

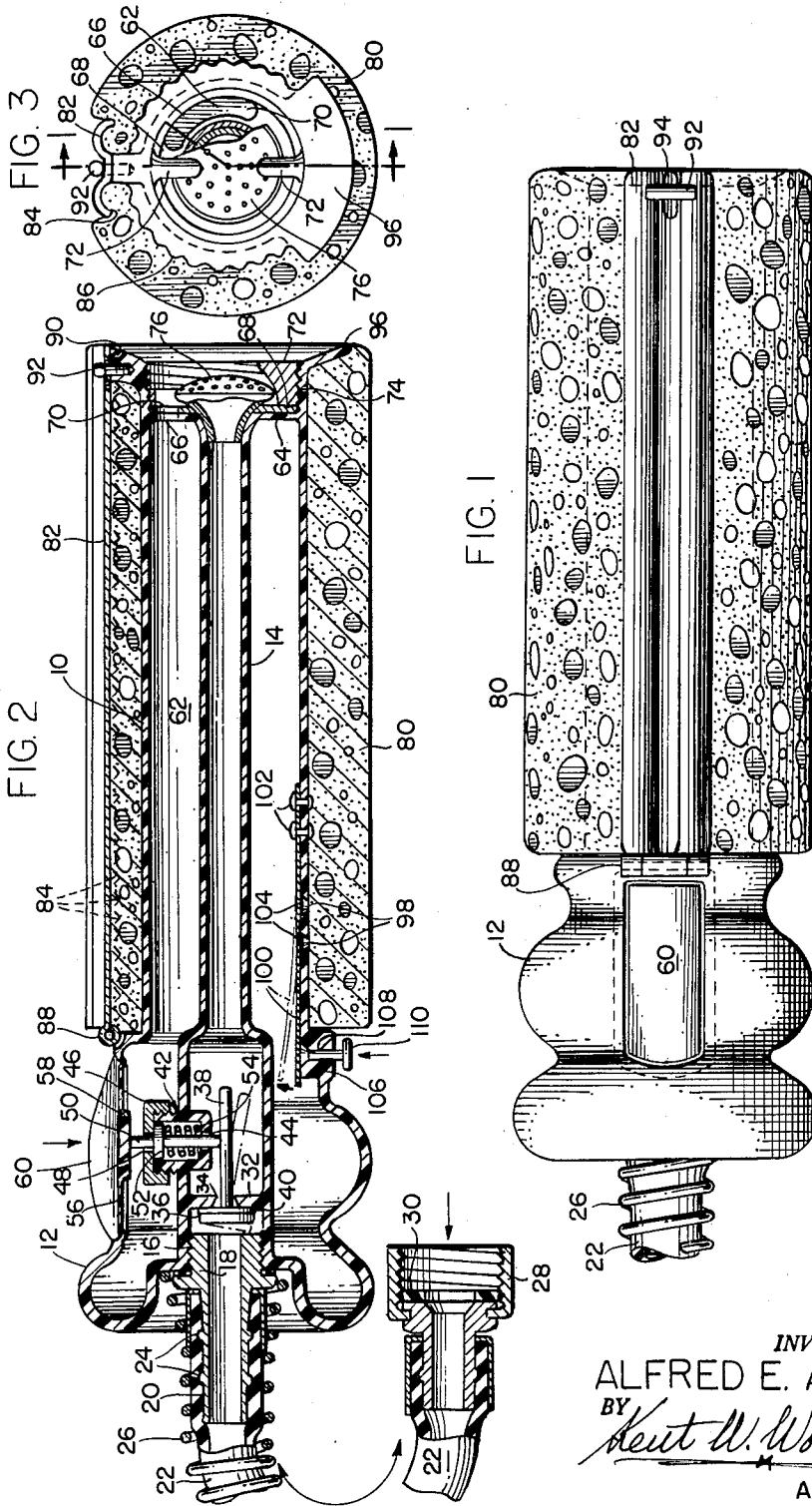
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HAND WASHER

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HAND WASHER

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9 Claims. (Cl. 15-524)

This invention relates in general to a hand washer of the fountain cleaning type particularly desirable for dishwashing, car and window washing with or without the addition of a detergent.

