

May 26, 1964

G. DALINE
NON-TOXIC LIQUID IN CONTAINER WITH MULTIPLE
CONDUIT BUILT-IN DRINKING STRAW
Filed July 10, 1961

3,134,680

FIG. 1

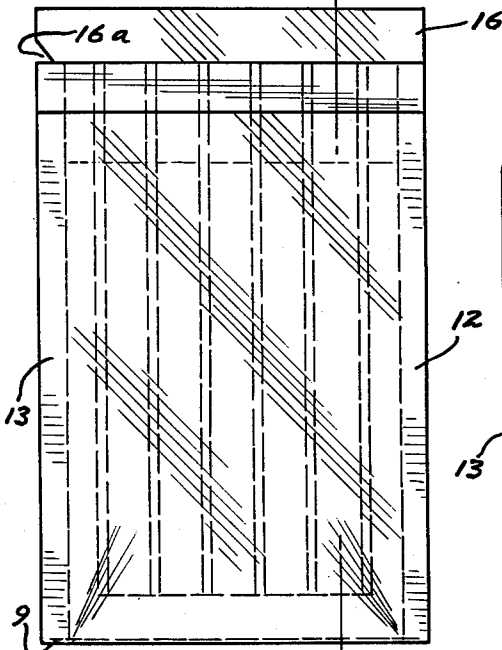


FIG. 2

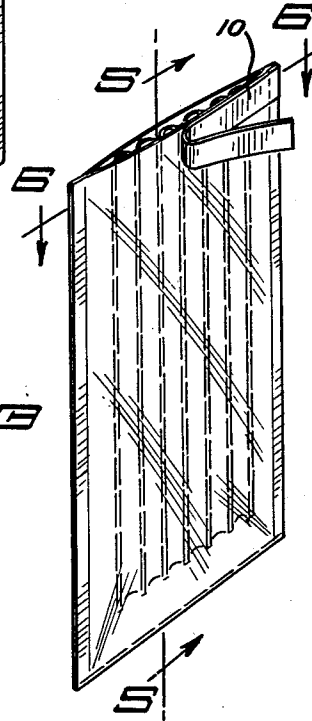
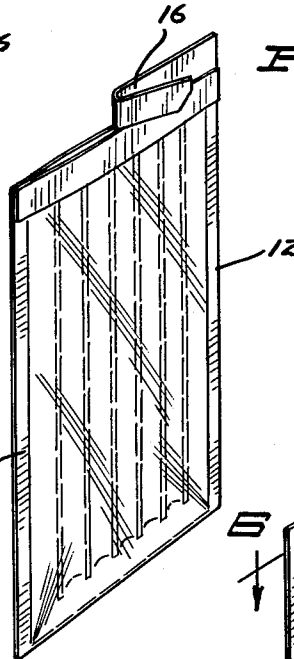


FIG. 4

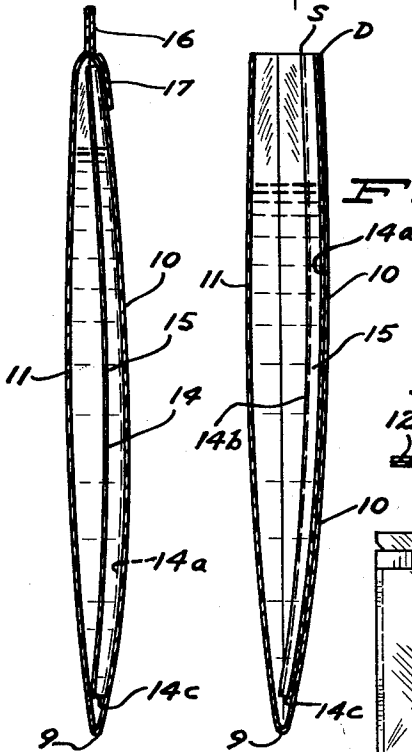


FIG. 5

FIG. 6

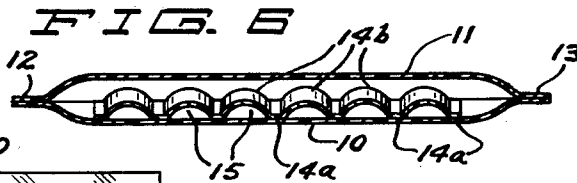
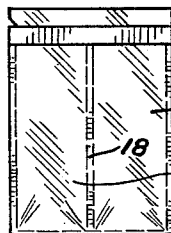


