Nov. 4, 1952 L. C. STUCKEY 2,616,095

HAND CLEANSING APPARATUS

Filed Jan. 29, 1951 2 SHEETS—SHEET 1

Fig. 1

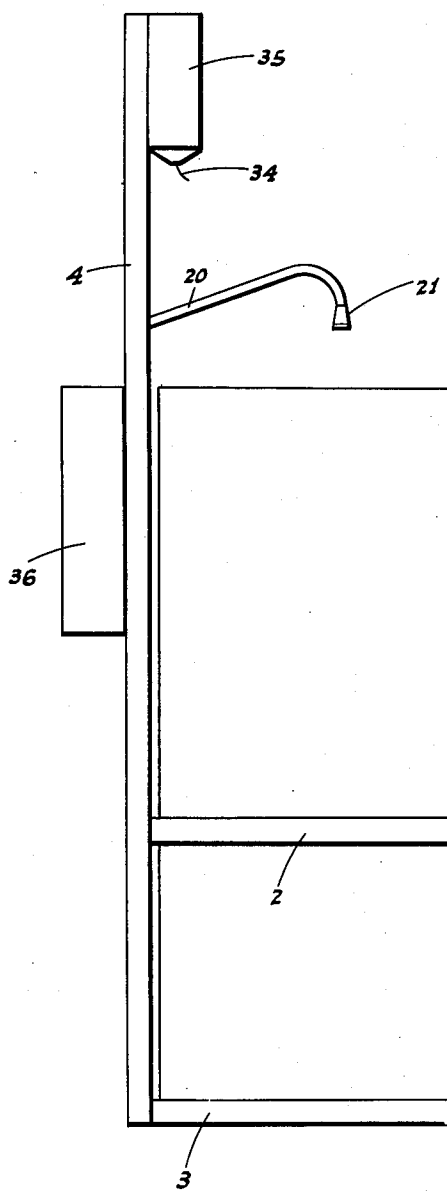
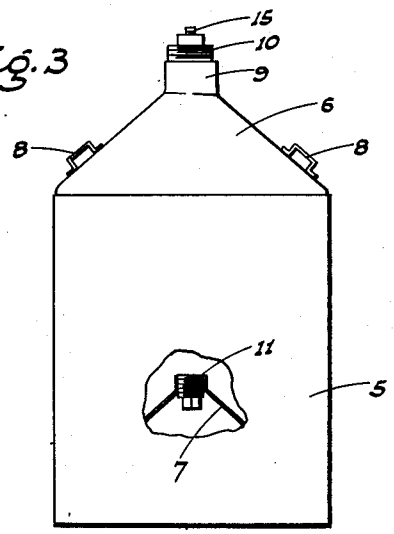


Fig. 3



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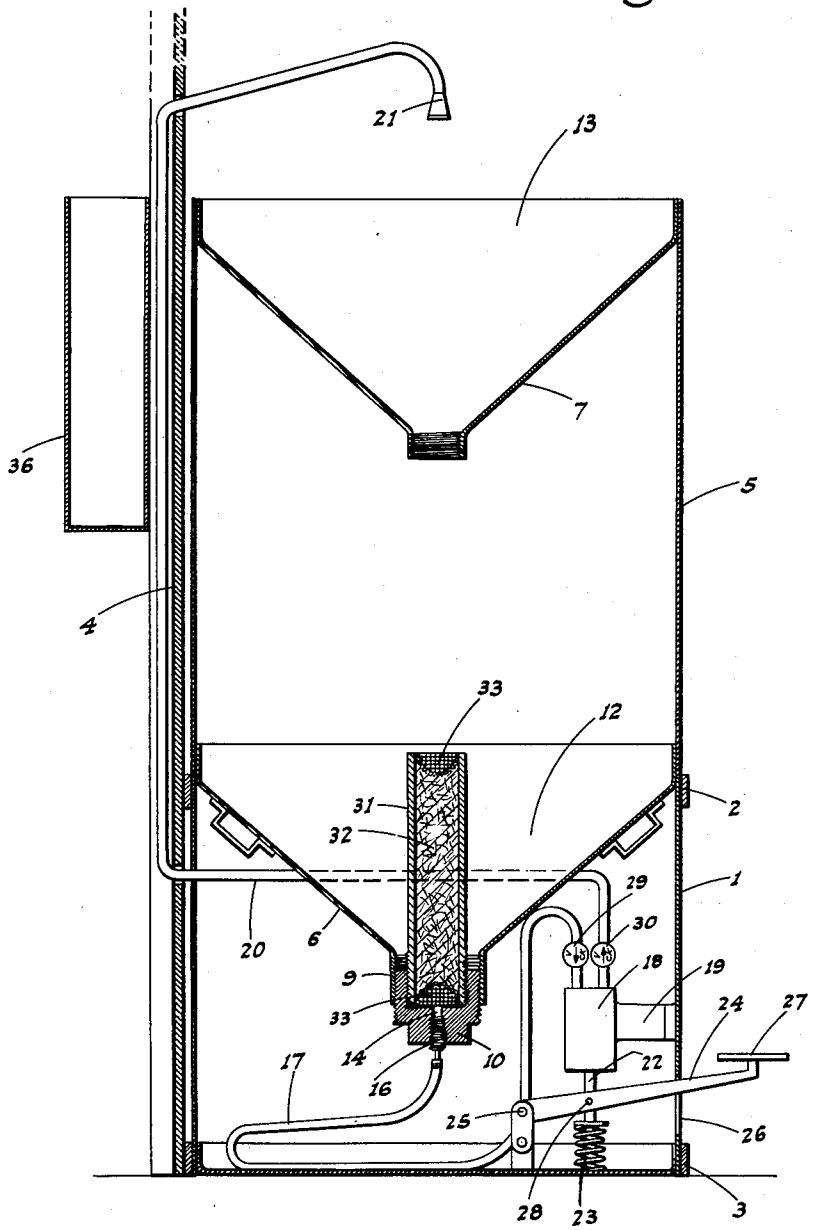
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HAND CLEANSING APPARATUS

