Aug. 11, 1925.

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I. A. BURNETT

LIQUID SOAP DISPENSER

Filed Feb. 21, 1925

Fig. 1.

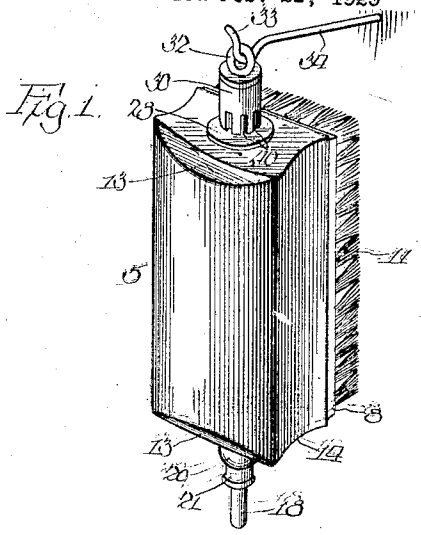


Fig. 2.

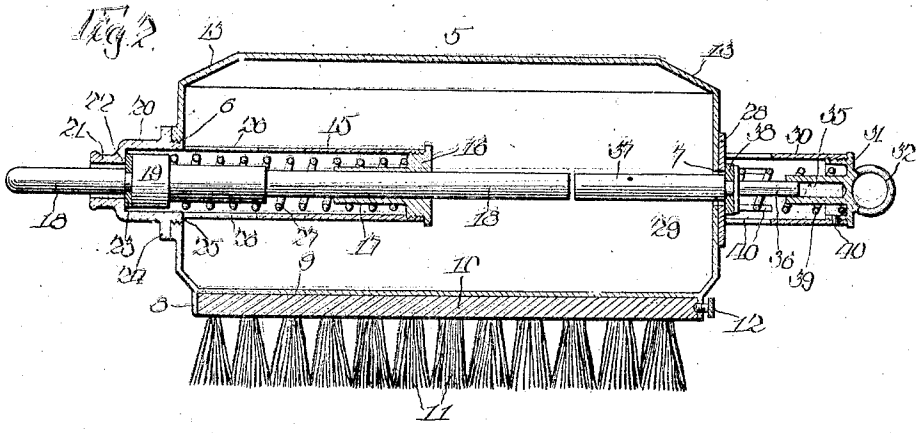
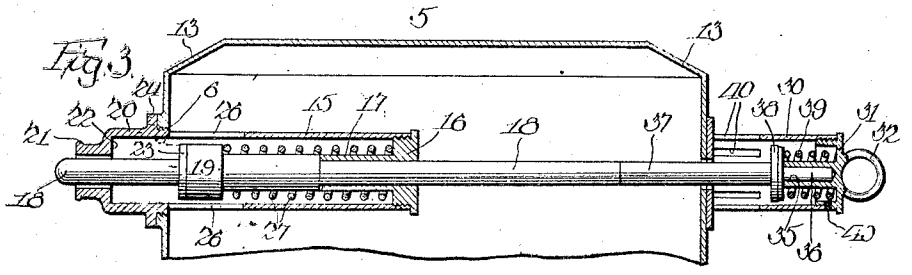


Fig. 3.



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UNITED STATES PATENT OFFICE.

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LIQUID-SOAP DISPENSER.

Application filed February 21, 1925. Serial No. 10,800.

To all whom it may concern:

Be it known that I, IRA A. BURNETT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Liquid-Soap Dispenser, of which the following is a specification.

This invention relates to toilet articles, though more particularly to a hand brush, for containing, dispensing, and applying liquid soap or a cleansing agent to the hands, for the purpose of enabling them to be more readily and thoroughly cleansed, and it consists in certain peculiarities of the construction, novel arrangement and combination of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The invention has for one of its objects, the provision of a hand brush of the above mentioned general character, of such construction and arrangement of its parts as to render its manufacture quite inexpensive, and the assemblage of its parts very simple, and so that certain of its elements may be detached and removed to permit of cleansing the container, of repairs, or of replacing worn or defective parts by new ones.

Another object is, to furnish a hand brush of such shape as to cause the hand, in which it is held when in use, to conform thereto in such a way as to fit said hand and afford comfort to the user, and to enable him to use the brush in scrubbing the hands and in otherwise handling it, in a most efficient manner, and also of such construction and arrangement of its parts that it can be detachably supported near or over a wash-basin in such a way as to be spaced from the wall or upright support therefor, with its bristles adjacent the wall, thus enabling them to be thoroughly ventilated and quickly dried, and at the same time, in such a manner that the body of the brush will be so disposed with respect to the user, that it can be grasped and securely held in one hand, detached from its support thereby, and while in a vertical position, be placed over the other hand for the discharge of liquid soap into the palm thereof by an upward movement of the latter, or a slight downward movement of the brush.

