April 19, 1960 D. BENSEL 2,933,229

MILK, OIL AND FRUIT CONTAINER

Filed May 28, 1958 2 Sheets-Sheet 1

Fig. 1

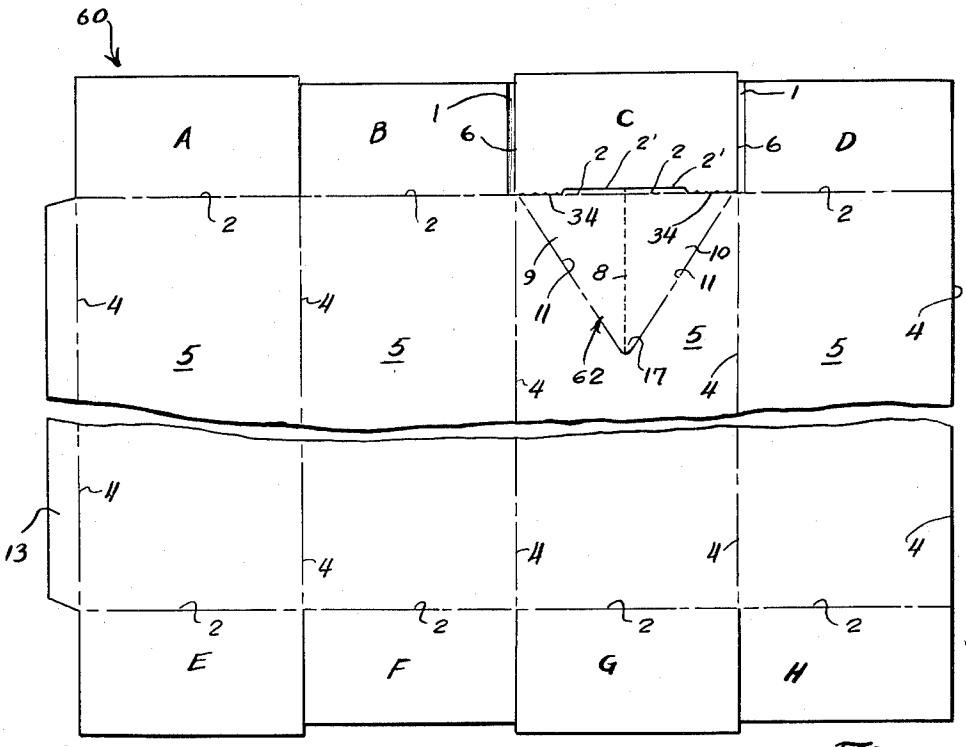


Fig. 2

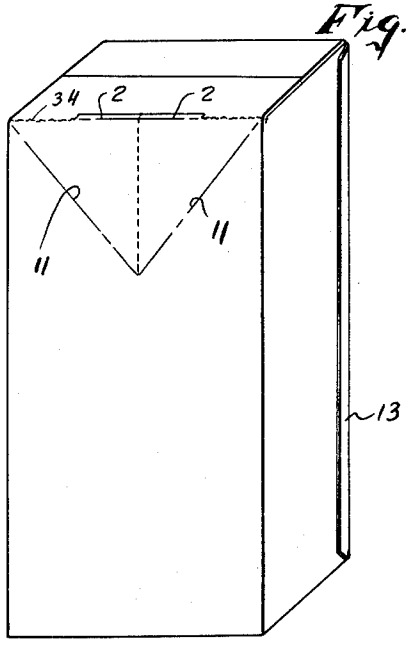
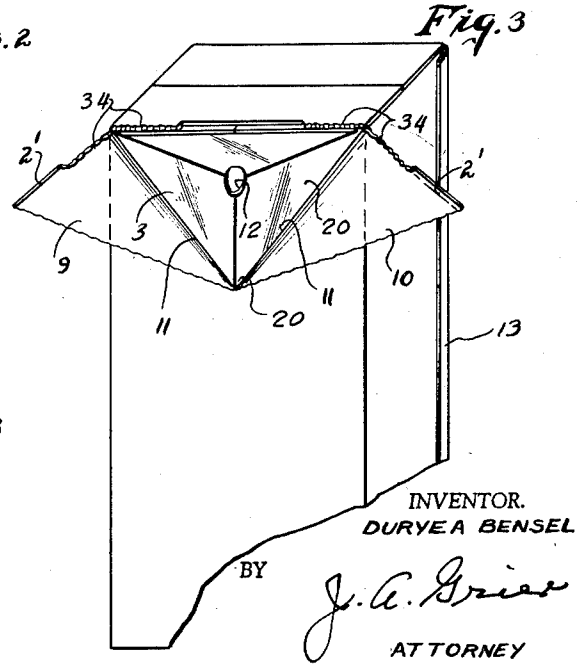


