March 17, 1964 J. A. ZINN 3,125,276

GABLE TYPE CONTAINER

Filed Jan. 14, 1963 2 Sheets-Sheet 1

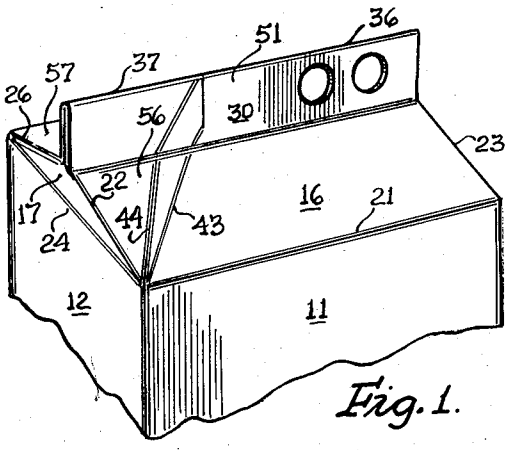


Fig. 1.

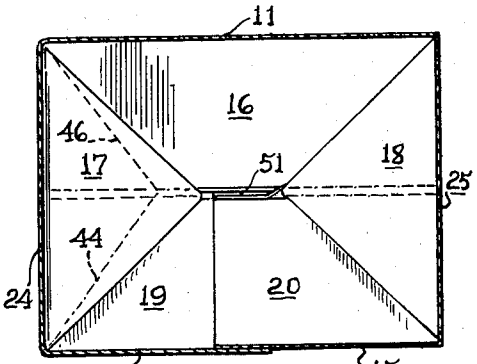


Fig. 2.

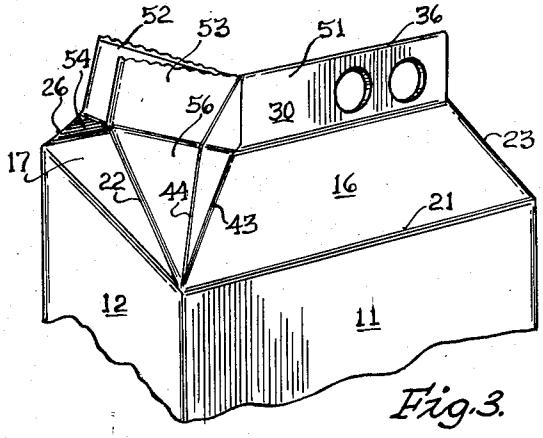


Fig. 3.

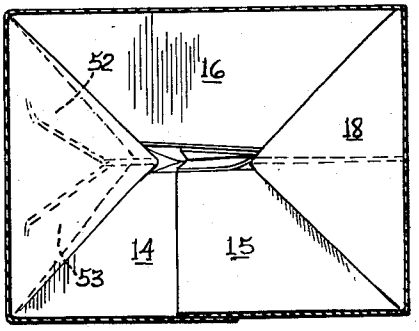


Fig. 4.

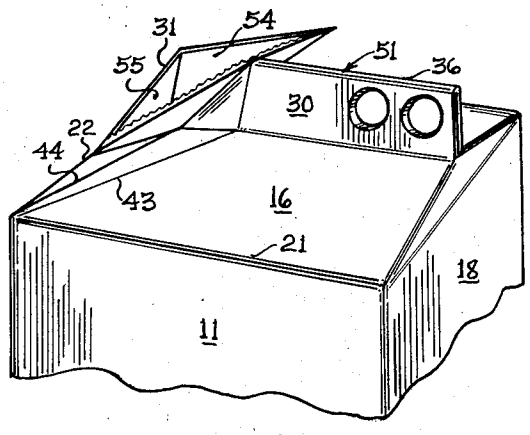


Fig. 5.

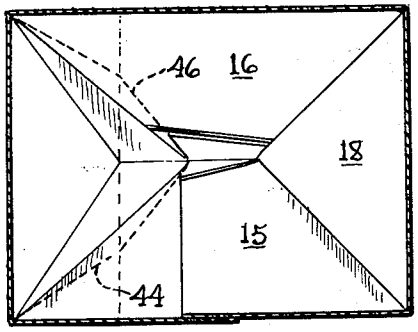


Fig. 6.

