, swivel joint 36, and yoke arm 46 to the connecting arm 54 at which point the flow divides equally between the yoke arms 56, one-half of the liquid flowing to the left-hand spray bar 58 in FIG. 2 and the remaining liquid flowing to the right-hand spray bar 58 in FIG. 2. This liquid is discharged through the orifices 60 in a multitude of streams or sprays.

It will be observed that when the spray head means 30 is in its solid line washing position of FIG. 2, spray bars 58 are approximately horizontal. The orifices 60 in the spray bars and the pressure of the liquid delivered to the spray bars are set as described in the aforementioned U.S. Patent No. 2,775,774 so that contaminants in the vicinity of the eyes of a user whose head is positioned in the washing area 64, in the manner indicated in phantom lines in FIG. 2, are effectively washed away rather than driven deeper into the eyes. It is obvious, of course, that while the illustrative embodiment of the invention comprises an eye wash fountain having a pair of spray bars, additional spray bars or other arrangements of the illustrated spray bars may be employed for the purpose of washing other or additional areas of the user's head.

In use, swinging of the spray head means 30 between its solid line washing position and its phantom line retracted or inoperative position of FIG. 2 turns the valve stem 40 to operate the shut-off valve 32. This valve is designed so that it is opened by swinging of the spray head means to its horizontal washing position and closed by swinging of the spray head means to its vertical retracted or inoperative position. The spray head means 30 is normally left in its retracted position of FIG. 1 so as not to interfere with normal use of the sink 10.

When it becomes necessary to use the wash fountain, the user simply swings the spray head means downwardly to its horizontal washing position and places his head in the washing space 64. As just mentioned, the valve 32 is automatically opened to admit washing liquid to the spray bars 58 by this swinging of the spray head means to its washing position so that it is not necessary for the user, who may be temporarily blinded or in a state of semipanic, for example, to locate and operate a separate valve handle. In FIG. 2, it will be observed that the forward yoke arms 56 furnish a convenient hand grip for swinging the spray head means.

It is obvious that while the illustrative embodiment of the invention is designed for washing a limited area of the body, namely, the eyes, certain features of the invention, and especially the automatic valve operating feature, may be embodied in larger emergency wash facilities, such as emergency shower facilities for washing off a substantial portion of the body or the entire body, in which it is desirable or necessary to have the spray units normally located in a retracted, out-of-the-way position. It is also obvious, of course, that the illustrative emergency eye wash fountain may assume numerous other shapes and configurations. For example, it is conceivable that the spray head means might swing on a vertical rather than a horizontal axis.

In the illustrative embodiment of the invention, the location of the spray head means 30, when in its washing position, over the basin 14 is very convenient since the washing liquid discharging from the orifices 60 in the spray bars simply falls into the basin. It is conceivable, however, that mounting the wash fountain in the manner illustrated may not be possible with all laboratory sinks and that in some cases it may be necessary to locate the wash fountain to one side of the basin 14. In this case, the spray head means, when in washing position, would be located over the drainboard 12, for example. In such a situation as this, a drain pan of some type might be attached to the fountain to catch the washing liquid discharged from the spray bars and convey it to the basin 14.

In order to improve the appearance of the wash fountain,

the shut-off valve 32, pipe 34, and swivel joint 36 are shown as being enclosed in a housing 65 having openings in its opposite side walls to receive the inwardly bent ends of the yoke arms 46. The top 66 of this housing preferably slopes, as shown, so that liquid will drain off the top.

In most cases, it is desirable or necessary to shield the spray bars 58 against contamination by dust or other contaminants which may fall from above. To this end, the illustrative wash fountain is provided with a baffle 68 which overlies the spray bars in the retracted position of the spray head means. This baffle is illustrated as comprising a flange along the upper edge of a vertical panel 69, the lower edge of which is integrally joined to the base plate 24.