Fig. 3



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Fig. 4

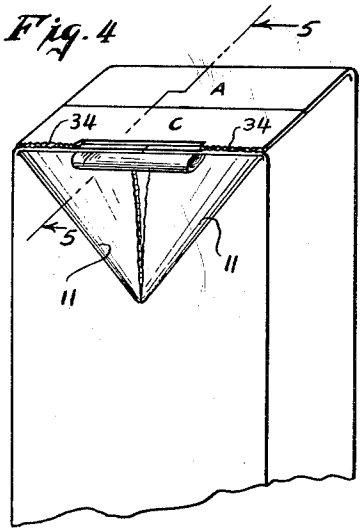


Fig. 5

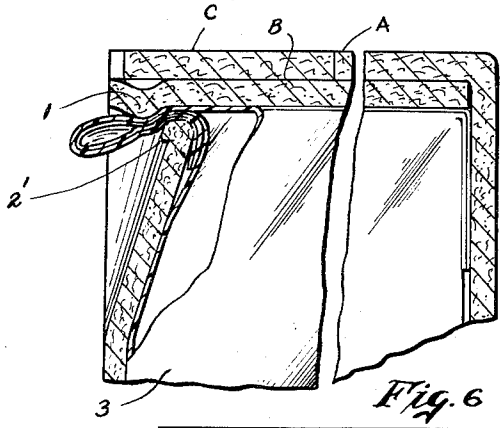


Fig. 6

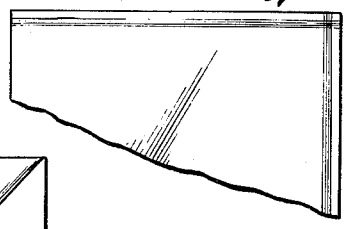


Fig. 7

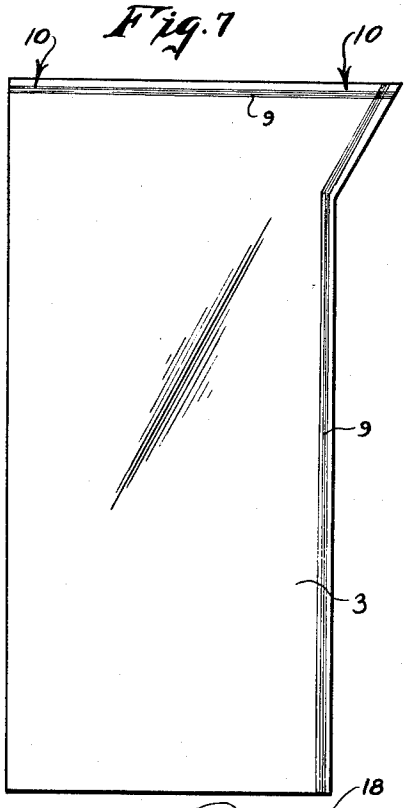


Fig. 8

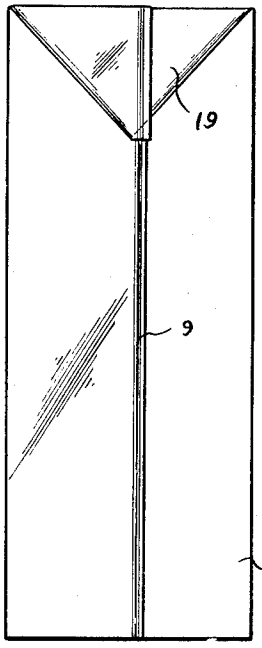
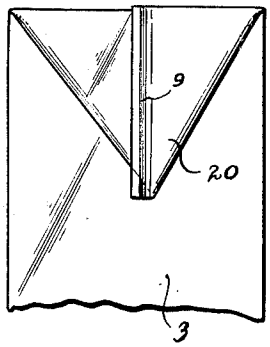


Fig. 9



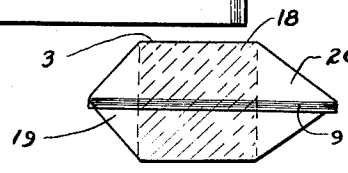


Fig. 10

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2,933,229

MILK, OIL AND FRUIT CONTAINER

Duryea Bensel, New York, N.Y., assignor of ten percent to Monte Brice and ten percent to Daniel M. Winkler, both of Hollywood, five percent to Joan Billings, Los Angeles, five percent to Frank L. Pellissier, Pico, five percent to Roberta Stewart Brice, Hollywood, and five percent to David M. Higer, Los Angeles, all of California

Application May 28, 1958, Serial No. 738,435

1 Claim. (Cl. 229—14)

This invention relates to containers and is directed more particularly to containers for milk, oil and fruit juices and has for an object the provision of a container to be used for the above purposes.

