

[54] **FOLDING TUB WITH AUTOMATIC BOTTOM**

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[51] **Int. Cl.²** **B65D 5/36**

[58] **Field of Search** 229/41 R, 41 B, 41 C, 41 D,
229/21

[56] **References Cited**

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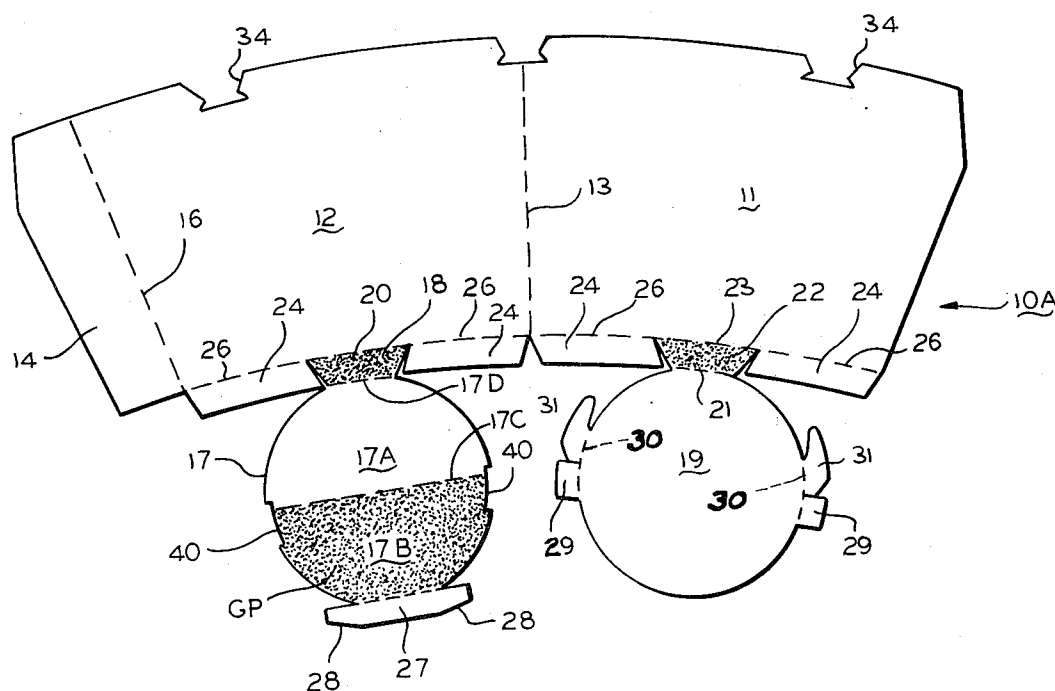
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[57] **ABSTRACT**

A tub is formed from a cut and scored blank of paper-board or the like and includes a first and second wall panels foldably joined with means for joining the panel at the distal ends thereof, so that a tub is defined when erected. A double thickness bottom for the erected tub is provided and comprises an outer bottom panel foldably joined to the first and second panels and folded medially thereof with an inner bottom panel foldably joined to the first wall panel, the outer bottom panel having a half portion joined to the inner bottom panel so that the inner and outer panels can be moved to bottom closing position when the tub is erected with both of the bottom panels extending between the wall panels, and being folded to a position between the wall panels when the tub is in its collapsed condition.