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Fig. 2



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HAND CLEANSING APPARATUS

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Application January 29, 1951, Serial No. 208,423

13 Claims. (Cl. 4—166)

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This invention is directed to, and it is an object to provide, hand cleansing apparatus of novel construction and operation; such apparatus being portable for disposition at a convenient point of use, and arranged with a self-contained supply of a hand cleansing solution.

Another object of the invention is to provide a hand cleansing apparatus for use by persons whose occupations, duties, or activities, subject their hands to soiling by oils, greases, dirt, and other foreign substances; the apparatus being especially designed, but not limited, for use by mechanics in garages or machine shops, service station attendants, or the like.

A further object of the invention is to provide a hand cleansing apparatus which includes a supply, serviced by removing and replacing a tank, of a hand cleansing solution which may include a liquid for cleansing the hands, an oil to prevent harm to the skin, and an antiseptic for health safety against infection.

An additional object of the invention is to provide a hand cleansing apparatus, as above, wherein the solution is circulated from a supply tank to a wash basin and return; the solution being subject to settling and filtering, all whereby a tank of the solution is usable over a substantial length of time without need of replacement.

It is also an object of the invention to provide a hand cleansing apparatus, as in the preceding paragraph, wherein the tank, in which the solution is supplied, is normally removably supported in the apparatus as a functional part thereof; one end of said tank being shaped to form the wash basin when the tank is so supported.

It is a further object of the invention to provide a hand cleansing apparatus which is designed for foot actuation to cause flow of the fluid from a spray head into the basin, whereby both hands are free for cleansing beneath the spray.

A further object of the invention is to provide a practical and reliable hand cleansing apparatus, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings:

Fig. 1 is a side elevation of the hand cleaning apparatus.

Fig. 2 is a sectional elevation of the same.

Fig. 3 is an elevation of one of the solution delivery and storage tanks in upright position

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and detached; such tank being partly broken away to show one of the closure plugs.

Referring now more particularly to the characters of reference on the drawings, the apparatus comprises an upstanding annular base 1 including top and bottom reinforcing rings 2 and 3, respectively; such base being adapted to rest on the floor.

At the back thereof the base 1 is fitted with an upstanding post 4, preferably of channel iron to assure of its rigidity.

The hand cleansing solution is supplied, on a service basis, in a cylindrical tank 5 which includes a frusto-conical top 6 and a frusto-conical bottom 7; the top 6 being fitted, exteriorly thereof, with handles 8 for convenience of handling the tank when loaded.

The tank 1 includes a neck 9 at the top, which neck is normally closed by a screw plug 10. The frusto-conical bottom 7 is formed centrally with a port initially closed by a screw plug 11, which screw plug is removable from exteriorly of said bottom of the tank.

When delivered for use the tank 5 is inverted and engaged on the upstanding annular base 1, in matching relation, as shown in Figs. 1 and 2. In this inverted position of the tank 5, the frusto-conical top 6 projects downwardly into the base 1, and forms, within said tank, a settling basin 12.

The inverted frusto-conical bottom 7 of the tank 5 is then uppermost and forms a wash basin 13 communicating with the interior of the tank upon removal of the screw plug 11.

