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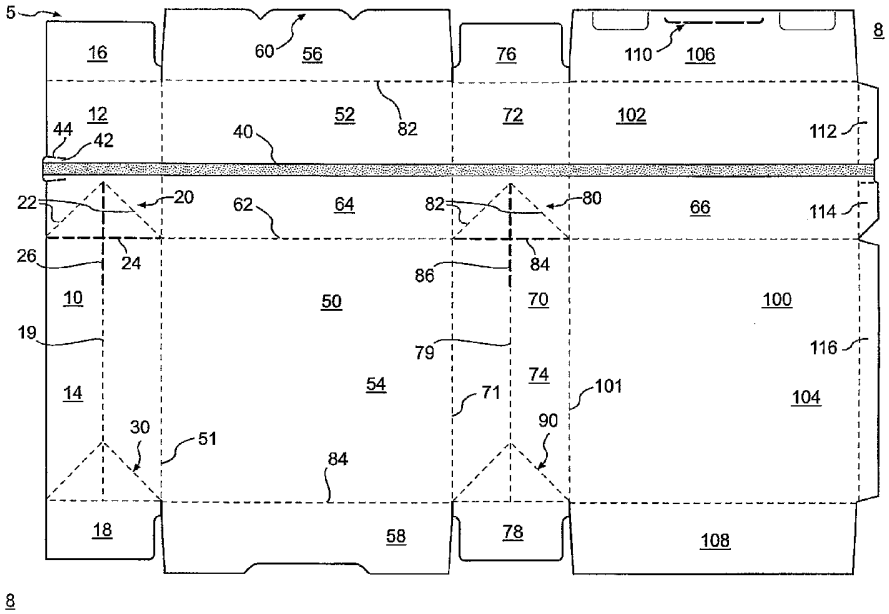

(57) Abstract: A carton (150) accommodates a flexible vessel and includes a reclosure feature (20,40,80) . The reclosure feature provides a relatively tight seal for the contents of the flexible vessel.

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RECLOSABLE CARTON

RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 60/680,158, filed May 12, 2005, entitled "Reclosable Carton," the entire contents of which are hereby incorporated by reference as if presented herein.

BACKGROUND

[0002] Dispensing paperboard cartons are known. The cartons typically accommodate a flexible bag used to store foodstuffs and other dispensable items. Conventional cartons have a top panel formed from four glued flaps that are separable to open a top portion of the carton. The bag can be opened and the contents of the carton dispensed from the opened carton top. The top panel, however, when reclosed, may not provide a sufficiently tight seal for the contents of the bag. Conventional paperboard cartons also occupy a fixed volume that is determined by the amount of product held within the carton upon initial sale. When a portion of the product held within the carton is consumed, the carton continues to occupy a relatively large storage space, which may be limited, to store a reduced amount of product.

SUMMARY

[0003] According to a first exemplary embodiment of the invention, a carton comprises a first side panel, a first end panel, a second side panel, a second end panel, a top panel, a bottom panel, a flexible vessel disposed within the carton, and a tear strip extending around the perimeter of the carton. The flexible vessel can accommodate, for example, dispensable articles such as foodstuffs. The tear strip defines an upper edge of a first reclosure flap in the first side panel and an upper edge of a second reclosure flap in the second side panel.

[0004] According to one exemplary aspect of the first embodiment, the tear strip can be removed in order to separate the carton into an upper section and a reclosable lower section. Removing the upper section of the carton allows access to the flexible vessel accommodated within the reclosable lower section, from which a user can dispense product stored in the vessel. When the user has dispensed a desired amount of product from the flexible vessel, the open upper part of the vessel can be pressed between the first reclosure flap and the second reclosure flap, and the reclosure flaps pivoted inwardly toward one another with the upper part of the vessel held therebetween. The reclosure flaps secure the opened upper end of the vessel and provide a relatively tight seal for the vessel's open end. The reclosure flaps can be selectively opened to dispense further vessel contents and subsequently reclosed.

[0005] According to another aspect of the first embodiment, the height of the carton can be reduced by removing the upper section of the carton. The carton may be reduced in height when, for example, a portion of the contents of the carton have been consumed or otherwise dispensed. The remainder of the contents, which are accommodated within the reclosable lower section of the carton, are thereby stored in a carton which occupies less space than the original carton. The reduced size of the carton also allows a consumer to visually evaluate the reduced amount of product remaining in the carton, which may serve as cue to purchase more product.

[0006] Those skilled in the art will appreciate the above stated advantages and other advantages and benefits of various additional embodiments reading the following detailed description of the embodiments with reference to below-listed drawing figures.

[0007] According to common practice, the various features of the drawings discussed below are not necessarily drawn to scale. Dimensions of various features and elements in the drawings may be expanded or reduced to more clearly illustrate the embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0008] **FIG. 1** is a plan view of a blank used to form a carton according to a first embodiment of the invention.

[0009] **FIG. 2** is a perspective view of the carton in a partially erected state.

[0010] **FIG. 3** is a perspective view of the erected carton.

[0011] **FIG. 4** is a partial end view of the carton.

[0012] **FIGS. 5** and **6** illustrate a tear strip of the carton being removed.

[0013] **FIG. 7** illustrates the carton with an upper section of the carton removed, leaving a reclosable lower section.

[0014] **FIG. 8** is a partial view of a first end of the reclosable lower section being closed.

[0015] **FIG. 9** is a partial view of a second end of the reclosable lower section being closed.

[0016] **FIG. 10** is a partial view of the first end of the reclosable lower section being closed.

[0017] **FIG. 11** illustrates the reclosable lower section closed.

DETAILED DESCRIPTION

[0018] The present embodiments are addressed to a carton that is separable into an upper section and a reclosable lower section. The reclosable lower section may accommodate a flexible vessel that is accessible after the upper section is removed, and includes a reclosure feature that allows an upper portion of the flexible vessel to be relatively tightly closed after opening. In this specification, the terms "lower," "upper," "side," "bottom," and "top" indicate orientations determined in relation to a fully erected, upright carton.

[0019] **FIG. 1** is a plan view of a first, interior side of a blank **8** used to form a carton **150** (illustrated in **FIG. 3**) according to a first embodiment of the invention. The blank **8** comprises a first end panel **10** foldably connected to a first side panel **50** at a first transverse fold line **51**, a second end panel **70** foldably connected to the first side panel **50** at a second transverse fold line **71**, and a second side panel **100** foldably connected to the second end panel **70** at a third transverse fold line **101**.

[0020] The first end panel **10** is foldably connected to a first end top flap **16** and a first end bottom flap **18**. The first side panel **50** is foldably connected to a first side top flap **56** and a first side bottom flap **58**. The second end panel **70** is foldably connected to a second end top flap **76** and a second end bottom flap **78**. The second side panel **100** is foldably connected to a second side top flap **106** and a second side bottom flap **108**. The top flaps **16, 56, 76, 106** extend along an upper or top marginal area of the blank **8** and may be foldably connected at an upper longitudinally extending fold line **82**. The bottom flaps **18, 58, 78, 108** extend along a lower or bottom marginal area of the blank **8** and may be foldably connected at a lower longitudinally extending fold line **84**. The longitudinal fold lines **82, 84** may be straight fold lines, or may be offset at one or more locations to account for, for example, blank thickness or other factors. When the carton **150** is erected, the top flaps **16, 56, 76, 106** close a top opening of the carton **150**, and the bottom flaps **18, 58, 78, 108** close a bottom opening of the carton **150** (illustrated in **FIG. 3**).