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March 17, 1964 J. A. ZINN 3,125,276

GABLE TYPE CONTAINER

Filed Jan. 14, 1963 2 Sheets-Sheet 2

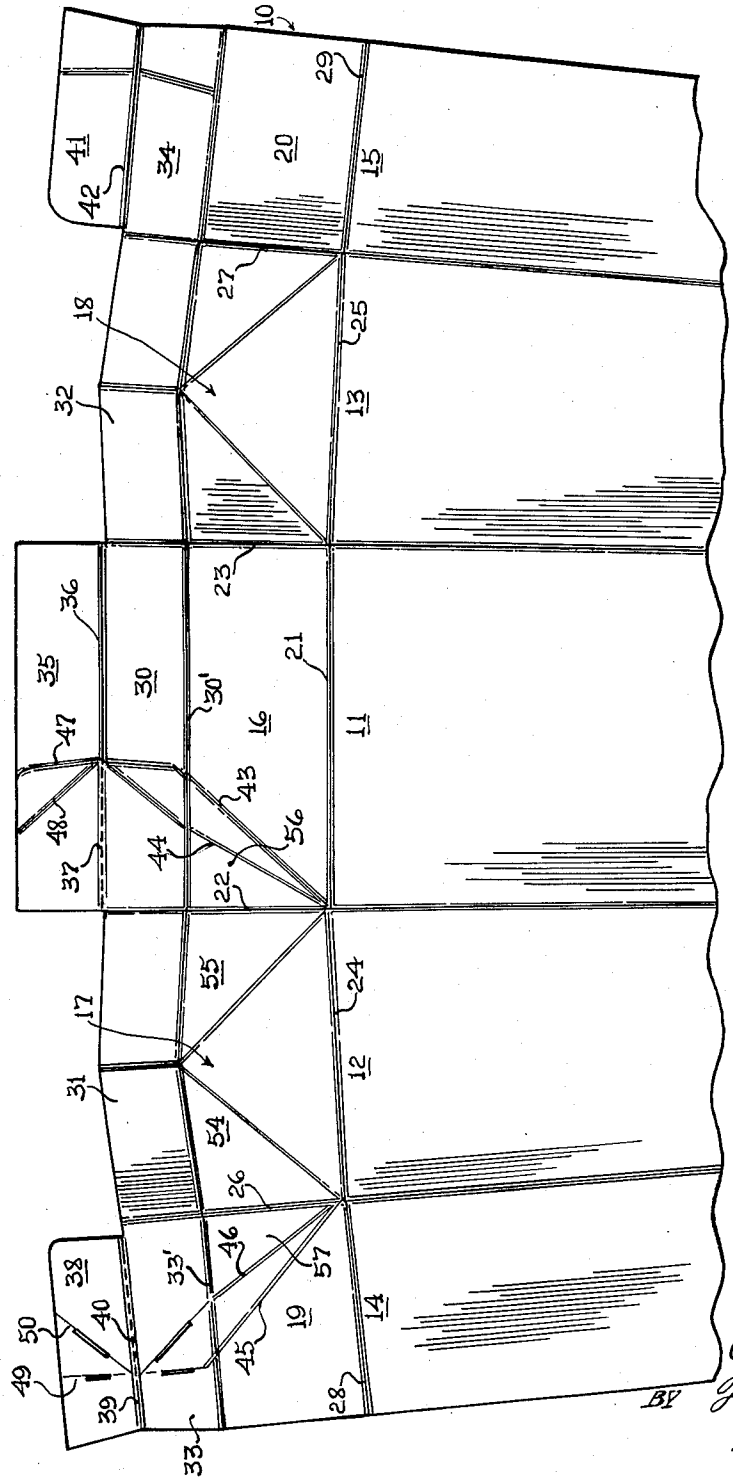


Fig. 7.

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GABLE TYPE CONTAINER

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8 Claims. (Cl. 229—17)

This invention relates to a new and useful improvement in a gable type container and more particularly to a container of this character that has an extensible pouring spout.

An object of my invention is in the provision in a container of this character of an extensible pouring spout that is readily accessible and is formed through a positive snap-action movement of end bellows forming flaps which are a portion of the top closure for the container.

A further object of my invention is in the provision in a container of this character of a gable type top closure which by reason of its construction and design may be converted into a pouring spout. The type closure is so designed as to operatively present spaced apart edges which define fulcrums about which the gable forming portions of the top closure may be manipulated so as to convert a bellows type end flap into an extended pouring spout.

A still further object of my invention is in the provision of a container of this character of a blank susceptible of being formed into a container of the type hereinafter described.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

FIG. 1 is a fragmentary perspective view of the gable type top structure of a container;

FIG. 2 is a detailed sectional bottom view showing the interior of the top closure in its collapsed condition;

FIG. 3 is a fragmentary perspective view of the container with the gable type top closure in a partially extended position;

FIG. 4 is a detailed sectional bottom view of the interior of the carton showing the parts of the gable type top closure in their respective positions as viewed in FIG. 3;

FIG. 5 is a fragmentary perspective view of the container with one of the bellows forming end flaps expelled from its retracted position within the container;

FIG. 6 is a detailed sectional bottom view of the interior of the container in the condition shown in FIG. 5; and

FIG. 7 is a plan view of the upper portion of the flat blank from which the container's gable type top closure is formed.