The screw plug 10 is formed with a central axial passage 14 initially closed by a small screw plug 15. However, when the tank 5 is in its inverted position of use in the apparatus, the screw plug 15 is removed and a screw fitting 16 is substituted therefor.

The screw fitting 16 is coupled to a flexible hose 17 of substantial length, but all enclosed within the annular base 1; such hose leading to the intake of a pump unit 18 mounted in said base 1 by means of a bracket 19. The flexible hose 17 is of considerable length in order to permit of its attachment, by the screw fitting 16, to the screw plug 10 of the tank 5, while the latter lies detached from the apparatus. Then, when the tank is inverted and placed on the base, the hose 7 merely coils within said base 1.

A conduit 20 leads from the discharge side of the pump unit 18, crosses the base 1, passes through the post 4, and thence extends up the latter to a point above the wash basin 13. The conduit 20 thence turns inwardly over the wash

basin and is fitted with a downwardly projecting spray head 21 centrally of said basin 13.

The pump unit 18 includes a depending actuating rod 22 which works against a compression spring 23 whereby to normally maintain the rod 22 raised.

A foot lever 24 is pivoted in the base 1, as at 25, and thence extends outwardly through a slot 26 in one side of the base; there being a foot pedal 27 on the outer end of the foot lever 24.

Intermediate its ends the foot lever 24 is pivotally connected to the pump actuating rod 22, as at 28. With this arrangement a person standing before the apparatus may operate the pedal 27 by foot to cause actuation of the pump unit 18, which pump unit includes check valves 29 and 30 in the hose 17 and conduit 20, respectively, with said check valves opening in the directions indicated.

Within the tank 5 the screw plug 10 supports an axially inwardly extending tube 31 of a length approximating the depth of the settling basin 12; such tube upstanding when the tank 5 is in its inverted position of use, but being removable with said plug. At its lower end the tube communicates only with the passage 14, and said tube is filled with a quantity of filter material 32. Removable screens 33, at opposite ends of the tube 21, removably retain the filler material 32 in place.

The above described apparatus functions in the following manner:

Upon operation of the foot pedal 27 by a person standing in front of the apparatus, and resultant actuation of the pump unit 18, solution from within the inverted tank 5 flows downwardly through the filter 32, through the flexible hose 17, and is pumped upwardly in the conduit 20, discharging downwardly from the spray head 21 into the wash basin 13. The person places the hands in the basin 13 below the spray head 21, and as the liquid discharges from the latter the hands are cleansed in such sprayed solution.

After the hand cleansing is complete a towel 34 is withdrawn from a dispenser 35 at the upper end of the post 4, which towel is used to dry the hands. The used towel is discarded into a towel receptacle 36 on the post to the rear of the inverted tank 5.

The solution which sprays into the wash basin 13 then flows downwardly through the open lower end of said basin and returns into the inverted tank 5. In the tank foreign material in the solution constantly settles into the settling basin 12 about the upstanding tube 31, whereby such foreign substance cannot re-circulate upon subsequent hand cleansing operations. The filter material 32 removes from the recirculated solution the foreign substances which do not settle out.

As the apparatus is readily portable, and self-contains the supply of hand cleansing solution, such apparatus may be disposed for most convenient use, and at a point readily accessible to the persons for which such apparatus is provided.

When the apparatus is intended for use by mechanics or the like whose hands are soiled by oil, grease, and dirt, the solution furnished in the tank 5 will preferably include a quantity of petroleum solvent to cut the oil and grease; a quantity of cocoanut or olive oil to condition the skin and prevent any harmful effect thereon by the solvent; and a quantity of antiseptic to assure against infection.

In those instances where oil and grease are not encountered, the solution may be water having a soap or a detergent therein, together with the antiseptic.

Also, if desired, a distinctive color and odor may be added to distinguish between the two types of solutions.

After a tank 5 of the solution has been used a considerable length of time and becomes undesirable for continued use, the tank 5 is removed and a new one, with clean solution therein, is replaced.

As previously indicated, the tanks 5 will be provided on a service basis, and at a central point will be drained, cleaned, sterilized, and refilled; such operation to include the removal, cleaning, and replacement of the filter material 32.

The above described hand cleansing apparatus provides a very practical, efficient, and reliable device for the intended purpose; the convenience being greatly enhanced by the dual purpose tank 5, which tank serves not only for the delivery and storage of the solution, but also provides the settling basin 12 and wash basin 13 when in inverted position of use.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. Hand cleansing apparatus comprising a support, a wash basin on the support, a removable tank on the support for a quantity of hand cleansing solution, the wash basin being in communication with the tank, a conduit system leading from the tank to a point of discharge above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit; the basin being comprised of one end of the tank.