[0021] According to one exemplary aspect of the present invention, the blank **8** includes a tear strip **40** that divides the first end panel **10** into upper and lower first end panel sections **12, 14**, the first side panel **50** into upper and lower first side panel sections **52, 54**, the second end panel **70** into upper and lower second end panel sections **72, 74**, and the second side panel **100** into upper and lower second side panel sections **102, 104**. An adhesive panel **112** may be foldably connected to the upper second side panel section **102**, and adhesive panels **114, 116** may be foldably connected to the lower second side panel section **104**. A longitudinal fold line **62** extends along the length of the blank **8**, and defines a bottom edge of a first reclosure flap **64** in the lower first side panel section **54**. The longitudinal fold line **62** also defines a bottom edge of a second reclosure flap **66** in the lower second side panel section **104**. The tear strip **40** defines the upper edges of the first and second reclosure flaps **64, 66**, and may include a pull tab **42** defined by at least one tear line **44**.

[0022] The first end panel **10** includes a first reclosure pattern **20** at an upper portion of the first lower end panel section **14**. The second end panel **70** includes a second reclosure pattern **80** at an upper portion of the second lower end panel section **74**. The first and second reclosure patterns **20**, **80** comprise lines of disruption that allow the end panels **10**, **70** to deform in order to facilitate reclosable sealing of the carton, as discussed in detail below. In the exemplary embodiment, the first reclosure pattern **20** includes a longitudinal or horizontal cut/crease line **24** and a transverse or vertical cut/crease line **26** that intersect one another in the first end panel **10**. Oblique crease lines **22** form an inverted V-shape over the intersecting cut/crease lines **24**, **26**. Similarly, the second reclosure pattern **80** includes intersecting cut/crease lines **84**, **86** and crease lines **82** arranged in an inverted V-shape.

[0023] Each end panel **10**, **70** includes a respective transverse or vertical crease line **19**, **79** extending from the vertical cut/crease lines **26**, **86**, respectively, to the longitudinal fold line **84**. The crease line **19** extends vertically through the first end panel **10** and intersects with a V-shaped crease line **30** near the bottom of the first end panel **10**. The crease line **79** extends vertically through the second end panel **70** and intersects with a V-shaped crease line **90** near the bottom of the second end panel **70**. The crease lines **19**, **79**, **30**, **90** also facilitate reclosure of the first and second reclosure flaps **64**, **66**, as discussed in further detail below.

[0024] The first side top flap **56** can include a closure tab **60** that is sized to be received in a closure slit **110** formed in the second side top flap **106**. The closure tab **60** and closure slit **110** provide for an optional method of reclosable sealing of the carton **150** (illustrated in **FIG. 3**) after the top panel of the carton is opened.

[0025] An exemplary process of erecting the carton **150** from the blank **8** will now be discussed with reference to **FIGS. 1-4**. Referring to **FIGS. 1** and **2**, glue or other adhesive is applied to the adhesive panels **112**, **114**, **116** on the exterior side of the blank **8**. The adhesive can be, for example, liquid glue, glue strips, or other materials. The blank **8** is then folded so that the exterior sides of the adhesive panels **112**, **114**, **116** adhere to the interior side of the first end panel **10**. The glued blank is then opened to have the closed, generally tubular form shown in **FIG. 2**.

[0026] **FIG. 3** is a front perspective view of the erected carton **150**. Referring also to **FIG. 2**, the carton **150** is fully erected when the top flaps **16, 56, 76, 106** are folded over and adhered to form a top panel **160**, and the bottom flaps **18, 58, 78, 108** are folded over and adhered to form a bottom panel **170**. A bag **140** (illustrated in **FIGS. 8** and **11**) or other flexible vessel may be inserted in the carton **150** in a conventional manner at any time before closing the flaps **16, 56, 76, 106, 18, 58, 78, 108**. The bag **140** may be filled with product and then inserted into the carton, or, the bag **140** may be inserted empty and filled with product afterwards. The tear strip **40** may extend around all or substantially all of the perimeter of the carton **150**.

[0027] In an optional method of opening and reclosing the carton **150**, the top panel **160** of the carton **150** can be opened by pulling up on the top flap **56** and breaking the connection to the top flap **106**. The opened top panel **160** can be subsequently reclosed by engaging the closure tab **60** with the closure slit **110**. **FIG. 3** illustrates the top panel **160** in a reclosed state, with the closure tab **60** inserted in the closure slit **110**. The top panel **160** can be selectively opened and closed, for example, in order to dispense product from the flexible vessel **140** (illustrated in **FIGS. 8** and **11**) accommodated within the carton **150**.

[0028] **FIG. 4** is a partial end view of the carton **150** illustrating a portion of the first end panel **10** and the tear strip **40**. The tear strip **40** with pull tab **42** is disposed adjacent to the top of the inverted V-shaped crease lines **22** of the first reclosure pattern **20**, with the pull tab **42** extending from the corner of the carton **150** so that it may be easily grasped. The cut-crease line **26** and the crease line **19** extend generally vertically through the first end panel **10**. Similarly, at the second end of the carton **150** (not shown in **FIG. 4**), the cut-crease line **86** and the crease line **79** extend vertically through the second end panel **70**.

[0029] A method of opening and reclosure of the carton **150** will now be discussed with reference to **FIGS. 5-11**. According to the method illustrated in **FIGS. 5-11**, the carton **150** can be selectively opened and reclosed so that the contents of a bag **140** or other vessel accommodated within the carton **150** may be dispensed and then securely retained in a reclosable section of the carton.

[0030] Referring to **FIGS. 5** and **6**, the tear strip **40** is grasped at the pull tab **42** and pulled away from the surface of the carton **150**. The tear strip **40** is then pulled around the entire perimeter of the carton **150**. The upper section of the carton **150** located above the tear strip **40** can now be separated from the lower section of the carton and discarded along with the tear strip.

[0031] **FIG. 7** is a partial top perspective view of the carton **150** with the tear strip **40** removed, and the upper section of the carton **150** discarded. A reclosable lower carton section **200** of the original carton **150** remains. For illustrative purposes, the bag **140** disposed within the reclosable lower carton section **200** is not shown in **FIG. 7**.

[0032] The bag **140** can accommodate, for example, foodstuffs and other dispensable product. Referring to **FIGS. 7** and **8**, with the upper section of the carton **150** removed, the bag **140** can be opened and the contents of the bag can be accessed and/or dispensed from the open top of the lower section **200**. After a desired amount of product is dispensed, the reclosable lower section **200** can be reclosed to seal the bag **140**. Reclosure of the lower section **200** is discussed below with reference to **FIGS. 8-11**.

[0033] Referring to **FIG. 8**, the reclosure process is illustrated at the lower first end panel **14** end of the reclosable lower section **200**. The lower second end panel **74** at the opposite end of the lower section **200** undergoes the same process when reclosing the lower section **200**. Reclosure is initiated by pulling the lower first end panel **14** outwardly at the reclosure pattern **20**, so that the lower first end panel **14** deforms outwardly at the cut-crease line **26** (illustrated in **FIG. 1**) and also bends at the lines **22, 24**. The lower second end panel **74** (not shown) is similarly pulled outwardly at the reclosure pattern **80** and deforms at the lines **82, 84, 86** (illustrated in **FIG. 1**). The bag **140** is pressed between the first reclosure flap **64** (not shown in **FIG. 8**) and the second reclosure flap **66** as the upper portions of the lower end panels **14, 74** extend outwardly. The folded upper portions of the lower end panels **14, 74** are then pivoted downwardly in the direction of the curved arrow.

[0034] **FIG. 9** illustrates the second end of the lower section **200** during reclosure of the section. The bag **140** is not shown in **FIGS. 9** or **10** so that folding of the lower end panels **14, 74** is more clearly illustrated. Referring to **FIG. 9**, the deformed portion of the lower second end panel **74** is pivoted downwardly in the direction of the curved arrow.

[0035] Referring to **FIG. 10**, as the deformed upper portions of the lower end panels **14, 74** are pivoted downwardly, the second reclosure flap **66** rotates inwardly in the direction of the curved arrow. At the same time, the first reclosure flap **64** pivots inwardly in the direction of the other curved arrow. The bag **140** is pressed between the first and second reclosure flaps **64, 66**, as illustrated in **FIG. 11**.

