United States Patent

[11] **3,570,744**

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[73] Assignee **Phillips Petroleum Company**

[54] **GABLE-TOP-CONTAINER HANDLE**
10 Claims, 6 Drawing Figs.

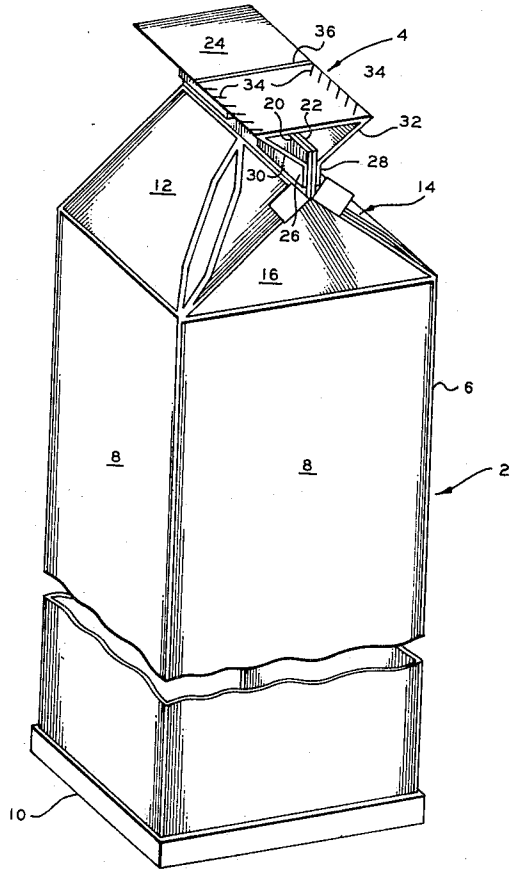
[52] **U.S. Cl.** **229/17,** 229/52, 294/87.2
[51] **Int. Cl.** **B65d 2/28**
[50] **Field of Search** ..... 229/17, 52 (A), 51(is); 206/65 (D); 294/87.2

[56] **References Cited**
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ABSTRACT: Handles and paperboard blanks for forming handles for gable-top containers.



