United States Patent

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[72] Inventor James H. Katzenmeyer
Elkhart, Ind.

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[73] Assignee Continental Can Company, Inc.
New York, N.Y.

[54] CARTON WITH RESEALABLE POUR OPENING
10 Claims, 7 Drawing Figs.

[52] U.S. Cl. 229/17
[51] Int. Cl. B65d 5/72, B65d 5/70, B65d 5/54
[50] Field of Search 229/17

[56] References Cited
UNITED STATES PATENTS

3,133,689	5/1964	Rossi	229/17
3,203,616	8/1965	Bolton et al.	229/17
3,226,003	12/1965	Hickin	229/17
3,346,165	10/1967	Koolnis	229/17
3,438,565	4/1969	Vanderlugt, Jr.	229/17

Primary Examiner—David M. Bockenek
Attorney—Diller, Brown, Ramik & Holt

ABSTRACT: This disclosure relates to a carton which includes a tear panel adapted to be opened to form a pour opening, and is particularly directed to means for releasably securing the tear panel to an underlying wall portion of the carton whereby the tear panel cannot be inadvertently and/or accidentally opened, and the releasable means constitutes a minor surface area of adhesion between the tear panel and the underlying wall portion whereby the tear panel can be readily ruptured relatively evenly and accurately along tear lines thereof.