1 Claim, 7 Drawing Figures



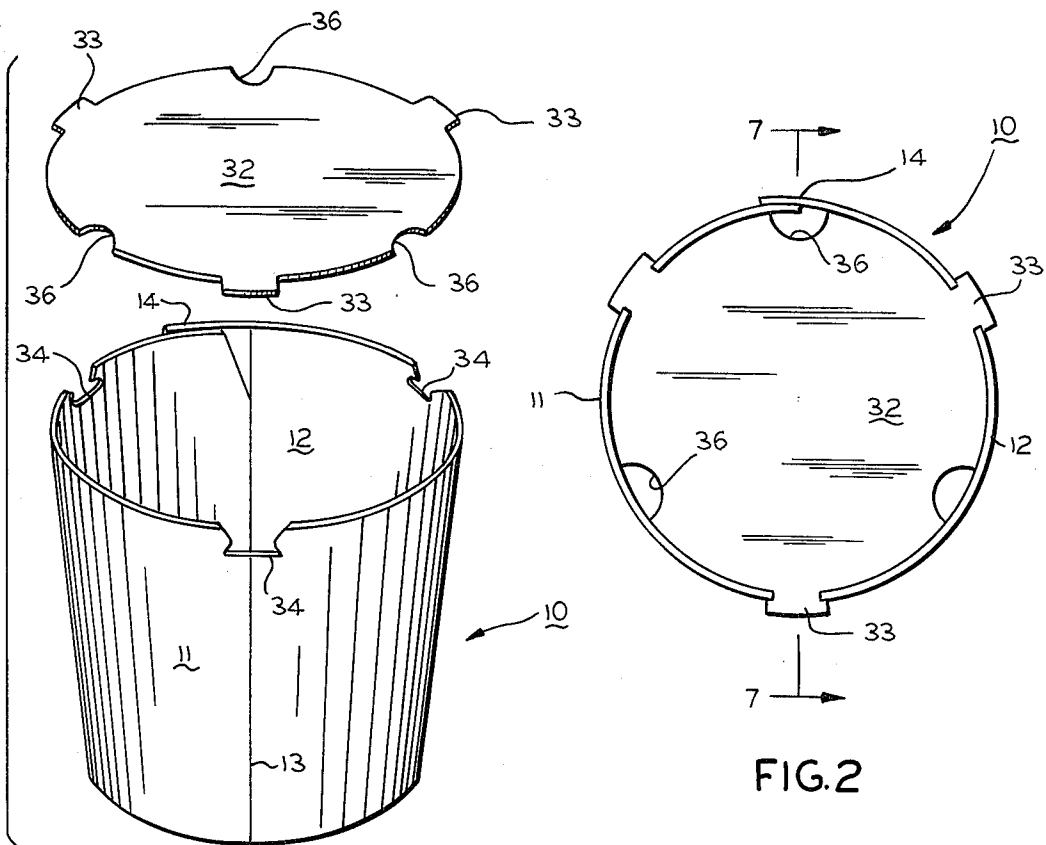


FIG.1

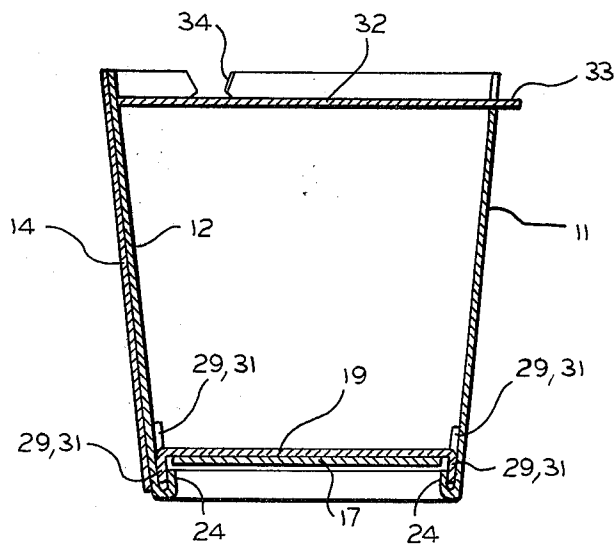
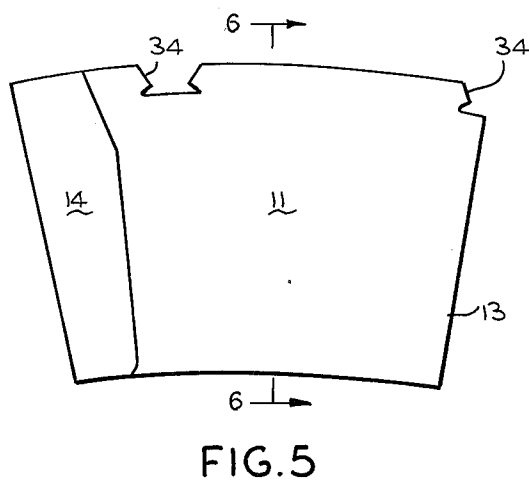
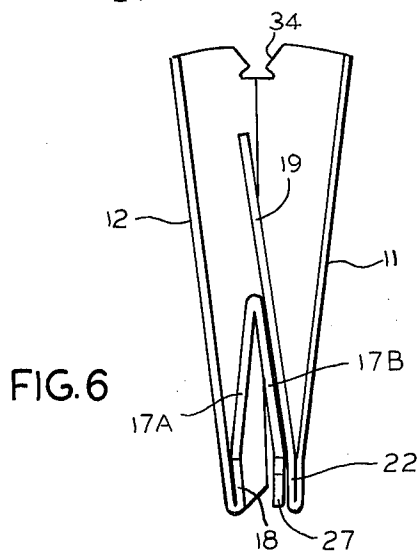
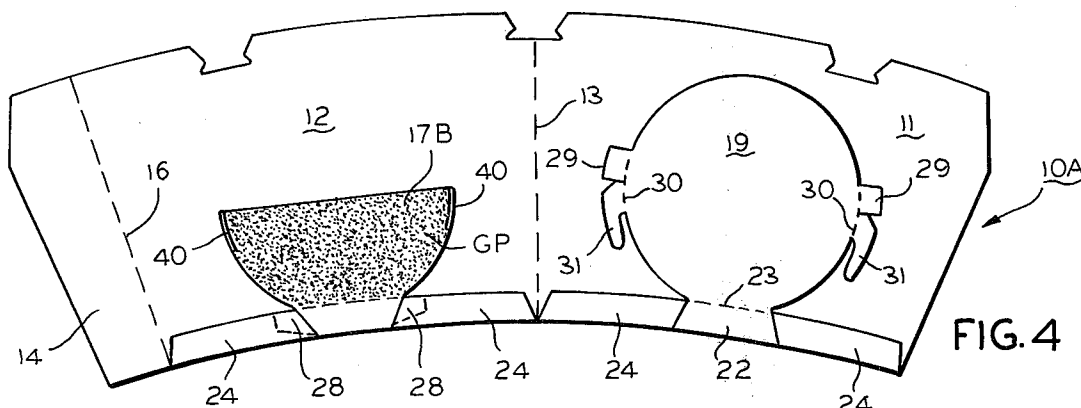
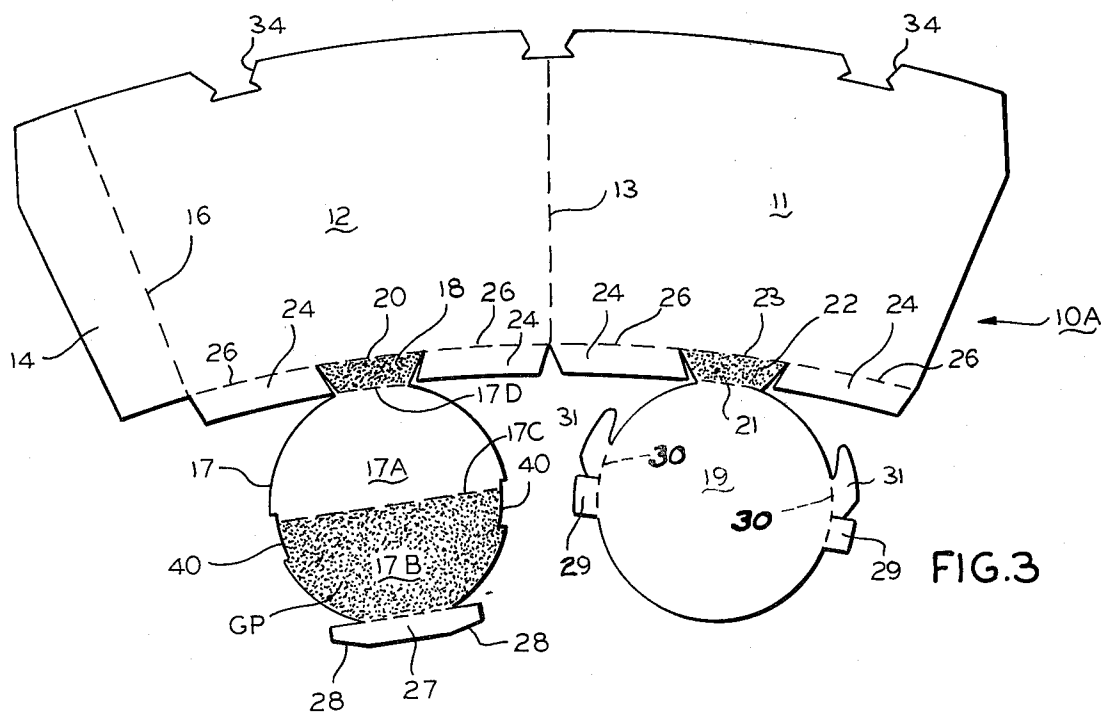


FIG.7



FOLDING TUB WITH AUTOMATIC BOTTOM

BACKGROUND OF THE INVENTION

Field of the Invention

The structure according to the present invention is particularly adapted for the packaging of preprepared carry-out foods, the foods being carried in a tub which can be erected at the point of purchase.

