July 10, 1962 G. C. MOSELY 3,042,949

BATHING DEVICE

Filed April 24, 1961

FIG. 1

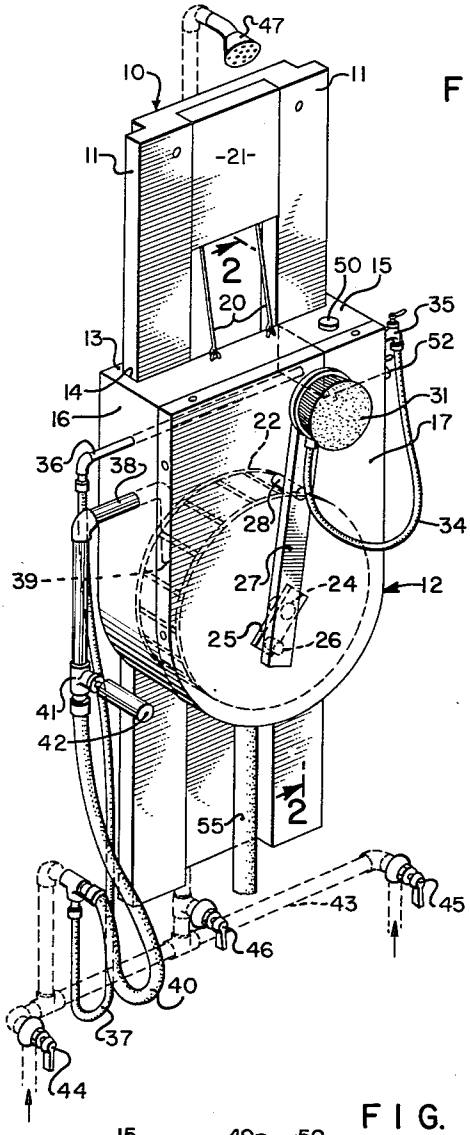
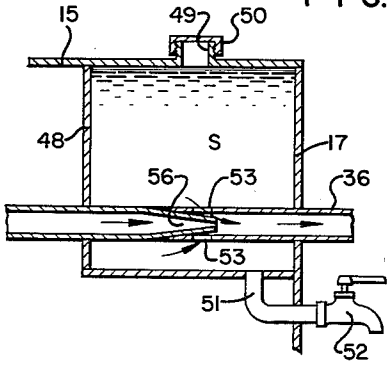


FIG. 3.



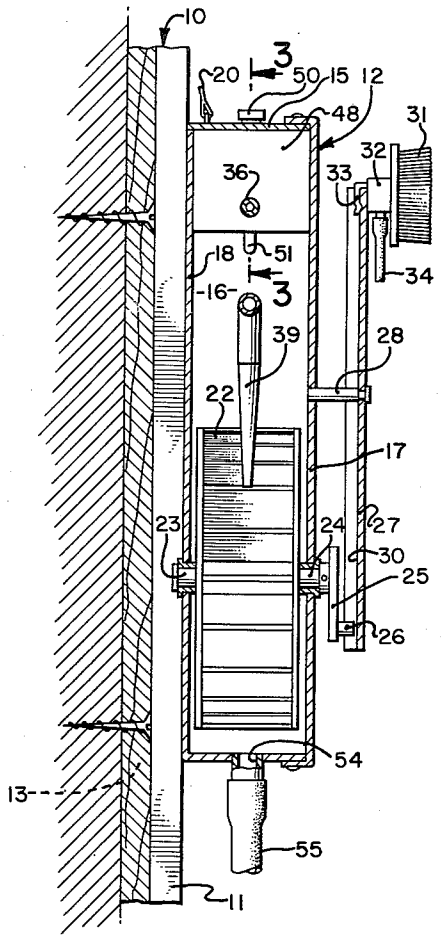


FIG. 2.

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United States Patent Office 3,042,949 Patented July 10, 1962

3,042,949

BATHING DEVICE

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Filed Apr. 24, 1961, Ser. No. 105,076
10 Claims. (Cl. 15—21)

This invention relates to bathing and personal cleanliness and more especially to apparatus for back washing during bathing.

A principal object of the invention is the provision of simple, practical and inexpensive apparatus adapted to be secured to the wall of a bathroom or a shower stall and provided with a brush or applicator useful in bathing through which water is dispensed.