A further and important object is the provision in a hand brush, of co-operating valves for controlling the discharge of liquid soap or a cleansing agent from the reservoir of the brush and for the admission of air thereto to facilitate said discharge.

Other objects and advantages of the invention will be disclosed in the following description and explanation.

In the accompanying drawing, which serves to illustrate an embodiment of the invention,

Fig. 1 is a perspective view of a hand brush showing it supported upon a horizontally disposed arm extended from an upright support with its parts in their normal or closed positions ready for use.

Fig. 2 is an enlarged central longitudinal sectional view through the hollow body of the device and its controlling valves, showing the latter in their closed positions, and

Fig. 3 is a similar view of a fragment of the body of the device illustrating the valves thereof in open positions.

Like numerals of reference refer to corresponding parts throughout the different views of the drawing.

The body of the device is designated as a whole by the reference numeral 5 and may be made of any suitable size and material but by preference of sheet metal, and is broadly speaking, of an elongated substantially rectangular shape and hollow, as shown.

The body 5 is provided in one of its ends, which may be termed its lower end, with a screw-threaded opening 6 and in its other end with an opening 7, which openings are by preference located centrally in their respective ends of the body so that the valve stems located in said openings will lie in parallelism with the longitudinally extended walls of the device.

One of the longitudinal walls of the body 5 is provided with a perimetrical flange 8, which affords a recess or seat 9 for the back 10 of a brush, which back may have secured to or mounted thereon in the usual or any well known way bristles 11 of a desired kind. To detachably secure the bristle-carrying back in position within the recess or seat 9 formed by the flange 8, a set screw 12 seated in a suitable opening in said flange and extended there-through is employed. The wall of the body 5 opposite that on which the brush is mounted, and which may be called the face of the device, is transversely and outwardly rounded as clearly shown in Fig. 1, and has each of its

ends beveled or inclined as at 13 towards their respective ends of said body. Each of the side walls of the body 5 is cross-sectionally and inwardly curved as at 14, thus providing on one side of the device a concave longitudinally extended groove or channel for the reception of the fingers, and on the other side a similarly disposed and correspondingly formed groove or recess for the thumb of the hand in which the device is held, it being understood that when so held, the palm of said hand will rest against the outwardly curved face wall of the body of the brush. By this peculiar and novel construction in the shape of the body a most comfortable fit to the hand of the user will be provided, which will not only enable the user to more comfortably and efficiently use the brush for scrubbing the hands, but will also enable him to properly handle it when placing it on the hooked arm or support therefor or removing it therefrom.

Located in the opening 6 of the body 5 and in screw engagement with said opening is a combined cage, valve casing, and discharge nozzle, all being by preference integral as clearly shown in Figs. 2 and 3 of the drawings. The cage portion 15 of this element is preferably tubular in form and has its inner end screw-threaded for engagement with a centrally apertured plug or cap 16 which has extended from its inner surface a tubular guide member 17 which surrounds the opening of the member 16 and projects a considerable distance within the cage 15 and forms a guide for that portion of the valve stem 18 of the discharge valve 19, which is located within the reservoir or cavity of the body of the device. The valve casing 20 provided on the outer portion of the cage 15 is by preference cylindrical in shape and terminates outwardly in a discharge nozzle 21 in which is located for reciprocal movement the outer portion of the valve stem 18. The nozzle 21 is reduced or of smaller diameter than the valve casing 20, which construction provides a valve seat 22 against which will rest a washer 23 of leather or other suitable material mounted on the outer end of the discharge valve head 19 as will be readily understood by reference to Figs. 2 and 3 of the drawing. The valve casing 20 is provided with an annular flange 24 outwardly of the screw-threaded portion 25 which engages the threads of the opening 6 and acts as a stop to limit the inward movement of the cage and casing. As shown, the portion of the cage 15 adjacent the valve casing 20 is provided with slots 26 for the passage of the liquid held by the body into the valve casing and from thence through the discharge nozzle.

Surrounding the valve stem 18 within the cage 15 is a coil spring 27 one end of which rests against the inner end of the valve head 19 and the other end against the inner surface of the cap or plug 16 which spring is used to normally hold the valve 19 in its closed position as shown in Fig. 2 of the drawing. Mounted on the opposite end of the body 5 from that on which the valve casing 20 is located, and preferably secured thereto by solder, is a plate 28 which has an opening 29 to register with the opening 7 in that end of the body and this plate has mounted on its outer surface a cage 30 which is preferably tubular in construction and has its outer end internally screw-threaded to receive and engage a screw-threaded plug 31 having on its outer end a loop or ring 32 employed to engage a hook 33 of a horizontally supported arm 34 for the purpose of suspending the device at a suitable place.