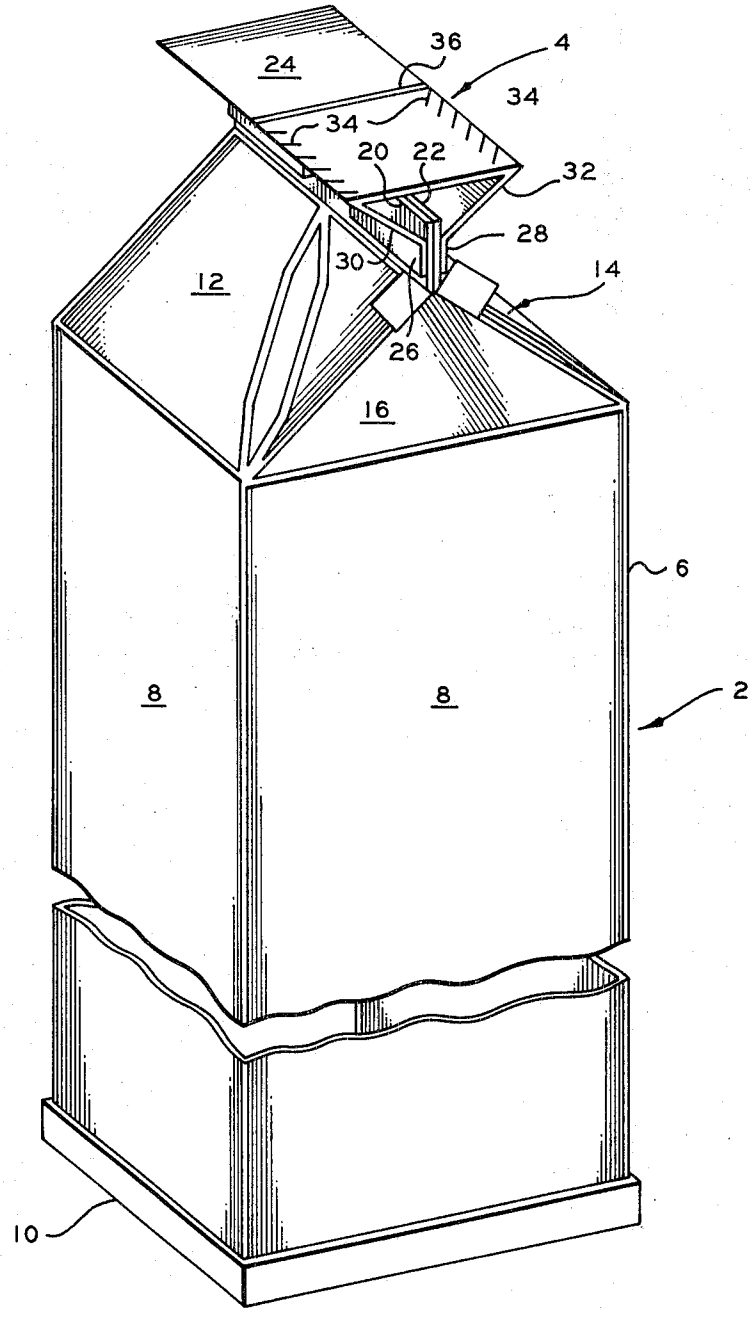


FIG. 1

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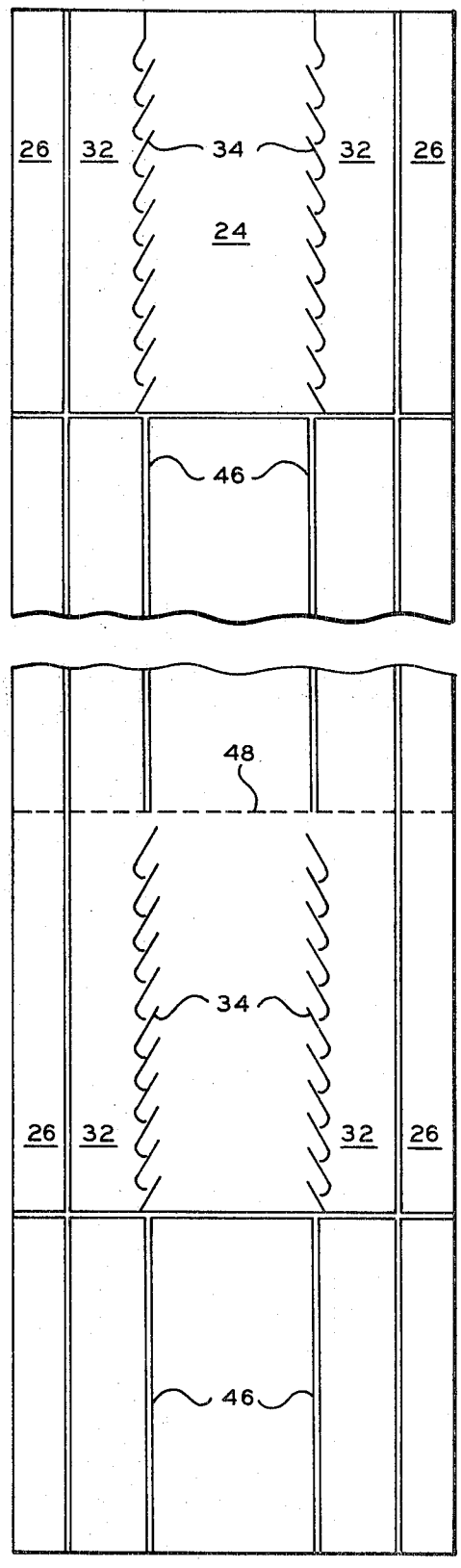


