

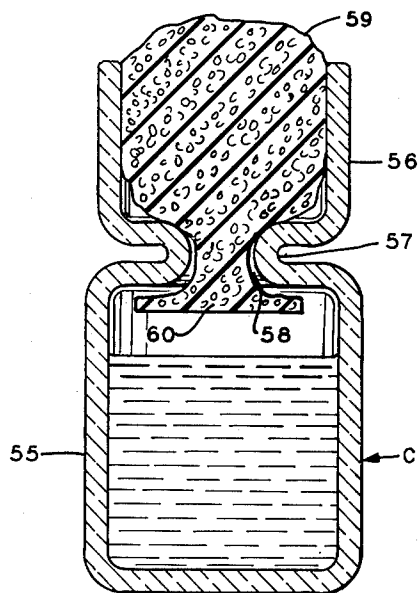
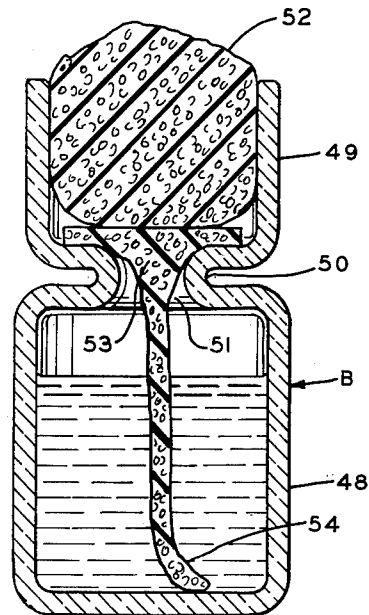
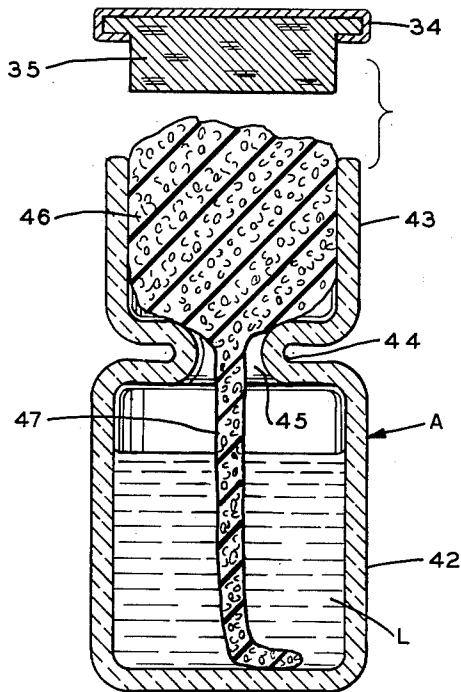
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CONTAINERS

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CONTAINERS

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This invention relates in general to liquid dispensing and, more particularly, to a container adapted to hold liquid and having an applicator associated therewith.

Many types of liquids, such as shoe polish, household cleaners, coatings, solvents, and the like, are packed in containers of different sizes for various industrial and commercial purposes. Frequently, such containers are not provided with applicators, in which case it is necessary to pour the liquid onto a suitable cloth before the liquid can be applied to a working surface. The use of separate cloths or rags is often quite messy and, frequently, in using the cloth, a certain amount of the liquid is spilled and wasted. Furthermore, it is often quite difficult to saturate the rag with a uniform amount of liquid so as to apply such liquid evenly to a working surface and, moreover, it frequently happens that a cleaning rag is unavailable. However, some containers do come equipped with applicators of one sort or another, but often these applicators become oversaturated with the liquid, resulting in loss of liquid due to dripping and splashing. One such common type of applicator consists of a swab mounted on one end of a rod, the other end of which is attached to the cap of the container. In using this type of applicator, it is a common expedient to wipe or drain the swab at the mouth of the container, but such practice does not always insure removal of excess liquid from the applicator.