The plug 31 is provided on its inner surface with an inwardly extended tubular guide 35 for co-operation with the outer and reduced portion 36 of a valve stem 37 which is located in the openings 7 and 29 for reciprocal movement. This valve stem has secured around the juncture of its reduced portion 36 with the larger portion 37 a valve 38, that portion of the plate 28 within the cage 30 serving as a seat for said valve.

Surrounding the reduced portion 36 of the valve stem and the guide 35 is a coil spring 39 one end of which rests against the inner surface of the plug 31 and the other end against the valve 38, said spring being employed for holding the valve 38 in its closed position. The cage 30 is provided near the plate 28 with a number of slots 40 for the passage of air into said cage, and from thence through the openings 7 and 29 into the cavity of the body thereby affording venting means.

From the foregoing and by reference to the drawing, it will be seen and clearly understood that, assuming the reservoir or cavity of the body 5 is supplied with a quantity of liquid soap or a cleansing agent which may be done through the opening 6 after the valve casing 20 and its associated parts are removed for this purpose, and are again reinstated, the liquid will be retained against leakage from the container by reason of the closed and spring pressed valves at each end thereof. Now, when it is desired to use the brush and to eject liquid soap therefrom, all that is necessary is to place the outwardly extended end of the discharge valve stem 18 in the palm of one hand, when by pressing said stem upwardly, the discharge valve 19 will be unseated and the inner end of the stem 18 caused to contact with the inner end of the valve stem 37 in which operation the vent valve 38 will be unseated, thus permitting air to flow through the cage

30 and openings 7 and 29 into the cavity of the body and thus facilitate the discharge of the liquid through the cage 15, valve casing 20, and nozzle 21 into the palm of the hand in contact with the discharge valve stem. By removing pressure from this stem it is manifest that the valves will be closed by the action of their springs and that further discharge or leakage of the liquid will be prevented. After the hands have been soaped, it is manifest that the brush may be turned to the proper position to apply the bristles to the hands for scrubbing the same.

It will be understood that the opening 6 in the body 5 is of sufficient size to permit of the insertion and withdrawal of the cage 15 and its plug or cap 16, and that by this arrangement the said cage and its co-operating parts may not only be withdrawn, for the purpose of permitting liquid to be supplied to the cavity of the body, but also for the purpose of repairing or replacing any defective parts carried by the said casing. Furthermore, it will be observed that a small set screw 40 seated in the cage 30 near its outer end is employed for more securely holding the plug 31 in position and that when access is necessary to the interior of the cage 30, said screw may be loosened, when it is manifest the plug 31 may be removed.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a liquid soap dispensing hand brush, the combination with a hollow body having an opening for the discharge of liquid and an opposed opening for the inlet of air, of a spring-actuated valve controlling each of said openings, a valve stem carried by each of said valves and each stem extended within said body in alignment with one another but normally separated at their inner ends, the valve stem of the valve controlling the said discharge opening extending outwardly of said body.

2. In a liquid soap dispensing hand brush, the combination with an elongated and hollow body having in one of its ends an opening for the discharge of liquid and in its opposite end an opening for the inlet of air, of a cage mounted within said body in coincidence with said discharge opening and having an apertured member detachably engaging its inner end, a valve casing on the outer portion of said cage in detachable engagement with said discharge opening and having a discharge nozzle, a spring pressed valve located in said valve casing, and a stem carried by said valve and extended at one of its ends through said nozzle and at its other end through said apertured closure for the cage, a spring-actuated valve controlling said air inlet opening and having a valve stem extended into the cavity of the body in alignment with the first named valve stem but normally separated therefrom.

3. In a liquid soap dispensing hand brush, the combination with a hollow body having at one of its ends an opening for the discharge of liquid and in its opposite end an opening for the inlet of air, of a cage mounted within said body in co-incidence with said discharge opening and having an apertured member detachably engaging its inner end and provided around its aperture with a guide extending into said cage, a valve casing on the outer portion of said cage in detachable engagement with said discharge opening and having a discharge nozzle, a spring pressed valve located in said valve casing, and a stem carried by said valve and extended at one of its ends through said nozzle and at its other end through said guide and the aperture of said closure for the cage, a cage mounted on the end of the body around the opening for the inlet of air therein, a member detachably mounted on the outer end of the last named cage and having on its inner surface an inwardly extended guide, a spring pressed valve located in the last named cage for controlling said air inlet opening and having a valve stem extended into the cavity of the body in alignment with the first named valve stem but normally separated therefrom and also extended into the last named guide.

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