This invention pertains to shower bath heads including mechanism for spraying liquid soap onto the body of the user of the shower bath when desired.

One of the objects of the invention is to provide a shower bath spray head having a valve combined with a container for liquid soap operatively connected with the spray head valve so that by manipulating the valve liquid soap will be sprayed onto the user of the shower bath as desired;

Another object is to provide a shower bath spray head with a valve which will direct the water either directly onto the user of the shower bath or divert it into a chamber which contains a collapsible plastic tube, whereby water pressure will cause the contents of the tube to be sprayed outward toward the user of the shower bath;

Still another object of the invention is to provide a shower bath spray head with a two way valve which will either shut off the flow of water, direct it onto the body of the user, or divert it into a cylinder containing liquid soap or the like in such a way that the liquid soap is forcefully sprayed outward in a direction substantially parallel to the direction of the water from the shower bath spray head;

Other objects will appear hereinafter.

I attain the foregoing objects by means of the device parts and combinations of parts illustrated in the attached drawing wherein:

Figure 1 is a side elevation of my shower bath spray head soap spray device;

Figure 2 is a top view thereof;

Figure 3 is a front elevational view of the soap spray head;

Figure 4 is a side elevational view of a modified form of combination shower bath spray head and soap spray with parts broken away to show interior construction and drawn on a smaller scale; and

Figure 5 is a back end elevational view of the device shown in Figure 4.

Similar numerals refer to similar parts in the several views.

The spray head 2 includes two main parts; first there is the shower bath spray 3 and second there is the soap spray 4. The shower bath spray has a head 5 which is of any conventional convenient form. This is attached to a valve 6 which is of the cylindrical drum type having the plug 7 rotated manually by the handle 8. The plug 7 is bored transversely to its axis so that when the hole 10 is aligned with the water supply hole 12 and spray head opening 14 water issues in the normal manner from the spray head 5.

On the other hand when the opening 16, which is at right angles to hole 10 is aligned with the supply opening 12 water will be directed through 10 to an opening 19, at right angles to the supply opening 12, into cylinder 20 as indicated by the arrow 21.

Cylinder 20, which may be termed the soap container cylinder, is attached to the spray head 2 by means of a boss 22 which screws onto a nipple 23 on the valve body 6.

This cylinder is closed at the rear end 24 and is provided with a threaded cap 25 at the forward end. The threaded cap is in turn provided with a soap spray head 26 which has a plurality of small holes 27 arranged in a vertical row. The head 26 is threaded internally to receive the threaded neck 28 of a collapsible soap containing bottle 30. This bottle is proportioned so that it fits snugly into the cylinder 20 throughout the greater part of its length. Towards the neck end, however, the bottle is provided with a taper 33 which terminates in the threaded neck 28, above mentioned.

The space between the tapered portion 33 of bottle 30 and the inner walls of cylinder 20 adjacent its forward end forms a space B into which water from opening 19 in valve body 6 enters. The pressure meter water from supply pipe A will then be applied to the walls of bottle 30, causing them to gradually collapse and force the liquid soap content of bottle 30 outward through the openings 27. Since the water pressure may be too great for the purposes mentioned it is desirable to provide the outlet 35, which is in the form of a petcock opening into the lower side of the front portion of cylinder 20. This cock may be set to permit a predetermined outflow of water from the space B and thus modify the water pressure applied to the bottle 30. To prevent closing of the outlet opening of the petcock, a wire guard 36 is positioned so that it covers this opening and does not prevent the outflow of water.

It is to be understood that the valve body 6, as well as the spray head 5 and cylinder 20 and its cap 25, may be made of metal or the equivalent in hard plastic. The bottle 30 may be made of soft plasticizable material of any convenient type that is resistant to corrosion or the action of liquid soap. For the purposes intended, the liquid soap is of the type preferably having a potassium base and diluted and rendered fluid by alcohol or its equivalent.

Bottles 30 may be prepared in advance and filled with liquid soap. These may be supplied with a temporary cap screwed onto the neck 28. When it is desired to charge cylinder 20 with a supply of soap one of these bottles is opened by removing the temporary cap (not shown) and screwing head 26 of cap 25 onto the neck 28 of the bottle. The bottle is then inserted into cylinder 20 and cap 25 screwed onto its front end. The filled bottle then occupies the position shown in Figure 1.

The user of the shower, after adjusting the water entering through supply pipe A to the desired temperature will ordinarily open the valve 3 by rotating handle 8 clockwise until the shower head 5 supplies water sufficient to wet his body. The user then moves handle 8 counterclockwise until the opening 16 registers with the opening 12 in the shower head valve. This causes water to enter the space B and forces a fine spray of liquid soap outward from soap supply head 26 through the openings 27. This spray issues as a vertical sheet of soap spray. The user after covering his body sufficiently with this soap then returns handle 8 to the position where water is supplied from head 5.

Excess water within space B drains through the petcock 35. Whenever it is necessary to replenish the soap supply the empty bottle 30 is removed by reversing the operations above stated for installing it and a new soap containing bottle inserted in its place.

In the alternative or modified form of the device shown in Figures 4 and 5 the shower head 2 is substantially the same and has the same spray head 5 and supply pipe A. The nipple 23 supports the cylinder 120 which con-
tains a free floating piston 130. Soap is supplied to the interior of the cylinder in the space below or toward the front of the cylinder and is indicated by the letter C. This soap is forced out of the soap spray head 126 by the action of piston 130 as forced and operated by water entering the rear end of cylinder 120 through pipe 119 from opening 19 in the valve body 3a. This water may be drained when and as desired through petcock 135. Cylinder 120 may be filled through the opening 60 closed by screw plug 61. This is done when the piston 130 is at the back end of its travel, where it may be moved manually after removing cap 125. Rod 136 is attached to the back 124 of cylinder 120 and acts as a guide for piston 130.

In all cases the entrance of water into the soap cylinder is cut off by the user before continuing the shower bath. It is usual to lather the soap on the body and then wash and rinse in the usual manner. The valve drum 7 is then finally moved to the shut off position shown in Figure 1. During operation, should water in space B, Figure 1, press the collapsible container 30 downward toward interior outlet of petcock 35, the guard 36 keeps the wall 33 of the container from contact with the opening.

We claim:

A combination shower bath water spray head and soap spray head, comprising in combination, a valve having a body with a water supply opening, a water spray head opening, a depending nipple having an opening, a two way rotary valve plug operative in said body having a handle and adapted to move from closed position to connect said water supply opening to said water spray opening or the opening in said nipple, a soap container cylinder connected to said nipple having a closed rear end, and a removable cap on its front end having a soap spray head on its front end provided with a plurality of soap spray openings directed substantially parallel with the water spray head, a free moving piston in said cylinder forming a compartment at the lower end of said cylinder for holding liquid soap in said cylinder, means for forcing soap contained in said cylinder out through said soap spray head when water under pressure is let into said cylinder from said valve, liquid soap contained in the portion of said cylinder between said piston and said cap, an opening connecting the rear portion of said cylinder to said nipple, and a water pressure relief petcock on said rear portion of said cylinder.

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