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(54) Title: CARTON FOR CONTAINERS

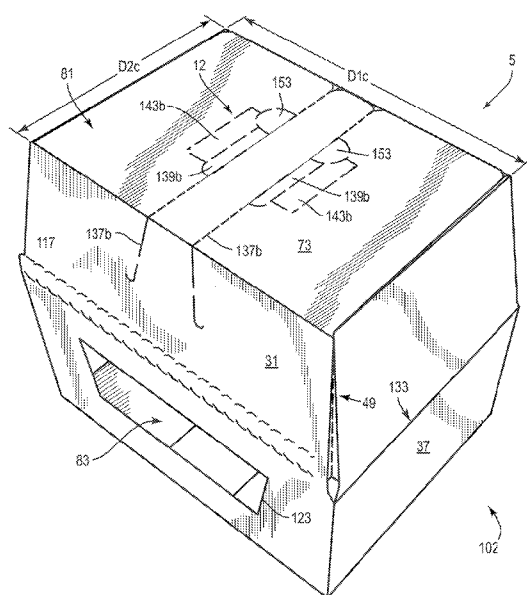


FIG. 9

(57) Abstract: A carton for holding a plurality of containers. The carton can be configurable between an open configuration and a closed configuration. The carton can comprise a plurality of panels that extends at least partially around an interior of the carton, a top end having an open width in the open configuration and a closed width in the closed configuration, and a bottom end disposed opposite to the top end. The bottom end can have a bottom width. In the open configuration, the top end can be at least partially open and the plurality of panels can be positioned so that the open width of the top end is greater than the bottom width of the bottom end. In the closed configuration, the top end can be at least partially closed and the plurality of panels is positioned so that the closed width is less than the open width.

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CARTON FOR CONTAINERS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 62/727,148, filed on September 5, 2018, and U.S. Provisional Patent Application No. 62/700,534, filed on July 19, 2018.

INCORPORATION BY REFERENCE

[0002] The disclosures of U.S. Design Patent Application No. 29/675,323, filed on December 31, 2018, U.S. Provisional Patent Application No. 62/727,148, filed on September 5, 2018, and U.S. Provisional Patent Application No. 62/700,534, filed on July 19, 2018, are hereby incorporated by reference for all purposes as if presented herein in their entirety.

BACKGROUND OF THE DISCLOSURE

[0003] The present disclosure generally relates to cartons for holding beverage containers or other types of articles. More specifically, the present disclosure relates to cartons having a top-loading configuration with a gusseted top portion and tapered sides.

SUMMARY OF THE DISCLOSURE

[0004] In general, one aspect of the disclosure is directed to a carton for holding a plurality of containers. The carton can be configurable between an open configuration and a closed configuration. The carton can comprise a plurality of panels that extends at least partially around an interior of the carton, a top end having an open width in the open configuration and a closed width in the closed configuration, and a bottom end disposed opposite to the top end. The bottom end can have a bottom width. In the open configuration, the top end can be at least partially open and the plurality of panels can be positioned so that the open width of the top end is greater than the bottom width of the bottom end. In the closed configuration, the top end can be at least partially closed and the plurality of panels is positioned so that the closed width is less than the open width.

[0005] In another aspect, the disclosure is generally directed to a blank for forming a carton for holding a plurality of containers. The carton can be configurable between an open configuration and a closed configuration. The blank can comprise a plurality of panels and a top marginal area for forming a top end when the carton is formed from the blank. The top end can have an open width in the open configuration and a closed width in the closed configuration when the carton is

formed from the blank. The blank further can comprise a bottom marginal area for forming a bottom end disposed opposite to the top end when the carton is formed from the blank. The bottom end can have a bottom width when the carton is formed from the blank. In the open configuration of the carton formed from the blank, the top end can be at least partially open and the plurality of panels can be positioned so that the open width of the top end is greater than the bottom width of the bottom end. In the closed configuration of the carton formed from the blank, the top end can be at least partially closed and the plurality of panels can be positioned so that the closed width is less than the open width.

[0006] In another aspect, the disclosure is generally directed to a method of forming a carton for holding a plurality of containers. The method can comprise obtaining a blank comprising a plurality of panels and forming a carton from the blank. The forming the carton can comprise folding the plurality of panels to extend at least partially around an interior of the carton. The carton can comprise a top end and a bottom end disposed opposite to the top end, and the bottom end can have a bottom width. The method further can comprise configuring the carton in an open configuration wherein the top end is at least partially open. The configuring the carton in the open configuration can comprise positioning the plurality of panels so that the top end has an open width that is greater than the bottom width of the bottom end. The method also can comprise configuring the carton in a closed configuration by at least partially closing the top end and positioning the plurality of panels so that the top end has a closed width that is less than the open width.

[0007] 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 the below-listed drawing figures. It is within the scope of the present disclosure that the above-discussed aspects be provided both individually and in various combinations.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] 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 disclosure.

[0009] Fig. 1 is a plan view of a blank used to form a carton according to a first exemplary embodiment of the disclosure.

[0010] Figs. 1A and 1B are detail plan views of respective portions of the blank of Fig. 1.

- [0011] Fig. 2 is a schematic elevation view of a container according to the first exemplary embodiment of the disclosure.
- [0012] Fig. 3 is a schematic plan view of an arrangement of the containers of Fig. 2 according to the first exemplary embodiment of the disclosure.
- [0013] Fig. 4 is a plan view of a partially-formed carton according to the first exemplary embodiment of the disclosure.
- [0014] Fig. 5 is a perspective view of the carton formed from the blank of Fig. 1 in an open configuration according to the first exemplary embodiment of the disclosure.
- [0015] Fig. 6 is a perspective top view of the carton of Fig. 5 in the open configuration.
- [0016] Figs. 7 and 8 are elevation views of the carton of Fig. 5 in the open configuration.
- [0017] Fig. 9 is a perspective view of the carton of Fig. 5 in a closed configuration according to the first exemplary embodiment of the disclosure.
- [0018] Fig. 10 is a plan view of a blank used to form a carton according to a second exemplary embodiment of the disclosure.
- [0019] Fig. 11 is a detail view of a gusset of the blank of Fig. 10.
- [0020] Fig. 12 is a detail view of a carton formed from the blank of Fig. 10 showing the formed gusset of Fig. 11 according to the second exemplary embodiment of the disclosure.
- [0021] Fig. 13 is a plan view of a blank used to form a carton according to a third exemplary embodiment of the disclosure.
- [0022] Corresponding parts are designated by corresponding reference numbers throughout the drawings.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

- [0023] The present disclosure generally relates to cartons that contain articles such as containers, bottles, cans, etc. The articles can be used for packaging food and beverage products, for example. The articles can be made from materials suitable in composition for packaging the particular food or beverage item, and the materials include, but are not limited to, aluminum and/or other metals; glass; plastics such as PET, LDPE, LLDPE, HDPE, PP, PS, PVC, EVOH, and Nylon; and the like, or any combination thereof.

[0024] Cartons according to the present disclosure can accommodate articles of any shape. For the purpose of illustration and not for the purpose of limiting the scope of the disclosure, the following detailed description describes beverage containers (e.g., glass beverage bottles) as disposed within the carton embodiments. In this specification, the terms “inner,” “interior,” “outer,” “exterior,” “lower,” “bottom,” “upper,” and “top” indicate orientations determined in relation to fully erected and upright cartons.

[0025] Fig. 1 is a plan view of the exterior side 1 of a blank, generally indicated at 3, used to form a carton 5 (Figs. 5-9) according to a first exemplary embodiment of the disclosure. The carton 5 can be used to house a plurality of articles such as containers C (Figs. 2 and 3). In one embodiment, the containers are bottles having a wide bottom portion BP and a narrow top or neck N. In the illustrated embodiment, the carton 5 is sized to house twelve containers C in a single layer in a 3x4 arrangement, but it is understood that the carton 5 may be sized and shaped to hold containers of a different or same quantity in more than one layer and/or in different row/column arrangements (e.g., 1x6, 2x6, 4x6, 3x8, 2x6x2, 3x4x2, 2x9, 3x6, etc.), or just a single article. In one embodiment, the carton 5 includes handle features, generally indicated at 11, for forming a handle 12 (Fig. 9) for grasping and carrying the carton. In the illustrated embodiment, the carton 5 is configurable between an open or top-loading configuration 101 (Figs. 5-8) and a closed configuration 102 (Fig. 9).

[0026] The blank 3 has a longitudinal axis L1 extending generally in the direction of the length of the blank and a lateral axis L2 extending generally in the direction of the width of the blank. The blank 3 includes a first side panel 23 foldably connected to a first end panel 25 at a lateral fold line 27. A second side panel 31 is foldably connected to the first end panel 25 at a lateral fold line 33. A second end panel 37 is foldably connected to second side panel 31 at a lateral fold line 39. An attachment panel 41 is foldably connected to the first side panel 23 at a lateral fold line 43. Alternatively, the attachment panel 41 could be foldably connected to the second end panel 37. In the illustrated embodiment, the lateral fold lines 27, 33, 39, 43 extend generally in the lateral direction L2; however, as described in more detail below, one or more of the lateral fold lines 27, 33, 39, 43 can be at least partially oblique with respect to the lateral direction L2.

[0027] As shown in Figs. 1, 1A, and 1B, the first side panel 23 is further foldably connected to the first end panel 25 by a first gusset 45, the first end panel 25 is further foldably connected to the second side panel 31 by a second gusset 47, the second side panel 31 is further foldably connected to the second end panel 37 by a third gusset 49, and the attachment panel 41 is further foldably connected to the first side panel 23 by a fourth gusset 51. In the illustrated embodiment, each of the gussets 45, 47, 49, 51 can include a first gusset panel 53 foldably connected to a second gusset panel 55 along a first gusset fold line 57, which can be generally collinear with a respective one of

the lateral fold lines 27, 33, 39, 43. In one embodiment, each of the first gusset panels 53 can be foldably connected to one of the first side panel 23 and the second side panel 31 along a second gusset fold line 59, and each of the second gusset panels 55 can be foldably connected to one of the first end panel 25, the second end panel 37, and the attachment panel 41 along a third gusset fold line 61. In the illustrated embodiment, the second gusset fold lines 59 and the third gusset fold lines 61 are oblique with respect to the first gusset fold lines 57. In an exemplary embodiment, the second gusset fold lines 59 and the third gusset fold lines 61 can be cut-crease style fold lines and the first gusset fold lines 57 can include spaced perforations or cuts so that the first gusset fold lines 57 are weakened with respect to the second gusset fold lines 59 and the third gusset fold lines 61. In one embodiment, the weakened first gusset fold lines 57 can be used as tear lines as described in more detail below.

[0028] As shown in Figs. 1, 1A, and 1B, the gussets 45, 49, 51 can include respective gusset openings 131 defined by edges of the gusset panels 53, 55 and the respectively adjacent panels 23, 25, 41, 37, 41. In addition, the gusset 47 can include a gusset opening 121 defined by the edges of the gusset panels 53, 55 of the gusset 47 and the panels 25, 31. The gusset opening 121 can be similar to the gusset openings 131 but is enlarged in the illustrated embodiment to cooperate with the dispenser features as described in more detail below. In an alternative embodiment, the gusset opening 121 can be similar or identical to the gusset openings 131 (e.g., if the dispenser features are omitted). In the illustrated embodiment, the gusset panels 53, 55 extend from the gusset openings 121, 131 to a top edge 132 of the respective gussets at a top marginal area of the blank 3 and the gusset panels 53, 55 are spaced apart from the respective lateral fold lines 27, 33, 39, 43 by the gusset openings 121, 131. The gussets 45, 47, 49, 51 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure. For example, the gusset fold lines 57, 59, 61 could be any suitable type of fold, score, cut, or crease.

[0029] As shown in Fig. 1, the first side panel 23 is foldably connected to a first side top flap 65 and a first side bottom flap 67. The first end panel 25 is foldably connected to a first end top flap 69 and a first end bottom flap 71. The second side panel 31 is foldably connected to a second side top flap 73 and a second side bottom flap 75. The second end panel 37 is foldably connected to a second end top flap 77 and a second end bottom flap 79. When the carton 5 is erected, the top flaps 65, 69, 73, 77 close a first (e.g., top) end 81 of the carton (Fig. 9), and the bottom flaps 67, 71, 75, 79 close a second (e.g., bottom) end 83 of the carton (Figs. 5-9). In accordance with an alternative embodiment of the present disclosure, different panel and flap arrangements can be used for at least partially closing the ends 81, 83 of the carton 5.