FIG. 3

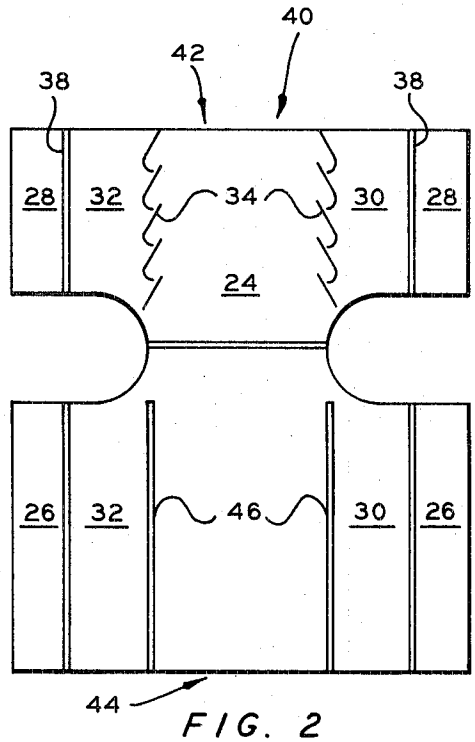


FIG. 2

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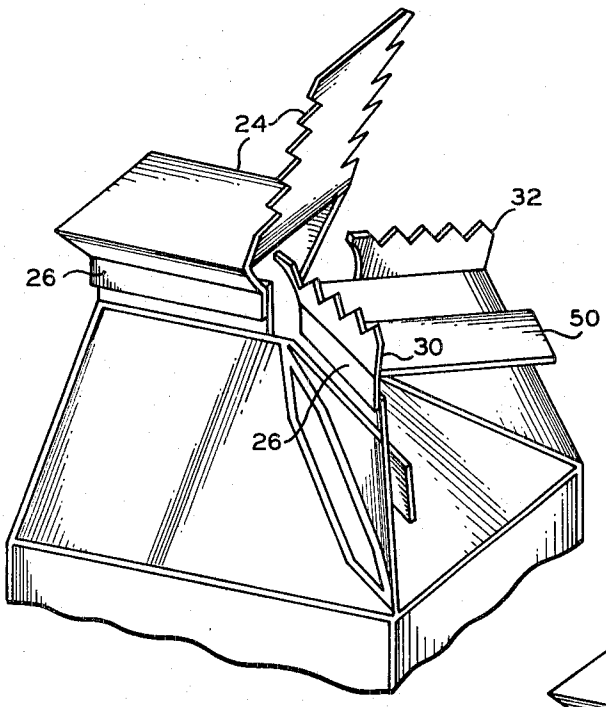