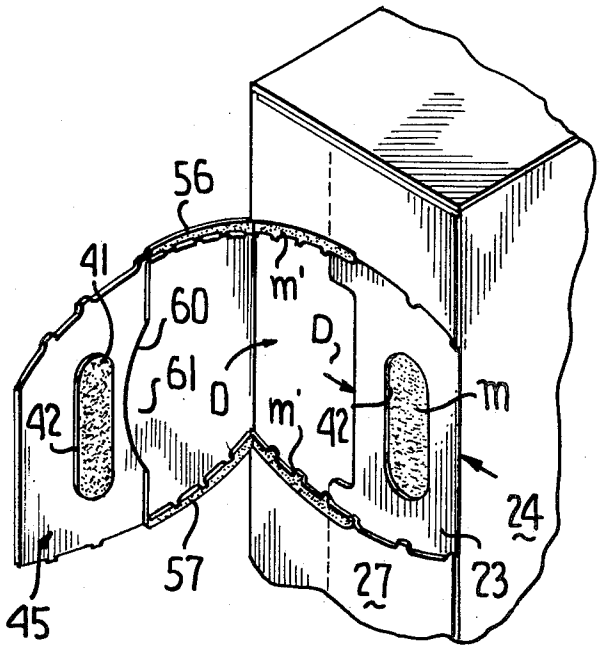


FIG. 1

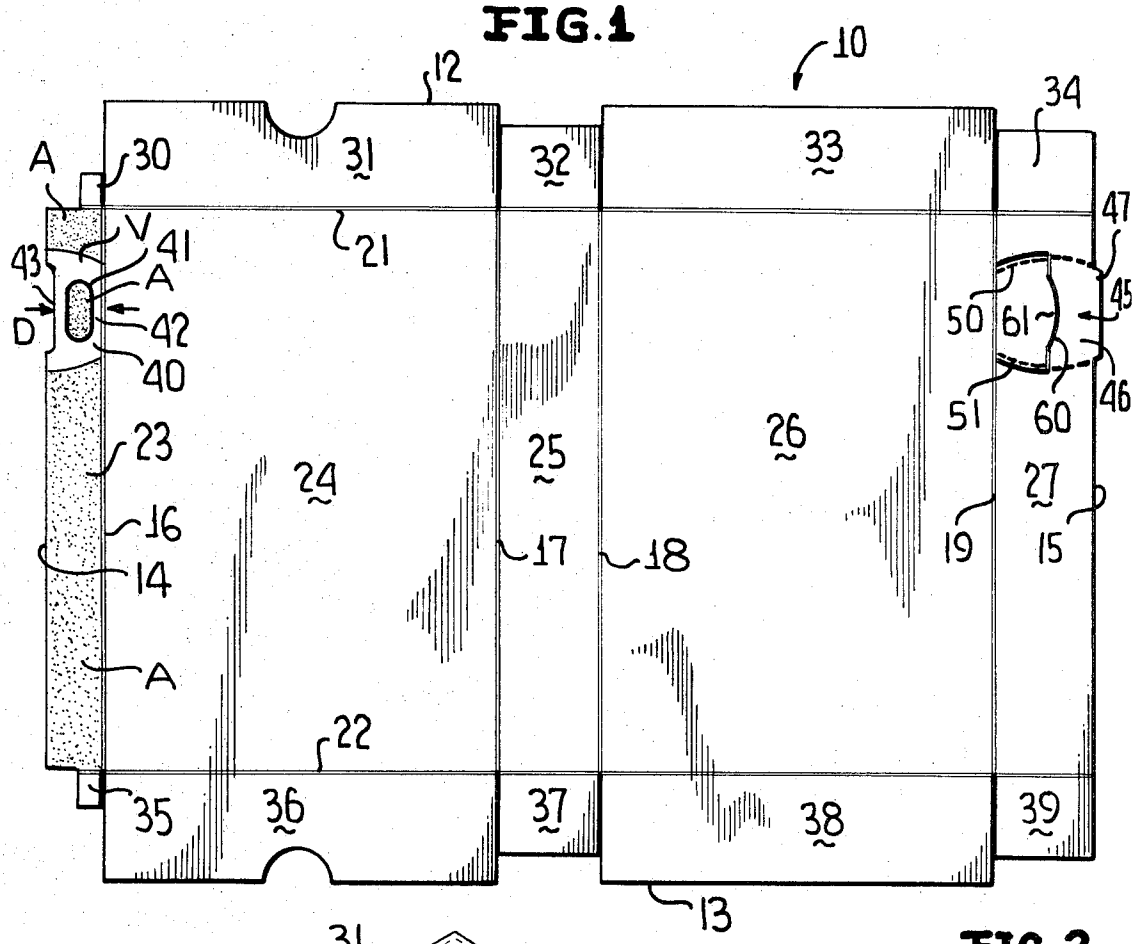


FIG. 2

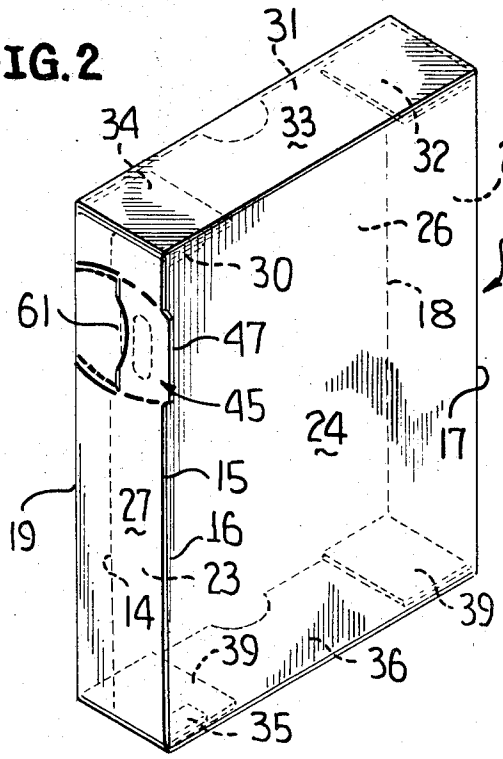
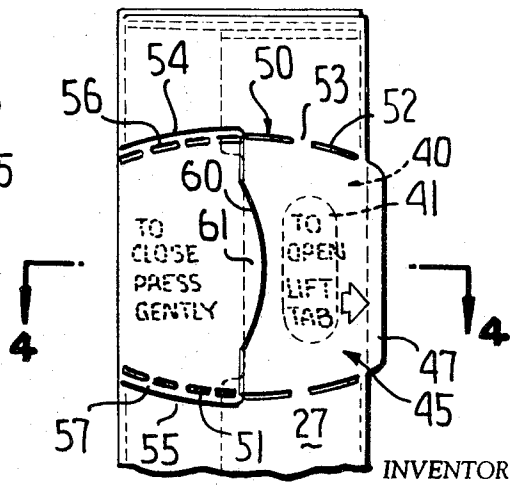