One important object of the invention is the provision of a container having a relatively strong outer body and having manually operable means thereon to expose an inner container formed of a thermoplastic film having upper spout portions adapted to extend through a triangular opening in the outer wall of said outer container, said opening being defined in the outer wall by the action of said manually operable means, the latter comprising a pair of triangular flap doors, tabs **9** and **10**, having two score lines **11—11** on each side that act as hinges so that when the doors are open the doors never leave the body of the container, said door being separated by score line **8** and each carrying an extension tab **2—2** which are formed integral with said outer wall, the upper edges of said flap doors being severed from the material of the top wall along score lines **34—34** inserting a spool handle behind said triangular tabs at the top and prying outwardly, thereby severing the upper ends of said tab doors from said surface along said score lines **34—34**.

Salient features of the invention

Two triangular doors, two score lines **11—11** on each side that act as hinges so that when the doors are open, the doors never leave the body of the container.

When the doors are closed the cut open spout is folded and that is wedged between the two tabs, **2—2**, on the doors and the inside roof of the container, this renders it leak-proof as well as vermin-proof.

Another object of the invention is the provision of a novel and simple method of forming thermoplastic liners for the outer containers from polyethylene films, and the formation of such polyethylene liners with pouring spouts by a simple operation are carried out while the seams of a film of polyethylene are being cut and heat sealed to form the bag.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter will be more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claim hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is a perspective view of a blank from which the outer container or carton is formed.

Figure 2 is a perspective view of a container made, according to the invention, filled and completely sealed, and ready for the market, showing triangular doors in closed positions before being opened.

Figure 3 is a view showing the triangular tab doors **9** and **10** open and exposing the pouring spout portion of the inner plastic container **3** which may be pulled forward into the pouring position where the point may be cut and made ready for pouring. The triangular tab doors of the carton have, along their outer borders, score lines **11—11**, which act as hinges and insure that said tab doors are never separated from the body of the carton so that they will later be available for resealing purposes, as will be explained in connection with Figure 5.

Figure 4 is a perspective view showing the triangular tab doors in closed positions where they pinch the lips of the pouring spout between the ceiling of the outer carton against an additional score line **1** therein, thereby pressure sealing the lips of the pouring spout together with a firm upward thrust, sealing the inner container against the ingress of deleterious matter. When the doors are closed, the cut spout is now folded and it is wedged between two tabs **2'—2'** on the doors and the roof of the container B and D that renders it leak-proof and vermin-proof.

Figure 5 is a cross-sectional elevation taken on the line **5—5** of Figure 4.

Figure 6 is a view showing the thermoplastic liner bag **3**, heat sealed on the bottom after having been filled and inserted in the outer carton through an open end thereof.

Figure 7 is an elevation of a thermoplastic bag made according to the invention.

Figure 8 is a straight line side elevation of the thermoplastic bag of Figure 7 showing the short spout formed thereon.

Figure 9 is an elevation similar to Figure 8 and showing details of the forming of the longer spout **20** and how the spouts may be cut to provide a pouring opening **13**, Figure 3.

Figure 10 is a top view of a thermoplastic liner for the outer container taken along the line **10—10** of Figure 7, said bag having been formed on a mandrel proportioned to fit into said outer container and devised to form two pouring spouts when said mandrel is inserted into said bag, the overhanging portion **20**, defining a long pouring spout, and the foreshortened portion **19** defining a short pouring spout, said plastic bag, when formed having a warp therein at the top corners thereof which causes the portion **18** to snap into shape, defining the long pouring spout **20**, and causing the portion **20** to snap into shape, defining the short pouring spout **19**, said "snaps" occurring in time with the insertion of said mandrel into said bag. The plastic bag with the mandrel inside is now placed inside of the open formed carton so that the pouring spout fold is pressed flat against the side of the bag and is behind the triangular doors. As the carton is opened, as described above, the act of forcing the doors open will uncover the pouring spouts **19** or **20**, and the latter may be pulled forward to pouring positions, where they rest in the inverted apex **21**. The mandrel is now withdrawn therefrom and the milk is then filled into the inverted bag which is within the carton and the open end of the plastic bag is sealed as well as the four bottom flaps of the outer carton. The bag **3** has a heat seal line **9** along one edge thereof, along the edge of the portion **19** thereof, and along the top **9** thereof. When the mandrel is inserted into the bag, the pouring spouts **19** and **20** suddenly "snap" into place. Actually the formation of the bag left certain strains therein which were effective in causing the pouring spouts **19** and **20** to "come in" with a "snap."

