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R. L. LIPPINCOTT

3,473,703

PACKAGE FOR STORING AND DISPENSING FLUID MATERIALS

Filed Dec. 18, 1967

FIG. 1

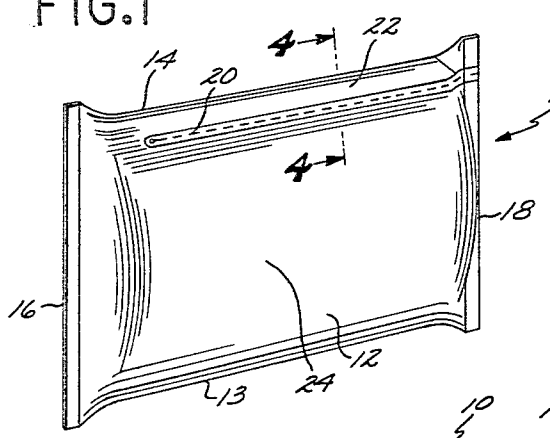


FIG. 2

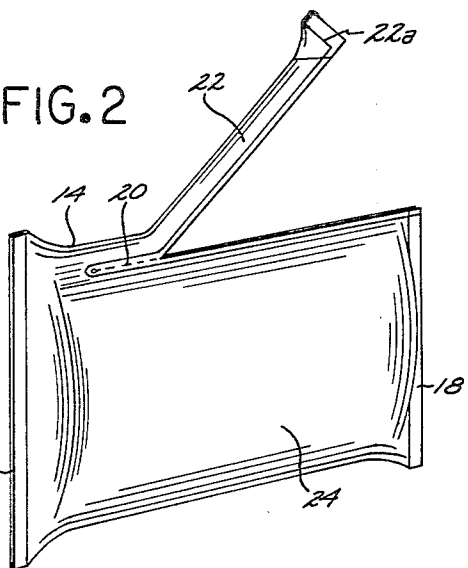


FIG. 3

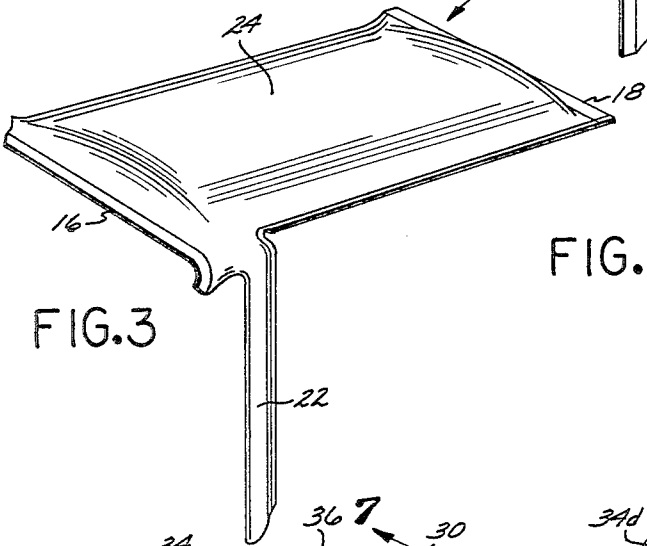


FIG. 4

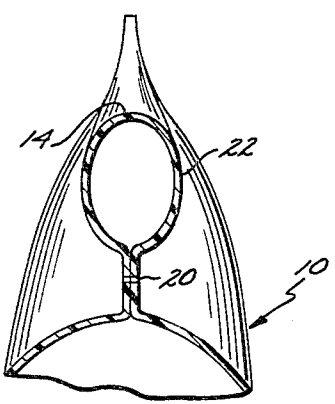


FIG. 5

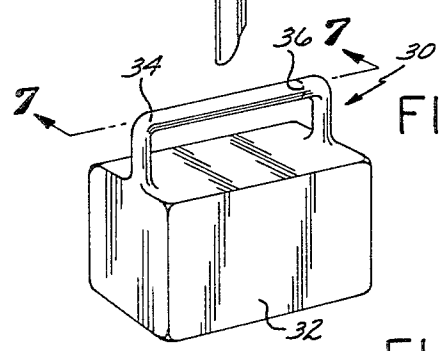


FIG. 6

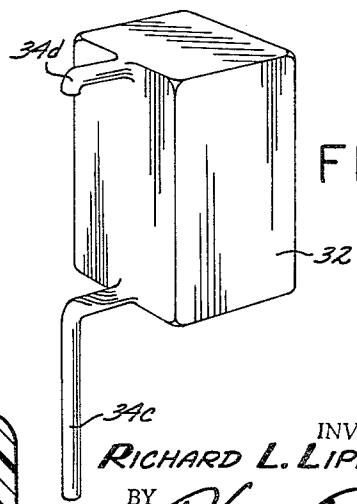
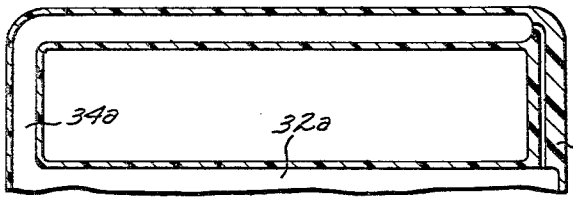


