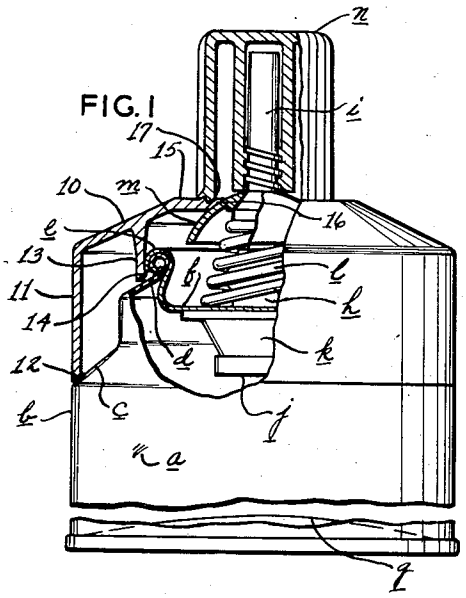
April 22, 1958 J. W. SOFFER 2,831,613

SUPPLEMENTARY UPPER WALLS FOR CONTAINERS

Filed Aug. 13, 1954

FIG. 1



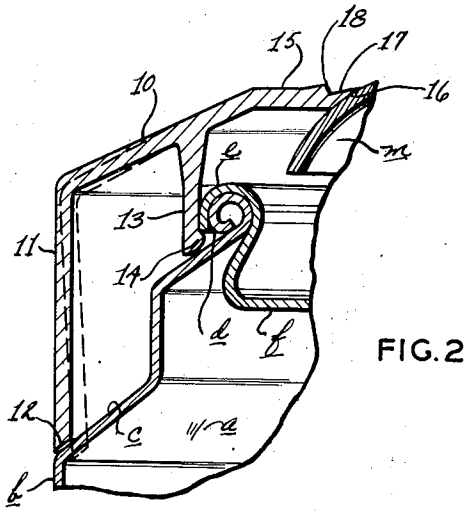


FIG. 2

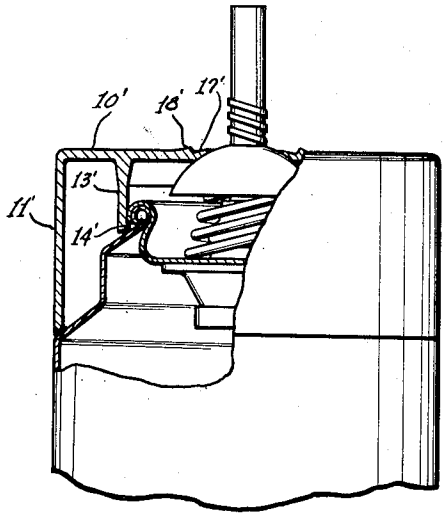


FIG. 3

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SUPPLEMENTARY UPPER WALLS FOR CONTAINERS

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Application August 13, 1954, Serial No. 449,671

6 Claims. (Cl. 222—182)

The present invention relates to improvements in packaging fluid and semi-fluid substances, and its general purpose is to adapt mass-produced containers to serve as individualized, distinctive packages for a variety of such products.

Before the advent of mass-production, containers for the more expensive and choice brands of fluid products were customarily made to individualized shapes. Both tradition and taste lead the public to look for distinctive packaging of choice brands. However, metal containers, particularly those suited for packaging pressure-propelled products, are necessarily standardized in shape. Further, their metal walls are not well adapted for decoration. This is especially true of the sloping upper wall portions of containers which are narrowed or necked down to a mouth. It has not been found feasible to decorate such portions or lithograph labels thereon; and from the standpoint of label design, these portions have been wasted.

The specific objects of the present invention are:

To transform standardized containers into highly styled, attractive packages having a number of individualized forms.

To make available for decorative purposes and for labeling, space required for sloping wall and necked-down portions of containers.