[0030] The top flaps 65, 69, 73, 77 of the top end 81 extend along a first (e.g., top) marginal area 80 of the blank 3, and are foldably connected at a first longitudinal fold line 85 that extends along the length of the blank. The bottom flaps 67, 71, 75, 79 of the bottom end 83 extend along a second (e.g., bottom) marginal area 82 of the blank 3, and are foldably connected at a second longitudinal fold line 87 that extends along the length of the blank. The longitudinal fold lines 85, 87 may be, for example, substantially straight, or offset at one or more locations to account for blank thickness or for other factors. For example, the first longitudinal fold line 85 can be interrupted by the gussets 45, 47, 49 as shown in Fig. 1. In one embodiment, the top marginal area 80 and the bottom marginal area 82 can form the respective top end 81 and bottom end 83 when the carton 5 is formed. The flaps 65, 67, 69, 71, 73, 75, 77, 79 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure.

[0031] In the illustrated embodiment, the second longitudinal fold line 87 can extend generally in the longitudinal direction L1; however, as shown in Fig. 1, each segment 87a, 87b, 87c, 87d of the longitudinal fold line 87 can extend at least partially downwardly (e.g., slightly downwardly) from the respective lateral fold lines 27, 33, 39, 43. For example, the segment 87a and the first lateral fold line 27 can extend at an angle A1 and the segment 87b and the first lateral fold line 27 can extend at an angle A2, wherein the angles A1 and A2 are greater than 90 degrees. In one exemplary embodiment, the angle A1 is approximately 90.45 degrees and the angle A2 is approximately 90.23 degrees. The lateral fold lines 33, 39, 43 can be similarly or identically configured with respect to the segments 87b, 87c, 87d, 87a. This configuration of the lateral fold lines 27, 33, 39, 43 and the longitudinal fold line 87 can result in the carton 5 being wider at its top than at its bottom in the top-loading configuration 101. For example, the blank 3 can have a first bottom dimension D1a at its bottom (e.g., along the bottom marginal area 82 of the blank 3) and a first top dimension D1b at its top (e.g., along the top marginal area 80 of the blank 3), wherein the first top dimension D1b is greater than the first bottom dimension D1a. In one embodiment, the first bottom dimension D1a can be the spacing between the bottom ends of the lateral fold lines 27, 43 or the length of the segment 87a of the longitudinal fold line 87, and the first top dimension D1b can be the spacing between the first gusset fold lines 57 of the gussets 45, 51. Similarly, the blank 3 can have a second bottom dimension D2a at its bottom (e.g., along the bottom marginal area 82 of the blank 3) and a second top dimension D2b at its top (e.g., along the top marginal area 80 of the blank 3), wherein the second top dimension D2b is greater than the second bottom dimension D2a. In one embodiment, the second bottom dimension D1a can be the spacing between the bottom ends of the lateral fold lines 27, 33 or the length of the segment 87b of the longitudinal fold line 87, and the second top dimension D2b can be the spacing between the first gusset fold lines 57 of the gussets 45, 47. In one exemplary embodiment, the first bottom dimension D1a can be approximately 276.00 millimeters, the first top dimension D1b can be

approximately 280.00 millimeters, the second bottom dimension D2a can be approximately 207.00 millimeters, and the second top dimension D2b can be approximately 209.00 millimeters. The blank 3 can have similar dimensions corresponding to the second side panel 31 and the second end panel 37 that can be similarly or identically configured to the dimensions associated with the respective first side panel 23 and first end panel 25. Any of the panels 23, 25, 31, 37, 41 and/or the fold lines 27, 33, 39, 43, 85, 87 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure.

[0032] As shown in Fig. 1, the blank 3 can include dispenser features 117 for forming a dispenser in the carton 5. In the illustrated embodiment, the dispenser features 117 can include a tear strip 119 (e.g., in at least the second side panel 31) and the gusset opening 121 of the gusset 47 can act as an access feature at one end of the tear strip 119. In one embodiment, the gusset opening 121 acting as the access feature can facilitate initial tearing of the tear strip 119. In the illustrated embodiment, the dispenser features 117 further can include at least a portion of the first gusset fold lines 57 of one or more of the gussets 45, 47, 49, 51, wherein one or more of the first gusset fold lines 57 can be in the form of a perforated tear line. The dispenser features 117 could be omitted or could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure. For example, the dispenser features could include additional tear lines and/or break-away glue features for further forming the dispenser opening.

[0033] As shown in Fig. 1, the blank 3 can include a window 123 for viewing the containers C in the interior of the carton 5. In an exemplary embodiment, the window 123 can include an aperture in the second side panel 31. In one embodiment, the window 123 could remain open or could be at least partially covered by a transparent or translucent material (not shown). The window could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure.

[0034] As shown in Fig. 1, the blank 3 can also include an intermediate longitudinal fold line 133 extending across the first side panel 23 and the end panels 25, 37. The fold line 133 can have portions that are angled with respect to one another similarly to the fold line 87, as described in more detail above. The fold line 133 could be omitted or could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure. For example, the fold line 133 could also extend across the second side panel 31 (e.g., adjacent the dispenser feature 117 or in the case that the dispenser features 117 are omitted).

[0035] As shown in Figs. 1 and 1A, the handle features 11 that form the handle 12 can include an inner handle panel 135a at least partially defined by cut or tear lines 137a extending to an edge of the first side top flap 65 and extending across the fold line 85 and into the first side panel 23. Curved cuts at the ends of the tear lines 137a in the first side panel 23 can act as tear stops to help

prevent unwanted tearing of the first side panel 23 when the carton 5 is grasped at the handle 12. In the illustrated embodiment, inner comfort flaps 139a can be foldably connected to the inner handle panel 135a along fold lines 141a and inner tabs 143a can be foldably connected to the first side top flap 65 along fold lines 145a. In one embodiment, the fold lines 141a can include spaced cuts and a crease at one end and the fold lines 145a can include spaced cuts as shown in Figs. 1 and 1A. The inner comfort flaps 139a can be separable from the first side top flap 65 and the inner tabs 143a along a cut or tear line 147a and the inner tabs 143a can be separable from the first side top flap 65 along tear or cut lines 149a, which can include curved tear stops as shown in Figs. 1 and 1A. In the illustrated embodiment, the handle features 11 further can include openings 151 on either side of the inner handle panel 135a and adjacent the inner comfort flaps 139a and inner tabs 143a.

[0036] As shown in Figs. 1 and 1B, the handle features 11 also can include an outer handle panel 135b at least partially defined by cut or tear lines 137b extending to an edge of the second side top flap 73 and extending across the fold line 85 and into the second side panel 31. Curved cuts at the ends of the tear lines 137b in the second side panel 31 can act as tear stops to help prevent unwanted tearing of the second side panel 31 when the carton 5 is grasped at the handle 12. In the illustrated embodiment, outer comfort flaps 139b can be foldably connected to the outer handle panel 135b along fold lines 141b and outer tabs 143b can be foldably connected to the second side top flap 73 along fold lines 145b. In one embodiment, the fold lines 141b can be cut-crease style fold lines and the fold lines 145b can include spaced cuts as shown in Figs. 1 and 1B. The outer comfort flaps 139b can be separable from the second side top flap 73 and the outer tabs 143b along a cut or tear line 147b and the outer tabs 143b can be separable from the second side top flap 73 along tear or cut lines 149b, which can include curved tear stops as shown in Figs. 1 and 1B. In the illustrated embodiment, each of the outer comfort flaps 139b can include an enlarged portion 153 at least partially defined by a curved (e.g., arc-shaped) portion of the tear line 147b. Any of the handle features 11 could be omitted or could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure.

[0037] In accordance with the exemplary embodiment, the blank 3 can be erected into the carton 5 by folding the blank 3 along fold lines 27, 33, 39, and 43 and overlapping the attachment panel 41 with the second end panel 37. In one embodiment, the second end panel 37 can have a cutout or edge configured to extend along the third gusset fold line 61 of the gusset 51 at the attachment panel 41. As shown in Fig. 4, the blank 3 can be folded along fold lines 27, 39 and along the fold lines 57 of the gussets 45, 49 so that the first side panel 23 is in an overlapping relationship with at least a portion of the first end panel 25 and the second side panel 31 and the second end panel 37 is in an overlapping relationship with at least a portion of the second side panel 31 and the

attachment panel 41, which can be glued to the second end panel 37 to form an open-ended sleeve. The open-ended sleeve can be folded along the fold lines 27, 33, 39, 43 to move the side panels 23, 31 to be disposed opposite one another and the end panels 25, 37 to be disposed opposite one another, and the bottom end 83 of the carton 5 can be closed by respectively overlapping and adhering the bottom flaps 67, 71, 75, 79 (Figs. 5, 6, and 9). The carton 5 having a closed bottom 83 and open top 81 is in the top-loading configuration 101 according to one embodiment (e.g., Fig. 5-8).

[0038] In the top-loading configuration, the carton 5 can be ready to receive an arrangement 103 of the containers C (Fig. 3). As shown in Fig. 3, the arrangement 103 can have a first dimension X and a second dimension Y, wherein the dimension X is generally equal to the width (e.g., diameter) W of the containers C times the number of rows of containers and the dimension Y is generally equal to the width W times the number of columns of containers.

[0039] In one embodiment, the carton 5 can be at least partially tapered at the side panels 23, 31 and end panels 25, 37 so that the carton 5 is wider at the top end 81 than at the bottom end 83 in the top-loading configuration 101. Accordingly, the top flaps 65, 69, 73, 77 can be spaced outwardly at the top end 81 of the carton, generally out of the way of the loading of the containers C. In the illustrated embodiment, the first bottom dimension D1a of the blank 3 corresponds to a first bottom width D1a (Fig. 7) of the carton 5 and the first top dimension D1b of the blank 3 corresponds to a first open width D1b (Fig. 7) of the carton 5 in the top-loading configuration 101. Similarly, the second bottom dimension D2a of the blank 3 corresponds to a second bottom width D2a (Fig. 8) of the carton 5 and the second top dimension D2b of the blank 3 corresponds to a second open width D2b (Fig. 8) of the carton 5 in the top-loading configuration 101. In one embodiment, the second open width D2b of the carton 5 includes the first end panel 25 and its adjoining gusset panels 55 of the gussets 45, 47 and, on the opposing side of the carton 5, the second open width D2b includes the second end panel 37, the adjoining gusset panel 55 of the gusset 49 and the gusset panel 55 of the gusset 51 when the attachment panel 41 is adhered in face-to-face contact with the second end panel 37 so that the second open width D2b is the same at both end panels 25, 37. As shown in the figures, the first widths D1a, D1b of the carton 5 are longer than the respective second widths D2a, D2b and the first widths D1a, D1b are perpendicular to the second widths D2a, D2b. The widths D1a, D2a, D1b, D2b could be otherwise configured without departing from the disclosure. For example, the carton 5 could be configured so that the first widths D1a, D1b are equal to the respective second widths D2a, D2b or the second widths are longer than the respective first widths, for example.

[0040] In one embodiment, the first bottom width D1a can be less than the dimension X and the first open width D1b can be approximately equal to the dimension X in the top-loading configuration 101. Similarly, the second bottom width D2a can be less than the dimension Y and the second open width D2b can be approximately equal to the dimension Y in the top-loading configuration 101. Accordingly, the side panels 23, 31 can be spaced apart by less than the dimension Y (e.g., by the second bottom width D2a) at the bottom end 83 of the carton 5 and the end panels 25, 37 can be spaced apart by less than the dimension X (e.g., by the first bottom width D1a) at the bottom end 83. Additionally, the side panels 23, 31 can be spaced apart by approximately the dimension Y (e.g., by the second open width D2b) at the top end 81 and the end panels 25, 37 can be spaced apart by approximately the dimension X (e.g., by the first open width D1b) at the top end 81 in the top-loading configuration 101.