FIG. 3



INVENTOR
JAMES H. KATZENMEYER

BY Mason, Porter, Diller & Brown
ATTORNEYS

FIG.4

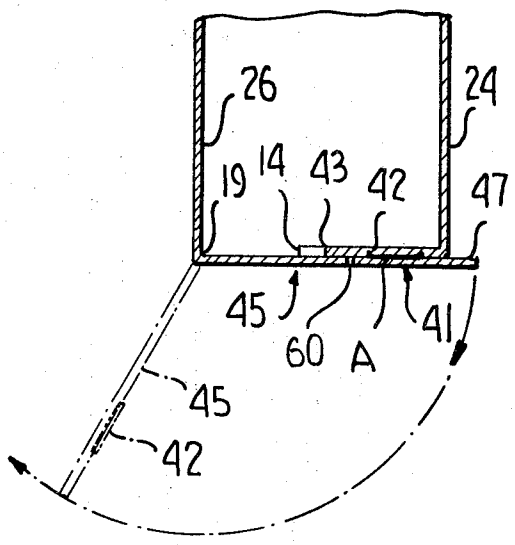


FIG.5

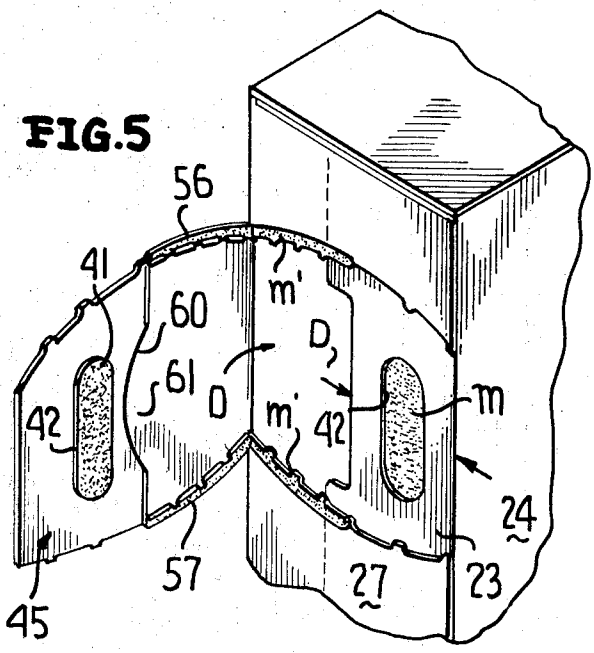
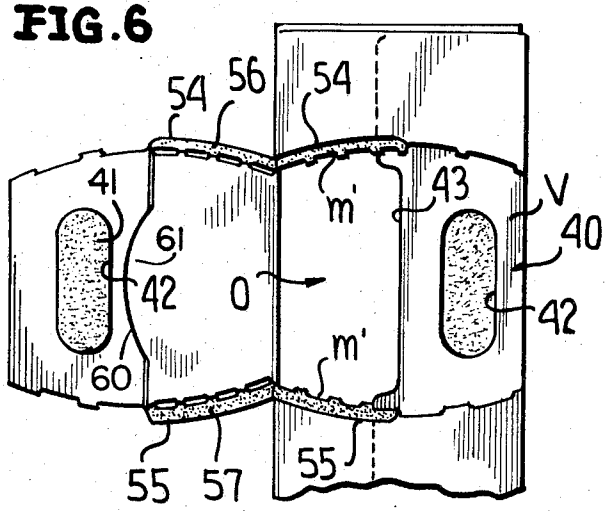


FIG.6



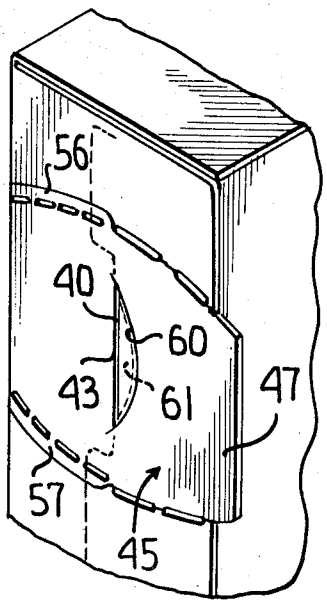


FIG.7

INVENTOR
JAMES H. KATZENMEYER

BY
Mason, Porter, Diller & Brown
ATTORNEYS

CARTON WITH RESEALABLE POUR OPENING

A primary object of this invention is to provide a novel carton blank which is adapted when set up to include an openable pour opening, the blank including a pair of opposite terminal panels adapted to be brought into overlapped relationship, an inner one of the panels having means defining a removable area, and an outer one of the panels having means defining a tear panel for normally exteriorly overlapping the removable area in a closed position and being adapted for adhesive securement thereto whereby the tear panel is released from its closed position by the removal of the removable area from the inner panel.