To provide attractive supplementary upper walls for containers adapted to utilize forms of decoration, including embossing and bas-relief, which cannot be availed of in standardized metal containers and bottles.

To shield the upper walls of containers from damage attendant to handling and contact with each other, as mars and scratches on the surface of metal containers and breakage of bottles.

As applied to containers having crimped-on metal tops, to cover the blanked edges which may be rough and subject to rusting, and to conceal any surface damage resulting from the crimping.

To supply supplementary upper walls to serve as a base onto which container closures may be secured or seated.

As utilized with pressure dispensers having dispensing valves, to cover and conceal parts thereof, and, in cooperation with valve screening members, to relieve such dispensers of any mechanical appearance.

While the present invention is by no means limited to use with pressure dispensers, these are used in illustrating the applications of the present invention, because they are typical of mass-produced packages available in only a few standardized, functional forms.

The supplementary upper walls which are the subject of the present invention are preferably snapped over the rimmed mouth of the can or bottle to which applied. Such supplementary walls are preferably formed by molding plastics into thin wall-continuing shapes, which cover containers from the level at which they slope inward, up to the level at which they are capped. Instead of molded plastics, cardboard impregnated or surfaced with plastic,

compressed fibre, and a variety of other compositions and moldable materials may be utilized. So precisely are these supplementary upper walls formed that they appear to be upward continuations of the true container walls. Thus, an infinite variety of upper wall shapes may be applied to a single standardized can or bottle. The result is that the products may be packed in mass-produced containers and yet given distinctive configuration and individualized decorative detail.

In carrying out these purposes, the present invention embodies certain improvements over the structures disclosed in my co-pending applications, Serial No. 268,183, filed January 25, 1952, for Dispenser Closure Having Tilt Valve and Aligning Cap, now Patent No. 2,704,621, dated Mar. 22, 1955; and Serial No. 416,908, filed March 17, 1954, for Shields and Caps for Containers, now Patent No. 2,767,888, dated Oct. 23, 1956; as well as the application of Aaron S. Lapin and the present applicant, Serial No. 186,351, filed September 23, 1950, for Tilt-Restrictor and Mechanism Cover for Tiltable Spouts, now Patent No. 2,729,368, dated Jan. 3, 1956.

In the accompanying drawings (1 sheet):

Figure 1 is a view, partly in elevation and partly in section, of a supplementary upper wall embodying the present invention, and shown in place on a metal container and with a closure cap seated thereon.

Figure 2 is an enlarged fragmentary view of the supplementary upper wall and container of Figure 1, the dashed lines indicating, with some exaggeration, the molded shape of such supplementary wall prior to its elastic deformation, which takes place on mounting it to the container.

Figure 3 is a view similar to Figure 1 of a modified embodiment of the present invention, shown without a closure cap.

The embodiment of the present invention depicted in Figure 1 is shown as utilized with a typical disposable metal container *a* of the seamless wall type. Such container has a cylindrical principal wall *b* which continues upwardly and inwardly in a sloping shoulder portion *c* to a spun-over container rim *d*, whose diameter is substantially less than the principal wall *b*. Crimped over the container rim *d* is the mounting cup rim *e* of a valve mounting cup *f*, which serves as the top wall for the container *a*. The lower outer edge of the mounting cup rim *e* serves as a lip for the container rim *d*. A concave bottom container wall *g* is seamed to the lower margin of the principal wall *b*.

In the center of the mounting cup *f*, there may be mounted a tilt-opening valve assembly *h*, including a threaded tiltable tubular dispensing spout *i* having at its inner end a valve head *j* seated against a rubber-like annular seal *k* at the inner side of the cup *f*. The valve assembly *h* may include a volute spring *l* acting between a shoulder on the tubular spout *i* and the outer wall of the mounting cup *f*; also a tilt shield *m* covering the spring *l* and having an outer convex surface whose curvature centers at the center of tilt of the valve assembly *h*.