[0041] As the arrangement 103 of containers C is loaded into the carton 5, the arrangement 103 can move past the first longitudinal fold line 85 where the first open width D1b and second open width D2b of the carton 5 are approximately the same as the respective length X and width Y of the arrangement 103 in the top-loading configuration 101 so that the containers easily move into the interior 105 of the carton 5. As the arrangement 103 continues to move into the interior 105 towards the bottom 83, the side panels 23, 31 and the end panels 25, 37 taper inwardly (e.g., according to the angles A1, A2 of the lateral fold lines 27, 33, 39, 43 with respect to the second longitudinal fold line 87) until the containers C engage the bottom 83 of the carton 5. The dimensions of the carton at the bottom 83 are smaller than the dimensions of the arrangement 103 (e.g., the first bottom widths D1a and the second bottom width D2a are smaller than the respective dimensions X, Y) so that the carton fits tightly around the arrangement 103. This configuration can help retain the containers C in the carton 5 and can help limit or eliminate movement of the containers C in the carton, wherein movement could otherwise result in rattling and/or breaking of the containers. The tight fit of the carton at its bottom can also help avoid reorientation (e.g., turning) of the containers in the carton (e.g., the containers can be orientated so that the labels are facing a particular direction in the container, such as to be visible through the window 123 in the carton). The containers C could be otherwise loaded into the carton 5 without departing from the disclosure.

[0042] After the containers C are loaded into the carton 5, the gussets 45, 47, 49, 51 can be folded along the first gusset fold lines 57 so that the gusset panels 53, 55 of each gusset are positioned at least partially in face-to-face contact. Further, the gussets 45, 47, 49, 51 can be folded along the second gusset fold line 59 or the third gusset fold line 61 against the adjacent side panel 23, 41 or the adjacent end panel 25, 37 or attachment panel 41. In one embodiment, the gusset panels 53, 55 can be glued together, the gusset panels 53 can be glued to the side panels 23, 31, and/or the

gusset panels 55 can be glued to the end panels 25, 31 or the attachment panel 41 in each of the gussets. The top 81 of the carton can be closed by respectively overlapping and adhering the top flaps 65, 67, 73, 77. In one embodiment, the top 81 can be closed and the gussets 45, 47, 49, 51 can be folded at the same time or in any suitable sequence. The carton 5 is shown in the closed configuration 102 having folded gussets and a closed top in Fig. 9. The carton 5 could be otherwise formed and/or closed without departing from the disclosure.

[0043] Once the gussets 45, 47, 49, 51 are folded, the side panels 23, 31 and the end panels 25, 37 can extend generally vertically from the bottom 83 to a point that is generally aligned with the shoulders S of the containers (Fig. 2) (e.g., proximate to the lowermost ends of the gussets 45, 47, 49, 51 and/or along the fold line 133). As shown in Fig. 9, the top wall formed by the top flaps 65, 69, 73, 77 can be smaller than the bottom wall formed from the bottom flaps 67, 71, 75, 79 and the upper portion of the carton 5 can be tapered inwardly from the shoulders S and/or the fold line 133 to the top wall to fit more tightly around the narrower tops N of the containers C. Accordingly, in the closed configuration 102 of the carton 5, the panels 23, 25, 31, 37 are positioned so that the top end 81 has a first closed width D1c and a second closed width D2c (Fig. 9). In one embodiment, the first closed width D1c is less than the first open width D1b and the second closed width D2c is less than the second open width D2b. In addition, as shown in Fig. 9, the first closed width D1c is less than the first bottom width D1a and the second closed width D2c is less than the second bottom width D2a due to the inwardly-tapering upper portions of the panels. As shown in Fig. 9, the closed widths D1c, D2c are perpendicular to one another in one embodiment. The closed widths D1c, D2c of the top end 81 could be otherwise configured without departing from the disclosure. In one embodiment the bottom widths D1a, D2a of the carton 5 can remain the same (e.g., substantially or approximately the same) when the carton is in the top-loading configuration 101 and in the closed configuration 102. Alternatively, the bottom widths could change when the carton is closed.

[0044] In one embodiment, the fold line 133 can be at least partially aligned with the shoulders S of the containers C (Fig. 2) so that the fold line 133 forms shoulder creases in each of the first side panel 23 and end panels 25, 37 that can allow the upper portions of the panels 23, 25, 37 to fold inwardly with respect to the lower portions of the respective panels adjacent the shoulders S of the containers C (Fig. 9). In one embodiment, the upper portion of the second side panel 31 can also fold inwardly with respect to its lower portion similarly to panels 23, 25, 37 even though the fold line 133 does not extend across the second side panel 31 in the blank 3 illustrated in Fig. 1. The inwardly-tapering upper portion of the carton 5 can help to retain or more tightly pack the narrow top portions N of the containers in the carton and the fold line 133 can help facilitate the folding of the upper portions of the panels with respect to their lower portions.

[0045] In one embodiment, portions of the carton 5 can flex and/or stretch around portions of the containers C. In one embodiment, at least the lateral fold lines 33, 43 can be weakened fold lines (e.g., can be cut-crease fold lines as shown in Fig. 1) to facilitate the reshaping of the carton from the top-loading configuration 103 with the wider top 81 (Fig. 4) to the fully closed configuration with the generally vertical lower portions of the sides and ends (Fig. 9). In addition, in one embodiment, the grain direction G can be configured to run generally in the lateral L2 direction in the blank (e.g., vertically in the sides and ends in the carton) to allow the carton to bow outward and give more space for product clearance (e.g., to flex around portions of the containers C). Further, in an exemplary embodiment, the grain direction G can facilitate the top flaps 65, 69, 73, 77 to bend inwardly. In an alternative embodiment, one or more of the panels 23, 25, 31, 37 can be generally vertical from the bottom 83 to the top 81 of the carton 5.

[0046] When the top 81 of the carton 5 is closed, the second side top flap 73 can overlap the first side top flap 65 so that the handle features 11 (Figs. 1-7) form the handle 12 (Fig. 9). In the illustrated embodiment, the outer handle panel 135b, the outer comfort flaps 139b, and the outer tabs 143b can at least partially overlap the respective inner handle panel 135a, inner comfort flaps 139a, and inner tabs 143a, and the enlarged portions 153 of the outer comfort flaps 139b can be at least partially aligned with the openings 151 in the first side top flap 65 so that the openings 151 can provide clearance for the enlarged portions 153 to fold inwardly when the handle is actuated. In one embodiment, at least the handle panels 135a, 135b can be glued together and portions of the side top flaps 65, 73 outside the handle features 11 can be glued together. The handle 12 could be otherwise formed without departing from the disclosure.

[0047] In one embodiment, the handle 12 can be actuated so that one can grasp the handle to carry the carton 5 by pushing inwardly on one or both of the outer comfort flaps 139b and the outer tabs 143b on one or both sides of the outer handle panel 135b with the fingers of a hand. The outer comfort flaps 139b and the outer tabs 143b can push inwardly on the inner comfort flaps 139a and the inner tabs 143a so that the comfort flaps 139b, 139a and the tabs 143b, 143a at least partially separate from one another and from the side top flaps 73, 65 and fold inwardly along the fold lines 139b, 139a, 145b, 145a. When the tabs 143b, 143a and the comfort flaps 139b, 139a are folded inwardly, an enlarged opening is formed in the top flaps 73, 65 for the hand to grasp the handle panels 135b, 135a. After folding the comfort flaps and tabs inwardly, the hand can grasp the overlapped handle panels 135b, 135a on one or both sides of the handle panels and pull upwardly, at least partially separating the handle panels 135b, 135a from the side top flaps 73, 65 and/or the side panels 31, 23 along the tear lines 137b, 137a while the handle panels 135b, 135a remain attached to at least the side panels 31, 23 so that the carton 5 can be lifted and carried by the handle 12. The handle 12 could be otherwise actuated without departing from the disclosure.

[0048] In one embodiment, the dispenser features 117 can be actuated in the carton 5 to form a dispenser opening (not shown) in the carton 5 by tearing the tear strip 119 from the access feature of the gusset opening 121 across the second side panel 31. The dispenser features 117 can be further actuated by pulling upwardly on the dispenser to tear along the weakened first gusset fold lines 57 of one or more of the gussets 45, 47, 49, 51. The dispenser features 117 could be otherwise actuated without departing from the disclosure.

[0049] The carton 5 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure.

[0050] Fig. 10 is a plan view of an exterior surface 201 of a blank 203 for forming a carton 205 (Fig. 12) according to a second embodiment of the disclosure. The second embodiment is generally similar to the first embodiment, except for variations noted and variations that will be apparent to one of ordinary skill in the art. Accordingly, similar or identical features of the embodiments have been given like or similar reference numbers. As shown in Figs. 10 and 11, the blank 203 can include a gusset 245 with a one-way fold feature 311. In one embodiment, the one-way fold feature can include a tab 313 that can interrupt the first gusset fold line 258 of the gusset 245. In the illustrated embodiment, the tab 313 can be at least partially defined by a cut 315, which can have a generally vertical portion and curved or angled ends. As shown in Figs. 10 and 11, the tab 313 extends from the first gusset panel 53 and is separable from the second gusset panel 55 along the cut 315. In one embodiment, the tab 313 can be configured to resist outward folding of the gusset 245 at the first gusset fold line 258 while allowing the gusset 245 to fold inwardly as shown in Fig. 12. Accordingly, the one-way fold feature 311 can help avoid undesirable outward folding of the gusset. The gusset 245 could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure. Further, any of the gussets 247, 249, 251 could include a one-way fold feature similar or identical to the gusset 245.

[0051] As shown in Figs. 10 and 11, the gussets 245, 249, 251 can include a curved fold line or tear line 263 extending from the bottom ends of the gusset fold lines 59, 61 so that the first gusset panels 53 are foldably connected to the side panels 223, 231 at the curved lines 263 and the second gusset panels 55 are foldably connected to the end panels 225, 237 at the curved lines 263. In an alternative embodiment, the gusset opening 121 can be omitted in the gusset 47 and the gusset 47 can include a curved line 263 extending from the ends of the 59, 61 (e.g., in an embodiment wherein the dispenser features 117 are omitted).

[0052] In one embodiment, the handle features 211 of the blank 203 can include two handle flaps 289 foldably connected to a handle grip portion 291 of the top side flap 273 along respective fold lines 293. The handle flaps 289 can be at least partially separable from the side top flap 273 along a respective cut or tear line 295. The handle features 211 further can include two handle openings 297 in the side top flap 265 extending on either side of a handle grip portion 299 of the side top flap 265 and two inner handle flaps 325 foldably connected to the handle grip portion 299 of the side top flap 265 adjacent the handle openings 297 along fold lines 327. When the handle (not shown) is formed from the handle features 211 in the carton 205 (e.g., when the top flaps 265, 273 are overlapped to at least partially close the top end of the carton 205), the handle grip portions 291, 299 can be overlapped, the handle flaps 289 can at least partially overlap the inner handle flaps 325, and the handle flaps 289 can be generally aligned with the respective handle openings 297. Accordingly, the handle formed from the handle features 211 can be grasped by folding the handle flaps 289, 325 inwardly and gripping the handle grip portions 291, 299. The handle features 211 could be omitted or could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure.

[0053] The blank 203 and the carton 205 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure.

[0054] Fig. 13 is a plan view of an exterior surface 401 of a blank 403 for forming a carton (not shown) according to a third embodiment of the disclosure. The third embodiment is generally similar to the prior embodiments, except for variations noted and variations that will be apparent to one of ordinary skill in the art. Accordingly, similar or identical features of the embodiments have been given like or similar reference numbers. As shown in Fig. 13, the dispenser features 117 and the window 123 are omitted in the second side panel 431 of the blank 403. In the illustrated embodiment, the blank 403 can include gussets 445, 447, 449, 451, wherein the second gusset fold line 59 and the third gusset fold line 61 in each gusset 445, 447, 449, 451 can be connected at their lower ends by a respective curved cut 463 so that the second gusset fold line 59, the third gusset fold line 61, and the cut 463 generally form a U- or V-shaped fold. In the illustrated embodiment, each of the gusset fold lines 57, 59, 61 can be a cut-crease fold line. The gussets 445, 447, 449, 451 could be omitted or could be otherwise shaped, arranged, positioned, and configured without departing from the disclosure.