[0036] Referring to **FIG. 11**, the bag **140** is tightly pressed between the underside of the first reclosure flap **64** and the upper side of the second reclosure flap **66**, and extends toward one side of the section **200** from beneath the first reclosure flap **64**. The lower section **200** is now in its reclosed state, with the upper portion of the bag **140** held between the first and second reclosure flaps **64, 66** in a relatively tight seal.

[0037] According to one aspect of the above-described embodiment, the lower carton section **200** can be reclosed with a relatively tight seal. The seal is particularly advantageous when product held within the carton is perishable or otherwise sensitive to the outside environment.

[0038] According to another aspect of the first embodiment, the height of the carton **150** is reduced when the carton is separated into the upper and lower sections. Referring to **FIGS. 3** and **11**, the height of the carton **150**, which may generally coincide with the height of the side panels **50, 100**, is larger than the height of the bottom carton section **200** in its reclosed state. The height of the bottom carton section **200** may be, for example, less than about 80% of the height of the carton **150**. Therefore, after a portion of the carton contents have been dispensed, the remainder of the contents can be stored in the bottom carton section **200** that occupies less space than the carton **150**. The reduced size of the carton also allows a consumer to roughly visually evaluate the reduced amount of product remaining in the carton, which may serve as cue to purchase more product.

[0039] In the illustrated embodiment, the flexible vessel in the carton **150** is a conventional bag **140**. The bag **140** may be formed from, for example, plastics or other materials. Other types of vessels, such as paper, etc. may be used depending upon the nature of the product to be accommodated within the flexible vessel.

[0040] In the illustrated embodiment, the tear strip **40** is illustrated as a single continuous filament tear strip that may be removed in a single operation. The tear strip may, however, be a segmented strip that is removeable in stages. In practice, any tear strip form that allows a user to separate the carton **150** into upper and lower sections may be used. The tear strip may be combined with 100% and/or partial cuts or scores in the blank **8** to facilitate removal of the tear strip.

[0041] In the illustrated method of reclosing the lower section **200**, the second reclosure flap **66** is illustrated as folded under the first reclosure flap **64**, with the bag **140** extending toward the lower second side panel **104**. The lower section **200** may, however, alternatively be reclosed by folding the first reclosure flap **64** under the second reclosure flap **66**. In this method of reclosure, the bag **104** would extend toward the lower first side panel **54**.

[0042] The lower section **200** may, for example, be reclosed without pressing a flexible vessel between the reclosure flaps **64, 66**. For example, if no flexible vessel were present in the lower section **200**, the reclosure flaps **64, 66** could be closed as illustrated in **FIG. 10**. Or, a user may elect to tuck a flexible vessel into the interior of the lower section **200** and close the flaps **64, 66** over the vessel.

[0043] The blank **8** can be, for example, formed from hard paper, paperboard and similar materials. In the exemplary embodiment discussed above, the blank is formed from clay coated newsprint (CCN). In general, the blank may be constructed of paperboard, having a caliper of at least about 14, so that it is heavier and more rigid than ordinary paper. The blank, and thus the carton, can also be constructed of other materials, such as cardboard, or any other material having properties suitable for enabling the carton to function at least generally as described above.

[0044] The first and second sides of the blank can be coated with, for example, a clay coating. The clay coating may then be printed over with product, advertising, and other

information or images. The blank may then be coated with a varnish to protect any information printed on the blank. The blank may also be coated with, for example, a moisture barrier layer, on either or both sides of the blank. The blank can also be laminated to or coated with one or more sheet-like materials at selected panels or panel sections.

[0045] In accordance with the exemplary embodiments, a fold line can be any substantially linear, although not necessarily straight, form of weakening that facilitates folding therealong. More specifically, but not for the purpose of narrowing the scope of the present invention, fold lines include: a score line, such as lines formed with a blunt scoring knife, or the like, which creates a crushed portion in the material along the desired line of weakness; a cut that extends partially into a material along the desired line of weakness, and/or a series of cuts that extend partially into and/or completely through the material along the desired line of weakness; and various combinations of these features.

[0046] The above embodiments are described as having one or more panels adhered together by glue. The term "glue" is intended to encompass all manner of adhesives commonly used to secure carton panels in place.

[0047] The foregoing description of the invention illustrates and describes the present invention. Additionally, the disclosure shows and describes only selected embodiments of the invention, but it is to be understood that the invention is capable of use in various other combinations, modifications, and environments and is capable of changes or modifications within the scope of the inventive concept as expressed herein, commensurate with the above teachings, and/or within the skill or knowledge of the relevant art.

WHAT IS CLAIMED IS:

1. A blank for forming a carton, comprising:

a first side panel;

a first end panel;

a second side panel;

a second end panel;

at least one top flap extending across a first marginal portion of the blank;

at least one bottom flap extending across a second marginal portion of the blank; and

at least one tear strip extending along at least substantially an entire length of the blank, through the first side panel, the first end panel, the second side panel, and the second end panel, the at least one tear strip at least partially defining a first reclosure flap in the first side panel and a second reclosure flap in the second side panel.

2. The blank of claim 1, wherein:

the at least one tear strip divides the first side panel into a lower first side panel section and an upper first side panel section; and

the at least one tear strip divides the second side panel into a lower second side panel section and an upper second side panel section.

3. The blank of claim 2, wherein:

the at least one tear strip divides the first end panel into a lower first end panel section and an upper first end panel section; and

the at least one tear strip divides the second end panel into a lower second end panel section and an upper second end panel section.

4. The blank of claim 3, further comprising a first reclosure pattern in the first end panel adjacent to the at least one tear strip.

5. The blank of claim 4, wherein the first reclosure pattern comprises a plurality of lines of disruption in the first end panel.

6. The blank of claim 5, further comprising a second reclosure pattern in the second end panel adjacent to the at least one tear strip.

7. The blank of claim 4, further comprising a crease in the first end panel adjacent to the at least one bottom flap.

8. The blank of claim 3, wherein a height of the upper first side panel section plus a height of the at least one tear strip is at least 20% of a height of the first side panel.

9. The blank of claim 6, wherein a height of the upper first side panel section plus a height of the at least one tear strip is at least 20% of a height of the first side panel.

10. The blank of claim 1, wherein the at least one top flap comprises a first side top flap foldably connected to the first side panel and a second side top flap foldably connected to the second side panel.

11. The blank of claim 2, wherein a length of the first side panel is approximately equal to a length of the second side panel.

12. The blank of claim 11, wherein the first side panel, the first end panel, the second side panel, and the second end panel are substantially rectangular.

13. The blank of claim 1, wherein the blank is constructed of paperboard.

14. A carton, comprising:

a first side panel;

a first end panel;

a second side panel;

a second end panel;

a top panel;

a bottom panel, wherein the first side panel, the first end panel, the second side panel, the second end panel, the top panel and the bottom panel form a substantially parallelepipedal enclosure;

at least one tear strip extending through the first side panel, the first end panel, the second side panel, and the second end panel, the at least one tear strip at least partially defining a first reclosure flap in the first side panel and a second reclosure flap in the second side panel; and

a flexible vessel disposed within the substantially parallelepipedal enclosure.

15. The carton of claim 14, wherein:

the at least one tear strip divides the first side panel into a lower first side panel section and an upper first side panel section; and

the at least one tear strip divides the second side panel into a lower second side panel section and an upper second side panel section.

16. The carton of claim 15, wherein:

the at least one tear strip divides the first end panel into a lower first end panel section and an upper first end panel section; and

the at least one tear strip divides the second end panel into a lower second end panel section and an upper second end panel section.

17. The carton of claim 16, further comprising a first reclosure pattern in the first end panel adjacent to the at least one tear strip, wherein the first reclosure pattern comprises a plurality of lines of disruption in the first end panel.

18. The carton of claim 17, further comprising a second reclosure pattern in the second end panel adjacent to the at least one tear strip.

19. The carton of claim 16, wherein a height of the upper first side panel section plus a height of the at least one tear strip is at least 20% of a height of the carton.

