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LEAK-PROOF CONTAINER

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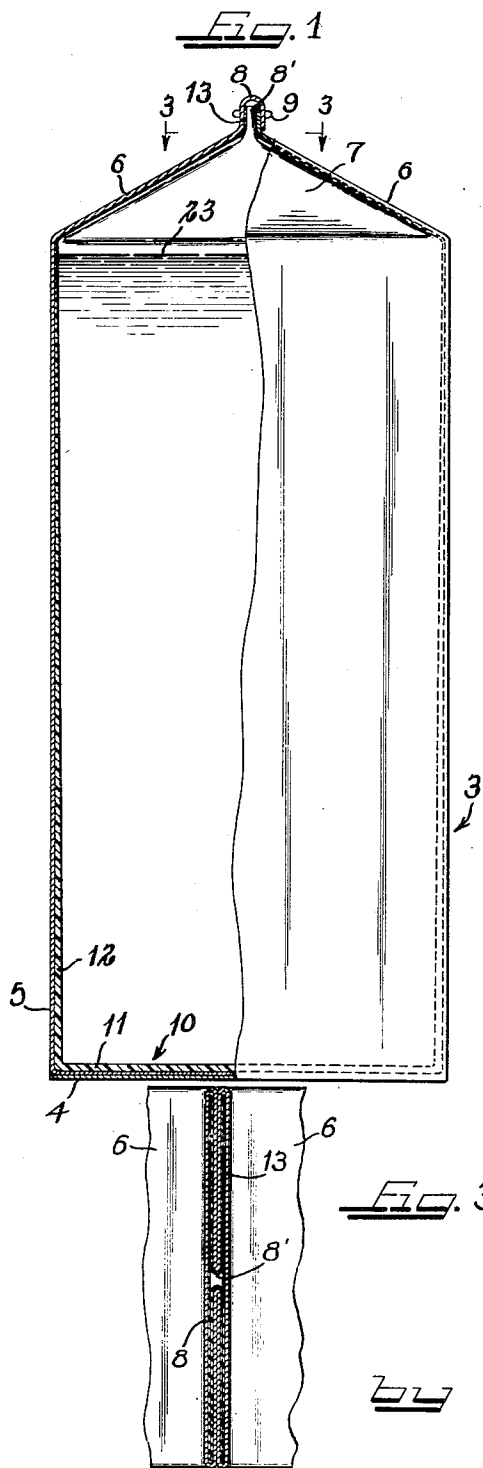
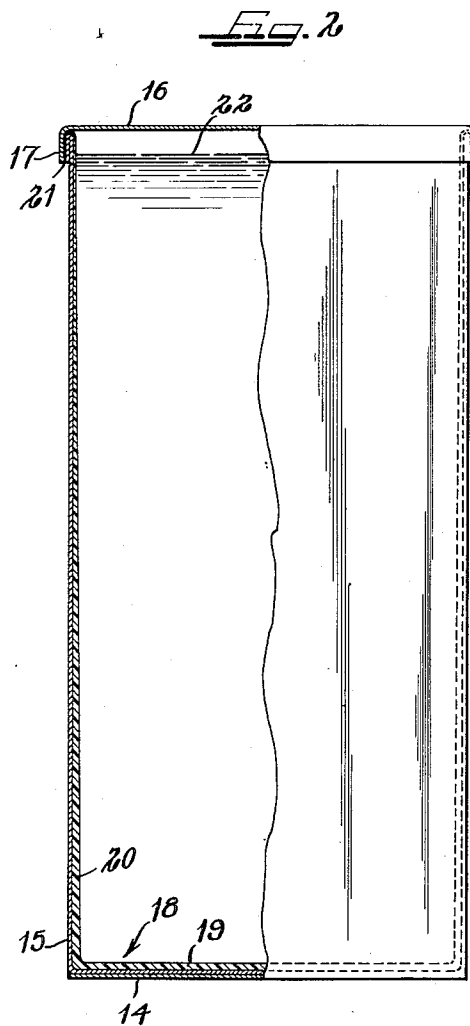


Fig. 3



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1

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LEAK-PROOF CONTAINER

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2 Claims. (Cl. 229—14)

My invention relates to leak-proof liquid containers, having particular reference to the type of container employed for purveying milk and similar products.

An important object of my invention is to provide a container of the aforementioned character which consists of an outer carton enclosure of conventional construction, and preferably of the type having the gable top structure herein the folded portions underneath or below the gable section may be pulled outwardly in order to form a suitable pouring spout for dispensing the contents.

In order to render the said conventional carton or enclosure leak-proof, a liner of plastic material such as polyethylene may be employed which will have walls of tapered cross-sectional construction so as to result in upper sections, toward the mouth of the liner, of paper-like thinness so as to compatibly permit sealing of the combination of the carton enclosure and the liner comprising a principal part of my invention.

A further object of my invention is to provide a modified form of leak-proof liner comprising my invention which may be employed in connection with the conventional type of carton employing a cap of quadrilateral formation so as to seal the contents and render the carton leak-proof.

A still further object of my invention is to provide a liquid-proof liner for cartons and liquid retaining containers so as to permit storage of the contents within the container for a longer period of time than is possible at the present time.

A still further object of my invention is to provide a leak-proof improvement for carton containers which will permit purveying liquid contents in containers of large capacity such as half gallon and gallon size.

A still further object of my invention is to provide a container of the aforementioned character which will be economical to manufacture in quantity production.