2. Hand cleansing apparatus, as in claim 1, in which the tank is inverted when on the support; said basin being the bottom of the tank.

3. Hand cleansing apparatus comprising a support, an initially separate, hand cleaning solution tank including a downwardly opening concave bottom having a central removable plug therein, the tank being removably disposed in inverted position on the support so that said bottom then forms an upwardly opening wash basin, a conduit system leading from the inverted tank below said wash basin and extending to a discharge point above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit.

4. Hand cleansing apparatus comprising a support, an initially separate, hand cleaning solution tank including a downwardly opening concave bottom having a central removable plug therein, the tank being removably disposed in inverted position on the support so that said bottom then forms an upwardly opening wash basin, a conduit system leading from the inverted tank below said wash basin and extending to a discharge point above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit; said last named means including a foot pedal accessible to a per-

son standing adjacent the support for use of the wash basin.

5. Hand cleansing apparatus comprising a support, an initially separate, hand cleaning solution tank including a downwardly opening concave bottom having a central removable plug therein, the tank being removably disposed in inverted position on the support so that said bottom then forms an upwardly opening wash basin, a conduit system leading from the inverted tank below said wash basin and extending to a discharge point above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit; said initially separate tank including an upwardly convex top which forms a settling basin in the tank when inverted on the support.

6. Hand cleansing apparatus comprising a support, an initially separate, hand cleaning solution tank including a downwardly opening concave bottom having a central removable plug therein, the tank being removably disposed in inverted position on the support so that said bottom then forms an upwardly opening wash basin, a conduit system leading from the inverted tank below said wash basin and extending to a discharge point above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit; said initially separate tank including an upwardly convex top which forms a settling basin in the tank when inverted on the support, and the conduit system communicating with the tank internally above the major portion of said settling basin.

7. Hand cleansing apparatus, as in claim 6, in which the conduit system includes an upstanding tube in the tank normally projecting axially upwardly through the settling basin, and a filter in said tube.

8. Hand cleansing apparatus comprising an annular upstanding base, a hand cleansing solution tank, said tank being initially separate and including a frusto-conical top and bottom, each having a central screw plug removable from exteriorly of the tank, the tank being removably supported in inverted position by the base and said frusto-conical top and bottom then forming a settling basin in the tank and an upwardly opening wash basin, respectively, a filter unit normally upstanding in the settling basin from the adjacent screw plug, a conduit system connected with the filter unit through said adjacent screw plug and extending to a discharge point above the basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit.

9. Hand cleansing apparatus, as in claim 8, in which the filter unit comprises a tube normally upstanding from said adjacent screw plug, screens in opposite ends of the tube, and filter material in the tube between the screens.

10. Hand cleansing apparatus comprising an upstanding annular base, a post upstanding from the base at the rear, a hand cleansing solution tank, said tank being initially separate and including a frusto-conical top and bottom, each having a central screw plug removable from exteriorly of the tank, the tank being removably supported in inverted position by the base and said frusto-conical top and bottom then forming a settling basin in the tank and an upwardly opening wash basin, respectively, a solution feed conduit system leading from the tank, said system including a conduit extending up the post and thence overhanging the wash basin, a discharge head on said conduit above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit.

11. Hand cleansing apparatus comprising an upstanding annular base, a post upstanding from the base at the rear, a hand cleansing solution tank, said tank being initially separate and including a frusto-conical top and bottom, each having a central screw plug removable from exteriorly of the tank, the tank being removably supported in inverted position by the base and said frusto-conical top and bottom then forming a settling basin in the tank and an upwardly opening wash basin, respectively, a solution feed conduit system leading from the tank, said system including a conduit extending up the post and thence overhanging the wash basin, a discharge head on said conduit above the wash basin, a pump unit interposed in the conduit system, and means operative to actuate said pump unit; said pump unit being in the base below the inverted tank.

12. Hand cleansing apparatus comprising a base, an initially separate, hand cleansing solution tank removably mounted on the base in inverted position, the bottom of the inverted tank being shaped to then form a wash basin, the latter having a removable plug in the bottom thereof, and means detachably connected to the tank to circulate solution from the same into the basin.

13. Hand cleansing apparatus comprising a base, an initially separate, hand cleansing solution tank removably mounted on the base in inverted position, the bottom of the inverted tank being shaped to then form a wash basin, the latter having a removable plug in the bottom thereof, and means detachably connected to the tank to circulate solution from the same into the basin; said means being foot actuated by a person adjacent the inverted tank.

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