[0055] In the illustrated embodiment, the handle features 411 of the blank 403 can include two handle flaps 489 foldably connected to a handle grip portion 491 of the top side flap 273 along respective fold lines 493. The handle flaps 489 can be at least partially separable from the side top flap 273 along a respective cut or tear line 495. The handle features 411 further can include two handle openings 497 in the side top flap 265 extending on either side of a handle grip portion

499 of the side top flap 265. When the handle (not shown) is formed from the handle features 411 (e.g., when the top flaps 265, 273 are overlapped to at least partially close the top end of the carton), the handle grip portions 491, 499 can be overlapped and the handle flaps 489 can be generally aligned with the respective handle openings 497. Accordingly, the handle formed from the handle features 411 can be grasped by folding the handle flaps 489 inwardly through the handle openings 497 and gripping the handle grip portions 491, 499. The handle features 411 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure.

[0056] The blank 403 could be otherwise shaped, arranged, positioned, and/or configured without departing from the disclosure.

[0057] Any of the features of the various embodiments of the disclosure can be combined with, replaced by, or otherwise configured with other features of other embodiments of the disclosure without departing from the scope of this disclosure.

[0058] The blanks according to the present disclosure can be, for example, formed from coated paperboard and similar materials. For example, the interior and/or exterior sides of the blanks can be coated with a clay coating. The clay coating may then be printed over with product, advertising, price coding, and other information or images. The blanks may then be coated with a varnish to protect any information printed on the blank. The blanks may also be coated with, for example, a moisture barrier layer, on either or both sides of the blank. In accordance with the above-described embodiments, the blanks may be constructed of paperboard of a caliper such that it is heavier and more rigid than ordinary paper. The blanks can also be constructed of other materials, such as cardboard, hard paper, or any other material having properties suitable for enabling the carton to function at least generally as described herein. The blanks can also be laminated or coated with one or more sheet-like materials at selected panels or panel sections.

[0059] In accordance with the above-described embodiments of the present disclosure, 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 disclosure, 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.

[0060] As an example, a tear line can include: a slit that extends partially into the material along the desired line of weakness, and/or a series of spaced apart slits that extend partially into and/or completely through the material along the desired line of weakness, or various combinations of these features. As a more specific example, one type tear line is in the form of a series of spaced apart slits that extend completely through the material, with adjacent slits being spaced apart slightly so that a nick (e.g., a small somewhat bridging-like piece of the material) is defined between the adjacent slits for typically temporarily connecting the material across the tear line. The nicks are broken during tearing along the tear line. The nicks typically are a relatively small percentage of the tear line, and alternatively the nicks can be omitted from or torn in a tear line such that the tear line is a continuous cut line. That is, it is within the scope of the present disclosure for each of the tear lines to be replaced with a continuous slit, or the like. For example, a cut line can be a continuous slit or could be wider than a slit without departing from the present disclosure.

[0061] The above embodiments may be described as having one or more panels adhered together by glue during erection of the carton embodiments. The term “glue” is intended to encompass all manner of adhesives commonly used to secure carton panels in place.

[0062] The foregoing description of the disclosure illustrates and describes various embodiments. As various changes could be made in the above construction without departing from the scope of the disclosure, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. Furthermore, the scope of the present disclosure covers various modifications, combinations, alterations, etc., of the above-described embodiments that are within the scope of the claims. Additionally, the disclosure shows and describes only selected embodiments of the disclosure, but the disclosure 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. Furthermore, certain features and characteristics of each embodiment may be selectively interchanged and applied to other illustrated and non-illustrated embodiments of the disclosure.

WHAT IS CLAIMED IS:

1. A carton for holding a plurality of containers, the carton is configurable between an open configuration and a closed configuration, the carton comprising:

a plurality of panels that extends at least partially around an interior of the carton;

a top end, the top end having an open width in the open configuration and a closed width in the closed configuration;

a bottom end disposed opposite to the top end, the bottom end having a bottom width;

in the open configuration, the top end is at least partially open and the plurality of panels is positioned so that the open width of the top end is greater than the bottom width of the bottom end; and

in the closed configuration, the top end is at least partially closed and the plurality of panels is positioned so that the closed width is less than the open width.

2. The carton of claim 1, wherein the open width is a first open width, the bottom width is a first bottom width, the bottom end has a second bottom width, the top end has a second open width in the open configuration, the second bottom width and the second open width are perpendicular to the first bottom width and the first open width, and the plurality of panels are positioned so that the second open width of the top end is greater than the second bottom width of the bottom end in the open configuration.

3. The carton of claim 2, wherein the closed width is a first closed width, the top end has a second closed width in the closed configuration, the second closed width is perpendicular to the first closed width, and the plurality of panels are positioned so that the first closed width and second closed width of the top end are less than the respective first bottom width and the second bottom width of the bottom end in the closed configuration.

4. The carton of claim 2, wherein an arrangement of containers is positioned in the interior of the carton, the arrangement comprises a first dimension that is parallel to the first bottom width and a second dimension that is parallel to the second bottom width, the first bottom width is less than the first dimension, and the second bottom width is less than the second dimension.

5. The carton of claim 4, wherein the first dimension of the arrangement is equal to the first open width of the top end in the open configuration and the second dimension of the arrangement is equal to the second open width of the top end in the open configuration.

6. The carton of claim 1, wherein the plurality of panels comprises a first panel foldably connected to a second panel along a lateral fold line, the bottom end comprises a first bottom end flap foldably connected to the first panel along a first segment of a longitudinal fold line and a second bottom end flap foldably connected to the second panel along a second segment of the longitudinal fold line, the first segment and the second segment extend at a respective first angle and second angle with respect to the lateral fold line, and each of the first angle and the second angle is greater than 90 degrees in the open configuration.
7. The carton of claim 6, wherein each panel of the plurality of panels has a grain direction extending vertically between the top end and the bottom end.
8. The carton of claim 6, wherein the lateral fold line is a first lateral fold line, the plurality of panels further comprises a third panel foldably connected to the second panel along a second lateral fold line, a fourth panel foldably connected to the third panel along a third lateral fold line, and an attachment panel foldably connected to the first panel along a fourth lateral fold line, the second lateral fold line and the fourth lateral fold line are opposite one another in the carton, and the second lateral fold line and the fourth lateral fold line are weakened fold lines.
9. The carton of claim 1, wherein the plurality of panels comprises a first panel foldably connected to a second panel at a gusset.
10. The carton of claim 9, wherein the first panel and the second panel are further foldably connected along a lateral fold line extending from the bottom end to the gusset.
11. The carton of claim 9, wherein the gusset comprises a first gusset panel foldably connected to a second gusset panel along a first gusset fold line, the first gusset panel is foldably connected to the first panel along a second gusset fold line, and the second gusset panel is foldably connected to the second panel along a third gusset fold line.
12. The carton of claim 11, wherein the second gusset fold line and the third gusset fold line are oblique and extend from the top end of the carton.
13. The carton of claim 11, wherein the gusset comprises a gusset opening, and the first gusset panel and the second gusset panel extend from the top end of the carton to the gusset opening.

14. The carton of claim 13, wherein the first panel and the second panel are further foldably connected along a lateral fold line extending from the bottom end to the gusset opening, and the first gusset panel and the second gusset panel are spaced from the lateral fold line by the gusset opening.

15. The carton of claim 11, wherein the second gusset fold line and the third gusset fold line extend from respective ends of a curved fold line to the top end of the carton, and the first gusset panel and the second gusset panel are foldably connected to the respective first panel and second panel along the curved fold line.

16. The carton of claim 11, wherein the gusset comprises a one-way fold feature comprising a tab extending from the first gusset panel and being separable from the second gusset panel along a cut line, and the tab at least partially interrupts the first gusset fold line.

17. The carton of claim 11, wherein the second gusset fold line and the third gusset fold line extend from respective ends of a curved cut to the top end of the carton, and the first gusset panel and the second gusset panel are separable from the respective first panel and second panel along the curved cut.

18. The carton of claim 9, wherein a tear strip extends at least partially across the first panel, the tear strip comprises an access feature for facilitating initial tearing of the tear strip, the gusset extends from the access feature to the top end of the carton, and the access feature comprises an aperture in the carton.

19. The carton of claim 9, wherein the gusset is a first gusset, the plurality of panels further comprises a third panel foldably connected to the second panel at a second gusset, a fourth panel foldably connected to the third panel at a third gusset, and an attachment panel foldably connected to the first panel at a fourth gusset, the fourth panel at least partially overlaps the attachment panel so that the fourth gusset extends between the first panel and the fourth panel, and each of the first gusset, the second gusset, the third gusset, and the fourth gusset extends from the top end of the carton and is spaced from the bottom end of the carton.

20. The carton of claim 1, further comprising a handle in at least the top end.

21. The carton of claim 20, wherein the top end comprises at least a top flap foldably connected to a panel of the plurality of panels, the handle comprises a handle panel extending in the top flap, a first comfort flap and a second comfort flap foldably connected to opposite sides of the handle panel, a first tab foldably connected to the top flap, and a second tab foldably connected to the top flap, and

the first tab and the second tab are separable from the respective first comfort flap and second comfort flap along respective tear lines.

22. The carton of claim 20, wherein the top end comprises at least a first top flap and a second top flap foldably connected to respective panels of the plurality of panels, the handle comprises an inner handle panel extending in at least the first top flap and an outer handle panel extending in at least the second top flap, and the outer handle panel at least partially overlaps the inner handle panel in the closed configuration.

23. The carton of claim 22, wherein the inner handle panel is foldably connected to an inner comfort flap, the outer handle panel is foldably connected to an outer comfort flap that at least partially overlaps the inner comfort flap in the closed configuration, the handle further comprises an inner tab foldably connected to the first top flap and an outer tab foldably connected to the second top flap, the outer tab at least partially overlaps the inner tab in the closed configuration, and the inner tab and the outer tab are at least partially separable from the respective inner comfort flap and outer comfort flap along respective tear lines.

24. The carton of claim 22, wherein the inner handle panel is at least partially separable from the first top flap along at least an inner tear line, and the outer handle panel is at least partially separable from the second top flap along at least an outer tear line.

25. The carton of claim 1, wherein the plurality of panels are positioned so that the closed width of the top end is less than the bottom width of the bottom end in the closed configuration.

26. The carton of claim 1, wherein an arrangement of containers is positioned in the interior of the carton, the arrangement comprises a dimension that is parallel to the bottom width of the bottom end, the bottom width of the bottom end is less than the dimension of the arrangement, and the open width of the top end is equal to the dimension of the arrangement in the open configuration.

27. A blank for forming a carton for holding a plurality of containers, the carton being configurable between an open configuration and a closed configuration, the blank comprising:

- a plurality of panels;

- a top marginal area for forming a top end when the carton is formed from the blank, the top end having an open width in the open configuration and a closed width in the closed configuration when the carton is formed from the blank;

a bottom marginal area for forming a bottom end disposed opposite to the top end when the carton is formed from the blank, the bottom end having a bottom width when the carton is formed from the blank;

in the open configuration of the carton formed from the blank, the top end is at least partially open and the plurality of panels is positioned so that the open width of the top end is greater than the bottom width of the bottom end; and

in the closed configuration of the carton formed from the blank, the top end is at least partially closed and the plurality of panels is positioned so that the closed width is less than the open width.

28. The blank of claim 27, wherein the plurality of panels comprises a first panel foldably connected to a second panel along a lateral fold line, the blank comprises a first bottom end flap and a second bottom end flap along the bottom marginal area, the first bottom end flap is foldably connected to the first panel along a first segment of a longitudinal fold line, the second bottom end flap is foldably connected to the second panel along a second segment of the longitudinal fold line, the first segment and the second segment extend at a respective first angle and second angle with respect to the lateral fold line, and each of the first angle and the second angle is greater than 90 degrees in the open configuration.

29. The blank of claim 28, wherein each panel of the plurality of panels has a grain direction extending in a lateral direction between the top marginal area and the bottom marginal area.

30. The blank of claim 28, wherein the lateral fold line is a first lateral fold line, the plurality of panels further comprises a third panel foldably connected to the second panel along a second lateral fold line, a fourth panel foldably connected to the third panel along a third lateral fold line, and an attachment panel foldably connected to the first panel along a fourth lateral fold line, the second lateral fold line and the fourth lateral fold line are for being positioned opposite one another in the carton formed from the blank, and the second lateral fold line and the fourth lateral fold line are weakened fold lines.

31. The blank of claim 27, wherein the plurality of panels comprises a first panel foldably connected to a second panel at a gusset.

32. The blank of claim 31, wherein the first panel and the second panel are further foldably connected along a lateral fold line extending from the bottom marginal area of the blank to the gusset.