FIG. 4

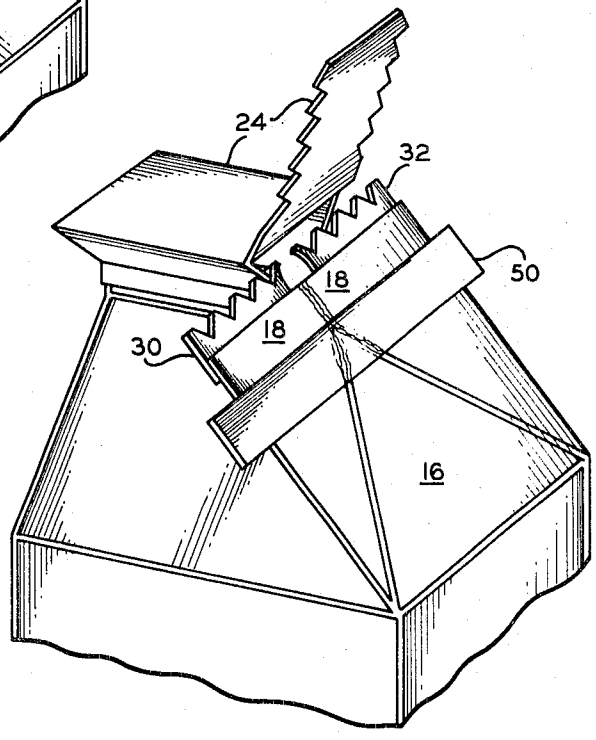


FIG. 5

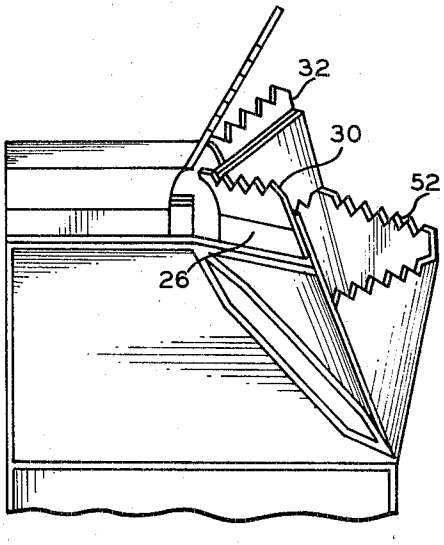


FIG. 6

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GABLE-TOP-CONTAINER HANDLE

This invention relates to handles and paperboard blanks for forming handles for gable-top containers. In another aspect, this invention relates to improved gable-top containers. The invention is particularly applicable to gable-top containers of rectangular cross section formed from a paperboard blank coated on one or both sides with a thermoplastic material. These containers are commonly used in the dairy industry or packaging milk, orange juice, lemonade, and the like. The gable-top closure structure consists generally of opposed front and rear roof panels inclined to make the gable formation, and a pair of triangular-shaped end closure panels inclined upwardly between the front and rear roof panels. These end closure panels have integral foldback panels that assume a position lying against the underside of the rear roof panels. The foldback panels and the front and rear roof panels are formed with integral ridge panels which become disposed in vertical contacting relation and are joined together by some form of adhesive, usually by a bonding of the thermoplastic coating, to form the ridge of the gable-top.

In the past, numerous configurations have been proposed for the paperboard gable-top containers. U.S. Pat. No. 3,348,755 is an example of an excellent snap-action container. I have discovered, however, that containers such as described in the above patent can be significantly improved by providing a handle for said container. This invention is equally applicable to end-open, snap-action containers of other configurations in order to provide containers that can be used with greater ease and efficiency.

In heretofore used containers, difficulties have been encountered in holding the container while discharging material therefrom. This problem becomes exceedingly more difficult when the person handling the carton is of tender years or has small hands, the container is of large size, the container is heavy, and/or the outer surfaces of the container have droplets of liquid adhering thereto.

Accordingly, it is an object of this invention to provide an improved gable-top container. Another object of this invention is to provide a handle for a gable-top container for greater ease and efficiency in using said container. Other objects, aspects, and advantages of the invention will be apparent from a study of the specification, the drawing, and the appended claims to the invention.

In the drawing,

FIG. 1 is a perspective view of a container embodying the invention;

FIGS. 2 and 3 are plan views of the paperboard blank from which the handles are formed;

FIG. 4 is a perspective view of the gable-top structure in a partially open condition;

FIG. 5 is a perspective view of the gable-top structure in an advanced open condition; and

FIG. 6 is a perspective view of the gable-top structure in the fully open condition.

FIG. 1 shows a gable-top container 2 having the handle 4 of this invention installed thereon. The container comprises a tubular body 6 having four sidewalls 8, a bottom closure 10 fixed to said body, and first and second roof panels 12, 14 inclined toward each other and overlying the top of said body. A first end closure panel 16 opposes a second end closure panel (not shown) with said end closure panels being infolded between said roof panels 12, 14 from the opposite gable ends. First 18 and second (not shown) pairs of triangular end closure panels (better seen in FIG. 5) are each joined to the opposite sides of a respective triangular end closure panel 16 along fold lines which are in proximity with said roof panels 12, 14. The foldback panels 18 are folded against the underside of said first and second roof panels 12, 14. First and second ridge panels 20, 22 surmount their respective roof panels 12, 14. Other ridge panels (not show) surmount each of said foldback panels 18. Each pair of ridge panels surmounting a pair of foldback panels are hinged together at the apex of the continuous end closure panel 16 and are folded about that hinge joinder in face-to-face relation, between the first and second ridge panels 20, 22 of the first and second roof panels 12. 14.