Other objects and advantages resident in my invention will become apparent from an examination of the accompanying drawing, bearing further elucidation in the ensuing description, in which like characters are used to designate like parts, and in which;

Fig. 1 is a front view of a container shown partly in cross-section illustrating the features of my invention.

Fig. 2 is a modified form of my invention used in connection with another type of conventional liquid retaining container, also shown partly in cross-section, in order to bring out the detailed structure of my invention.

Fig. 3 is a transverse cross-sectional view through the closure seam taken on the line 3—3 of Fig. 1.

It might be well to mention at this time that cartons employed at the present time, if allowed to stand for several days, will allow the liquid contents to seep through at various points preferably at the bottom, thus such containers make it mandatory that the contents retained therein be dispensed in rather short periods of time, or consumed in short periods of time.

It has been considered impractical to manufacture con-

2

tainers of the conventional type of gallon, or half gallon capacity, inasmuch as the contents to be dispensed therefrom would be retained therein over a longer period of time, thus the weight of the contents within a larger container would create seepage more readily, and especially in view of the fact that both the weight of the contents and the longer time it takes to dispense the said contents require that the contents be maintained within the container for a longer period of time thus making leakage and seepage a certainty rendering the containers impractical for the purposes for which they are employed.

My invention overcomes these difficulties by the usage of a liner of plastic material which is leak-proof and the construction of which will be explained further along as the specification proceeds.

Referring to Figure 1, my invention is generally designated 3, and consists of a conventional container having upright side walls 5 secured to a bottom element 4. The upper portion of the walls 5 are folded or bent inwardly as indicated at 6, the portions 7 being pulled under the gabled sections 6, so as to furnish a closure tab 8 to be folded over lips 8' extending from the gabled portions and being secured in place by a staple 9, the customary paraffine coating being sprayed on the container in order to seal it against contamination by the atmosphere or elements.

Within the container is inserted a liner generally designated 10, having a bottom portion 11, and upright walls 12 which are thicker at the bottom and taper toward the top and at 13 they are of several thousandths of an inch thick, or of paper thinness, so as not to militate against the folding or closure operation, and be compatible with the folding and sealing or closure operations as indicated by the tab 8 and the staple 9.

A slightly modified insert is used in connection with the conventional container illustrated in Fig. 2, having walls 15 and a bottom 14, however, this container uses a cardboard cap of polygonal configuration to fit the top edge of the container walls 15, this cap 16 having flanges 17 in order to seal against the walls 15, and the liner generally designated 18 having a bottom portion 19 and upright walls 20 which taper to a paper-like thinness as indicated at 21 permitting the same to be folded over the outer edges of the walls 15, at the mouth thereof, permitting the flanges 17 to seal the leak-proof container to the carton structure. The surface of the liquid within the container is usually below the top, as indicated at 22 in Figure 2, whereas the surface 23 of the liquid is indicated in Figure 1, showing that by virtue of the insertion of the liners 10 and 18, the said containers are rendered leak-proof, and rendering them susceptible of manufacture for large capacities of a gallon and even greater sizes for the purveying and retaining of other products similar to milk or products which are not necessarily food products but which are liquid in form.

I believe I have herein illustrated and described the nature of my invention, and expounded, in expository form, the teachings so that those familiar with the art will be able to practice my invention. Inasmuch as the same is susceptible of many modifications, alterations, and improvements, I hereby reserve the right to any improvements, alterations and modifications coming within the scope and spirit of my invention and disclosure, also the right to any improvements impliedly embraced in the accompanying illustrations depicting the generally suggested elemental structure of my invention, and also any modifications, improvements, or alterations, falling within the purview of the foregoing description; my invention to be limited only by the subjoined claims.

Having thus disclosed and revealed my invention, what I claim as new and desire to secure by Letters Patent is:

3

1. A leak-proof liquid container, comprising an open-ended paper board outer container, an open-ended leak-proof liner made of plastic material inserted removably in the said outer container, the said leak-proof liner being nestingly and configuratively fitted to the said outer container and being identical in altitude with that of said outer container; and closure means securing the open ends of both the said outer container and the said liner to form a sealed and leak-proof enclosure, the said liner being provided with wall portions of tapering thickness tapering upwardly from the bottom thereof toward the open end thereof to paper thinness in order to facilitate securing the open ends thereof to form a sealed and leak-proof enclosure, said closure means being of gable-like formation including accordion-like pleats formed from two opposed walls of both said containers and having inner pleat folds substantially in intimate contactual relationship resulting in sealed lips, and means for fastening and sealing said lips.

2. A leak-proof liquid container, comprising an open-ended paper board outer container, an open-ended leak-proof liner made of plastic material inserted removably in the said outer container, the said leak-proof liner being nestingly and configuratively fitted to the said outer container and being identical in altitude with that of said outer container, and closure means securing the open ends of both the said outer container and the said

4

liner to form a sealed and leak-proof enclosure, the said liner being provided with wall portions of tapering thickness tapering upwardly from the bottom thereof toward the open end thereof to paper thinness in order to facilitate securing the open ends thereof to form a sealed and leak-proof enclosure, the said closure means including accordion-like pleats folded so that their inner pleat folds are substantially in intimate contactual relationship located at the open ends of the said outer container and the said liner to form a sealed gable closure terminating in lips, one of the said lips extending to form a closure tab, and means for fastening the said tab and the said lips.

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