FIG. 7



INVENTOR.
RICHARD L. LIPPINCOTT
BY *Harvey C. Heins*
ATTORNEY

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**PACKAGE FOR STORING AND DISPENSING
FLUID MATERIALS**

Richard L. Lippincott, Santa Ana, Calif., assignor, by
mesne assignments to Whittaker Corporation, Los An-
geles, Calif., a corporation of California
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4 Claims

ABSTRACT OF THE DISCLOSURE

The subject package comprises means which is formed integrally with a container so as to be compact therewith, but which means is in communication with the container and so structurally formed as to constitute a spout for pouring of the fluid contents. The package is formed of plastic materials which can be cut or torn to remove such passageway means for use as a spout.

The present invention relates generally to packages for fluid materials, and more particularly to inexpensive packages which are extremely compact and include means to be used as a spout for pouring the fluid contents.

Within the past decade or so, merchandising has become extremely important in the selling of various different types of commodities. One phase of merchandising, namely packaging, is particularly important today to provide different desirable functions and characteristics at relatively low cost.

It is desirable, of course, to provide packages which firmly retain the material, do not consume a great deal of space, and are so constructed as to enable the contents to be poured therefrom to a given location.

Certain substances or fluids are somewhat unique in their requirements for storage and application, one such substance being battery fluid for storage batteries. It is desirable that the package for such battery fluid provide very little bulk or space-consuming size so as to minimize the cost of shipping such fluid. Also, it is desirable that the battery fluid be easily removed from its container so as to be quickly and conveniently added to a particular battery or battery cell.

The advent of plastic materials has caused various unique packages to be provided, although no package heretofore on the market has been able to provide the qualities desired for use with battery fluid.

It is an object of the present invention to provide a package for fluid materials which is extremely compact and light weight so as to consume minimum shipping and storage space.

Another object of the present invention is to provide a package for fluid materials as characterized above, which has integrally formed means which can be arranged as a spout for pouring the fluid contents into any desired location.

A further object of the present invention is to provide a package for fluid materials as characterized above which is formed of inexpensive plastic material and wherein passageway means to be used as a spout is constructed adjacent a main container.

A still further object of the present invention is to provide a package for fluid materials as characterized above, wherein the passageway means can be easily removed from the main container without the need for tools or special physical dexterity to enable the user to quickly and conveniently provide the spout.

An even further object of the present invention is to provide a package for fluid materials as characterized above which can be mass-produced at extremely low cost.

A still further object of the present invention is to provide a package for fluid materials as characterized above which is simple and inexpensive to manufacture and which is rugged and dependable in operation.

The novel features which I consider characteristic of my invention are set forth with particularity in the appended claims. The device itself, however, both as to its organization and mode of operation, together with additional objects and advantages thereof, will best be understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of a first embodiment of a package according to the present invention;

FIGURE 2 is a perspective view of the package of FIGURE 1, the spout being partially formed;

FIGURE 3 is a perspective view of said first embodiment showing the spout in operating position;

FIGURE 4 is a fragmentary sectional view, taken substantially along line 4—4 of FIGURE 1;

FIGURE 5 is a perspective view of a second embodiment of the present invention;

FIGURE 6 is a perspective view of said second embodiment, showing the passageway means in position to operate as a spout; and

FIGURE 7 is a fragmentary sectional view, taken substantially along line 7—7 of FIGURE 5.

Like reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to FIGURE 1 of the drawings there is shown therein a first embodiment 10 of the present invention.

This embodiment is formed from plastic sheet material having the desired strength, flexibility and color characteristics in accordance with the type of fluid to be contained. Many types of plastic sheet material are available today for this purpose most of which are transparent and flexible.

Although the embodiment 10 may be formed in its entirety from a large sheet of plastic, it is deemed preferable to firstly form such plastic material into a sleeve which is generally continuous in construction. As such, the desired size of package can thereafter be provided merely by cutting such sleeve to the desired length, the resulting section of sleeve having open opposite ends.

Referring to FIGURE 1 of the drawings, it is contemplated that embodiment 10 is most desirably formed of a plastic sleeve 12 the opposite marginal edges 13 and 14 of which are closed. Thus, the opposite ends 16 and 18 of said sleeve are open to receive the fluid contents.

The end 16 is then sealed in the usual manner as by the application of heat or sealing material to the plastic which is then placed between suitable pressure bars or plates. Typically, sheet plastic of the desired nature is thermo-setting such that application of heat thereto effectively renders such material semi-fluid, the pressure bars or plates welding such semi-fluid plastic together to effectively seal the end 16 of the sleeve upon cooling.

Thereafter, it is a simple matter to put the contents into the container and, in like fashion, seal the end 18 of the sleeve.

Although containers of the nature thus described with respect to FIGURE 1 have heretofore been provided for fluids, it has been found that removal of the fluid contents is extremely difficult due to the extreme flexibility of the plastic material. In order to avoid the resulting spillage occasioned by tearing of the plastic and attempting to pour the contents from the package, the subject invention contemplates providing a spout.