Another object of the invention is to provide in a device of a character described a novel means for imparting an oscillatory or lateral movement to the applicator brush which means is actuated by the water pressure applied to the apparatus.

An additional object of the invention is to provide simple and efficient means whereby the pressure or flow of the water can be varied, and, at the same time, the brush can be raised and lowered so as to reach all parts of the user's back.

Another object of the invention is to provide in an apparatus of the character described, novel means for supplying or dispensing soap to the water through the brush during use.

The foregoing and other objects and advantages of the invention will be described and brought out more fully in the following specification, reference being had to the accompanying drawing wherein FIGURE 1 is a perspective view of a bathing device incorporating the present invention;

FIGURE 2 is a sectional view taken along line 2—2 of FIGURE 1; and

FIGURE 3 is a sectional view taken along the line 3—3 of FIGURE 2.

Referring more particularly to the drawing, the apparatus of this invention includes an elongated support structure 10, which may be self-supporting but is shown as secured by means such as screws to a wall of a bathroom or shower stall. The support structure is formed with suitable slide guide means 11, and a fluid motor or water wheel housing 12 has corresponding flange formations 13 forming channels 14 which slidingly enclose slide guide means 11 in such manner that the housing 12 may be raised and lowered on the support structure 10. Fluid motor housing 12 is in the form of a tank and may be made of sheet metal or the equivalent and has a top wall 15, side walls 16 which are curved toward each other to form a bottom wall portion, and front and rear walls 17 and 18, respectively. Front wall 17 will preferably be a separate piece or stamping and is secured to the housing by screws or rivets which may be removed in the event the interior of the housing should be made accessible for cleaning or any other purpose. One or more suspension cables 20 provide support for the housing and are connected to suitable counter-balance means, such as torsion springs, contained in an enclosure 21 at the upper portion of the support 10.

A fluid motor 22 in the form of a water wheel has a shaft 23 mounted in bearings extending through the front and rear walls of the housing, its forward end portion 24 extending through front wall 17 and exteriorly of the housing. A crank arm 25 is secured on end portion 24 of shaft 23 and has a crank pin 26 which extends parallel to the shaft. A rock arm 27 is pivoted on a bearing pin 28 which extends forwardly from the housing front wall 17, its lower end having a groove or channel 30 into which crank pin 26 extends. Upon rotation of the water

wheel 22 the rock arm 27 will be rocked on its pivot axis 28, which is seen to be intermediate its ends, the crank pin 26 sliding in the groove 30.

A brush 31 has a base 32 provided with a spring clip 33 by which the base and brush may be detachably secured at the top of rock arm 27 with the brush extending or directed forwardly. A flexible tube or hose 34 is connected to brush base 32 which has a discharge passage or opening through the brush 31, the tube 34 being connected at its other end to a faucet valve 35, or the equivalent, at the end of a pipe 36 which extends transversely of and through housing 12. The other end of pipe 36 is also connected to a flexible tube or hose 37. A water supply pipe 38 extends through one side wall 16 of housing 12 and carries a nozzle 39 inside of the housing directed toward water wheel 22 for directing water in a jet stream to rotate the water wheel 22 for actuating crank 25 and rock arm 27. Pipe 38 connects through a valve 41 to a flexible hose or tube 40. Valve 41 includes a handle 42 which extends forwardly and serves as a means for raising and lowering the housing 12 and the parts carried thereby including the brush 31 during the bathing operation. Tubes 37 and 40 connect to the mixing pipe 43 of the usual water supply system having hot and cold inlet water valves 44 and 45, respectively. The water in the housing 12 received from the jet nozzle 39 escapes off through a drain outlet 54 to which a conduit 55 connects leading to a suitable disposal point.

Housing 12 is formed with a reservoir 48 in its upper portion which includes a filling neck opening 49 normally closed by a cap or plug 50, and a drain pipe 51 which extends through the bottom wall of the reservoir and is usually closed by a drain valve 52 positioned exteriorly of the housing.