The handle 4 has an elongated top panel 24 overlying a portion of each roof panel 12, 14 and their respective ridge panels 20, 22. First and second ridge panels 26, 28 are each attached to their respective roof ridge panel 20, 22. This attachment can be accomplished with glue, stapling one panel to the other, heat sealing, or by other means known in the art. First and second elongated handle side panels 30, 32 are each attached on one of their sides to their respective separate handle ridge panels 26 or 28, extend upwardly and outwardly therefrom and are each attached on opposed side to the top panel 24. Adjacent weakened lines of severance 34 are formed on the top panel 24 beginning at one end of the top panel and extending a distance along the length of said top panel toward the opposed end of said top panel. It is preferred that a score line 36 extends across the width of the handle spaced from the ends of said top panel and in contact with the ends of the weakened lines of severance of the top panel in order to more easily bend portions of the handle during opening operations. In order to facilitate stacking and grasping the containers, it is preferred that the top panel 24 have a length substantially equal to the length of the ridge panels 20 or 22, a breadth in the range of ¼ to 2½inches, and that said top panel be substantially parallel to the bottom closure. Top panels having larger or smaller breadths are found to be difficult to grasp. In order to provide sufficient grasping surface and maintain the rigidity of the handle, it is preferred that the weakened lines of severance 34 have a length not greater than three-fourths the length of the top panel 24.

FIG. 2 shows an embodiment of a rectangularly shaped paperboard blank for forming a handle of this invention for a gable-top container. A pair of spaced-apart, substantially parallel, first sore lies 38 extend longitudinally along the blank 40 from the first to the second ends 42, 44 of the blank in spaced relation from the sides of said blank. The first score lines 38 and the outer edges of said blank 40 define the first and second handle ridge panels 26, 28. A pair of substantially parallel weakened lines of severance 34 extend longitudinally along the blank 40 from the first end 42 toward the second end 44 a distance preferably not greater than three-fourths the length of said blank, as described above. Each of these weakened lines of severance 34 are spaced from the handle ridge panels 26, 28 and the score lies 38 defining said ridge panels. In order to facilitate handling, as described above, it is preferred that the distance between the weakened lines of severance be in the range of ¼ to 2½inches. A pair of substantially parallel second score lines 46 extend longitudinally along the blank 40 from adjacent the end of a separate weakened line of severance to the second end of the blank. Each of the second score lines 46 are preferably spaced from the handle ridge panels and the first pair of score lines 38 a distance equal to the spacing therefrom of the weakened lines of severance 34. The weakened lines of severance 34, score lines 46, and edges 42, 44 of the blank 40 define a top panel 24 separating adjacent first and second side panels 30, 32. In order to facilitate bending the handle forward during opening operations, it is preferred that score line 36 extend across the width of the blank 40 in spaced relationship from the first and second ends 42, 44 of the blank 40 and in contact with the ends of the pair of weakened lines of severance 34. The ease in opening the container can also be improved by removing from the blank 40 a section of each handle ridge panel 26, 28 and handle side panel 30, 32 adjacent the end of the weakened lines of severance 34 thereby dividing each handle ridge panel 26, 28 into two ridge panels and handle side panels 30, 32 into two side panels.

FIG. 3 shows another embodiment of a blank 40 for forming the handle 4 of this invention. In this embodiment, a single handle is constructed having a plurality of portions, each similar to that shown in FIG. 2. Each portion is attached to a succeeding portion or preferably formed of a continuous blank 40 with a severance line 48 formed across the breadth of

the blank, thereby separating the plurality of portions. The composite blank of FIG. 3 is thereafter attached to a plurality of gable-top containers to form a composite.