It is, therefore, one of the objects of the present invention to provide a container having an absorbent, drip-free applicator associated therewith;

It is also an object of the present invention to provide a container having an applicator associated therewith wherein the applicator does not become fully saturated with liquid in the container and thereby prevents loss of liquid due to spilling and splashing.

It is an additional object of the present invention to provide a container having an applicator associated therewith in which the applicator is capable of absorbing a predetermined amount of liquid from within the container.

It is a further object of the present invention to provide a container provided with an applicator of the type stated which prevents wasteful loss of liquid.

With the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawings (three sheets):

Fig. 1 is an exploded longitudinal sectional view of a container constructed in accordance with and embodying the present invention;

Fig. 2 is an exploded longitudinal sectional view showing another modified form of the present invention; and

Fig. 3 is an exploded longitudinal sectional view showing another modified form of the present invention.

Referring now in more detail and by reference characters to the drawings, which illustrate practical embodiments of the present invention, A designates a container,

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such as a glass bottle, comprising a generally cylindrical bottom member 42, a cup-like section 43, a constricted neck portion 44, an aperture 45, and a sponge-like insert 46.

The sponge-like insert 46 is provided in its lower portion with a relatively thin downwardly depending wick 47 which extends into the liquid within the bottom member 42. This container A is particularly well suited for volatile deodorizing liquids, such as the dilute perfumed formaldehyde solutions commonly sold under such trade names as "Air Wick" and the like. The container A is provided with a cap member 34 including a cork stopper 35 which fits snugly into the cup-like section 43 and compresses the sponge-like insert 46. When the cap 34 is inserted, the cork stopper 35 compresses the sponge-like insert 46 and, in effect, evacuates the interstitial spaces therein. Consequently, when the cap 34 is removed and the cork stopper 35 withdrawn, the compressive force on the sponge-like insert 46 is released and liquid is drawn up therein for dissemination into the atmosphere through the exposed top portion.

In use, the container A is filled with a suitable liquid L, such as polish, cleaning solvent, and the like, and, thereafter, the oversized sponge-like insert or applicator 46 is placed within the cup-like section 43; whereupon, the cap 34 is threaded on the cup-like section 43, compressing the sponge-like applicator 46 tightly within the cup-like section 43. The bottle or container A is then up-ended for a few moments, causing the liquid L to flow through the aperture or port 45 and saturate the compressed applicator 46. Since the applicator 46 is compressed, it will absorb much less liquid than its normal capacity.

After the bottle A has been up-ended for a few moments to allow the applicator 46 to absorb as much liquid as possible in its compressed condition, the bottle A is then turned back to the upright position, whereupon, any excess liquid L not absorbed by the applicator 46 will drain down along the arcuate wall into the bottom member 42. The cap 34 is then removed, permitting the applicator 46 to expand so as to assume the position shown in Fig. 1, at which time the applicator 46 becomes about half-saturated due to the fact that the expanded applicator 46 now has a much greater volumetric capacity than it had when it was compressed. Consequently, the applicator 46 will additionally absorb any residual drops of liquid which may not have drained down out of the cup-like section 43 and, furthermore, the expanded condition of the applicator 46 prevents dripping. By properly selecting the porosity and normal size of the applicator 46 in relation to the volumetric size of the cup-like section 42 and the viscosity of the liquid with which it is to be used, it is easily possible to have the applicator 46 retain just the right amount of liquid for covering the object to which the liquid is to be applied. If, for example, the liquid is shoe polish, the applicator 46 and other associated elements would be such that the applicator 46 would retain just enough shoe polish to polish one pair of shoes without dripping or splashing. Moreover, since the amount of expansion and contraction of the applicator 46 is substantially constant each time the cap 34 is placed on, and removed from, the cup-like section 43, the applicator 46 will soak up the predetermined quantity of liquid each time, regardless of the level of liquid in the lower receptacle or bottom portion 42.