33. The blank of claim 31, wherein the gusset comprises a first gusset panel foldably connected to a second gusset panel along a first gusset fold line, the first gusset panel is foldably connected to the first panel along a second gusset fold line, and the second gusset panel is foldably connected to the second panel along a third gusset fold line.

34. The blank of claim 33, wherein the second gusset fold line and the third gusset fold line are oblique and extend from the top marginal area of the blank.

35. The blank of claim 33, wherein the gusset comprises a gusset opening, and the first gusset panel and the second gusset panel extend from the top marginal area of the blank to the gusset opening.

36. The blank of claim 35, wherein the first panel and the second panel are further foldably connected along a lateral fold line extending from the bottom marginal area of the blank to the gusset opening, and the first gusset panel and the second gusset panel are spaced from the lateral fold line by the gusset opening.

37. The blank of claim 33, wherein the second gusset fold line and the third gusset fold line extend from respective ends of a curved fold line to the top marginal area of the blank, and the first gusset panel and the second gusset panel are foldably connected to the respective first panel and second panel along the curved fold line.

38. The blank of claim 33, wherein the gusset comprises a one-way fold feature comprising a tab extending from the first gusset panel and being separable from the second gusset panel along a cut line, and the tab at least partially interrupts the first gusset fold line.

39. The blank of claim 33, wherein the second gusset fold line and the third gusset fold line extend from respective ends of a curved cut to the top marginal area of the blank, and the first gusset panel and the second gusset panel are separable from the respective first panel and second panel along the curved cut.

40. The blank of claim 31, wherein a tear strip extends at least partially across the first panel, the tear strip comprises an access feature for facilitating initial tearing of the tear strip, the gusset extends from the access feature to the top marginal area of the blank, and the access feature comprises an aperture in the carton.

41. The blank of claim 31, wherein the gusset is a first gusset, the plurality of panels further comprises a third panel foldably connected to the second panel at a second gusset, a fourth panel foldably connected to the third panel at a third gusset, and an attachment panel foldably connected to the first panel at a fourth gusset, and each of the first gusset, the second gusset, the third gusset, and the fourth gusset extends from the top marginal area of the blank and is spaced from the bottom marginal area of the blank.

42. The blank of claim 27, further comprising handle features for at least partially forming a handle in at least the top end of the carton formed from the blank.

43. The blank of claim 42, wherein the blank comprises at least a top flap foldably connected to a panel of the plurality of panels along the top marginal area of the blank, the handle features comprise a handle panel extending in the top flap, a first comfort flap and a second comfort flap foldably connected to opposite sides of the handle panel, a first tab foldably connected to the top flap, and a second tab foldably connected to the top flap, and the first tab and the second tab are separable from the respective first comfort flap and second comfort flap along respective tear lines.

44. The blank of claim 42, wherein the blank comprises at least a first top flap and a second top flap foldably connected to respective panels of the plurality of panels along the top marginal area of the blank, the handle features comprise an inner handle panel extending in at least the first top flap and an outer handle panel extending in at least the second top flap, and the outer handle panel is for at least partially overlapping the inner handle panel in the closed configuration of the carton formed from the blank.

45. The blank of claim 44, wherein the inner handle panel is foldably connected to an inner comfort flap, the outer handle panel is foldably connected to an outer comfort flap that is for at least partially overlapping the inner comfort flap in the closed configuration of the carton formed from the blank, the handle features further comprise an inner tab foldably connected to the first top flap and an outer tab foldably connected to the second top flap, the outer tab being for at least partially overlapping the inner tab in the closed configuration of the carton formed from the blank, and the inner tab and the outer tab are at least partially separable from the respective inner comfort flap and outer comfort flap along respective tear lines.

46. The blank of claim 44, wherein the inner handle panel is at least partially separable from the first top flap along at least an inner tear line, and the outer handle panel is at least partially separable from the second top flap along at least an outer tear line.

47. The blank of claim 27, wherein the plurality of panels are for being positioned so that, when the carton is formed from the blank, the closed width of the top end is less than the bottom width of the bottom end in the closed configuration of the carton formed from the blank.

48. The blank of claim 27, wherein an arrangement of containers is for being positioned in the interior of the carton formed from the blank, the arrangement comprises a dimension that is parallel to the bottom width of the bottom end when the carton is formed from the blank, the bottom width of the bottom end of the carton formed from the blank is for being less than the dimension of the arrangement, and the open width of the top end of the carton formed from the blank is for being equal to the dimension of the arrangement in the open configuration of the carton formed from the blank.

49. A method for forming a carton for holding a plurality of containers, the method comprising:

obtaining a blank comprising a plurality of panels;

forming a carton from the blank, the forming the carton comprising folding the plurality of panels to extend at least partially around an interior of the carton, the carton comprising a top end and a bottom end disposed opposite to the top end, the bottom end having a bottom width;

configuring the carton in an open configuration wherein the top end is at least partially open, the configuring the carton in the open configuration comprising positioning the plurality of panels so that the top end has an open width that is greater than the bottom width of the bottom end; and

configuring the carton in a closed configuration by at least partially closing the top end and positioning the plurality of panels so that the top end has a closed width that is less than the open width.

50. The method of claim 49, wherein the configuring the carton in the closed configuration comprises positioning the plurality of panels so that the closed width of the top end is less than the bottom width of the bottom.

51. The method of claim 49, further comprising positioning an arrangement of containers in the interior of the carton prior to the configuring the carton in the closed configuration, wherein the arrangement comprises a dimension that is parallel to the bottom width of the bottom end, the bottom width of the bottom end is less than the dimension of the arrangement, and the open width of the top end is equal to the dimension of the arrangement in the open configuration.

52. The method of claim 49, wherein the plurality of panels comprises a first panel foldably connected to a second panel at a gusset.

53. The method of claim 52, wherein the first panel and the second panel are further foldably connected along a lateral fold line extending from the bottom end to the gusset.

54. The method of claim 52, wherein the gusset comprises a first gusset panel foldably connected to a second gusset panel along a first gusset fold line, the first gusset panel is foldably connected to the first panel along a second gusset fold line, and the second gusset panel is foldably connected to the second panel along a third gusset fold line.

55. The method of claim 54, wherein the gusset comprises a gusset opening, and the first gusset panel and the second gusset panel extend from the top end of the carton to the gusset opening.

56. The method of claim 54, wherein the gusset comprises a one-way fold feature comprising a tab extending from the first gusset panel and being separable from the second gusset panel along a cut line, and the tab at least partially interrupts the first gusset fold line.

57. The method of claim 52, wherein the gusset is a first gusset, the plurality of panels further comprises a third panel foldably connected to the second panel at a second gusset, a fourth panel foldably connected to the third panel at a third gusset, and an attachment panel foldably connected to the first panel at a fourth gusset, and the method further comprises at least partially overlapping the attachment panel with the fourth panel so that the fourth gusset extends between the first panel and the fourth panel, each of the first gusset, the second gusset, the third gusset, and the fourth gusset extending from the top end of the carton and being spaced from the bottom end of the carton.