An important object of the invention is to provide a washing, scrubbing and cleaning device which may be used to wash dishes, windows and even automobiles and other articles by a direct manual application which will efficiently wash and clean the articles or surfaces washed by separately applying a detergent if desired which is fed selectively in a new and efficient manner through the washer whenever desired.

An important object of the invention is to provide a hand washer in which a cleaning material of sponge rubber and the like may be removably applied and attached to the outer surface of the washer.

A further object of the invention is to provide a hand washer having separate water and detergent releases easily operated by the fingers of one hand;

A still further object of the invention is to provide a hand washer with a removable sponge or cleaning device, of a size which may be inserted within an ordinary glass or tumbler for dishwashing.

Still a further object of the invention is to provide a hand washer having a cleansing pad surrounding the greater portion of the outer surface and projecting at one end thereof to overlie a scraper which may be separately applied at the end for cleaning and removing materials from dishes or other articles as they are being washed.

Other objects of the invention will appear in the specification and will be more apparent from the accompanying drawings in which,

FIG. 1 is a top view of a hand washer in accordance with this invention.

FIG. 2 is a longitudinal section of the washer as shown in FIG. 1; and

FIG. 3 is an end view of the discharge end of the washer.

In dishwashing and similar cleaning apparatus which utilizes a liquid detergent or cleanser, it is common practice to discharge a small amount of the detergent continuously into the flowing liquid. In the present invention, the washer is provided with a cleaning pad which surrounds a circular support and is removably secured thereto and the detergent is discharge directly into the pad rather than into the cleaning water or at the end of the washer.

Referring now more particularly to the drawings, the washer comprises a tubular outer shell 10 preferably made of plastic but also may be made of thin metal or other suitable material, one end of which has a wavy or corrugated part forming a handle 12, adapted to provide an improved finger grip for holding and applying it. At the inside of the shell 10 is a water tube 14 which is connected to an inwardly turned end portion of the handle and is provided with an inner threaded portion 16, into which a plug 18 is inserted which has a central water passage and an outwardly projecting stem 20 for the connection of an attachment hose 22 held in place by outer ribs 24 on the stem or any other suitable hose clamp and having a loose surrounding spiral spring 26 engaging in the end recess of the handle and extending outwardly beyond the stem for preventing a localizing of the bending of the hose at the end of the stem 20. The outer end of the hose is commonly provided with an enlarged end 28 with a washer 30 therein for quick frictional attachment to the end

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of a faucet, or by threading it to the end of an ordinary garden hose, and the like. Thus the washer may be attached by its relatively short hose 22 for washing dishes and may be attached to a longer section of garden hose 5 for washing a car, house windows and the like.

Inwardly from the handle end of the water tube 14 is a transverse partition 32 with a valve opening 34 therethrough. A valve 36 is located at the outer side of the partition with a stem 38 extending loosely through the partition and inwardly thereof, the valve being seated against the outside of the partition or against a washer 40 surrounding the stem at the inner side of the valve between it and the partition to make a fluid-tight joint.

In the wall of the water tube 14 inwardly from the partition 32 is a small circular chamber 42 having a wall at the inner end with a perforation 44 therethrough and a cap 46 threaded on the other end of the chamber with a perforation 48 therethrough. Seated in this chamber is a valve operator for engaging the stem 38 and comprising an operating stem 50 of a size and length to extend through the perforations 44 and 48 and beyond the end of the chamber and its cap 46. Near the outer end of this stem 50 is a projection 52 preferably in the form of a nut or disc secured to or formed integral with the stem and a spiral spring 54 surrounding the stem and pressing against the inside of the bottom of the chamber presses against the inside of the projection 52 tending to hold the stem 50 in a position with both ends projecting from the chamber.

In the outer wall of the handle opposite the location of the chamber 42 is a preferably flat flexible portion 56 with a contact portion 58 adapted to engage the outer end of the stem 50 when the stem is pressed outwardly by its spring 54. On the outer side of the flexible portion 56 is a knob 60 or a raised portion for engagement by the finger or thumb of an operator so that by pressing the flexible portion inwardly, the valve operating stem 50 may be depressed sufficiently to engage the stem 38 of the water valve 36 and to move the valve sufficiently to open it for the admission of water from the hose connection to the water tube 14. The valve 36 is normally seated against its valve opening 34 by the pressure of water through the hollow stem 20 and even if there is no water pressure, the valve is held against displacement by the inner end of the plug 18 which is spaced slightly from the outer side of the valve 36 and sufficiently to allow it to be rocked to open position by the said movement of its stem.