It is also possible to provide still another form of container B, as shown in Fig. 2, comprising a cylindrical bottom member 48, a cup-like section 49, a constricted neck portion 50, an aperture 51, and a sponge applicator 52, all similar to the corresponding elements of the container A previously described. However, disposed snugly

within the aperture 51 in the manner of a floor, so to speak, for the cup-like section 49 is an absorbent or cellular cone 53 having a depending wick 54, which serves the same function as the previously described wick 47.

It is also possible to provide still another form of container C comprising a cylindrical bottom member 55, a cup-like section 56, a constricted neck portion 57, an aperture 58 and a sponge applicator 59, all similar to the corresponding elements of the container A previously described. However, the sponge applicator 59 is integrally provided in its lower portion with a downwardly extending constricted neck which extends through and fits within the constricted neck portion 57 and flares out to provide a retainer button 60 which holds the sponge applicator 59 in place. This type of container C can be very usefully adapted to the holding and dispensing of liquids, such as shoe polish, in which case when the cap is removed, the container can be up-ended and liquid can be dispensed, using the sponge applicator 59 in the manner of a dauber.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the containers may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

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

1. A hollow container having substantially cylindrical rigid walls and comprising an upper chamber-forming section having an open upper end, a lower chamber-forming section in downwardly spaced relation to said upper section, an annular neck for separating said sections, said neck being provided with an aperture adapted to provide communication between said sections, a resilient compressible porous element snugly disposed in said upper section and having a normal volume substantially greater than that of said upper section, a wick integral with said porous element, said wick projecting through said aperture and into said lower chamber-forming section, and a removable stopper sized for frictional retentive contact against the inside of said upper section and adapted to compress said porous element to cause said element to lie wholly within said upper section.

2. A hollow rigid walled container having an upper chamber-forming section having an open upper end and provided with an annular side wall, said section also having an annular bottom wall integral with said side wall, a lower chamber-forming section having a top wall spaced downwardly from said bottom wall and being joined thereto by an annular connecting neck of smaller diameter than said bottom wall and top wall, said neck having an aperture for providing communication between said sections, a resilient compressible porous element disposed in said upper section and having a normal volume substantially greater than that of said upper section, said porous element being in snug-fitting engagement with the bottom wall and the annular side wall

of the upper end, a wick integral with said porous element, said wick projecting loosely through said aperture into said lower section and being of such length as to rest at its lower end on the bottom of said lower section, and closure-forming means for compressing the porous element while snugly disposed in the upper end.

3. A hollow rigid walled container having an upper chamber-forming section having an open upper end and provided with an annular side wall, said section also having an annular bottom wall integral with said side wall, a lower chamber-forming section having a top wall spaced downwardly from said bottom wall and being joined thereto by an annular connecting neck of smaller diameter than said bottom wall and top wall, said neck having an aperture for providing communication between said sections, a resilient compressible porous element disposed in said upper section and having a normal volume substantially greater than that of said upper section, said porous element including a wick-forming element projecting downwardly from said porous element, said wick-forming element also projecting loosely through said aperture and being of such length that the lower end thereof rests on the bottom of said lower section, and closure-forming means for compressing the porous element while snugly disposed in the upper end.

4. A hollow container comprising a base, a continuous wall integrally connected to said base and projecting upwardly therefrom, said wall including a first section which defines a lower chamber and a second section which defines an upper chamber, said wall also including an intermediate section which is substantially smaller than and integrally connected to the first and second sections whereby to provide a neck-like communicating passage between the chambers, a resilient compressible porous element having a normal volume substantially greater than that of the upper chamber and being snugly seated in said upper chamber with the excess volume projecting upwardly and outwardly from the upper chamber, said lower chamber containing a liquid, wick means for establishing direct communication between the porous element and the liquid, and closure-forming means removably mounted on the upper portion of the wall whereby when the closure-forming means is on the container the element is compressed in the upper chamber, and when the closure-forming means is removed the element naturally expands causing the liquid to be drawn upwardly along the wick means into the porous element.

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