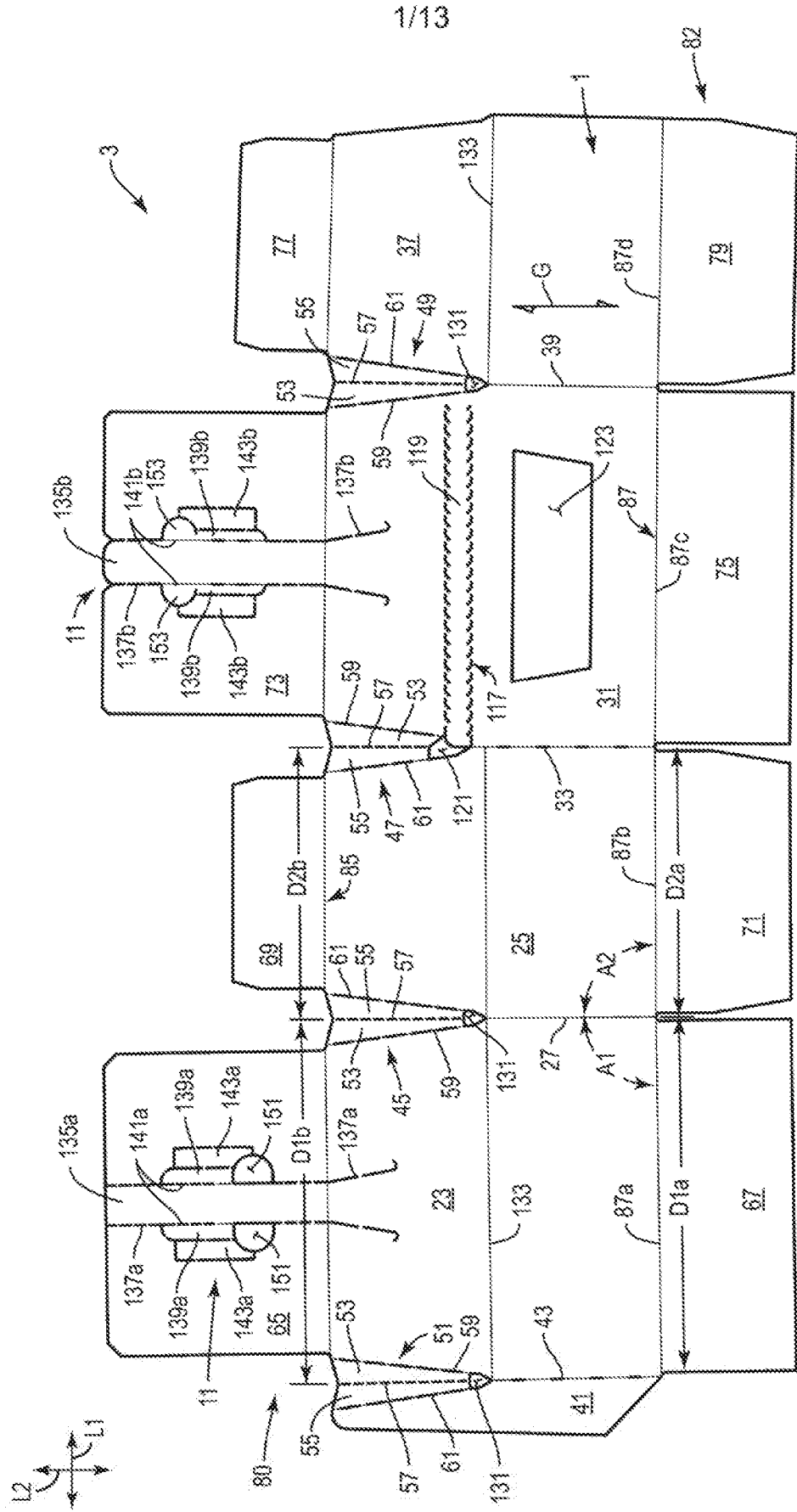


FIG. 1

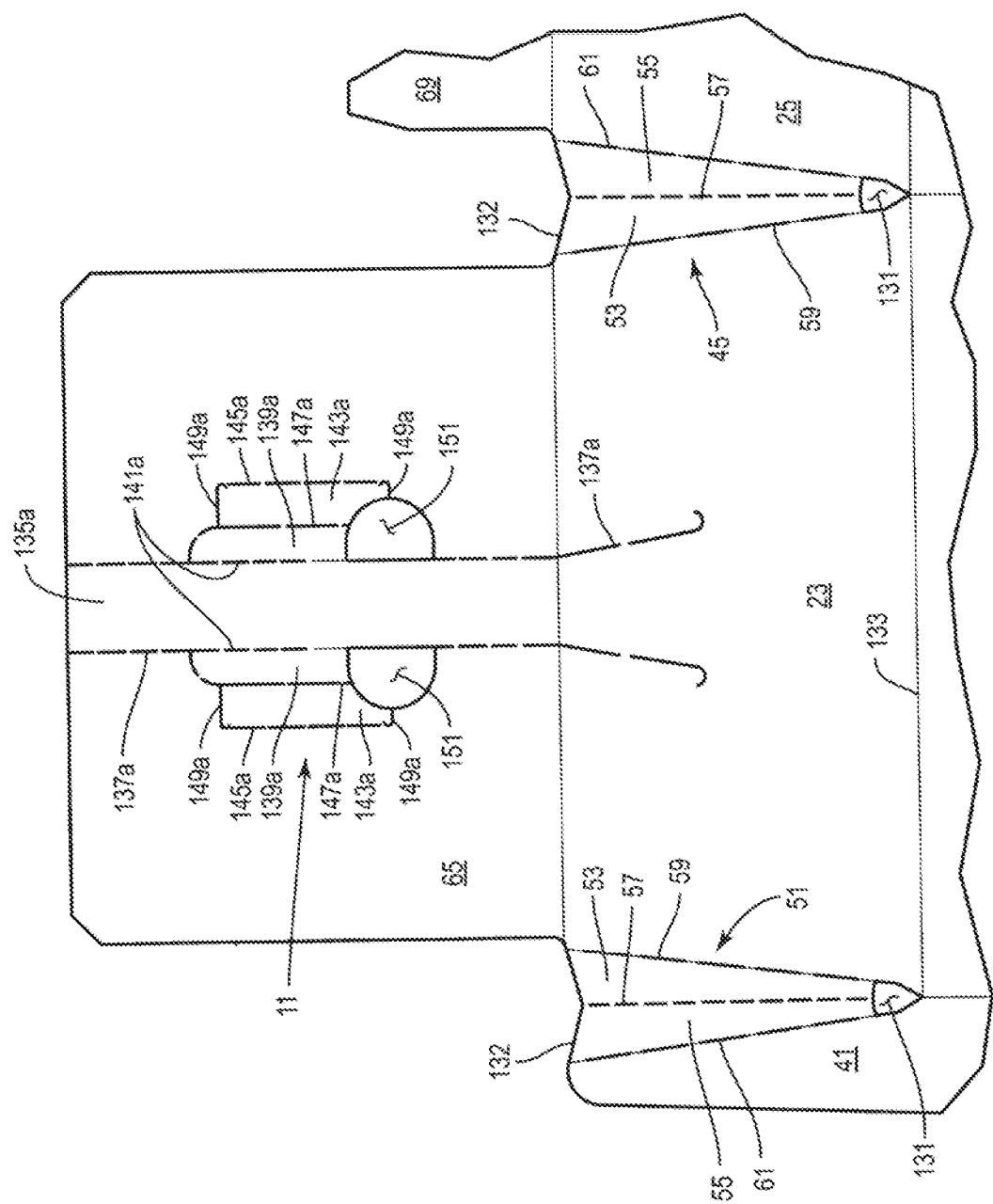


FIG. 1A

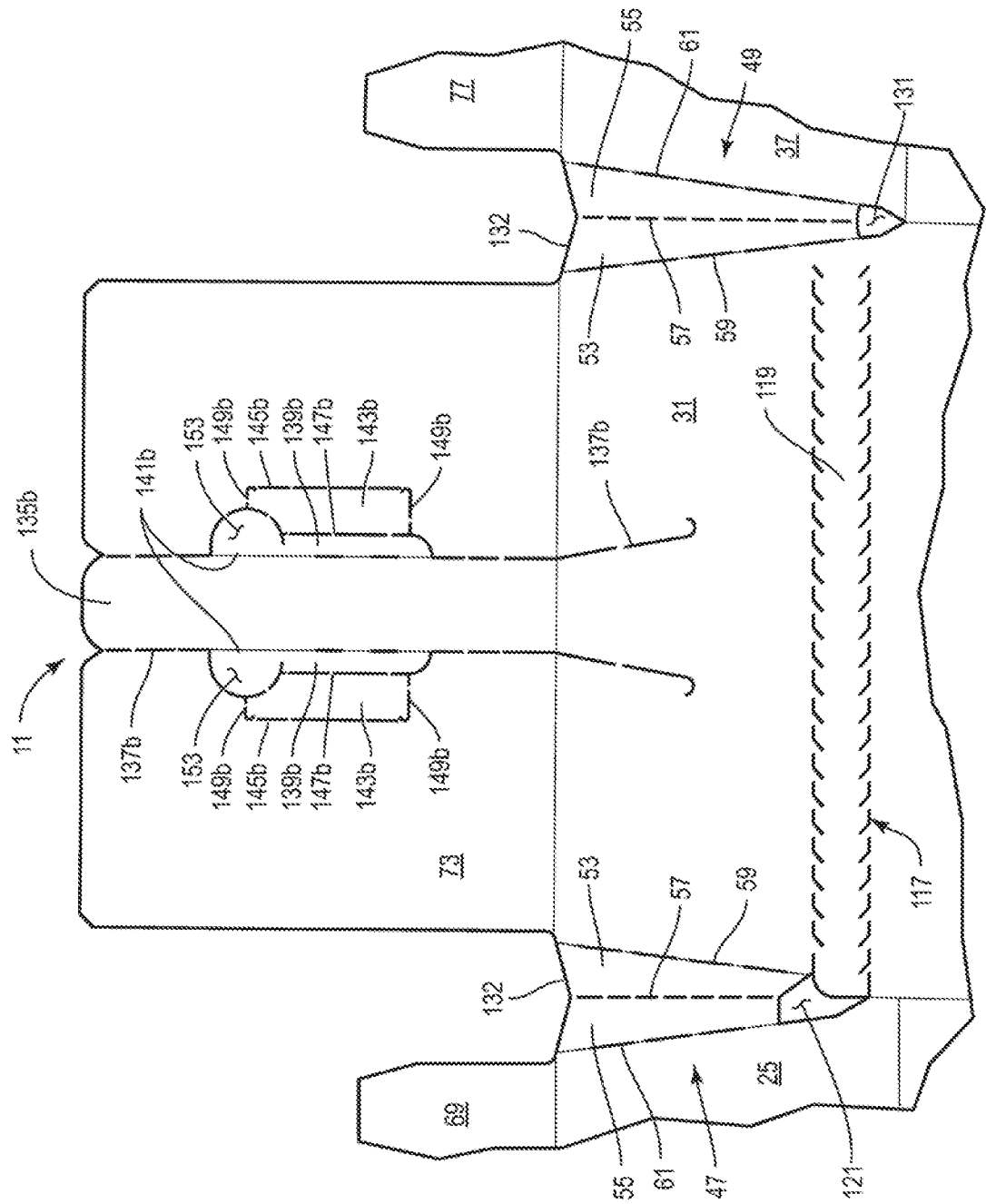


FIG. 1B

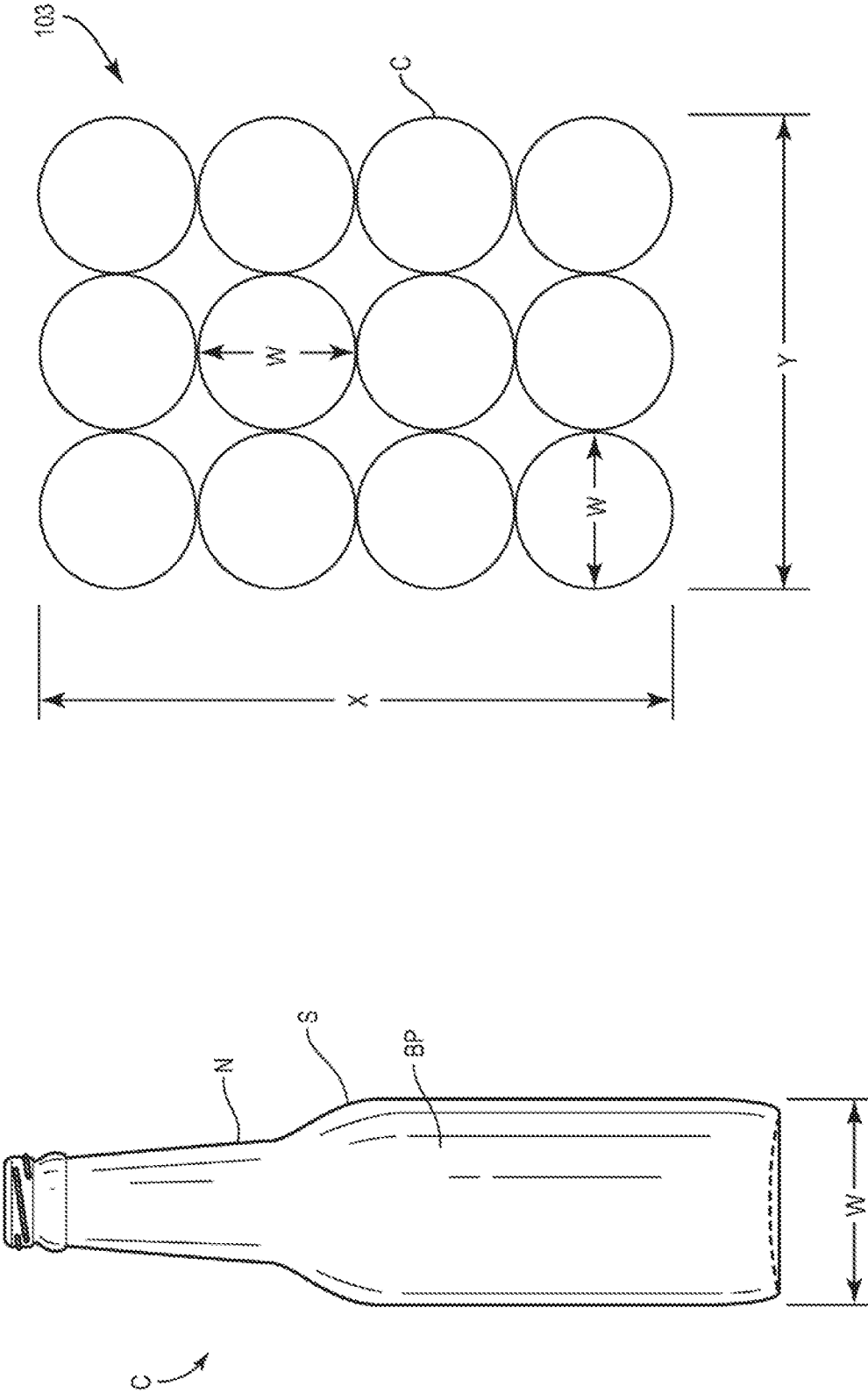


FIG. 3

FIG. 2

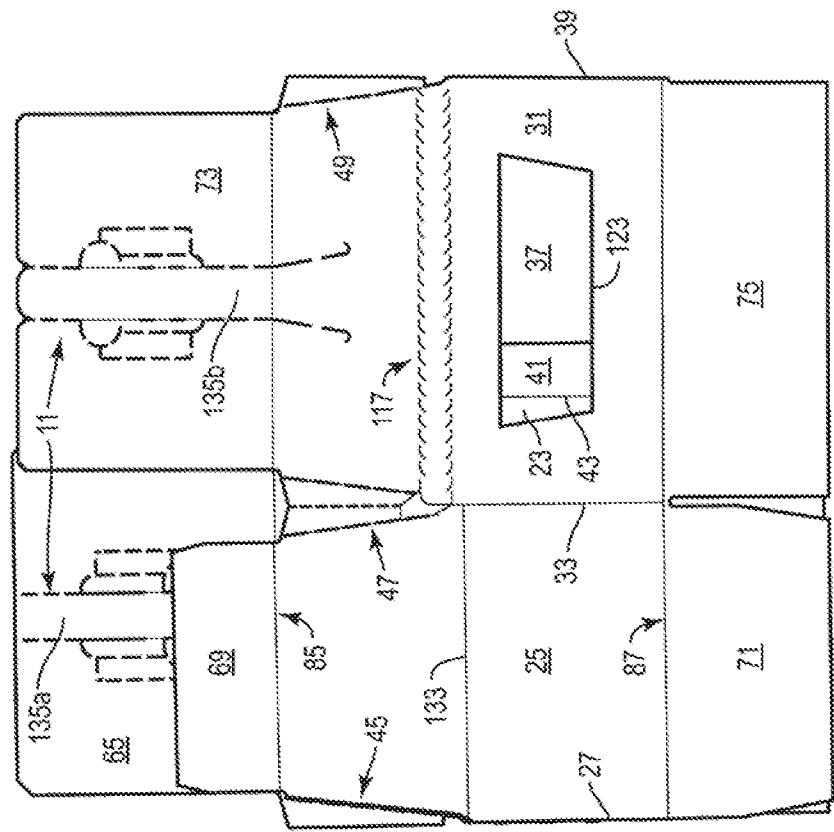


FIG. 4