Referring first to Figure 1, I show a blank formed from what is known in the trade as "chip board." The following briefly describes the blank, and how it is processed or treated to form the outer container.

In Figure 1, the blank **60**, from which the outer carton is formed, is made of "chip board." This blank has a series of panels **5**, defined by vertical score lines. The blank **60** has a series of "top flaps" A, B, C and D formed

integral with the panels **5**. Each one of the flaps has a score line **2**, between it and the panel with which it is connected to facilitate the folding down of the top flaps in "shaping" up the outer container.

Between the adjacent edges of the top flaps B and C is a "cut out" slot **6** to free one of the flaps from its neighbor to facilitate the folding down of the flaps in the shaping up of the carton. Between each flap is a score line **2** between itself and its panel. The blank **60** has on each end of each panel, a bottom flap E, F, G and H. Between the flap E and its panel **5** is a score line **2** to facilitate the folding "up" of the flaps in assembling the carton. Between the bottom flap F is a score line **2** to facilitate the folding up of the bottom flaps E, F, G and H. Between the bottom flap F and its neighbor is a "cut out" slot N, separating it from its neighbor G is a "cut out" slot N, the bottom flap H is separated from its neighbor G by a "cut out" slot N, and it is also separated from its neighbor by a "cut out" slot N, and thereby the flaps are freed from its neighbors, thereby providing greater flexibility in assembling the carton **60**. Then the bottom flaps are folded up and glued together to form a closure. Along the left edge of the blank **60** is a glue tab **13** with a score line **4** between it and its panel **5**. The glue tab **13** has cement applied, then the panels **5** are folded to shape up the bottom of the carton.

The bottom flaps E, F, G, H are folded up along the score lines **2**, **2**, **2**, and **2**, and the flaps are glued together. Following the same steps, the top of the carton is "shaped up." The upper portion **10** of the panel **5** is preformed to provide a simple method of opening the carton **60**. In the upper portion of the panel **5** is a triangular area **62**, which is bordered by score lines **11—11**, which are angular with respect to each other. The score lines **11—11** border the triangular area **62**, and a severance line bisects the triangular area **62**.

For making the inner bags, there are many other suitable thermoplastics available, but I prefer to use polyethylene because it is less expensive and is readily heat sealable.

A large number of extruders for this material have been purchased by paper companies, and they, to keep such machines busy are engaged in the business of making polyethylene films of different thicknesses and selling them to the trade.

My new container has the pouring spout located beneath a portion of the overhanging outer container, a great aid in maintaining the pouring spout or spouts in sterilized condition.

In view of the above, a great saving is effected by the packers in unit package costs. The pouring spouts can be sterilized the same as glass bottles before the milk (for example) is packed and hermetically sealed in the containers.

This container successfully replaces glass bottles, which is also effecting great saving to the dairies—milk keeps fresh for a longer period of time, even in direct sunlight, than in bottles, and empties are thrown away or burned. The containers can be sterilized by injecting live steam into them before milk is poured therein.

The container is easy to open to expose the pouring spout, and after the spout is opened it can be resealed as leak-proof as when first purchased.

This container can be used for oils, syrups, etc. and also for such hygroscopic materials, such as, dry milk, instant coffee, sugars, salt, or any other granular materials.

While there has been herein described a preferred form of the invention, it should be understood that the same may be altered in details and in relative arrangement of parts within the scope of the appended claim.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

A fluid dispensing package comprising: an inner flexible and sealed container having a hollow and generally triangular flap at one end through which the fluid contents of the container can be poured; a carrier receptacle enclosing the container and confining said flap flatwise between the container and a wall of the receptacle; a closure forming a part of said wall at an end of the receptacle and defined by a triangular area separable medially and along one side at the juncture of said wall and end of the receptacle by severance scores into two doors hinged along score lines bounding the other two sides of the area to enable the doors to be swung open when parted at said severance scores, so as to expose said flap for operation as a pouring spout; said end of the receptacle being indented to provide an interior shoulder beyond which edges of the doors, when being closed, can be forced with the flap clamped flatly against said end of the receptacle by the doors so as to render the flap fluid tight and releasably retain the doors closed.

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