THE DRAWINGS

FIG. 1 is an isometric view of a tub and closure therefor having the improvements according to the present invention embodied therein;

FIG. 2 is a top plan view thereof;

FIG. 3 is a plan view of a cut and scored blank for forming the tub seen in FIG. 1;

FIG. 4 is a view similar to FIG. 3 but showing the bottom panels thereof in position prior to the gluing thereof;

FIG. 5 is a plan view of the tub in its collapsed position;

FIG. 6 is a sectional view taken along the line 6—6 of FIG. 5 looking in the direction of the arrows; and

FIG. 7 is a longitudinal view taken along the line 7—7 of FIG. 2 looking in the direction of the arrows.

Referring now to FIGS. 1 and 2, the improved tub according to the present invention is referred to by the reference numeral 10 and is formed from a cut and scored blank 10A. The latter includes a first major wall panel 11 and a second major wall panel 12 foldably connected along a fold line 13. A glue flap 14 is foldably connected along a fold line 16 to one end of the panel 12, and is adapted to be connected to the panel 11 to form a tub when panels 11 and 12 are erected.

A double thickness bottom for the erected tub is provided, and includes an outer bottom panel 17 and an inner bottom panel 19 foldably joined to the first and second wall panels 12 and 11 respectively. Outer bottom panel 17 includes a half portion 17A connected by a fold line 17D to a glue flap 18 folded along a line 20 to panel 12. Outer bottom panel includes a second half portion 17B having a glue patch GP formed thereon.

Inner bottom panel 19 is foldably connected to a glue tab 22 along a fold line 21, glue tab 22 in turn being connected along a fold line 23 to the panel 11.

As seen in FIG. 4, outer bottom panel 17 is folded upon itself along a fold line 17C and folded against panel 12, tab 18 being glued to the inner face of the panel 12. Inner panel 19 is folded to the position seen in FIG. 4, tab 22 being folded against the inner side of the panel 11. The two panels 11 and 12 are folded upon themselves so that glue portion 17B of outer bottom panel 17 is glued against inner bottom panel 19, as is seen more clearly in FIG. 6.

Structure is provided for stiffening the lower extremities of the erected tub and includes a series of flaps 24 foldably connected to the panels 11 and 12 along fold lines 26, flaps 24 being folded and glued in part against the respective panels as seen in FIG. 4. Panel 17B is provided with a flap 27 having an ear 28 at each end

thereof, each ear being adapted to be tucked into a pocket formed by flaps 24 and the inner face of the walls 11 and 12 as seen.

Inner bottom panel 19 is provided with essentially diametrically located ears 29 which follow the contour of the inner surfaces of the tub as it is being erected and when the inner and outer bottom panels 17 and 19 are moved to a bottom closing position. Inner bottom panel 19 is also provided with other ear elements 31 adapted to move between the tabs 24 adjacent the hold line 13 during the erected operation, the ears 31 being connected to the inner bottom panel 19 in position.

It is believed apparent that when the tub is in the process of being erected, pressure on the inner bottom panel 19 will cause the two folded panel elements 17A and 17B to adopt a straight line position as seen in FIG. 7 with the panels locked in position at their tabs 27, 29 and 31.

The plane of the inner and outer bottom panels 17 and 19 is substantially coextensive with the plane defined by the upper edges of the flaps 24 when folded into position as seen in FIG. 4 and when the tub is erected as seen in FIG. 7, the tub accordingly has a recessed bottom.

Structure is provided for closing the top of the tub 10 and includes a lid 32 having ears 33 extending therefrom each ear being adapted to be engaged in a holding slot 34 located at spaced intervals in the upper extremities of the tub 10. Arcuate cut-outs in the lid 32 enable the lid 32 to be removed readily.

We claim:

1. A cut and scored unitary paperboard blank for forming a tub adapted to be shipped in a collapsed condition, said blank comprising:
 - a. first and second major panels joined along a fold line;
 - b. a glue flap foldably connected to one or said panels along another fold line;
 - c. flanges foldably connected to the bottom edges of said panels and foldable thereagainst for stiffening said panels;
 - d. a first substantially circular panel foldably attached to the lower edge of one of said major panels for forming an inner bottom panel of a tub when the same is erected;
 - e. a second substantially circular panel foldably attached to the lower edge of the other of said major panels for forming an outer bottom panel of said tub;
 - f. said second circular panel having a fold line extending substantially medially thereof and dividing said panel into two substantially equal halves adapted to be folded against one another;
 - g. said first and second circular panels each having a pair of foldable ears hingedly attached thereto along the edges thereof and foldable into position between said flanges and said bottom edge of said major panels when said blank is erected into a tub.

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