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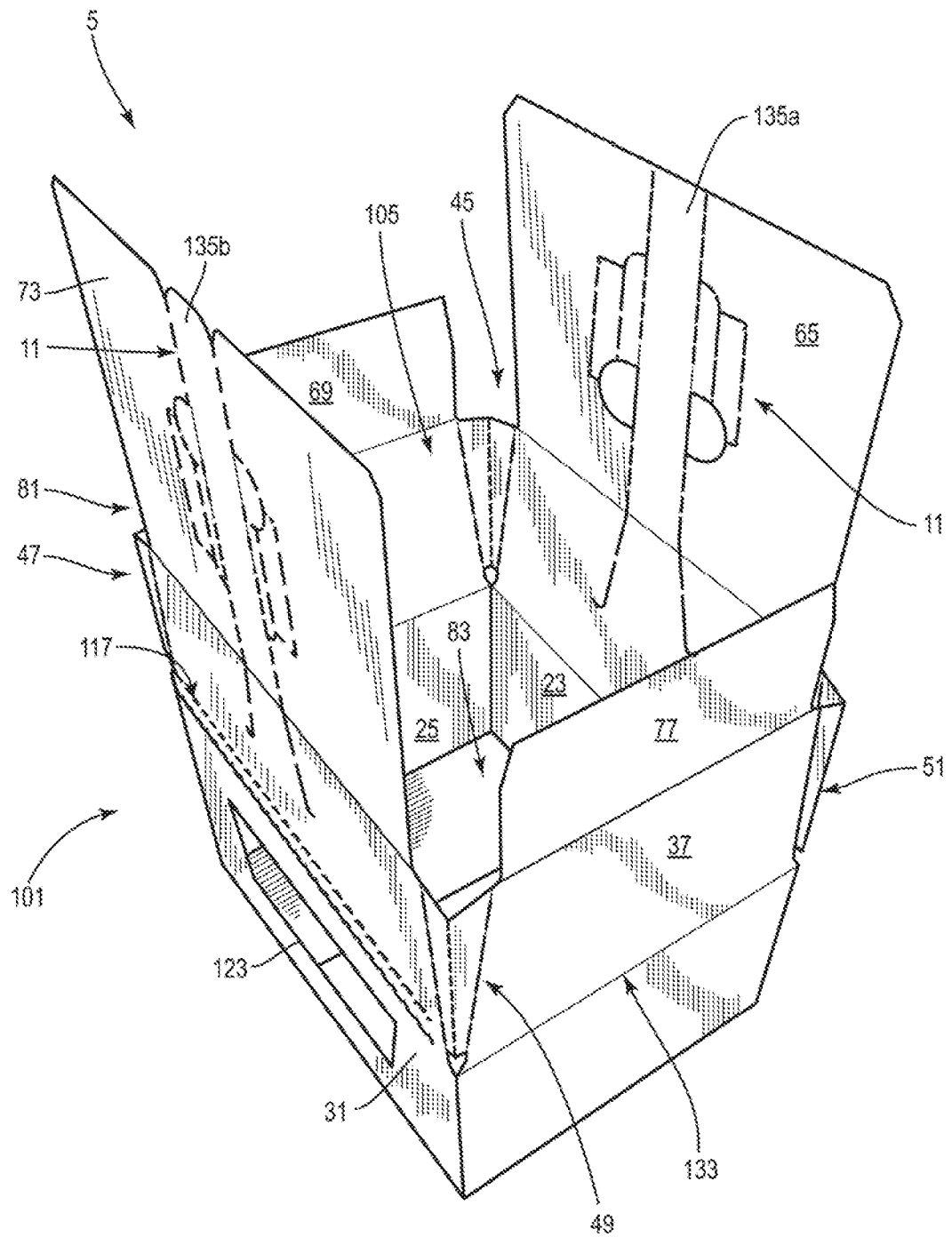


FIG. 5

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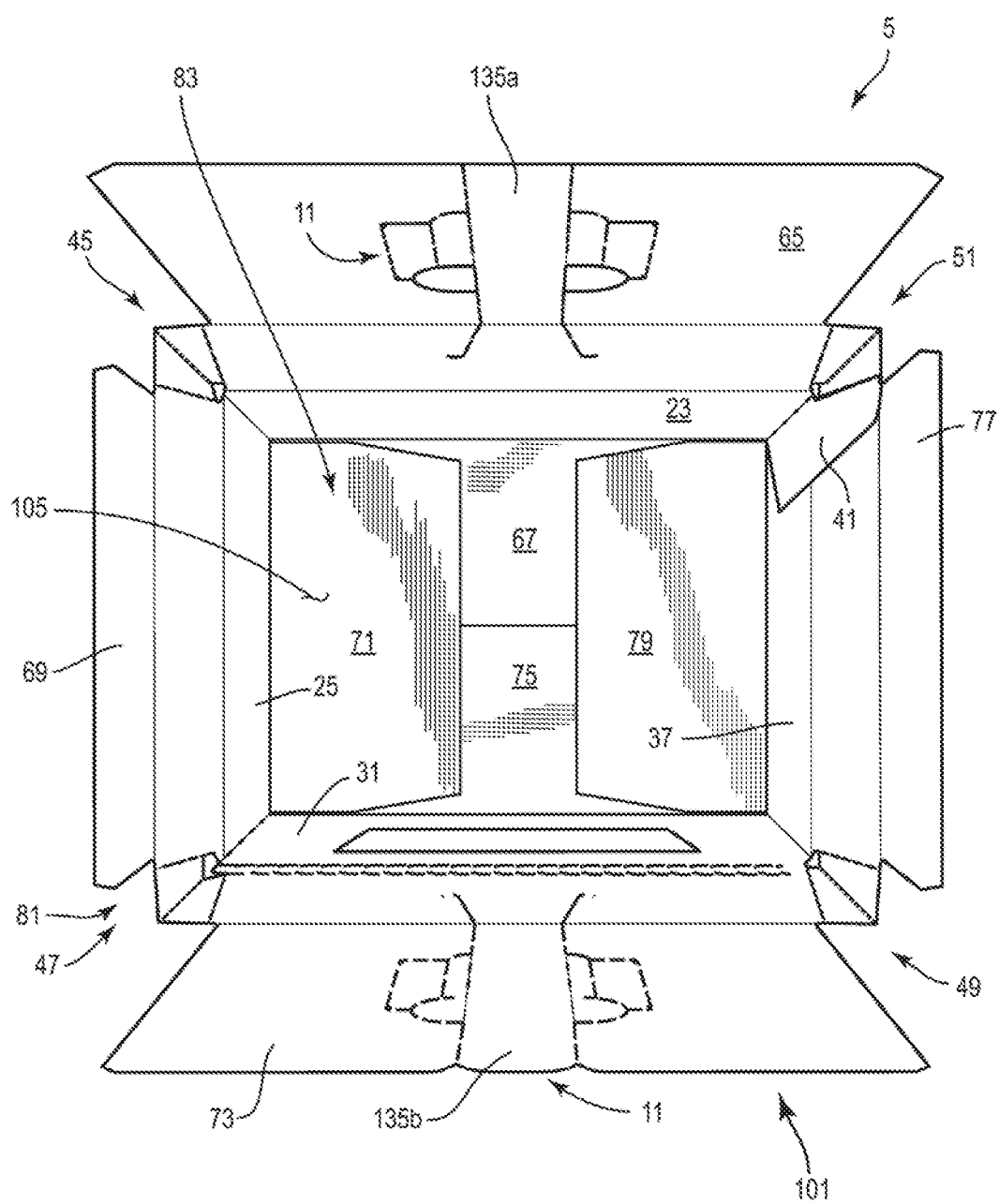


FIG. 6

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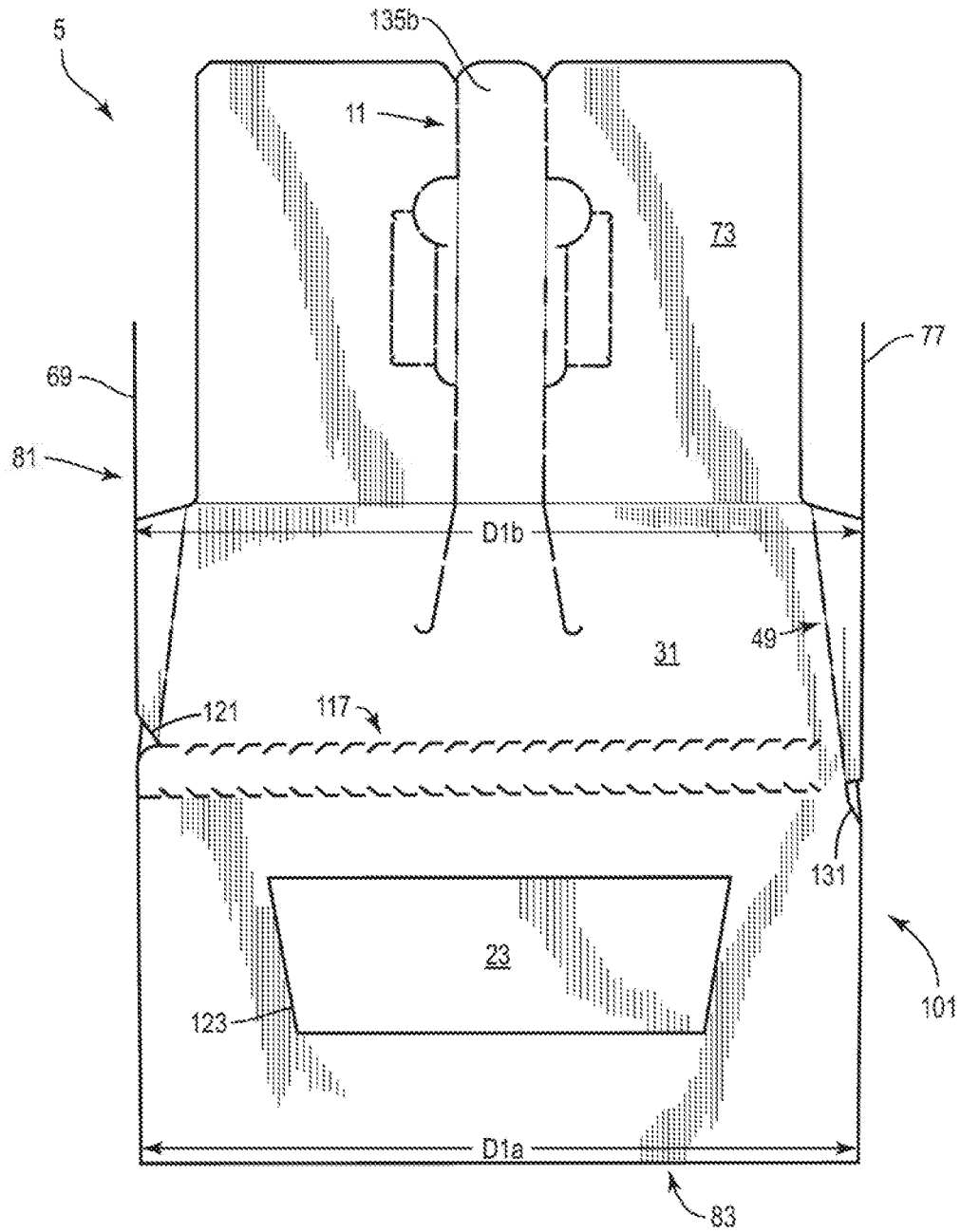