FIGS. 4, 5, and 6 show the gable-top container with the handle of this invention at various stages of opening. In opening of the carton, the top panel 24 is lifted upwardly and folded along score line 36 thereby parting the top panel along the weakened lines of severance 34. The first and second pairs of triangular end closure panels 18 are thereafter folded outwardly and backwardly toward the opposed triangular end closure panels, tape 50 is removed, and the triangular end closure panels 18 are severed along pour slit 52 and moved outwardly to form a pour spout. These FIGS. show a tape 50 sealing a pour slit 52, but it should be understood that the handle 4 of this invention can be used with containers of other configurations. Other modifications and alterations of this invention will become apparent to those skilled in the art from the foregoing discussion and accompanying drawing, and it should be understood that this invention is not to be unduly limited thereto.

I claim:

1. A gable-top container of sheet material comprising a tubular body having four sidewalls, a bottom closure fixed to said body, a pair of opposed roof panels inclined toward each other and overlying the top of said body, a pair of opposed triangular end closure panels infolded between said roof panels from the opposite gable ends formed by the latter, first and second pairs of triangular foldback panels, each pair of triangular foldback panels being joined to the opposite sides of a respective one of said triangular end closure panel along fold lines which are in proximity with said roof panels, said foldback panels being folded against the underside of said roof panels, a ridge panel surmounting each of said roof panels, a ridge panel surmounting each of said foldback panels, each pair of ridge panels surmounting a pair of foldback panels being hinged together at the apex of the continuous end closure panel and being folded about such hinge joinder in face-to-face relation, between the ridge panels of said roof panels, wherein the improvement comprises a handle having an elongated top panel overlying a portion of each roof panel and respective roof ridge panels, first and second handle ridge panels each attached to a separate one of said roof ridge panels, first and second elongated handle side panels each fixedly attached on one side to a separate handle ridge panel, extending upwardly and outwardly from said handle ridge panel, and attached on an opposed side of the top panel, and adjacent weakened lines of severance formed on the top panel from one end of the top panel a distance along the length of said top panel at about the connection points of the handle side panels and the top panel toward the opposed end of said top panel.

2. A container, as set forth in claim 1, wherein the top panel is substantially rectangular, has a length substantially equal to the length of the roof ridge panels, and a width in the range of ¼ to 2½inches.

3. A container, as set forth in claim 1, wherein the weakened lines of severance have a length not greater than three-fourths the length of the top panel.

4. A container, as set forth in claim 1, wherein a score line extends across the width of the handle spaced from the ends of said top panel and in contact with the ends of the weakened lines of severance of said top panel.

5. A container, as set forth in claim 1, wherein the top panel is substantially parallel to the bottom closure.

6. A container, as set forth in claim 1, wherein each handle ridge panel comprise at least two separate ridges.

7. A rectangularly shaped paperboard blank for forming a handle for a gable-top container of rectangular formation, comprising:

a pair of spaced-apart, substantially parallel, first score lines extending longitudinally along the blank from one end of the blank to the other in spaced relation to the sides of said blank, said score lines and edges of the blank defining the handle ridge panels;

substantially parallel weakened lines of severance extending longitudinally along the blank from a first end of the blank toward the second end of the blank a distance not greater than three-fourths the length of said blank, each of said weakened lines of severance spaced from the handle ridge panels and the score lines defining said handle ridge panels, said weakened lines of severance being spaced apart a distance in the range of ¼ to 2½inches; and

substantially parallel score lines, each extending longitudinally along the blank from adjacent the end of a separate weakened line of severance to the second end of the blank, each of said weakened lines of severance extending from the score lines being spaced from the handle ridge panels and the score lines defining said handle ridge panels a distance equal to the spacing therefrom of the weakened lines of severance, said weakened lines of severance and extending score lines and edges of the blank defining a top panel separating adjacent first and second side panels.

8. A blank, as set forth in claim 7, including a score line extending across the width of the blank spaced from the ends of said blank and in contact with the ends of the weakened lines of severance.

9. A blank, as set forth in claim 7, wherein a section of each ridge panel and handles side panel adjacent the end of the weakened lines of severance is removed from the blank.

10. A container, as set forth in claim 7, wherein each handle side panel is substantially of equal width.