20. The carton of claim 14, wherein the top panel comprises a plurality of top flaps and the bottom panel comprises a plurality of bottom flaps.

21. A method of opening and reclosing carton, comprising:

providing a carton according to claim 14;

tearing the at least one tear strip around a perimeter of the carton to separate the carton into an upper section and a reclosable lower section.

22. The method of claim 21, further comprising:

pressing an upper portion of the flexible vessel between the first reclosure flap and the second reclosure flap; and

folding the first reclosure flap and the second reclosure flap inwardly toward one another, wherein the upper portion of the flexible vessel remains pressed between the first reclosure flap and the second reclosure flap.

23. A method opening and reclosing carton, comprising:

providing a carton according to claim 18;

tearing the at least one tear strip around a perimeter of the carton to separate the carton into an upper section and a reclosable lower section;

pressing an upper portion of the flexible vessel between the first reclosure flap and the second reclosure flap;

deforming a portion of the first end panel outwardly at the first reclosure pattern;

deforming a portion of the second end panel outwardly at the second reclosure pattern; and

folding the first reclosure flap and the second reclosure flap inwardly toward one another, wherein the upper portion of the flexible vessel remains pressed between the first reclosure flap and the second reclosure flap.

24. The method of claim 23, further comprising pivoting the deformed portion of the first end panel downwardly before pivoting the first reclosure flap and the second reclosure flap inwardly toward one another.

25. A carton, comprising:

a first side panel;

a first end panel;

a second side panel;

a second end panel;

a top panel;

a bottom panel, wherein the first side panel, the first end panel, the second side panel, the second end panel, the top panel and the bottom panel form an enclosure;

at least one tear strip extending around at least a part of a perimeter of the carton, the at least one tear strip at least partially defining a first reclosure flap in the first side panel and a second reclosure flap in the second side panel.

26. The carton of claim 25, further comprising a flexible vessel disposed within the enclosure.

27. The carton of claim 25, wherein:

the at least one tear strip divides the first side panel into a lower first side panel section and an upper first side panel section;

the at least one tear strip divides the second side panel into a lower second side panel section and an upper second side panel section;

the at least one tear strip divides the first end panel into a lower first end panel section and an upper first end panel section; and

the at least one tear strip divides the second end panel into a lower second end panel section and an upper second end panel section.

28. The carton of claim 25, further comprising:

a first reclosure pattern in the first end panel adjacent to the at least one tear strip, wherein the first reclosure pattern comprises a plurality of lines of disruption in the first end panel; and

a second reclosure pattern in the second end panel adjacent to the at least one tear strip.

29. A method of opening and reclosing carton, comprising:

providing a carton comprising an upper section and a lower section, the upper section being separable from the lower section, and the lower section comprising a first reclosure flap and a second reclosure flap;

providing a flexible vessel within the carton;

separating the upper section from the lower section, wherein the flexible vessel remains in the lower section; and

pivoting the first reclosure flap and the second reclosure flap inwardly toward one another with the flexible vessel held between the flaps.

30. A method of opening and reclosing carton, comprising:

providing a carton comprising an upper section and a lower section, the upper section being separable from the lower section, and the lower section comprising a first reclosure flap and a second reclosure flap;

separating the upper section from the lower section;

deforming an upper part of a first end of the lower section;

deforming an upper part of a second end of the carton;

pivoting the deformed upper part of the first end downwardly;

pivoting the deformed upper part of the second end downwardly; and

pivoting the first reclosure flap and the second reclosure flap inwardly toward one another.

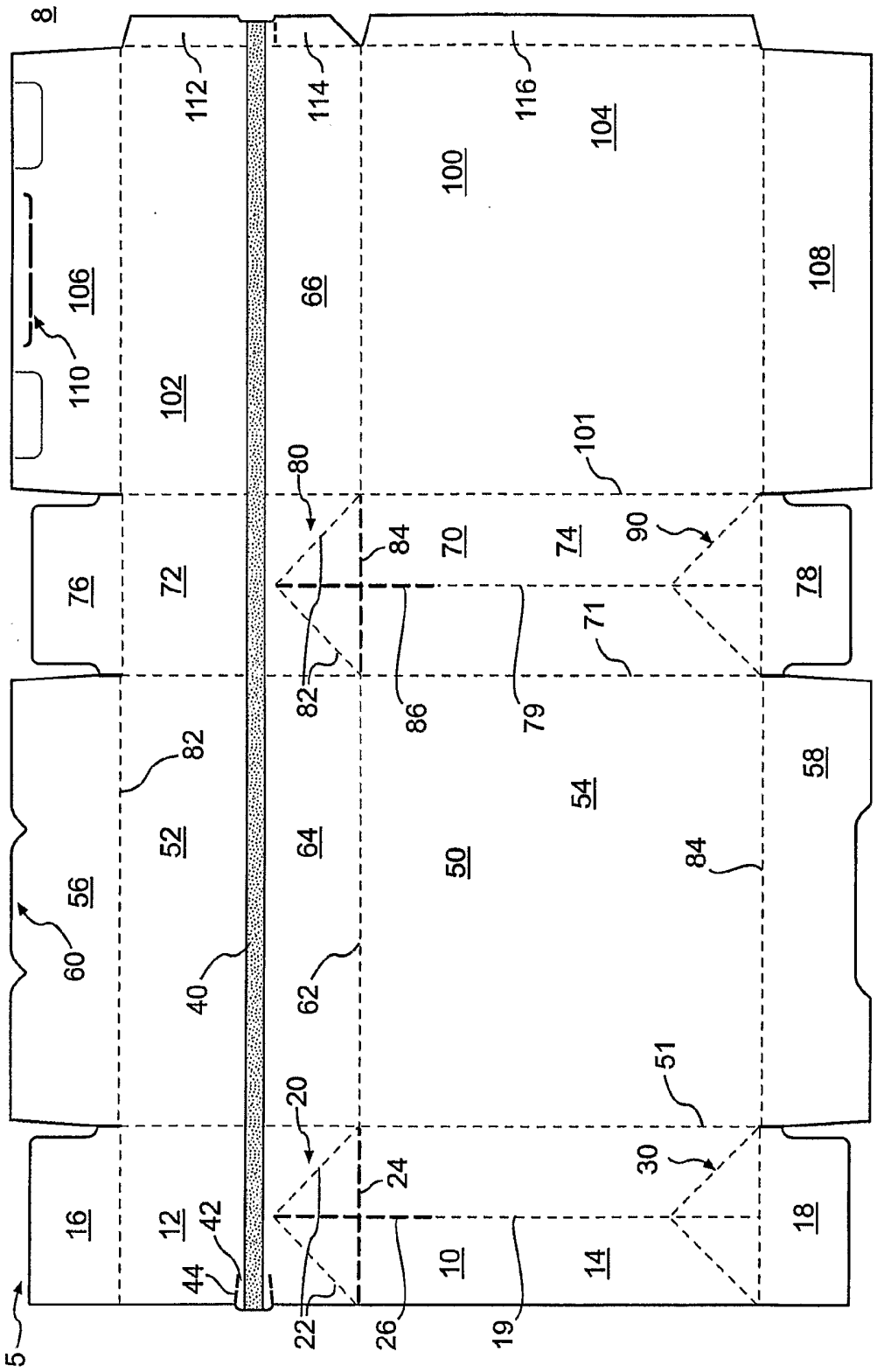
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FIG. 1