A further object of this invention is to provide a novel carton blank of the type described wherein the removable area is a line of severance formed in an exterior surface of the inner panel which is preferably constructed from fibrous material whereby upon the opening of the tear panel the exterior surface of the inner panel bounded by the line of severance is removed to facilitate the rupture of the tear panel along its tear lines.

A further object of this invention is to provide a novel blank and a carton formed therefrom of the type heretofore described wherein the removable area is adhesively secured to the tear panel, and the tear panel includes a cut line defining a locking tab for reclosing the tear panel after its having been once opened.

A further object of this invention is to provide a novel carton blank and carton of the type heretofore described wherein the tear panel is defined between a pair of spaced lines of weakness, the tear panel includes a starting end and an opposite end, and a continuous cut line is provided in an exterior surface of the inner panel outboard of each of the pair of lines of weakness adjacent the tear panel opposite end to provide means for subsequently resealing a pour opening of the carton after the tear panel has been once opened.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claimed subject matter, and the several views illustrated in the accompanying drawings.

IN THE DRAWINGS

FIG. 1 is a top plan view of a carton blank constructed in accordance with this invention, and illustrates a pair of terminal panels adjacent transverse edge portions of the blank which are adapted to be brought into overlying relationship, one of the terminal panels including a line of weakness defining a removable area, and the other panel including a tear panel which is adapted to be adhesively secured to the removable area.

FIG. 2 is a perspective view of a carton formed from the carton blank of FIG. 1, and illustrates an outer one of the terminal panels in overlapped relationship to the inner terminal panel.

FIG. 3 is an enlarge fragmentary end view of the upper left hand corner of the carton of FIG. 2, and illustrates a pair of lines of perforations setting off the tear panel and a continuous cut line outboard of each of the lines of perforation which function to form a seal after the tear panel has been once opened.

FIG. 4 is a fragmentary sectional view taken generally along line 4–4 of FIG. 3, and illustrates the manner in which the severance line outlining the removable area is formed in the exterior surface of the inner terminal panel, and adhesive securing the removable area to a starting end portion of the tear panel.

FIG. 5 is a fragmentary perspective view of the corner of the carton illustrated in FIGS. 3 and 4, and illustrates the manner in which the removable area is removed upon the opening of the tear panel during the rupture of the lines of perforations.

FIG. 6 is a fragmentary front elevational view of the carton corner illustrated in FIG. 5, and illustrates the tear panel in its fully opened position exposing a pour opening of the carton through which contents are adapted to be dispensed.

FIG. 7 is a fragmentary perspective view of the carton similar to FIG. 5, and illustrates a locking tab holding the tear panel in a closed position after the latter has been once opened.

Reference is first made to a novel blank constructed in accordance with this invention which is illustrated in FIG. 1 of the drawings, and is generally designated by the reference numeral 10. The carton blank 10 is preferably constructed from paper board or similar fibrous paper stock material, although any other type of material which is relatively flexible and bendable may be employed so long as certain areas thereof are "peelable" or partially removable for a purpose which will be more apparent hereinafter.

The blank 10 is of a generally rectangular configuraon and includes a pair of longitudinal edges 12, 13 and transverse edges 14, 15. A plurality of transverse fold lines 16 through 19 and longitudinal fold lines 21, 22 cooperate to set off a plurality of wall portions or panels 23 through 27 and closure flaps 30 through 39. The closure flaps 30 through 39 are of a conventional construction as are the panels 24 through 26, and a full description thereof is believed unnecessary for a complete understanding of this invention.