In the sealing operation for end 18 of sleeve 12, the opposed surfaces of sleeve 12 are welded or sealed along a predetermined line 20 for a predetermined portion of

the width or length of the container at that point. Such weld line 20 is spaced a predetermined distance from the edge 14 of the sleeve so as to provide passageway means 22 adjacent the main body portion 24 of the container. Such passageway means 22 is in communication with the main body portion 24 by virtue of the fact that sealing line 20 does not extend the entire length or width of the package at that point. Thus, the passageway means 22 affords additional volume for containing the fluid.

To enable such passageway means 22 to be removed from its position adjacent container 24, the sealing line 20 is perforated or distressed. Thus, when it is desired to pour the contents from the container 24, it is merely necessary to tear the passageway means 22 from the main body portion 24 as shown in FIGURE 2 of the drawings. The distressed or perforated line enables this to be done without the need of special tools or unusual manual dexterity. Rather, it is possible for an ordinary person to remove the passageway means 22 as shown in FIGURE 2 of the drawings. Thereafter, the passageway means 22 can be arranged in depending position as shown in FIGURE 3 of the drawings and the end 22a of said passageway means can be removed as by cutting, tearing or the like. The fluid contents of the container will then freely flow therefrom to the desired location.

It should be particularly noted that the plastic material of which sleeve 12 is formed is usually very thin thus minimizing the amount of space to be consumed by the package. Also, such plastic material is generally light in weight so that the weight of such package is minimal. In addition to these advantages, such package can be mass-produced so as to be sufficiently inexpensive to be immediately discarded after a single use. The flexibility of such plastic material enables a considerable quantity of fluid to be stored and shipped, the entire package assuming the natural configuration of the fluid contents.

The embodiment 30 shown in FIGURES 5, 6 and 7 of the drawings may be formed of polystyrene or other plastic materials by blow molding or vacuum forming. It is formed with a main body portion 32 having six sides providing a hollow interior. Passageway means 34 is formed integrally with the main body portion 32 in the same blow molding or vacuum forming operation. Such passageway means a most clearly shown in FIGURE 7 is hollow throughout its length, thus affording communication with the interior 32a of the main body portion at the opposite ends 34a and 34b.

As shown most clearly in FIGURE 5 of the drawings, the passageway means 34 may be provided with a distressed portion 36 to facilitate conversion of the passageway means into a spout.

The container 32 is provided with the fluid contents in any desired manner. Suitable filling openings may be provided in the side of the container, which openings may be closed and sealed to protect the contents.

After the container 30 has been shipped to the desired location, it is a simple procedure to pour the fluid contents therefrom. Firstly, the passageway means 34 is severed along the distressed portion 36 to enable the portion 34c to be separated from the portion 34d as shown in FIGURE 6. Due to the relatively flexible nature of the plastic material of which the container or package 30 is formed, the portion 34c can be twisted to pouring position. Thus, the fluid contents can be poured from the container 32.

Throughout the aforescribed pouring operation, the portion 34d of passageway means 34 acts as a vent afford-

ing air flow into the container. Thus, the fluid within the container flows freely downwardly through the spout 34c in a steady stream.

It is thus seen that the present invention provides unique packaging means which is particularly well adapted for carrying and pouring relatively active fluids such as battery fluid or other acids. The passageway means which is used to form the pouring spout is initially retained in a position adjacent the main body portion or container. Such passageway means is then converted into a spout without the need for special tools or manual dexterity by being severed from the main body portion and twisted into a depending position.

Although I have shown and described certain specific embodiments of my invention, I am fully aware that many modifications thereof are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art.

I claim:

1. A package for fluid materials comprising in combination, a container having a main body portion to be filled with fluid, formed of rigid but deformable lightweight material, a handle-pouring spout for said container formed integrally therewith of said material initially being generally U-shaped having an intermediate elongated portion parallel to said container and joint thereto by substantially parallel opposite end portions, said intermediate and end portions being formed with continuous through openings therein communicating with the interior of said container, and means forming a transverse weak section on said intermediate portion in a single plane along the length of said intermediate portion adjacent one of said end portions to enable said intermediate portion to be severed from said one end portion and to cooperate with the other of said end portions to function as a pouring spout for the contents of said container.

2. A package for fluid materials according to claim 1, wherein said other end portion is so formed as to deform and enable said intermediate portion to be relocated to a pouring position after the latter is severed from said one end portion.

3. A package for fluid materials according to claim 1, wherein said intermediate portion is formed with a generally cylindrical exterior surface to provide a handle, and said one of said end portions is formed with a generally tubular construction to permit the same to twist throughout its length upon movement of said intermediate portion to pouring position.

4. A package for fluid materials according to claim 3, wherein the through openings in said intermediate portion and said other end portion are larger than the through opening in said one end portion, whereby said opening in said one end portion operates to equalize interior and exterior pressure on said container upon use of said pouring spout.

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SAMUEL F. COLEMAN, Primary Examiner

H. S. LANE, Assistant Examiner

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