The principal object of this invention is to provide a dispensing carton of the type hereinafter described which has an extensible pouring spout. The commercial acceptance of a container such as this lies in the ability of converting the top closure structure into a pouring spout. This conversion must be accomplished by a simple manipulation of certain portions of the gable top structure. To successfully and positively obtain this desired end I provide an arrangement for a top closure that will provide spaced apart edges forming fulcrums over which a portion of the top structure may be positively bent so as to forcibly expose and extend a pouring spout from such top closure.

The blank of material as fragmentarily seen in FIG. 5 is provided with a plurality of flaps and tabs separated by fold lines. These flaps and tabs form the top closure structure for my container and are similar to those shown

and described in my Patent No. 3,071,305, dated January 1, 1963.

In this respect the blank 10 as fragmentarily seen in FIG. 7 includes a side panel 11 having disposed along opposite longitudinal edges thereof corresponding end wall panels 12 and 13. Extending laterally along the other opposite longitudinal edges of these end wall panels 12 and 13 are side panels 14 and 15.

The gable type top closure consists of a side member 16, end bellows forming flaps 17 and 18, and side sectional flaps 19 and 20. The side member 16 is an extension of the side panel 11 and is joined thereto by a fold line 21 and is separated from the end bellows forming flaps 17 and 18 by fold lines 22 and 23. The end bellows forming flaps 17 and 18 are extensions of the end wall panels 12 and 13 respectively, and are joined thereto along fold lines 24 and 25 and separated from the side sectional flaps 19 and 20 by fold lines 26 and 27. These side sectional flaps 19 and 20 are separated from the side panel members 14 and 15 by fold lines 28 and 29 respectively.

The end bellows forming flaps 17 and 18 are divided into three triangularly shaped segments as seen in FIG. 7, and each triangularly shaped segment thereof is collapsible with respect to the side member 16 and side sectional flaps 19 and 20, in the manner described in my aforementioned patent so as to form the bellows ends for the gable type top closure.

To form the ridge of the gable the side member 16 is provided with a rib panel 30. The end bellows forming flaps 17 and 18 are provided with rib flaps 31 and 32 respectively, while the side sectional flaps 19 and 20 are each provided with a pair of correspondingly formed oppositely extending rib tabs 33 and 34. The rib panel 30 of the side member 16 has a ridge wick panel 35 which is identical to the rib panel 30 and joined thereto along a fold line 36 which is partially perforated as at 37. The rib tab 33 has a wick tab 38 joined thereto along a fold line 39 which is also partially perforated as at 40. The rib tab 34 is provided with a wick tab 41 joined thereto along a fold line 42.

The side member 16 as well as its associated rib panel 30 is divided into three parts by score lines 43 and 44. Each of these score lines 43 and 44 originate at the angle formed by the junction of fold lines 21 and 22 and extend in a diverging direction therefrom until they intersect fold lines 30' extending between the side members 16 and rib panel 30 and from which line 30' the lines 43 and 44 will converge to a point of junction at the innermost end portion of the perforated line 37 as seen in FIG. 7.

The side sectional flap 19 as well as its associated rib tab 33 is provided with score lines 45 and 46 which divide the flap 19 and tab 33 into three portions. The score lines 45 and 46 originate at the angle formed by the fold lines 26 and 28 and extend therefrom in a diverging direction until they intersect a fold line 33' which extends between the side sectional flap 19 and the rib tab 33. From the fold line 33' the score lines 45–46 converge to a point of junction at the innermost end of the perforated lines 40 as seen in FIG. 7. As appears from the blank 10 as shown in FIG. 7, the lines 43 and 44 extend in opposite directions with respect to the lines 45 and 46. Notwithstanding this apparent arrangement when the blank 10 is flat, such lines 43 and 44 will lie in the same substantially horizontal plane as will lines 45 and 46, when the blank 10 is formed into a gable type top closure as seen in FIGS. 1 and 3.

The wick panel 35 associated with the rib panel 30 is likewise divided into three separate parts by score lines 47 and 48 extending from the point of junction of lines 43 and 44 and diverging from each other in a direction opposite to that of the score lines 43 and 44. The wick

tab 38 is likewise divided by score lines 49 and 50 extending divergingly from the point of junction of score lines 45 and 46 formed in the rib tab 33.