The panel 23 is of a generally rectangular configuration and is coated with an adhesive A above, below and between a nonadhesive area 40 which is of a generally D-shaped configuration. A central removable area 41 which imparts the generally D–shaped configuration to the portion 40 is defined by a cut line or a line of severance 42 which is of a generally oval-shaped outline. The line of severance 42 penetrates the outer surface of the blank, as but does not project through the inner surface of the blank, as is best illustrated in FIGS. 4 and 5 of the drawings. The D–shaped area 40 is not only devoid of the adhesive A, but is preferably provided with a coating of varnish V. A recessed edge portion 43 of the terminal edge 14 is also spaced a predetermined distance D from and measured normal to the fold line 16.

The other terminal panel 27 includes a tear panel generally designated by the reference numeral 45. The tear panel 45 includes a starting end portion 46 having a finger-gripping end portion 47 projecting slightly beyond the edge 15. The tear panel 45 is set off between a pair of generally arcuate lines of perforations 50, 51 extending between the finger-gripping portion 47 and the fold line 19. The lines of perforations 50, 51 are best illustrated in FIG. 3 of the drawings and each includes a plurality of slots or openings 52 which open completely through the panel 27. Bridging portions 53 are disposed between adjacent pairs of the slots 52.

A severance line or a partial score line 54, 55 is positioned outboard of the respective lines of perforations 50, 51, and extend between the fold line 19 and a point generally medially of the panel 27. The partial score lines 54, 55 are formed in the same manner as the partial score line 42, namely, the score lines 54, 55 are formed only in the exterior surface of the panel 27 and do not extend into and/or through the interior surface of the latter panel. The partial score lines 54, 55 in conjunction with the adjacent portions of the lines of perforations 50, 51 define respective resealing flaps 56, 57 which will be described more fully in regard to the function thereof hereinafter.

The tear panel 45 also includes an arcuate cut line 60 which defines a latching tab 61. The cut line 60 is spaced from the fold line 19 a distance at least equal to and essentially greater than the distance D to permit the latching tab 61 to interlock with the edge 43 of the panel 23 as will be more apparent hereafter relative to the description of FIG. 7.

The blank 10 is set up to form a carton 65 FIGS. 2 through 7) by securing the inner surface of the panel 27 upon the adhesively coated exterior surface of the panel 23 with the fold line 16 and the edge 15 in generally contiguous aligned relationship. In this position the finger-gripping portion 47 of the tear panel 45 projects beyond the fold line 16, as is best illus-

trated in FIG. 3 of the drawings, and permits the tear panel 45 to be readily grasped for the subsequent partial removal thereof.

The closure flaps 30 through 34 or 35 through 39 are suitably closed, a product such as flour, sugar, etc. is packaged through the remaining open end of the carton, and thereafter the closure flaps 30 through 34 or 35 through 39 are sealed closed. In each case the flaps 33 and 38 are preferably adhesively secured into external overlying relationship to the respective closure flaps 31, 36.

It is to be particularly noted that upon the adhesive securement of the panel 27 to the panel 23 the tear panel 45 is secured to the panel 23 only by the adhesive A on the removable area 41. Thus, under normal usage, as during storage and/or shipment of the carton 65, the adhesive A on the removable area 41 prevents the tear panel 45 from being accidentally and/or inadvertently torn along the lines of perforations 50, 51 and the partial score lines 54, 55. Furthermore, the varnish V is nonadhesive and nontacky and assures that the tear panel 45 is secured to the panel 23 only by the adhesive of the removable area 41.

When it is desired to dispense a product from the carton 65 the finger-gripping portion 47 is grasped and pulled in the direction of unnumbered headed arrows in FIG. 4 from the solid outline position to the phantom outline position thereof. During this tearing the bond strength of the adhesive at the removable area 41 is greater than the rupture or tear strength of the fibrous material from which the panel 23 is constructed and the fiber-breakdown results in the removal of the removable area 41 from the panel 23 and the transfer thereof to the tear panel 45, as is clearly illustrated in FIG. 5. In other words, the area 41 bounded by the partial score line 42 is ruptured and removed from the panel 23 while remaining material M is not. Thus, the tear panel 45 is released without forming a through opening in the panel 23.