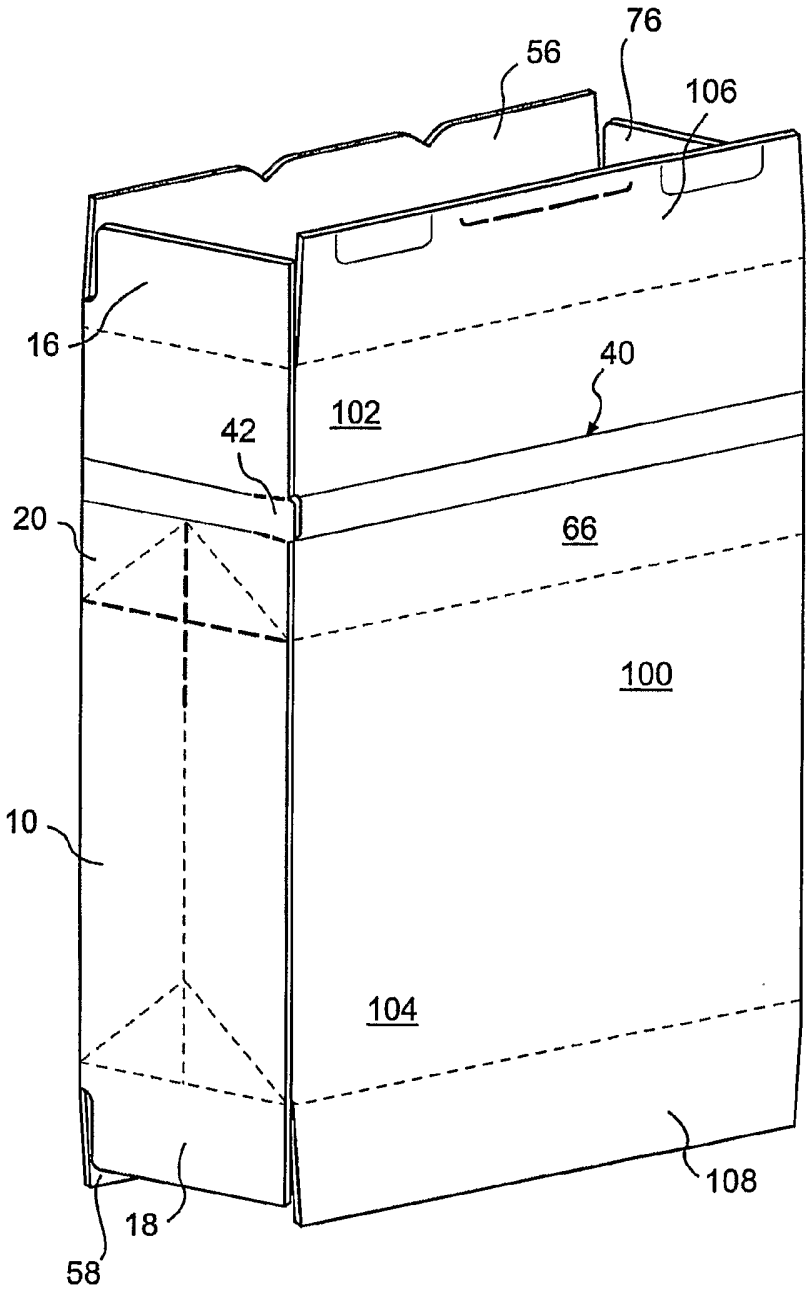
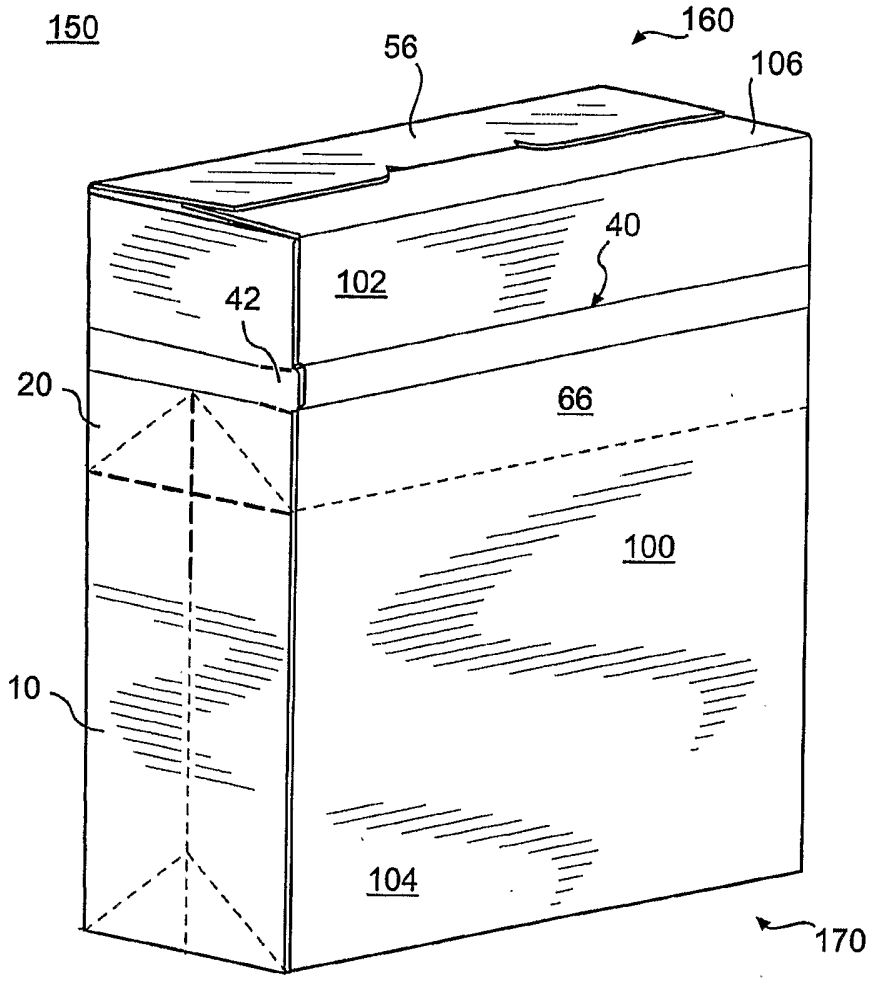


FIG. 2



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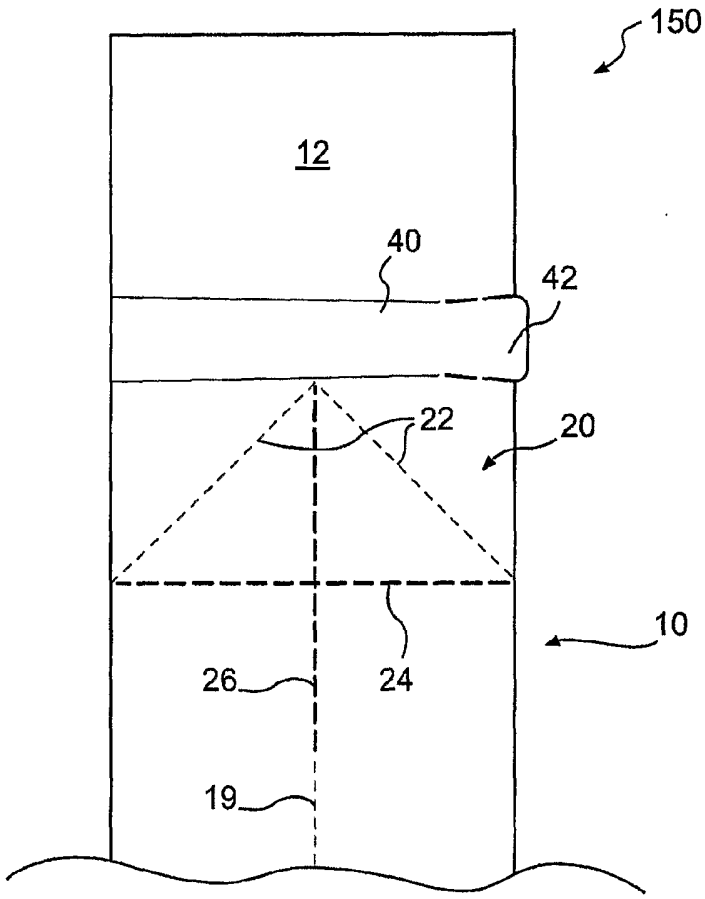