For use in cooperation with such elements, the present invention provides a supplementary upper wall for such container *a*, the supplementary upper wall being preferably formed of hard molded plastic or plastic-coated material, compressed impregnated paper, or any of a variety of moldable metals and compositions. It comprises an annular top wall portion **10** adapted to cover over at least that portion of the container *a* which extends generally between its container rim *d* and its principal cylindrical wall *b*. Said top wall portion **10** may be either inclined at an outward sloping angle, as shown in Figure 1, or substantially horizontal, as shown in Figure 3, or of any other desired contour. At the outer extremity of said top wall portion **10**, the supplementary

wall is provided with a downward-extending skirt portion 11, which may be substantially cylindrical, as shown in Figure 1, or rounded, or tapered gradually into the outer margin of the top wall portion 10; and it may be a mere downward continuation thereof. The skirt portion 11 has a lower annular edge 12 adapted to abut the principal container wall *b* at its juncture with the shoulder portion *c*. For purposes of better fit and automatic centering of the supplementary wall on the container *a*, the said lower annular edge 11 is preferably tapered downward and outward. Tapering the lower annular edge 12 results in a closer fit between the outer trace of its edge and the upper outer portion of the principal cylindrical container wall *b*; the supplementary upper wall may, if desired, be formed to fit so closely as to appear to be an upward continuation of such principal cylindrical container wall *b*.

The supplementary upper wall shield comprises further an integral downward-extending collar-like rim-engaging portion 13, having a diameter slightly greater than the container rim *d*. At the inner side of the rim-engaging portion 13 near its lower extremity is an inwardly-protruding bead 14, adapted to snap over and engage the container rim *d* beneath the lower outer edge of the mounting cup rim *e*. Once it has been snapped into place, the supplementary upper wall cannot be readily disengaged. If desirede, such snap fit may be so secure that it will be impossible to disengage the supplementary upper wall without fracturing it.

The top wall portion 10 continues inwardly, as shown in Figures 1 and 2, to form an integral inner annular extension 15, terminating in a thin edge 16 whose under surface is preferably slightly concave and provides a close fit against the convex surface of the tilt shield *m*. The upper surface of such inner annular extension 15 serves as an annular seat 17 for a valve closure cap hereinafter described. A raised seat rim 18, which may be the highest point in the top wall portion 10, is provided at the outer edge of the annular seat 17.

An interiorly threaded valve closure or cap *n*, adapted for screwing onto such threaded spout *i*, may be so formed as to seat itself upon such seat 17 within the seat rim 18. In such position, the restraint offered by the seat rim 18 will prevent tilting of the valving spout *i*.

Referring specifically to Figure 2, there is illustrated in enlarged detail a section through an embodiment of the supplementary upper wall shown in Figure 1. Of particular interest is the length of the downward-extending skirt portion 11. In order to achieve tight fit and the appearance of an upward continuation of the principal container wall *b*, the skirt portion 11 may be formed slightly longer than would first appear necessary. Figure 2 illustrates that the length of the skirt portion 11 may be such as to tend to bring its lower edge 12 slightly below the juncture of the principal container wall *b* with the shoulder *c*. The same result may be had by giving the top wall portion 10 some convex curvature, as shown in Figure 2.

The apparent excess height of the skirt portion 11 is taken up by flexure, principally in the upper wall portion 10, so that elastic stresses set up by such flexure hold the tapered annular edge 12 in tight contact against the container *a*. Such elastic stresses also center the skirt portion 11 with respect to the container shoulder *c*. The supplementary upper wall will thus be held tightly by the resistance of the inward-protruding bead 14 against the mounting cup rim *e*. The amount of elastic deflection shown in Figure 2 is greatly exaggerated; nevertheless, utilization of the elastic properties of the material forming the supplementary wall greatly improves tightness of fit and the overall neat appearance of the assembly.