FIG. 7



INVENTOR.
GORDON DALINE
BY John W. Adams

ATTORNEY

1

2

3,134,680 NON-TOXIC LIQUID IN CONTAINER WITH MULTIPLE CONDUIT BUILT-IN DRINKING STRAW

Gordon Daline, Rte. 5, Excelsior, Minn.

Filed July 10, 1961, Ser. No. 122,905

3 Claims. (Cl. 99-171)

This invention relates generally to liquid containers and is particularly related to my previously filed application for United States Letters Patent, Serial No. 709,899, filed January 20, 1958, which subsequently issued as United States Letters Patent No. 2,992,118, on July 11, 1961.

My above identified previously filed application discloses a single built-in drinking straw with a flexible liquid container. However, the instant application discloses a multiple conduit built-in drinking straw arrangement which has a number of important advantages over my previously filed application which is co-pending herewith.

It is an object of the present invention to provide a multiple conduit built-in drinking straw particularly designed for use with flexible walled liquid container packages and provides improved rigidity for such a container while also permitting the same to be divided into a number of separate compartments within which different liquids can be separately packaged and from which said different liquids can be individually withdrawn, either simultaneously or at different times.

More specifically, it is an object to provide a liquid container made entirely from flexible sheet material wherein a corrugated panel is formed across at least a substantial portion of one of the walls in order to provide a plurality of longitudinal drinking straw passages through the passages formed by the corrugated panel, thus permitting a liquid to be withdrawn from the package from several areas across the top thereof.

It is still a further object to provide a method of manufacturing a liquid container with a multiple conduit built-in drinking straw construction.

These and other objects and advantages of this invention will more fully appear from the following description made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the views, and in which:

FIG. 1 is a side elevational view of a container embodying my invention;

FIG. 2 is a perspective view thereof showing a portion of the upper edge removed;

FIG. 3 is a perspective view of the container shown in FIG. 1 with the upper edge removed entirely and the protective tape partially removed;

FIG. 4 is a vertical sectional view taken substantially along the line 4-4 of FIG. 1;

FIG. 5 is a longitudinal sectional view taken substantially along the line 5-5 of FIG. 3;

FIG. 6 is a transverse sectional view taken substantially along the line 6-6 of FIG. 3 but showing the protective tape removed entirely; and

FIG. 7 is a front elevational view of a modified form of my present invention.

As illustrated in FIGS. 1 through 6, I provide a container made entirely from flexible sheet material which, in the form shown, consists in a single flexible sheet of heat-sealing material such as polyethylene. The sheet is doubled back upon itself forming the bottom fold line 9 and the two side walls 10 and 11. The side longitudinal edges are sealed together as indicated at 12 and 13 of the drawing. A corrugated sheet 14 in the form shown is applied to the wall 10 of the container on the inside thereof and may be connected thereto as by having the ridges 14a thereof adjacent the wall 10 heat-sealed thereto. The other ridges 14b of the corrugated panel thus form spaced

conduits 15 across the width the of the panel 10 or at least a substantial portion of said width. The lower edge 14c of the corrugated panel extends substantially to the bottom fold 9 of the container, and each of said conduits 15 provides an effective drinking straw through which liquid can be withdrawn from the container when the upper ends of said conduits are exposed as shown in FIGS. 3 and 5.