Pipe 36, which extends through the reservoir, is formed therein with one or more small apertures 53 through which liquid soap in the reservoir may enter. A jet or siphon nozzle 56 may be provided in pipe 36 adjacent to or slightly forwardly of apertures 53 if desired to facilitate drawing soap from the reservoir into the forward portion of the pipe.

The operation of the invention should be clear from the foregoing description. The temperature and rate of flow of bathing water through brush 31 is controlled and may be varied by actuation of hot and cold water valves 44 and 45 as well as by valve 35 on pipe 36. The speed of rotation of the fluid motor water wheel 22 and the rate of oscillation laterally of the brush are controlled by valve 41 which varies the water flow from pipe 38 and jet nozzle 39. The height of the brush while on rock arm 27 may be changed by force applied manually at handle 42 which force raises or lowers the housing 12 carrying the crank arm and brush. The housing will remain at any adjusted position by reason of its connection to the counterweight in enclosure 21 on the support structure. During operation, liquid soap from reservoir 48 will be entrained in the water passing through the pipe 36 and discharged with it through the brush 31. It should thus be clear that the entire area of the user's back may be reached by changing the vertical position of the brush. The spring clip mounting 33 of the brush permits the brush to be removed from the rock arm and used separately if desired. During use the tank or housing 12 will drain by outflow through drain pipe 55.

While the particular bathing device herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of con-

struction or design herein shown other than as defined in the appended claims.

I claim:

1. A bathing device comprising an elongated support structure adapted to be mounted on a vertical wall of a bathroom and having vertical slide guide means and counterbalance means, a water wheel housing slidably mounted on said slide guide means and operatively connected to said counterbalance means and maintained in a desired adjusted position thereby, a water wheel in said housing having a shaft end portion extending through a wall of said housing, a crank on said shaft end portion, a rock arm pivotally mounted on said housing and operatively connected to said crank arm, a brush secured on said rock arm having a fluid discharge opening therein, a water supply pipe carried by said housing and connected to said brush fluid discharge opening, a water pressure supply to said water wheel arranged to drive said water wheel, and means for raising and lowering said housing.

2. In a bathing device, an elongated support structure adapted to be mounted on a vertical wall of a bathroom, and having vertical slide guide means and counterbalance means, a water wheel housing slidably mounted on said slide guide means and connected to said counterbalance means, a water wheel in said housing having a shaft end portion extending through a wall of said housing, a crank on said shaft end portion, a rock arm pivotally mounted on said housing and operatively connected to said crank arm adjacent one end thereof, a brush secured on said rock arm having a fluid discharge opening therein, a water supply pipe carried by said housing and connected to said brush fluid discharge opening, a water pressure supply to said water wheel, and means for raising and lowering said housing.

3. In a bathing device, an elongated support structure adapted to be mounted on a vertical wall of a bathroom and having vertical slide guide means and counterbalance means, a water wheel housing slidably mounted on said slide guide means and supported by said counterbalance means, a water wheel in said housing having a shaft end portion extending through a wall of said housing, a crank on said shaft end portion, a rock arm pivotally mounted on said housing and operatively connected to said crank arm adjacent one end thereof, a brush secured on said rock arm adjacent the other end thereof having a fluid discharge opening therein, a flexible water supply pipe carried by said housing and connected to said brush fluid discharge opening, a water pressure supply to said water wheel, and means for raising and lowering said housing.

4. A bathing device comprising an elongated support structure adapted to be mounted on a vertical wall of a bathroom and having vertical slide guide means, a fluid motor housing, means for slidably mounting said housing on said slide guide means and including counterbalance means for holding said housing in any desired adjusted position along said slide guide means, a fluid motor in said housing having a shaft end portion extending through a wall of said housing, a crank on said shaft end portion, a rock arm pivotally mounted intermediate its ends on said housing and operatively connected to said crank arm, a brush secured on said rock arm having a fluid discharge opening therein, a water supply pipe carried by said housing and connected to said brush fluid discharge opening, a water pressure supply connected to and operable to drive said fluid motor, and means for raising and lowering said housing.