The limited size of the removable area 41 also insures that the tear panel will sever along the lines of perforations 50, 51 until the partial score lines 54, 55 are reached. At this point throughtearing occurs along the inside of the lines of perforations 50, 51 but not along the outsides, as shown in FIG. 6, and the reclosure flaps 56, 57 are carried along by the tear panel 45 during the progressive rupture thereof. It is to be noted that the reclosure flaps 56, 57 are formed only by an exterior surface of the panel 27 while inboard material M' remains intact above and below the partial score lines 54, 55, as shown in FIG. 6. Thus, when a pour opening O (FIG. 6) is closed by reclosing the tear panel 45, as shown in FIG. 7, the reclosure flaps 56, 57 overlie the inner material M' of the panel 27 and form a seal which prevents the material from readily escaping, as would occur if the portions of the lines of perforations 50, 51 inboard of the cut lines 54, 55 were completely severed.

It is also to be noted that upon the reclosing of the tear panel 45, as shown in FIG 7, it is simply necessary to push or press the tear panel 45 inwardly adjacent the tab 61 to cause the latter to snap behind the panel 23 adjacent the edge 43. This is due to the greater maximum distance between the fold line 19 and the cut line 60 as compared to the distance D between the edge 43 and the fold line 16. The tear panel 45 may, of course, be again reopened by simply gripping the finger-gripping portion 47 and swinging the tear panel in the direction of the unnumbered headed arrows in FIG. 4 at which point the tab 61 will automatically disengage from behind the edge 43 of the panel 23.

While preferred forms and arrangements of parts have been shown in illustrating the invention, it is to be clearly understood that various changes in details and arrangement of parts may be made without departing from the spirit and scope of this disclosure.

I claim:

1. A carton blank adapted when set up to include an openable pour opening comprising a generally rectangular body-forming blank constructed from fibrous shearable peelable material, a plurality of transverse fold lines setting off a plurality of body-forming panels, a first of said body-forming panels being defined by a first of said plurality of transverse fold lines and an adjacent first transverse terminal edge, a second of said body-forming panels being disposed at an end of said blank opposite said first panel and being defined by a second of said plurality of transverse fold lines and an adjacent second transverse terminal edge, said second panel being adapted for overlying adhesive securement to said first panel, said first panel having means defining an openable pour opening, said second panel having means defining a tear panel for normally exteriorly overlapping said pour opening defining means, and one of said first and second panels having means in only one exterior surface thereof defining a removable peelable surface area between said tear panel and said first panel contiguous the pour opening defining means whereby only said peelable surface area is removed to release said tear panel from its closed position.

2. The carton blank as defined in claim 1 wherein said removable area defining means is a line of weakness.

3. The carton blank as defined in claim 1 wherein said removable area defining means is a continuous line of weakness disposed between one of said first and second transverse fold lines and said respective first and second transverse terminal edges.

4. The carton blank as defined in claim 1 wherein said tear panel includes a cut line defining a locking tab, and the distance between the cut line and said second transverse fold line is at least in part greater than the normal distance between said first fold line and said first transverse terminal edge.

5. The carton blank as defined in claim 2 wherein said tear panel includes a cut line defining a locking tab, and the distance between the cut line and said second transverse fold line is at least in part greater than the normal distance between said first fold line and said first transverse terminal edge.

6. The carton blank as defined in claim 1 including adhesive means securing said second panel upon said first panel with said tear panel in overlying relationship to said pour opening defining means, and adhesive means between said tear panel and said removable peelable surface area.

7. The carton blank as defined in claim 6 wherein said surface area defining means is a continuous line of severance.

8. The carton blank as defined in claim 6 wherein said first transverse terminal edge is parallel but spaced from said second transverse fold line to in part define said pour opening defining means.

9. The carton blank as defined in claim 8 wherein said panel includes a cut line defining a locking tab, and the distance between said cut line and said second transverse fold line is at least in part greater than the normal distance between said second transverse fold line and said first transverse terminal edge.

10. The carton blank as defined in claim 6 wherein said means defining said removable peelable surface is a continuous line of severance disposed between said first transverse fold line and said first transverse edge, said tear panel includes a cut line defining a locking tab, said peelable surface area being adhesively secured to said tear panel between said cut line and said second transverse edge, and the distance between said cut line and said second transverse fold line is at least in part greater than the normal distance of the first transverse edge from the first transverse fold line.