Surrounding the water tube 14 and between it and the outer shell 10 is a detergent chamber 62 closed at the handle end of the washer, but having a closing plate 64 at the outer end in the form of a circular ring extending between the outside of the water tube and the inside of the outer shell 10 and preferably at a short distance inwardly from the outer end of the shell. In this plate is a detergent fill opening 66 somewhat curved and conforming to the shape of the plate and having a closure plate 68 with an opening 70 corresponding to the fill opening and movable to register with the opening 66 or to form a closure therefor when desired. To operate the closure plate, it is preferably formed with opposite ears or projections 72 having outside threads to engage with inside threads 74 at the inside of the shell 10 near the end thereof. The closure plate 68 may therefore be moved for filling and closing the detergent chamber as desired.

The end of the water tube 14 may be left open or it may be provided with a spray nozzle 76 having a hollow stem extending into the outer end of the water tube 14 and either separately threaded into the water tube or secured in place by the engagement of inner surfaces of the projection 72 with the outer side of the nozzle con-

fining the stem thereof against the inside of the closure plate 68.

That portion of the outer shell from the handle 12 to the outer end thereof is preferably circular and slightly reduced in diameter to receive a pad 80 of cleaning material preferably of sponge or plastic sponge-like material which is wrapped around the washer and is of a length to substantially fill and cover the entire outer circular surface with the ends substantially abutting at the upper side thereof where they are secured in place by a clamp 82. This clamp may be of the same material as the washer, or it may be of metal and has downwardly turned serrated edges 84 which are moved against the outer sides of the abutting portions of the cleaning pad. The outer surfaces of the shell 10 may also be formed with longitudinal ribs 86 which may also be toothed or serrated in order to hold the sponge or pad 80 more closely in place. The clamp 82 has a hinge 88 at the handle end for rotatably securing it to the handle and the opposite outer end of the shell has a projection 90 with an oblong turned button 92 pivoted therein. The end of the clamp has a longitudinal slot 94 through which the button 92 will pass so that when the clamp is moved downwardly, engaging the adjacent edges of the cleaning pad and the button inserted through the slot, the button may be turned at right angles as shown in FIG. 1 for locking the clamp in the downward position and for holding the sponge or pad in position.

At the lower forward edge of the shell 10 is a flange 96 which projects outwardly beyond the adjacent edge of the sponge or pad 80 forming a projection or scraper for cleaning dishes and the like, assisting to retain the pad in place.

In order to apply detergent to the sponge or pad 80, one portion, preferably the bottom of the washer as shown in FIG. 2 is formed with a number of feed holes 98 which provide passage from the detergent chamber directly into the pad 80 and a valve plate 100 is positioned at the inside of the shell 10 having rivets 102 or other suitable fastening means for securing one end of the plate to the inner wall of the shell and having projections 104 which normally seated to cover the feed-holes 98. At the other or free end of the valve plate is a boss 106 in the adjacent end of the handle 12 through which is a perforation 108 for seating a push rod 110, the inner end of which normally engages the free end of the valve plate and the push rod is pressed outwardly thereby freeing the outer end of the push rod for a limited inward movement. By pressing the push rod inwardly, the valve plate 100 raises its projections 104 from covering the feed holes 98 and liquid detergent is discharged from the feed holes in accordance with the openings thereof.

With this construction, it is a simple matter to apply a sponge or pad to the reduced portion of the outer shell, to swing the clamp 82 upwardly about its hinge 88 to insert the abutting ends of the pad under the clamp and to engage the abutting ends with the clamp when it is turned downwardly and to secure the pad in place by means of the turned button 92. The shell is preferably of a size such that the cleaning pad may be inserted in ordinary glasses or tumblers for washing the insides thereof, of the end of the pad projections beyond the end of the washer so that dirt in a glass or on dishes may be dislodged by the scraper flange 96 and may be contacted by the projecting end of the sponge outside of the flange.

The flow of water through the washer is easily controlled for continuous operation simply by a constant pressure on the knob 60 and at the same time, the flow of detergent therefore may be constantly or intermittently controlled by the thumb or fingers of the same hand which grasps the handle. The projecting knob 60 may be engaged even by the palm of the hand or by the thumb or finger thereof at the same time some other finger engages the push rod 110 of the detergent valve.