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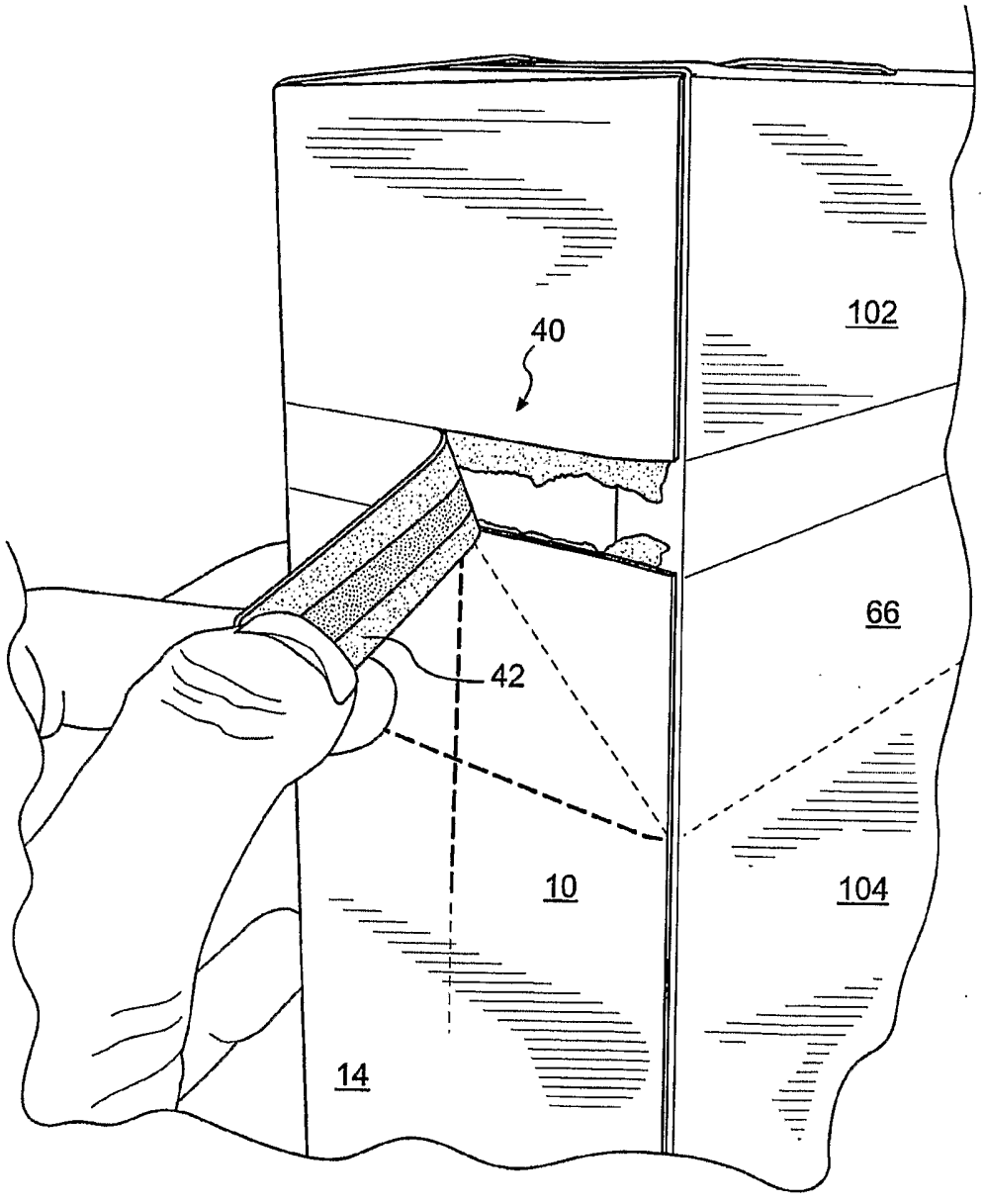