After the container has been filled, the upper marginal edge portions of the front and back panels 10 and 11 are heat-sealed together, and as indicated at 16. As best shown in FIG. 4, the upper edge of the corrugated panel 14 terminates at substantially the lower edge of the upper sealed portion 16. Thus, the upper edge forms a reinforced edge across which the heat-sealed edge 16 may be torn beginning at the starting notch 16a, as illustrated. The back panel 10 also has a reinforcing and protecting strip 17 removably adhered thereto as by any suitable non-drying adhesive which would permit such removal as illustrated in FIG. 3. This provides a sanitary protected upper marginal portion on the outside of the panel 10 to permit contact with the lips of the user after the upper edge has been removed. The sides of the container may be squeezed together to provide clearance for the lips of the user to surround the inner wall of the corrugated panel to permit the liquid to be sucked up through the conduits 15.

The corrugated panel also permits the container to be divided into a plurality of compartments such as the compartments A and B, as shown in FIG. 7, each holding in isolated relation a separate liquid which can be either separately or simultaneously withdrawn therefrom. The container may be compartmented by longitudinal sealing an intermediate portion of the wall 11 against either the connected ridge 14a of the corrugated panel or directly against the back panel 10 if the corrugated panel is applied in spaced-apart sections. Such a sealed divider is indicated at 18 in FIG. 7.

The method of making my container is described as follows: The corrugated panel is initially applied to the inner face of the panel 10 before the sheet is folded to form the same. Thereafter, the sheet is folded along the fold line 9 and the edges 12 and 13 sealed together, thus forming the container with the multiple built-in drinking straw arrangement across the panel 10. The protective tape 17 may then be applied and the container filled and the top edges 16a sealed together. Obviously, it is not essential that the sealing be done by applying heat thereto although this is a convenient way of providing the desired sealed connection between adjacent surfaces.

It will be seen that I have provided an improved liquid container with a built-in drinking straw arrangement wherein a corrugated panel is secured to one inside wall surface, not only providing strength and rigidity for the entire container but also permitting materially increased drinking capacity and permitting the container to be divided into a plurality of separate compartments while providing built-in drinking straw construction for all compartments at the time of initial assembly.

It will, of course, be understood that various changes may be made in the form, details, arrangements and proportion of parts without departing from the scope of my invention, which generally stated consists in the matter set forth in the appended claims.

What I claim is:

1. A non-toxic liquid confined within a container comprising:

(a) liquid confining side walls being made from flexible sheet material with the bottom and side edges thereof sealingly connected to provide a liquid confining chamber,

(b) a corrugated panel secured to a portion of the inner surface of said side wall with the corrugations

3

- disposed in generally upstanding orientation to form a plurality of spaced generally upstanding drinking straw conduits across a substantial portion of said wall and extending from the upper to the lower portions thereof, and;
- (c) means sealing the upper end of said side walls to confine liquid therewithin with means for removing the upper sealed portion to provide access to the upper ends of said conduits.
2. The structure set forth in claim 1 and a protective strip removably applied to the outside portion of the wall to which said conduits are fixed substantially adjacent the upper ends of said conduits to expose a protected surface when said strip is removed.
3. A non-toxic liquid confined within a container comprising:
- (a) liquid confining side walls being made from flexible sheet material with the bottom and side edges thereof sealingly connected to provide a liquid confining chamber,
- (b) a corrugated panel secured to a portion of the inner surface of said side wall with the corrugations disposed in generally upstanding orientation to form

4

- a plurality of spaced generally upstanding drinking straw conduits across a substantial portion of said wall and extending from the upper to the lower portions thereof, and;
- (c) said side wall being sealingly interconnected along intermediate portions thereof to divide the same into a plurality of compartments, said corrugated panel extending across substantial portions of all compartments to provide drinking straw conduits in each compartment,
- (d) means sealing the upper end of said side walls to confine liquid therewithin with means for removing the upper sealed portion to provide access to the upper ends of said conduits.

References Cited in the file of this patent

UNITED STATES PATENTS

2,220,746	Wentz	Nov. 5, 1940
2,778,173	Taunton	Jan. 22, 1957
2,799,439	Pugh	July 16, 1957
2,919,694	Von Gunten	Jan. 5, 1960
2,928,216	Orsini	Mar. 15, 1960
2,992,118	Daline	July 11, 1961