The outer surface of the cleaning pad projects substantially flush with or slightly beyond the confines of the handle 12 so that the washer may be used for engaging windows, washing walls and automobile sides as well as irregular depressions or portions thereof.

While a preferred construction has been described in some detail, it should be regarded as an illustration or example rather than as a limitation or restriction of the invention, since various changes in the construction, combination and arrangement of the parts may be made without departing from the spirit and scope of the invention.

I claim:

1. A hand washer comprising an outer shell with a handle at one end, an inner water tube within the shell forming a hollow chamber between the tube and the shell to the ends thereof, means for discharging water through the tube from one end to the other of the tube and the shell, a cleaning pad around the outer shell from the handle to the opposite end thereof, means attached to the shell for engaging the pad and securing it in place around the shell the pad being of sponge-like cleaning material, of a size adapted to fit around the shell with the ends abutting and the means for engaging and securing it in place comprising a clamp pivoted at its inner end to the outer shell at the inner end of the handle having downwardly turned edges to engage over the ends of the cleaning pad and having means for securing the outer end of the clamp to the end of the shell remote from the handle.

2. In a hand washer in accordance with claim 1, in which the edges of the clamp turned downwardly are provided with teeth to more firmly engage the pad adjacent the abutting edges thereof, and the surface of the shell below the pad having longitudinal ribs to also engage the inner surface of the pad for additionally retaining it in place.

3. A hand washer in accordance with claim 1, including a valve opening in the water tube at the handle end, a valve for closing against the valve opening with a stem extending through the valve opening in the direction of flow of water therethrough, a spring pressed member seated in the wall of the water tube and extending to the stem at one end and to the inner wall of the handle at the other end, and a flexible contact knob in the wall of the handle to engage the end of the member for contacting the stem to unseat the valve and allow water to pass through the valve opening to the water tube.

4. A hand washer in accordance with claim 1, in which the water tube has a removable spray nozzle at its outer end and a plate threaded into the shell at the discharge end of the water tube with inward projections to engage over the nozzle and confine it in contact with this end of the water tube.

5. A hand washer in accordance with claim 1 having a spray nozzle at the outer end of the water tube, and a flange extending outward from a portion of the edge of the outer shell providing means for additionally retaining the cleaning pad in place and providing a scraper for removing dirt.

6. A hand washer in accordance with claim 1, in combination with a valve in the water tube adjacent the handle, an operating means in the handle for the valve, the space between the outer shell and the water tube constituting a detergent chamber, a closure for the detergent chamber at the outer end of the shell remote from the handle, and valve means in the outer wall of the shell at the inner end of the handle for discharging detergent from the chamber into the cleaning pad.

7. A hand washer in accordance with claim 6, in which the valve means comprises aligned openings lengthwise of the shell, a valve plate secured at one end to the inside of the shell having projections therefrom seated in the openings, and a push rod at the end of the valve plate extending through the wall of the outer shell and engage-

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able with the free end of the valve plate to open it for the escape of liquid from the detergent chamber.

8. A hand washer in accordance with claim 6, in which the closure at the outer end of the detergent chamber comprises a fixed plate with a perforation therein and a closure plate with an opening therein movable to cover and uncover the corresponding opening in the fixed plate.

9. In a hand washer, the combination with an outer shell having a handle portion at one end, of an inner water tube within the shell forming a hollow detergent chamber between the tube and the shell, a valve for admitting water under pressure at the handle end of the shell, a nozzle for discharging water from the other end of the tube, means in connection with the handle for opening the valve, a detergent cleaner pad wrapped around the shell between the handle and the other end thereof, a clamp plate pivoted to the shell near the inner end of the handle and extending to the other end thereof with means for engaging the abutting edges of the pad wrapped

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around the shell, means at the outer end of the plate and the outer end of the shell for releasably holding the plate in clamping position, valve means in the outer shell having an operating member at the inner end of the handle for manual engagement by the same hand which engages the handle for discharging the detergent from the chamber to contact and saturate the pad, a filling closure at the nozzle end between the shell and the tube comprising a fixed plate with an aperture therein, a movable closure plate with an aperture to register with that of the fixed plate, and projections carried by the movable plate for engaging and confining the nozzle at the outer end of the water tube.

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