FIG. 5

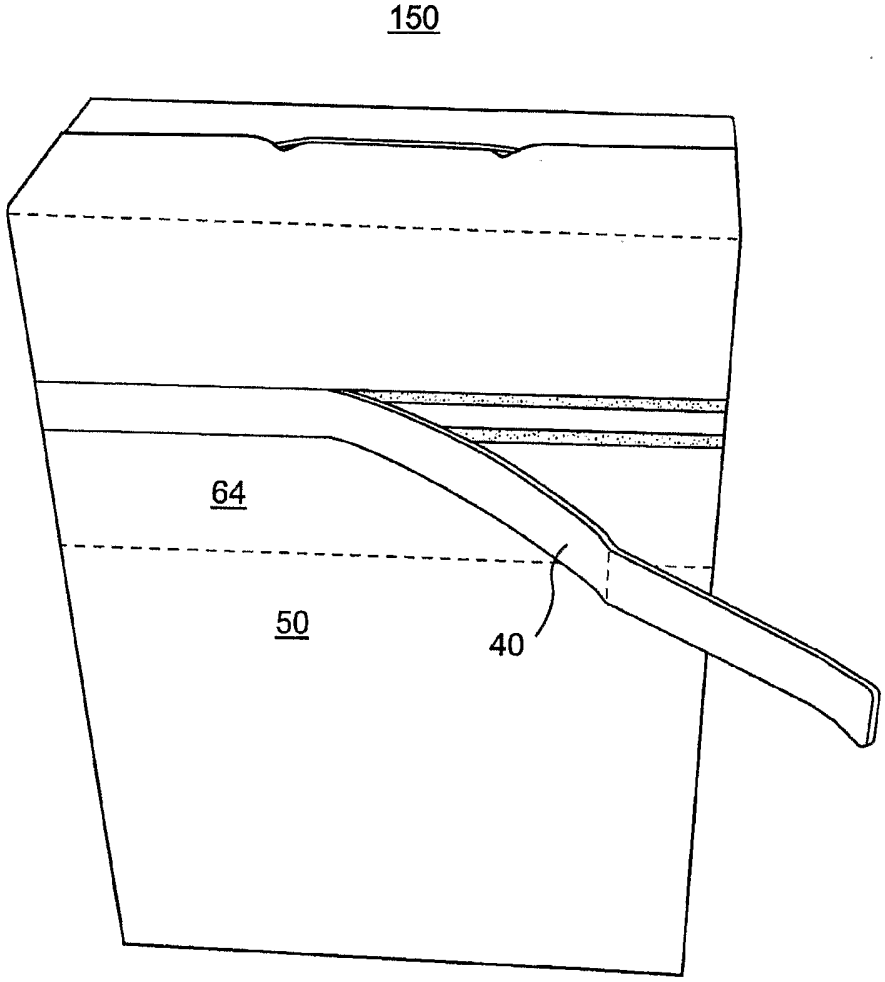

FIG. 6

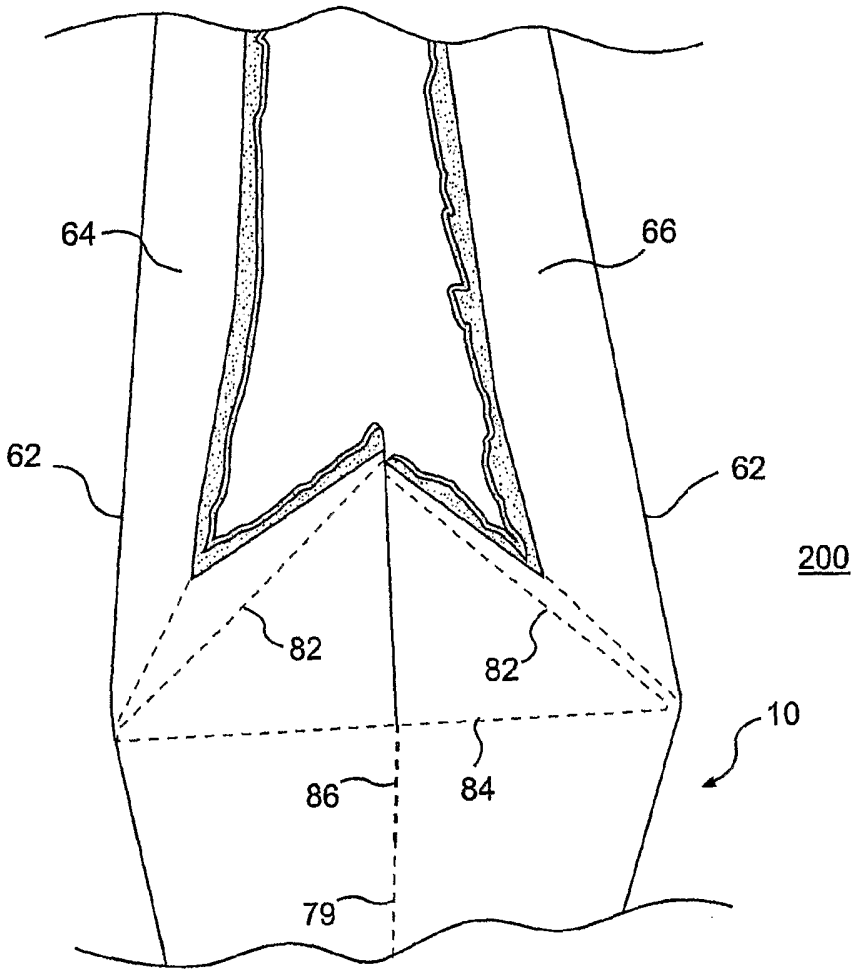

FIG. 7

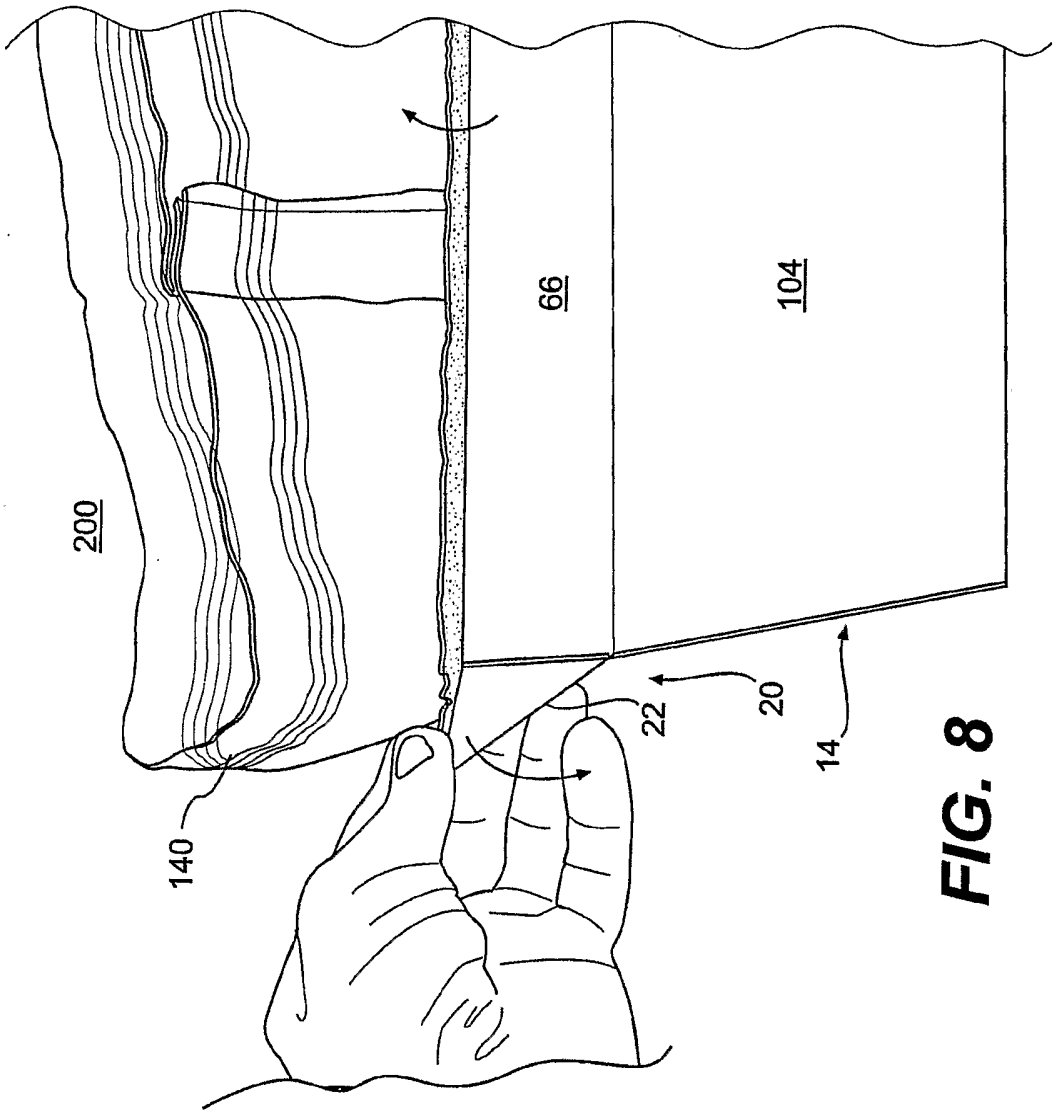

FIG. 8

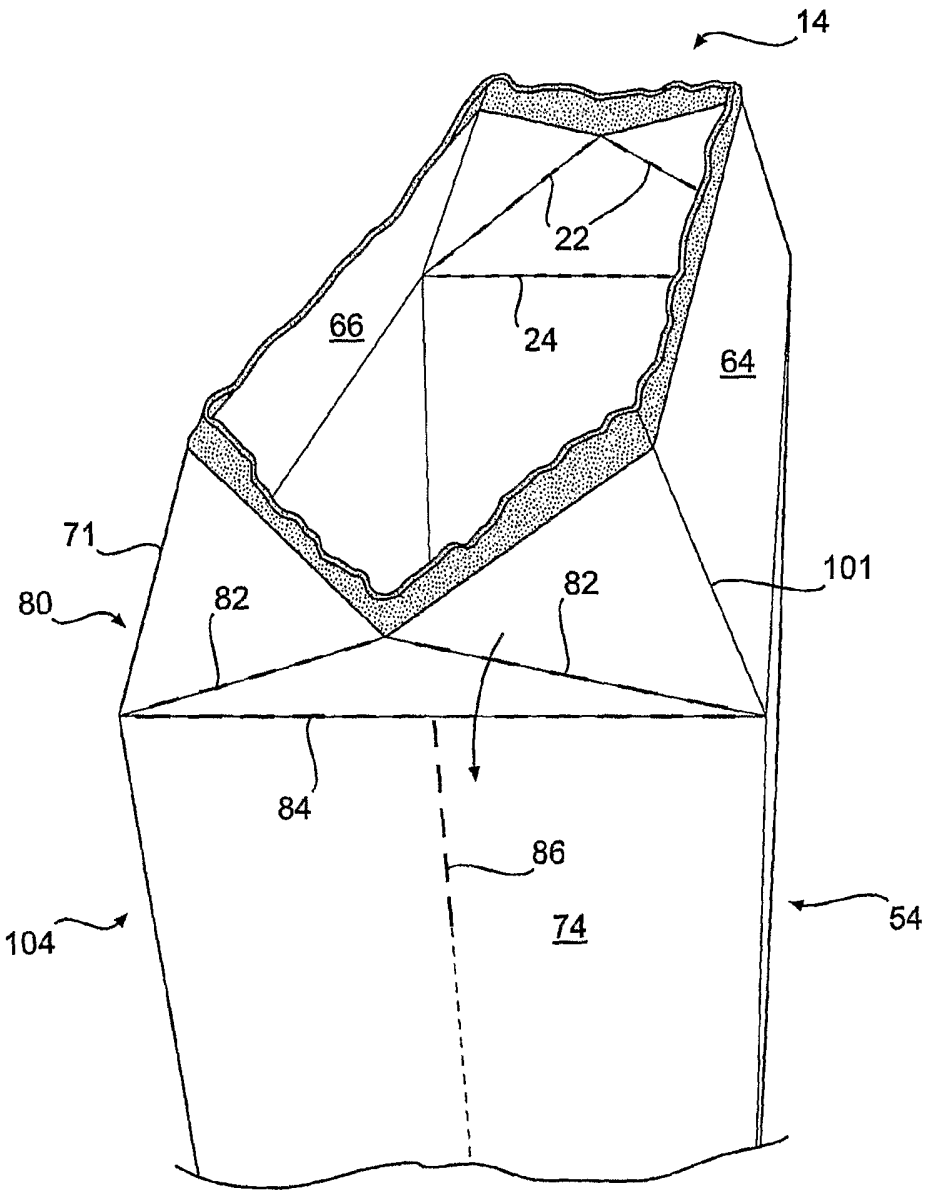

FIG. 9

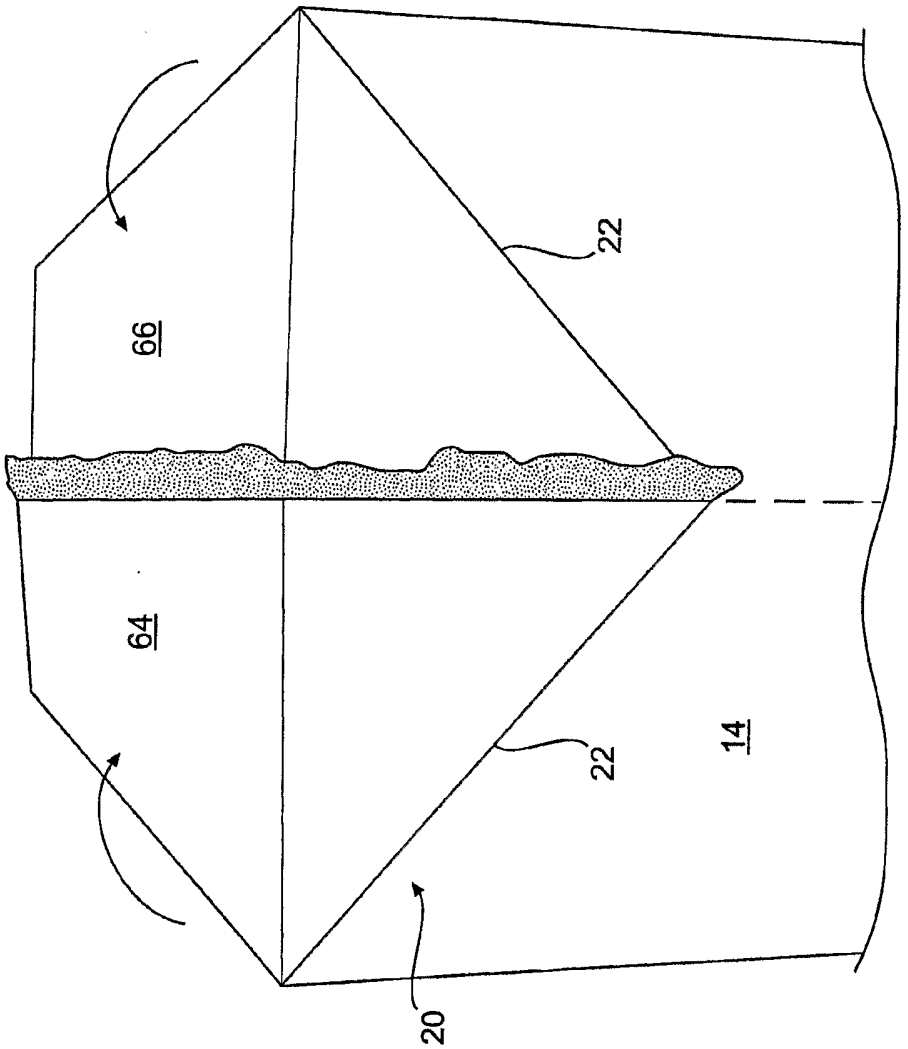

FIG. 10

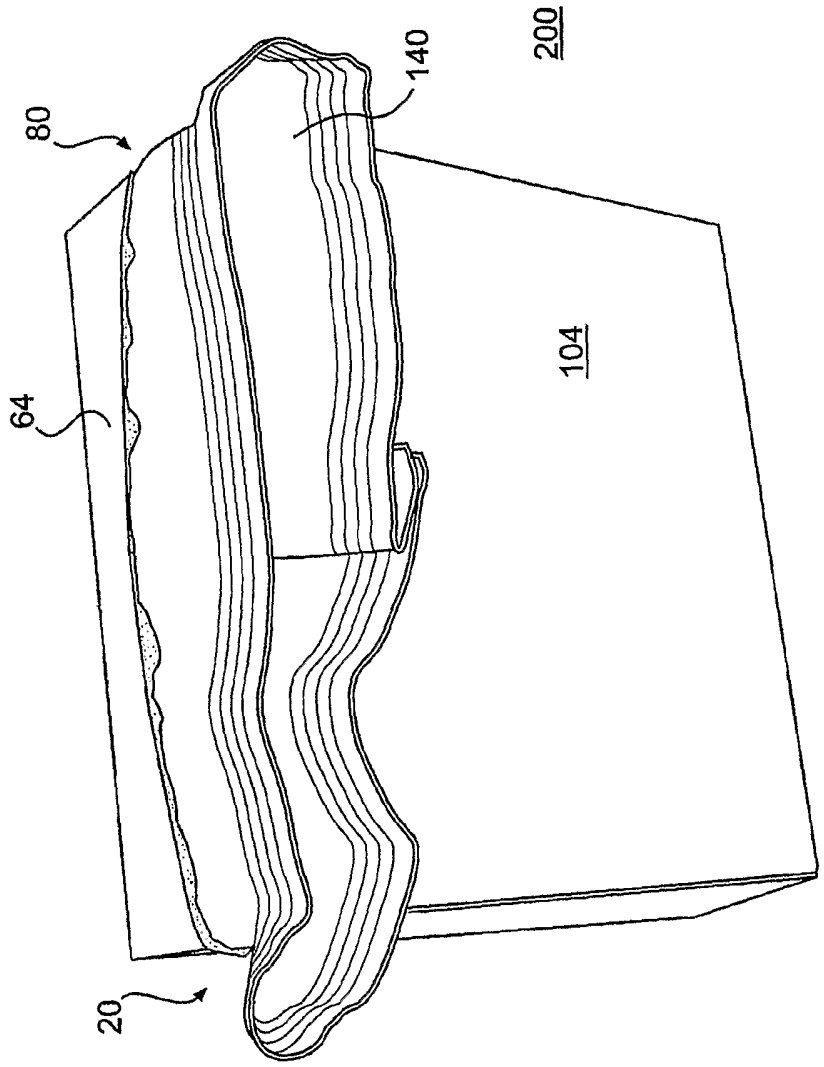

FIG. 11

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2006/018506

A. CLASSIFICATION OF SUBJECT MATTER
INV. B65D5/00 B65D5/54

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 1 489 963 A (NORBURY PACKAGING LTD) 26 October 1977 (1977-10-26) page 1, line 89 - page 2, line 48; claim 1; figures 1,2	1-13,25, 30
Y	WO 95/28325 A (TETRA LAVAL HOLDINGS & FINANCE SA; LJUNGSTROM, TOMMY, BO, GORAN; ANCHO) 26 October 1995 (1995-10-26) page 2, line 36 - page 3, line 3; claim 1; figures 1-4	1-13,25, 30
Y	GB 1 584 066 A (JORBA GABARRO J) 4 February 1981 (1981-02-04) page 2, line 26 - line 42; claim 1; figures 1-8b	1-13,25, 30
A	US 1 772 625 A (CAULFIELD MERVILLE H) 12 August 1930 (1930-08-12) figures 1-6	1-30

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
4 September 2006	19/09/2006

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Janosch, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2006/018506

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