Figure 3 shows an alternative embodiment of the present invention, including a substantially flat horizontal wall portion 10', a substantially cylindrical downward-extending skirt portion 11' and a rim-engaging portion 13' extending from the top wall 10' downwardly to grasp a container rim by means of its inward-extending bead 14'. An annular closure seat 17', having a seat rim 18', is included in a portion of the top wall 10' extending inwardly beyond the rim-engaging portion 13'. Although the proportions and shapes of these elements may be different from those shown in Figure 1, the functions which they fill are obviously similar.

The embodiments of invention illustrated will suggest to those skilled in the art of packaging the many possible variations which permit individualization of cans and bottles as attractive packages for fluid products. The top and skirt portions may be embossed as part of the process in which the supplementary upper walls are molded, to set forth the brand name of the particular product, or to apply appropriate decoration symbols such as cameo and bas-relief figures. The container surface area available for decoration and labeling is greatly increased, this being of vital importance for mass displays of products. Shock-resisting characteristics of the moldable materials utilized are excellent; hence damage to enameled metal container walls and chipping of glass bottles is minimized.

The many other advantages attendant the use of the present invention will be apparent to persons skilled in the packaging arts, and variant forms of the present invention will suggest themselves. Accordingly, the present invention should not be construed narrowly, but instead as fully coextensive with the inventive principles disclosed.

I claim:

1. As a new article of manufacture, a supplementary upper wall for containers of the type having a rim of lesser diameter than the principal outer diameter of such container, said article comprising an annular side-wall portion having substantially the same outer diameter as the principal outer diameter of such container, an integral collar-like rim-engaging portion spaced radially inward from said side-wall portion, and a top wall portion extending annularly outward from the upper margin of the rim-engaging portion and terminating in the side-wall portion, the said side-wall portion having a lower annular edge adapted to abut downwardly against the wall of such container in the region of such principal outer diameter so as to give the appearance of an upward extension thereof, the said side-wall portion, rim-engaging portion, and top wall portion together defining an annular cavity presented above that portion of the container radially outward of its rim, the top wall portion having an inner annular portion continuing inwardly of the rim-engaging portion and around such spout, said annular inner portion serving as a seat onto which a spout closure may be applied.

2. A supplementary upper wall as defined in claim 1, together with integral threads for screw mounting a closure cap.

3. For use with a container of the type mentioned in claim 1, such container having a tilt-stem dispensing spout and a cap screw-mounted on such spout, a supplementary upper wall as defined in claim 1, together with an integral seat formed in the annular top wall portion for receiving and seating such screw-mounted cap, the said seat being highest at its outer margin whereby to bear against such screw cap and thereby resist unintended tilting of such dispensing spout.

4. For use with a container of the type mentioned in claim 1, such container having a tilt-stem dispensing spout and a convex tilt shield mounted thereon outwardly of the base of such spout, a new article of manufacture comprising a supplementary upper wall as defined in claim 1, the annular top wall portion thereof having an inward extension adapted to overlay the outer margin of such convex tilt shield, whereby the base of such dis-

pensing spout is screened from view throughout the range of tilting movement of such spout.

5. A supplementary upper wall as defined in claim 1, said wall being of somewhat elastic construction, the side-wall portion thereof extending between the bead of the rim-engaging portion an amount slightly in excess of the height between such container rim and the portion of the wall of such container against which the annular lower edge bears, such excess being taken up by flexure of the said annular top wall portion on mounting the rim-engaging portion onto the rim of such container, the supplementary upper wall being held rigidly to and in alignment with such container by elastic stresses accompanying such flexure.

6. A supplementary upper wall as defined in claim 1, said wall being of somewhat elastic construction, the side-wall portion thereof extending between the bead of the rim-engaging portion an amount slightly in excess of the height between such container rim and the portion of the wall of such container against which the tapered annular lower edge bears, such excess being taken up by flexure of the said annular top wall portion on mounting the rim-engaging portion onto the rim of such container, the supplementary upper wall being held rigidly to and in alignment with such container by elastic stresses accompanying such flexure.

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