When the gable type top closure is formed in the manner described in my aforementioned patent, I will have produced a four-ply laminated ridge 51 as seen in FIGS. 1 and 3, with the score lines 43 and 45 and score lines 44 and 46, respectively lying in a common plane, projected through the side member 16 and side sectional flap 19, and with the score lines 47, 48 and score lines 49, 50 lying in a substantially common plane projected through the laminated ridge 51. The end bellows forming flaps 17 and 18 will be collapsed between the opposite gables of the top closure as formed by the side member 16 and the joined side sectional flaps 19 and 20 with the score lines 44 and 46 extrinsically disposed with respect to the score lines 43 and 45 as seen in FIG. 2.

In converting a portion of the gable type top closure into an extended pouring spout, the ridge 51 is separated along the perforated lines 37 and 40, now defining a portion of the top marginal edge of such ridge 51 into equal parts 52 and 53, by finger pressure applied on the edges defined by the fold lines 22 and 26.

Continuing finger pressure on these edges will cause the separated ridge portions 52 and 53 together with certain triangularly shaped sections 54 and 55 of the normally collapsed bellows forming flap 17 and certain triangularly shaped portions 56 and 57 of the side member 16 and side sectional flap 19, which normally lie in facial abutment with respect to each other, to move through diverging arcs into an elevated position as seen in FIG. 3. In such position the triangularly shaped sections 54 and 55 as well as the triangular sections 56 and 57 will lie in converging planes extending inwardly from the edges defined by fold lines 22 and 26, in the direction of the fold lines 43 and 45.

When these disposed triangularly shaped sections 54, 55 and 56, 57 are contained in their respective converging planes the finger pressure will create a compression force extending through these converging planes in the direction of the fold lines 43 and 45. Under this compression force the triangularly shaped portions 56 and 57 will be caused to be further bent along fulcrum forming score lines 44 and 46. These fulcrum forming score lines 44 and 46 will then engage the inner surface of the triangularly shaped portions 54 and 55 of the bellows forming flap 17.

Additional finger pressure on the edges so defined will establish new compression forces extending between such edges and the fulcrum forming score lines 44 and 46. These new compression forces which now exist in the triangularly shaped portions 56 and 57 will cause the fulcrum forming score lines 44 and 46 to forcibly bear upon the inner face of the triangular sections 54 and 55, and continued movement of the edges beyond the common converging planes of these triangularly shaped portions 56 and 57 will create a stress across the face of flap 17 which will now lie in its own common plane extending substantially transverse to the top closure. Any increase of this stress will cause the flap 17 to snap away from the fulcrum forming score lines 44 and 46 driving the sections 54 and 55 out of their collapsed position and into their extended pouring spout position.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A top closure for a container including a laminated top ridge vertically extending across the top of the container and provided with gable like side members and bellows forming end flaps, one of said bellows forming end flaps defining in part an extensible pouring spout having a retracted position within said container when the end flap is in a collapsed position forming one end of said top closure, and means for moving with a snap-action said pouring spout from its retracted position to an extended position with respect to said top, said means comprising a perforated tear line extending inwardly from one end of said top ridge along its marginal edge to a point that lies in a substantial vertical plane extending from the innermost end of the collapsed portion of the said one of said bellows forming flaps and along which said ridge is separable into equal parts, fold lines in each of said gable like side members extending angularly from the lower outermost opposite corners of said members to a point at the base of said ridge immediately below the end of said perforated tear line, and continuing in a transverse direction up opposite sides of said ridge to the end point of said perforated tear line, said ridge and the end portions of said gable like side members, disposed outwardly of said fold lines, initially foldable along said angularly extending fold lines as said top closure is opened to extend said pouring spout therefrom, and means on each of said side members positioned by said initial folding of said side members along said fold lines into a spaced apart relation in a common plane extending transverse of said top closure and extrinsically of said fold lines and in an elevated position with respect thereto and into moving contact with certain portions of said one of said bellows forming end flaps so as to expel the same from beneath said side member and into a pouring spout position.

2. A top closure for a container as defined in claim 1 wherein said means includes a second pair of fold lines on said gable like side members extending from the lower outermost opposite corners of said members outwardly of said first mentioned fold lines to the end of said perforated tear line, said second pair of fold lines movable with said side members when said side members are initially folded along said first mentioned fold lines to a position in a common plane extending transverse of said top closure and to a point extrinsically of said first mentioned fold lines, and into moving contact with certain portions of said one of said bellows forming flaps so as to expel the same from beneath said side members into a pouring spout position.