FIG. 5 illustrates another way in which this shielding action may be accomplished. In this case, the wash fountain 22', which is identical with the wash fountain just described except for the omission of the baffle 68, is mounted in a recess 70 in a wall 72. Here it will be observed that when the spray head means 30 of the wash fountain is retracted, it is shielded by the upper wall of the recess.

In most cases, it is desirable to provide stops for limiting swinging movement of the spray head means between its washing and retracted positions. Rubber bumpers 74 may be used for this purpose, for example.

It is apparent from the preceding description that there has been disclosed an emergency wash fountain which is fully capable of attaining the objects and advantages preliminarily set forth.

It will be obvious that numerous modifications, in addition to those already mentioned, are possible within the spirit and scope of the following claims.

What is claimed is:

1. An emergency wash fountain comprising a base to be attached to a supporting surface, a valve mounted on said base including a rotatable valve stem, a liquid spray head means fixed to said valve stem whereby the latter is rotated to open and close the valve by swinging of the spray head means, the spray head means occupying a given retracted position when the valve is closed and a given washing position when the valve is open, said valve having an inlet for connection to a source of liquid under pressure and an outlet, and means connecting the spray to the valve outlet for flow of liquid from the valve to the spray head means including a liquid-tight swivel joint having its swivel axis coaxial with the turning axis of the valve stem for accommodating said swinging of the spray head means between said retracted and washing positions.

2. An emergency wash fountain comprising a base to be attached to a supporting surface, a valve mounted on said base including a valve stem which is rotatable to open and close the valve, the valve having a liquid inlet for connection to a source of liquid under pressure and an outlet, a pipe extending from said valve outlet, a liquid-tight swivel joint on the end of said pipe including a swivel part which is rotatable on the turning axis of the valve stem, a spray head means including a generally yoke-shaped part having a pair of approximately parallel yoke arms straddling said valve and swivel joint, said yoke arms having inturned coaxial ends on said turning axis, means securing one of said ends to the valve stem whereby the valve is opened by swinging of the spray head means in one direction and closed by swinging of the spray head means in the opposite direction, means securing the inturned end of said other yoke arm to said swivel part, said other arm having a liquid passage there-through and said spray head means further including a pair of parallel spray bars in fluid communication with the valve outlet through said passage and swivel joint which are movable to a horizontal washing position by swinging of the spray head means in said one direction and to a retracted position by swinging of the spray head

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means in said other opposite direction, the spray bars defining a washing space therebetween and having orifices opening toward said space.

3. An emergency wash facility comprising a base to be attached to a supporting surface, a liquid spray head means pivotally mounted on said base for vertical swinging movement with respect to the base between a generally vertical retracted position and a generally horizontal washing position, means for supplying liquid under pressure to said spray head means including a shut-off valve for controlling flow of said liquid to the spray head means, and baffle means mounted on said base in a position to overlie and shield said spray head means in its retracted position.

4. An emergency wash facility comprising a spray head means including a pair of spaced parallel arms having end portions turned at approximately right angles to the plane of the arms, a spray bar fixed to the end of each said turned end portion, whereby said spray bars are disposed at one side of said plane, said spray bars being parallel to said arms and being spaced to receive therebetween the head of a user of the wash facility, there being orifices in said spray bars opening toward said space to direct streams of washing liquid into the space,

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a base to be attached to a supporting surface, means pivotally mounting said spray head means on said base for swinging of the spray head means on a normally horizontal axis parallel to said plane and transverse to said arms and spray bars between a washing position wherein said spray bars are approximately horizontal and located above said arms and a retracted position wherein said spray bars are approximately vertical and disposed behind said arms, whereby the latter are adapted to be grasped by a user of the facility for swinging the spray head means from its retracted position to its washing position, and means including a shut-off valve and liquid passages in said arms for supplying a washing liquid to said spray bars.

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**UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION**

Patent No. 2,999,249

September 12, 1961

Hugh H. Logan et al.

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, line 45, after "spray" insert -- head means --.

Signed and sealed this 2nd day of October 1962.

(SEAL)

Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents