PORTABLE CLEANSING DISPENSER

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ABSTRACT
The improved portable cleansing dispenser of the invention comprises a closed container having a plurality of interconnected walls surrounding and defining an interior cleaning agent storage space. At least one of the walls is flexible with a strong elastic memory, and at least one wall defines scrub means such as raised spaced ridges. Integral closed fill means and puncturable dispensing means are also included. Preferably, the container is of flexible plastic such as polyethylene or the like and of a size and shape to be conveniently hand held for dispensing liquid soaps, detergents, and other cleansers.

7 Claims, 8 Drawing Figures
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PORTABLE CLEANSING DISPENSER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention generally relates to dispensers and more particularly to portable liquid cleansing dispensers.

2. Description of the Prior Art

Soap bars and bars of other solid soap-like body cleansing agents such as solid detergents, solid so-called “cleansing creams” and the like are universally used daily. They find use not only at wash stands, but in showers and tubs. During such usages they dissolve slowly when exposed to water, forming lather. However, even between such usages, they are normally exposed to water where stored and are slowly dissolved or at least so softened so that their initial consistency is lost and they, therefore, require frequent replacement. Although their unit cost generally is low, the vast quantities used or wasted represent a constant and considerable outlay for such establishments as hospitals, hotels, motels, and the like, as well as public transport vehicles and aircraft and other facilities serving the public. It is customary for hosteries to provide fresh towels and small soap bars daily to room guests, the unused portions of soap bars (probably in excess of 90 percent of the initial bars) being unused by the guest and thus thrown away by the hotel maid. Any wasted soap, if disposed of through conventional waste disposal systems, adds to the pollution of streams, rivers, lakes and ocean waters into which such wastes are dumped. Soaps and detergents are particularly difficult to process effectively in waste disposal systems. Moreover the small daily-use bars present a particular problem in hostelries because of the tendency of guests to dispose of them in toilets as a consequence of their small size. Such disposal of soap bars in hotel and motel toilets can cause a gradual build-up of drainplugging sludge and scum, necessitating a substantial outlay for drainage and plumbing repairs, and is also a considerable inconvenience because of clogged drains.

In some instances, in an attempt to minimize soap costs, permanent liquid soap dispensers are secured above wash stands. These have the disadvantage of being initially expensive to install and also are expensive to repair and replace. Moreover, they inhibit or prevent the use of liquid soap in areas adjoining the wash stand such as showers and the like since the dispensers themselves are not portable. Facilities which use such permanent types of dispensers also must provide soap bars for tub and shower use, an inconvenience in that it requires double stocking of soap supplies. Spoilage of solid soap stocks due to humidity, rain, and the like, occurs frequently in the military facilities and further increases the problems of the military in supplying troops in remote areas, particularly under adverse weather conditions and the like. Accordingly, there is a real and pressing need for a suitable means for reducing the quantity of soap stock which must be maintained and transported for military purposes.

Body cleansing also requires the use of clean wash cloths or the like for application with solid or liquid soap. However, such wash cloths are initially expensive and must be changed daily along with bath and other types of towels for each guest at motels, hotels, and in the military for each person. This is obviously a considerable expense and sometimes a logistics problem.

Accordingly, there is a substantial need for means which can not only effectively reduce the net consumption, storage and transportation of soap and soap-like body cleansing agents, but which is equally adaptable for shower, tub and wash stand use, is highly portable, preferably reusable and can also reduce or eliminate the need for wash cloths and the like. Such means preferably should also eliminate or discourage the described toilet disposal of unused portions of solid soap and the attendant problems encountered therewith.

SUMMARY OF THE INVENTION

The improved cleansing dispenser device of the invention satisfactorily meets the foregoing needs. It is substantially as set forth in the abstract above. Not only is it portable, but it is also reusable, and includes integral body scrubbing means, thus eliminating the need for wash cloths or greatly reducing that need, and also utilizes liquid soap or detergent or other liquid cleansing means in a way which protects the contents thereof from dissipation and deterioration when the dispenser is not in use. Accordingly, the dispenser effectively protects and acts as a storage container in transportation and also as a dispensing means for such liquid cleansing agent. It can meter the contents in use and it can also itself be easily cleaned or resterilized for reuse by a succession of individuals. Further features of the improved dispenser of the invention are presented by a second embodiment thereof which includes a rotatable end cap which permits the dispensing of the liquid cleanser from the container in one position while sealing the container in another position in alignment therewith.

BRIEF DESCRIPTION OF THE DRAWING

A better understanding of the present invention may be had from a consideration of the following detailed description, taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a schematic perspective view of a first embodiment of the portable cleansing dispenser of the present invention, portions being broken away to illustrate certain features thereof;

FIG. 2 is a schematic side elevation of the plug portion of the dispenser of FIG. 1, portions being broken in a way to illustrate the internal construction thereof;

FIG. 3 is a schematic perspective view of a second embodiment of the portable cleansing dispenser of the invention, portions being broken away to illustrate certain features thereof;

FIG. 4 is a partial perspective view of another embodiment of the invention;

FIG. 5 is a perspective view of yet another particular arrangement in accordance with the invention;

FIG. 6 is a sectional view of a portion of the arrangement of FIG. 5, taken along the line 6–6;

FIG. 7 is a perspective view of an element used in the arrangement of FIG. 5; and

FIG. 8 is an end view, partially broken away, of the arrangement of FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Now referring more particularly to FIG. 1 of the accompanying drawings, a first preferred embodiment of
the improved portable cleansing agent dispenser of the invention is shown schematically in perspective view. In FIG. 1, dispenser device 10 is shown which comprises of a generally rectangular, hollow, somewhat curved container 12 having a plurality of self-supporting interconnected top, bottom, side, and end walls 14 surrounding and defining a central liquid soap dispensing storage space 16. Container 12 is portable and preferably is sized and shaped so as to easily fit within the human hand.

Walls 14 are integral with one another, and preferably are flexible so as to permit compression of the enclosed space 16. Walls 14 can, for example, be fabricated of flexible plastic such as polyethylene, polyvinyl chloride, polyurethane or like materials which are readily available.

Container 12 includes fill means in at least one of the walls 14, such fill means being, for example, a plug 18 (more particularly shown in FIG. 2) which is releasably engaged in sealing relation within an aperture 20 in a wall 14. Aperture 20 extends from cavity 16 to the exterior of container 12. Plug 18 is provided with releasable engaging means in the form of an annular groove 22 defined by a pair of inwardly sloping annular shoulders 24 adjacent the outer end 26 of plug 18. When in place, as shown in FIG. 1, the area of wall 14 defining aperture 20 is releasably received within groove or recess 22. Preferably, plug 18 and/or that area of wall 14 surrounding aperture 20 are flexible plastic or the like to facilitate the described press fit. Cavity 16 can be filled with liquefied soap, liquid detergent, liquid cleansing agent, or any such cleansing agent which under pressure can flow from cavity 16. After filling cavity 16, plug 18 is fitted into place to seal cavity 16.

Container 12 also includes dispensing means which can be opened for access to the contents to cavity 16. As shown in FIG. 1, the dispensing means of container 12 comprise a central, thin, plastic membrane or cap 28 which covers a central passageway 30 in plug 18. Membrane 28 can easily be punctured, stripped, or otherwise removed so as to allow free access to passageway 30 which in turn communicates with cavity 16. When passageway 30 is opened, as by puncturing the membrane 28 with a needle or pin, the contents of cavity 16 can be gradually dispensed therefrom as needed by squeezing flexible wall 14 in a direction to compress the cavity 16. Accordingly, device 10 is well adapted to serve as a handy and convenient cleansing agent dispenser.

The utility of device 10 is substantially increased by providing the exterior surface of at least one of the walls 14 with scrub means in the form of a plurality of spaced, raised ridges 32. Ridges 32 can be conveniently located on the long relatively wide and flat portion of container 12, as shown in FIG. 1, so as to more easily facilitate the use thereof in scrubbing the body, hand, etc. of the user. Accordingly, the need for a wash cloth is reduced or substantially eliminated. The ridges 32 are shown along one face or wall 14, but may be positioned along other surfaces of the device 10 as well. They are preferably molded from the plastic material of the wall 14, extending parallel along the longitudinal direction of the wall 14 about one-fourth inch apart. The ridges 32 are of approximately equal height and width and not only provide a ready scrubbing mechanism in use but also facilitate holding the dispenser in use as a frictional gripping mechanism. When using device 10, liquid soap and the like is dispensed via the passageway 30 from cavity 16 onto the body by pressing walls 14 together while container 12 is held in the hand. Container 12 is then used via ridges 32 to cleanse the body by scrubbing, utilizing the liquid soap already dispensed on the body. Additional liquid be dispensed from cavity 16 as desired by depressing walls 14. When not in use, container 12 houses the liquid cleanser out of contact with water or the like such as would be encountered by a bar of soap in a shower stall or adjacent a wash stand or tub. Additionally, the surface of container 12 is such as to render it easy to pick up and handle in contrast to a slippery bar of soap. In this regard, walls 14 can be made smooth and flat except for ridges 32, so that container 12 can easily be cleansed and/or sterilized at desired intervals for use, for example, sequentially by a plurality of individuals such as hostelry guests or the like. The convenient storage and dispensing of contents afforded by device 10 render it ideal for use in place of solid bar soap or detergent. If desired, the size and shape of device 10 can closely approximate a bar of solid soap so as to visually suggest its use for that purpose and to further stimulate interest and familiarity therewith.

A second embodiment of the improved dispenser of the invention is schematically shown in perspective view in FIG. 3. As indicated in FIG. 3, components similar to those of device 10 of FIGS. 1 and 2 bear the same numerals but are succeeded by the letter b. In this regard, FIG. 3 shows a device 10b which includes a container 12b having a plurality of interconnected walls 14b defining a central cavity 16b within which liquid cleansing agent can be stored. Such cleansing agent can be introduced into cavity 16b through fill means in the form of a hollow tube 34 communicating between cavity 16b and the exterior of container 12b. Tube 34 can be closed after the device 10a is filled by heat sealing or the like. One or more of the walls 14b are of flexible thermal plastic material or the like and one or more of the walls 14b are of flexible plastic material having a strong elastic memory so that the cleansing agent in cavity 16b can easily be dispensed therefrom as desired and gradually or more rapidly via dispensing holes 36 punched in areas 28 of sidewall 14a by pressing walls 14a together. The holes 36 are made using a pin or needle when the device is to be used. The elastic memory of the material employed prevents leakage of the contents except when the device 10a is squeezed, at which time small amounts of the liquid contents exude through the fine openings 36.

Device 10a also includes a plurality of scrub ridges 32a disposed in one wall 14a thereof. Ridges 32a serve the same purpose as described for ridges 32 in the first embodiment. Accordingly, device 10b is similar to device 10 in that it is highly portable and is an efficient, attractive liquid cleansing dispenser well adapted to fit in the human hand and be easily used for body cleansing via the liquid cleanser which it can dispense and the integral scrub means which are provided therewith for use in place of a wash cloth. Device 10a has the advantages of device 10 in being able to conveniently store as well as dispense the liquid cleansing means.

Still another embodiment of the invention is shown in the partial perspective view of FIG. 4. Here a container 10b substantially like the container of FIG. 1 is shown, having corresponding similar elements designated by like reference numerals followed by letter b.
However, in place of a plug 18 having the configuration of FIG. 2, a different type of sealing plug 40 incorporating a removable and resealable cap is shown within the aperture 20b. This embodiment includes the plug 40 which may be molded with an opening 44 within the ring portion 42 communicating with the inside of the container/dispenser 10b and including integrally therewith a cap 46 secured to the ring portion 42 by a flexible hinge 48. The cap 46 is shown bearing a stop plug 50 or sealing the opening 44 when the cap 46 is in position against the ring portion 42. Preferably the opening 44 is of small diameter to dispense the contents in a fine stream when the walls 14 are depressed, consistent with the opening 44 being subject to closure by the stop plug 50. Although it is contemplated in this arrangement that the container/dispenser 10b is to be filled through the aperture 20b prior to insertion of the plug unit 40, an alternative arrangement may be employed with the unit 40 molded or cemented in place, and with a fill tube 34 included as in FIG. 3. Arrangements of the invention corresponding to the embodiment shown in FIG. 4 present the same advantages in practice as are set forth hereinabove with respect to the other embodiments.

FIGS. 5–8 show yet another arrangement in accordance with the invention utilizing a different structural configuration of a resealable closure and container for a liquid dispenser. FIG. 5 depicts a liquid dispensing dispenser 60 which is similar to the dispenser 10 shown in FIG. 1, except that it is divided into two sections, a major portion 62 which is the liquid dispenser container and a minor portion or cap 64 which contains the dispenser mechanism. The dispenser 60 is molded with ribs 66 thereon as in the device 10 of FIG. 1 with the ribs being continued as ribs 67 on the cap portion 64. A single hole 68 is present in the end of the cap 64. The cap 64 is rotatable about the longitudinal axis of the dispenser 60, relative to the container 62, to align the hole 68 with an opening in the container portion 62 for dispensing liquid therefrom. Return of the cap 64 to the attitude shown in FIG. 5 reseals the opening so liquid cannot leak the container 62 when in use or storage as shown in FIG. 5.

FIG. 6, a sectional view taken along the line 6–6 of FIG. 5, shows the detail of the dispensing and resealing mechanism of the dispenser. The container 62 terminates in an extended neck portion 76 which is provided with a radially outwardly extending ring or lip portion 82. A plug 70, shown in perspective view in FIG. 7, is inserted into the neck portion 76 to close the container 62. It is held in position in the neck 76 by the cap 64 which in turn is retained against the plug 70 by means of the integrally molded ribs 78 being snapped over the lip portion 82 at the extended shoulders 80 of the ribs 78.

The plug 70 is provided with a pair of recesses 72 and a pair of holes 84 spaced at 90° intervals about the center thereof. The cap 64 includes three similar spaced, interior protrusions or detents such as 74 positioned to engage corresponding recesses 72 and holes 84 of the plug 70. Thus the cap 64 may be rotated about the axis of the container 62 and it will be retained at successive 90° positions of rotation. For the position shown in FIG. 8, the hole 68 is aligned with a recess 72 so there is no alignment of the opening 68 in the cap 64 with either of openings 84 in the plug 70 and thus the dispenser is sealed. However, rotation of the cap 64 in either direction to a position of 90° displacement from the position of FIG. 8 brings the hole 68 into alignment with one of the holes 84 of the plug 70 so that the liquid within the container 62 can be dispensed for use. When the desired quantity of liquid is released from the container 62, the cap 64 is simply rotated back to the position of FIG. 8 and the dispenser 60 can then be used as described for the device 10 of FIG. 1 for scrubbing and cleansing the hands, etc.

Although there has been described above one specific arrangement of an improved portable cleansing dispenser in accordance with the invention for the purpose of illustrating the manner in which the invention may be used to advantage it will be appreciated that the invention is not limited thereto. Accordingly, any and all modifications, variations or equivalent arrangements which fall within the scope of the annexed claims should be considered to be a part of the invention.

What is claimed is:

1. An improved portable cleansing dispenser for liquid cleansing agents, said dispenser comprising: a closed container formed of a plurality of flexible interconnected walls surrounding an interior cleansing agent storage space, at least one of said walls defining a plurality of scrubbing means, said container including closed fill means communicating between the exterior thereof and said space; means in at least one of said walls defining openable dispensing means; and a movable integral cap portion attached to one end of said container and being formed of a plurality of interconnected walls respectively configured as uniplanar extensions of corresponding walls of said container and enclosing said fill means and said openable dispensing means, said cap defining an opening alignable with said dispensing means upon rotation of said cap while attached to said container, whereby the cleansing agent is dispensable from said container.

2. The improved dispenser of claim 1 wherein said cap wholly encloses said fill means and said openable dispensing means, and wherein said walls of said container and cap are essentially smooth, continuous and uninterrupted, except in the area of said scrubbing means.

3. The improved dispenser of claim 1 wherein the fill means comprises a neck portion extending from one end of the container adjacent the cap portion, wherein the dispensing means comprises a plug fitting snugly within the neck portion, and wherein the cap portion is affixed to the neck portion for rotation about the central axis thereof.

4. The improved dispenser of claim 3 wherein the neck portion includes a radially outward extending lip at least partially surrounding the neck portion, and wherein the interior of the cap portion is configured with retaining means for engaging the lip portion and holding the cap portion against the outer face of the plug.

5. The improved dispenser of claim 4 wherein both the cap portion and the plug are provided with openings capable of alignment in at least one rotational position of the cap portion and detenting means for retaining the cap portion relative to the plug in another rotational position of the cap portion in which the openings are not aligned with each other so that the container is sealed.
6. The improved dispenser of claim 5 wherein the plug includes two openings generally displaced by 180° about the axis thereof and equidistant therefrom and wherein the cap portion is provided with one opening for alignment with one or the other of the plug openings upon rotation of the cap portion through 90° in one direction or the other from an attitude of alignment with the container.

7. The improved dispenser of claim 1 wherein the scrub means comprise integral raised spaced ridges molded from the walls of the container and cap portion respectively, the ridges of the cap portion being aligned with the ridges of the container as linear extensions thereof when the cap portion is in an attitude of alignment with the container.