3. A top closure for a container including a laminated top ridge vertically extending across the top of the container and provided with gable like side members and bellows forming end flaps, one of said bellows forming end flaps defining in part an extensible pouring spout having a retracted position within said container when the end flap is in a collapsed position forming one end of said top closure, and means for moving with a snap-action said pouring spout from its retracted position to an extended position with respect to said top, said means comprising a perforated tear line extending inwardly from one end of said top ridge along its marginal edge to a point that lies in a substantial vertical plane extending from the inner most end of the collapsed portion of the said one of said bellows forming flaps and along which said ridge is separable into equal parts, fold lines in each of said gable like side members extending angularly from the lower outermost opposite corners of said members to a point at the base of said ridge immediately below the end of said perforated tear line, and continuing in a transverse direction up opposite sides of said ridge to the end point of said perforated tear line, said ridge and the end portions of said gable like side members, disposed outwardly of said fold lines, initially foldable along said angularly extending fold lines as said top closure is opened to extend said pouring spout therefrom, and fulcrum forming means on each of said side members positioned by said initial folding of said side members along said fold lines into a

spaced apart relation in a common plane extending transverse of said top closure and extrinsically of said fold lines and in an elevated position with respect thereto and into moving contact with certain portions of said one of said bellows forming end flaps so as to expel the same from beneath said side member and into a pouring spout position.

4. A top closure for a container as defined in claim 1 wherein said fulcrum forming means includes a second pair of fold lines on said gable like side members extending from the lower outermost opposite corners of said members outwardly of said first mentioned fold lines to the end of said perforated tear line, said second pair of fold lines movable with said side members when said side members are initially folded along said first mentioned fold lines to a position in a common plane extending transverse of said top closure and to a point extrinsically of said first mentioned fold lines, and into moving contact with certain portions of said one of said bellows forming flaps so as to expel the same from beneath said side members into a pouring spout position.

5. A top closure for a container including a ridge extending across the top of the container and provided with gable like side members and bellows forming end flaps, one of said bellows forming end flaps defining in part an extensible pouring spout having a retracted position within said container when the end flap is in a collapsed position forming one end of said top closure, a perforated tear line extending inwardly from one end of said top ridge along its marginal edge to a point that lies in a substantial vertical plane extending from the innermost end of the collapsed bellows forming flap and along which said ridge is separable into equal parts, means angularly disposed on each of said gable like side members extending from the lower outermost opposite corners of said side members to a point at the base of said ridge immediately below the end of said perforated tear line and continuing through said vertical plane up opposite sides of said ridge to the end point of said perforated tear line, said ridge and said gable like side members initially foldable along said means as said top closure is open to extend the said one of said bellows forming end flaps therefrom, and a secondary means bearing on said bellows forming end flap after it has been partially extended from within said container for creating a line of stress across the face of said flap, said secondary means movable with respect to said first mentioned means and said flap so as to relieve the stress on said flap by causing the same to be moved out of its retracted position from within said container and into an extended pouring spout position.

6. A top closure for a container as defined in claim 5

wherein said secondary means comprises fold lines correspondingly disposed on each side of said side members and extending thereacross in spaced relation to said first mentioned means, and providing spaced apart fulcrum lines over which said one of said bellows forming end flaps is bent so as to create a line of stress across the face thereof.

7. A top closure for a container including a ridge extending across the top of the container and provided with gable like side members and bellows forming end flaps, one of said bellows forming end flaps defining in part an extensible pouring spout having a retracted position within said container when the end flap is in a collapsed position forming one end of said top closure, a perforated tear line extending inwardly from one end of said top ridge along its marginal edge to a point that lies in a substantial vertical plane extending from the innermost end of the collapsed bellows forming flap and along which said ridge is separable into equal parts, means angularly disposed on each of said gable like side members extending from the lower outermost opposite corners of said side members to a point at the base of said ridge immediately below the end of said perforated tear line and continuing through said vertical plane up opposite sides of said ridge to the end point of said perforated tear line, said ridge and said gable like side members initially foldable along said means as said top closure is open to extend the said one of said bellows forming end flaps therefrom, and pouring spout expelling means on each of said side members movable therewith upwardly and outwardly with respect to said first mentioned means and into moving engagement with certain portions of said one of said bellows forming end flaps so as to cause the same to move with a positive action out of its collapsed position into an extended pouring spout position after said side members have been initially folded about said first mentioned means.

8. A top closure for a container as defined by claim 7 wherein said pouring spout expelling means comprises fold lines correspondingly disposed on each of said side members extending thereacross in spaced relation to said first mentioned means, and providing spaced apart fulcrum lines over which certain portions of said bellows forming flap is bent so as to create a line of stress across the face thereof.

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