5. A bathing device comprising an elongated support structure adapted to be mounted on a vertical wall of a bathroom and having vertical slide guide means, a fluid motor housing, means for slidably mounting said housing on said slide guide means and including counterbalance means for holding said housing in different adjusted positions along said slide guide means, a fluid motor in said

housing having a shaft end portion extending through the front wall of said housing, a crank on said shaft end portion, a rock arm pivotally mounted intermediate its ends on said housing and operatively connected to said crank arm adjacent one end thereof, a brush secured on said rock arm adjacent the opposite end thereof and having a fluid discharge opening therein, a water supply pipe carried by said housing and connected to said brush fluid discharge opening, a water pressure supply having an outlet disposed to drive said fluid motor by the action of pressurized water discharging therefrom, and means for raising and lowering said housing.

6. In a bathing device, an elongated support structure adapted to be mounted substantially vertically, a fluid motor housing mounted for elevational movement on said housing, a fluid motor carried by said housing and having a drive shaft, a crank on said drive shaft, a rock arm pivoted substantially at its mid-point to said housing and operatively connected adjacent one end thereof to said crank for rocking movement, a brush detachably connected to the opposite end of said rock arm and having a fluid discharge passage therein, a water supply pipe and a flexible hose connection to said brush discharge passage carried by said housing, a water pressure supply to said fluid motor, said water pressure supply including a flexible hose and a control valve, and a liquid soap reservoir carried by said housing, said brush water supply pipe having an inlet connection with said soap reservoir.

7. In a bathing device, an elongated support structure adapted to be mounted substantially vertically, a fluid motor housing mounted for elevational movement on said housing, a fluid motor carried by said housing and having a drive shaft, a crank on said drive shaft, a rock arm pivoted intermediate its ends to said housing and operatively connected adjacent one end thereof to said crank for rocking movement, a brush detachably connected to the opposite end of said rock arm and having a fluid discharge passage therein, a water supply pipe and a flexible hose connection to said brush discharge passage carried by said housing, a water pressure supply to said fluid motor, said water pressure supply including a flexible hose and a control valve, and a liquid soap reservoir within said housing, said brush water supply pipe having an inlet connection with said soap reservoir.

8. In a bathing device, an elongated support structure adapted to be mounted substantially vertically, a fluid motor housing mounted for elevational movement on said housing, a fluid motor carried by said housing and having a drive shaft, a crank on said drive shaft, a rock arm pivoted substantially at its mid-point to said housing and operatively connected adjacent one end thereof to said crank for rocking movement about a horizontal axis, a brush detachably connected to the opposite end of said rock arm and having a fluid discharge passage therein, a water supply pipe and a flexible hose connection to said brush discharge passage carried by said housing, a water pressure supply to said fluid motor, said water pressure supply including a flexible hose and a control valve, and a liquid soap reservoir within said housing, said brush water supply pipe having a portion within said housing, said pipe portion having an inlet connection with said soap reservoir.

9. In a bathing device, an elongated support structure adapted to be mounted substantially vertically, a fluid motor housing mounted for elevational movement on said housing, a fluid motor carried by said housing and having a drive shaft, a crank on said drive shaft, a rock arm pivoted substantially at its mid-point to said housing and operatively connected adjacent one end thereof to said crank for rocking movement, a brush detachably connected to the opposite end of said rock arm and having a fluid discharge passage therein, a water supply pipe and a flexible hose connection to said brush discharge passage carried by said housing, a water pressure supply

to said fluid motor, said water pressure supply including a flexible hose and a control valve, and a liquid soap reservoir carried by said housing, said brush water supply pipe having an inlet connection with said soap reservoir, and means for raising and lowering said housing on said support structure.

10. In a power-driven back washer for personal use, a support structure adapted to be mounted on a bathroom wall, a tank mounted on said support structure by means permitting vertical movement with respect thereto, a fluid motor in said tank having a crank shaft portion extending through a front wall thereof, a crank on said crank shaft having a forwardly extending crank pin, a rock arm pivotally mounted intermediate its ends to said tank front wall and having an elongated opening at one end to receive said crank pin, a back washing brush secured to and adjacent the opposite end of said rock arm and having a fluid discharge passage therethrough, a liquid soap reservoir in said tank, a water supply pipe extending through said tank and reservoir and having a soap admitting inlet in said reservoir, a flexible hose connection between said supply pipe and said brush fluid discharge passage and a water pressure supply pipe connection to said fluid motor including a combination control valve and handle for raising and lowering said tank on said support structure.

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