FIG. 7

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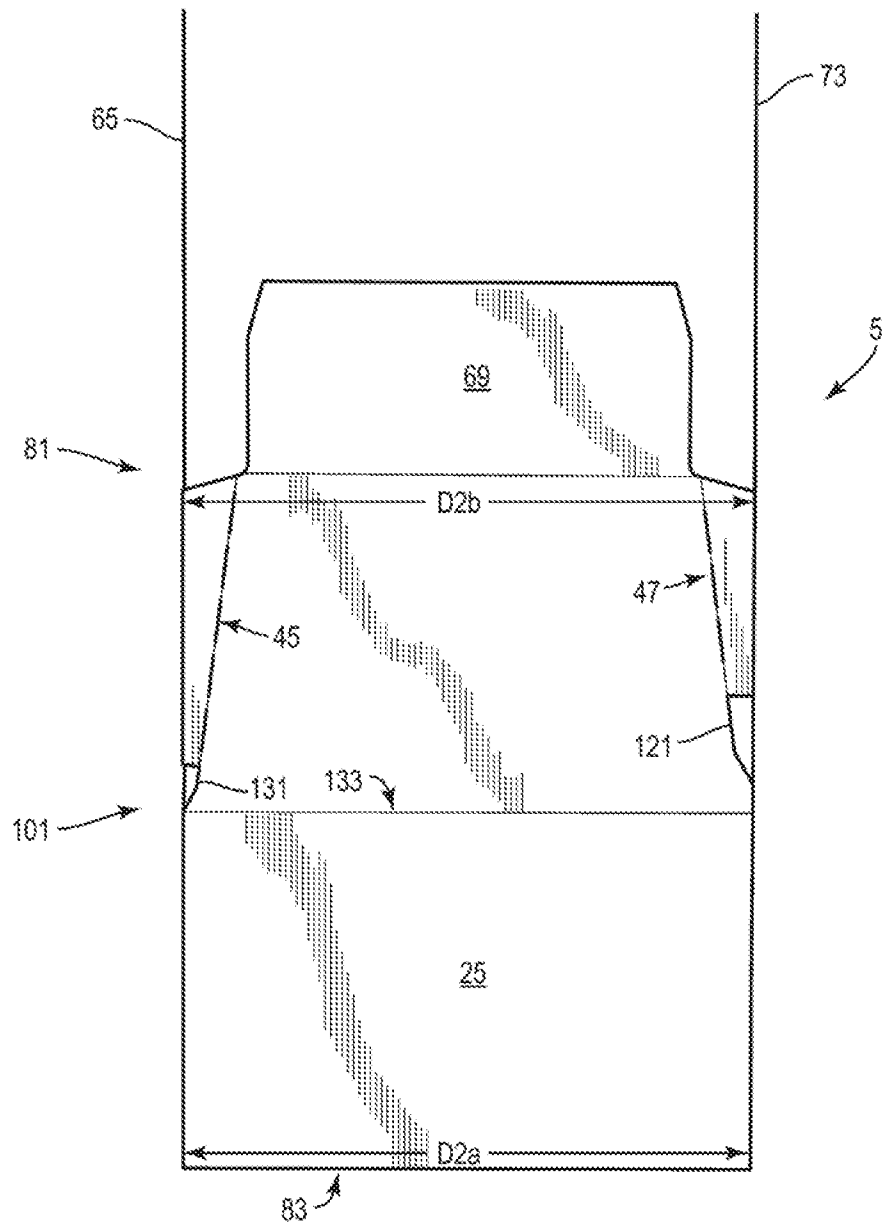


FIG. 8

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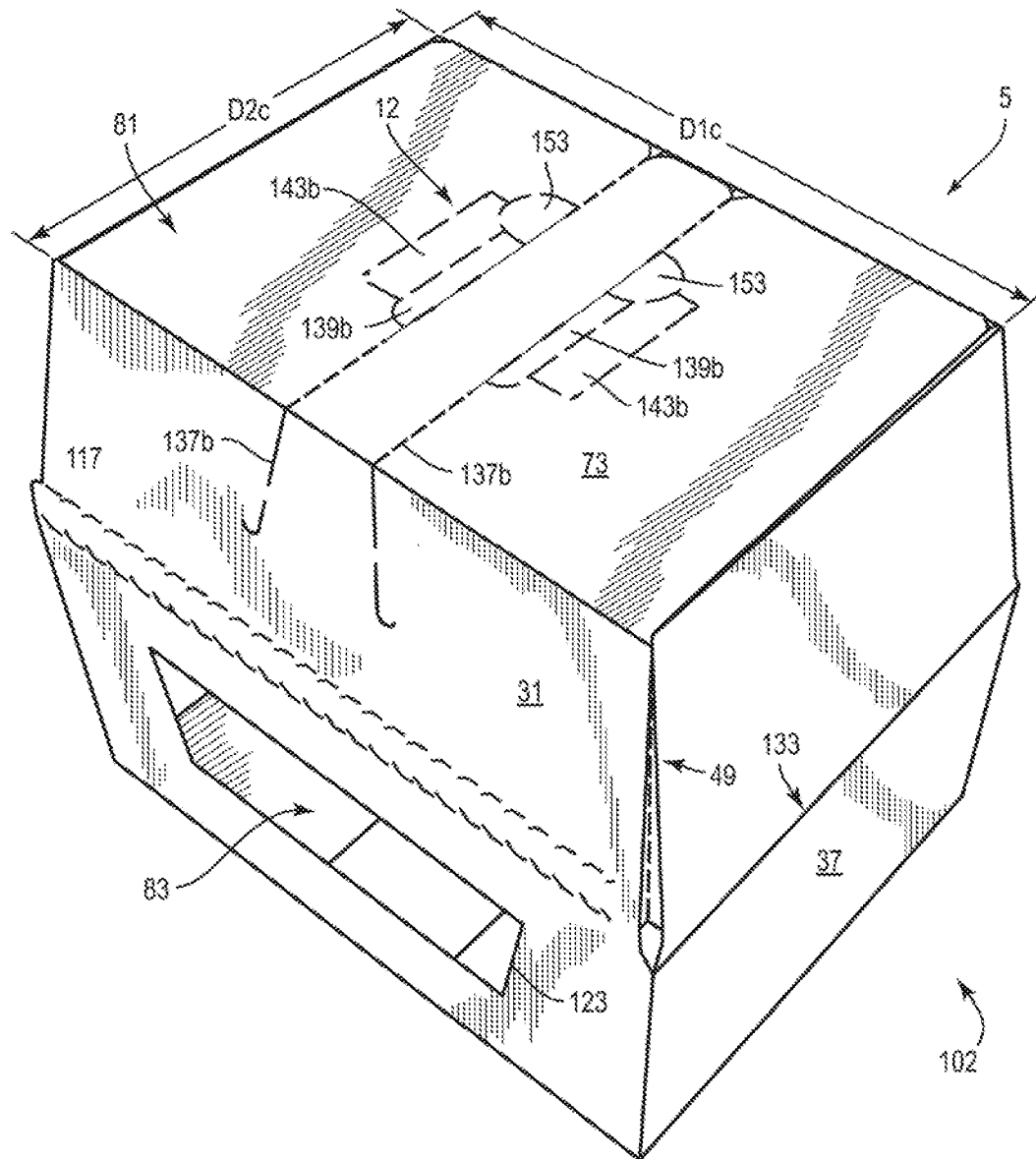
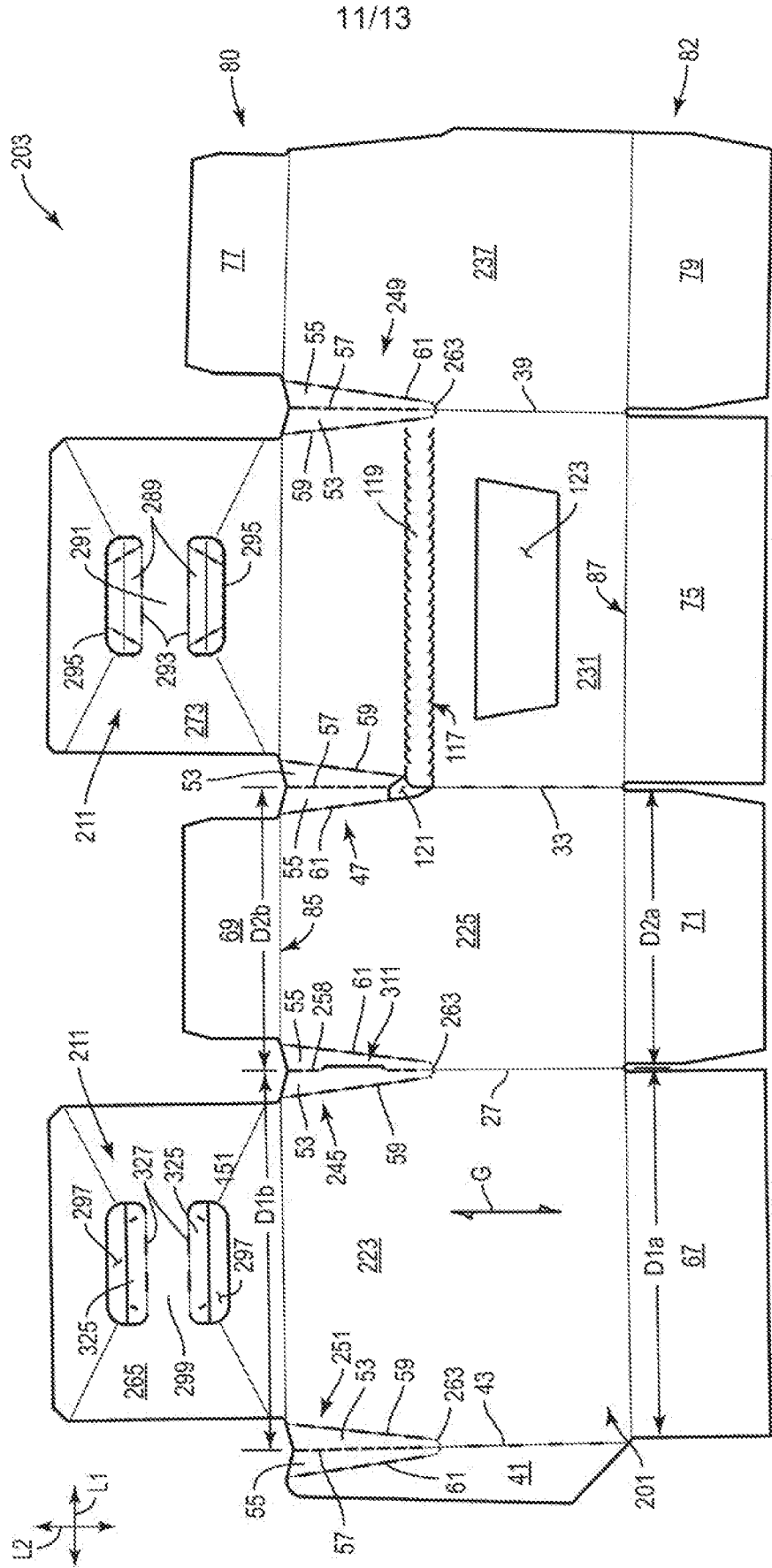


FIG. 9



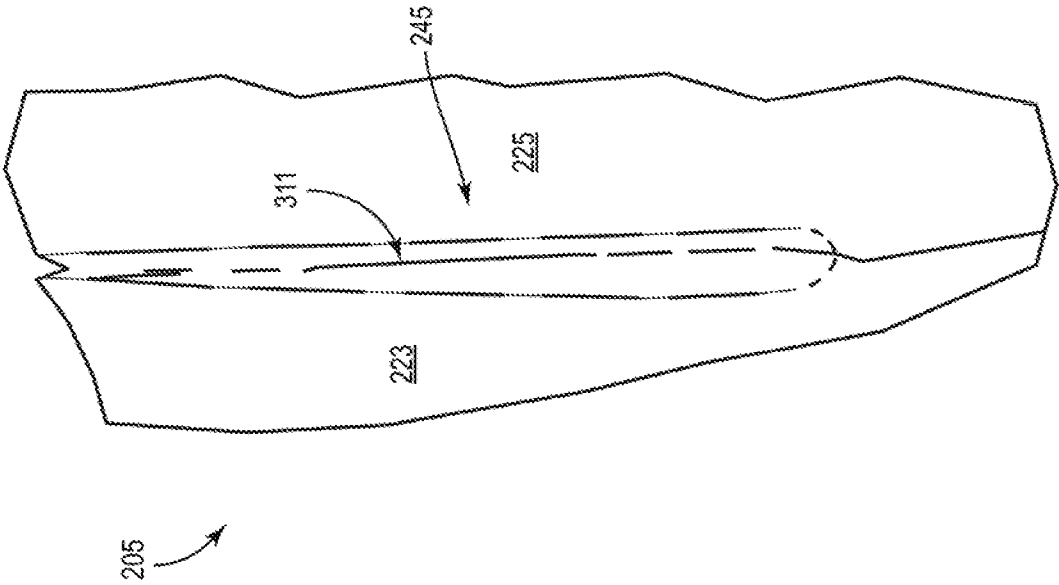


FIG. 12

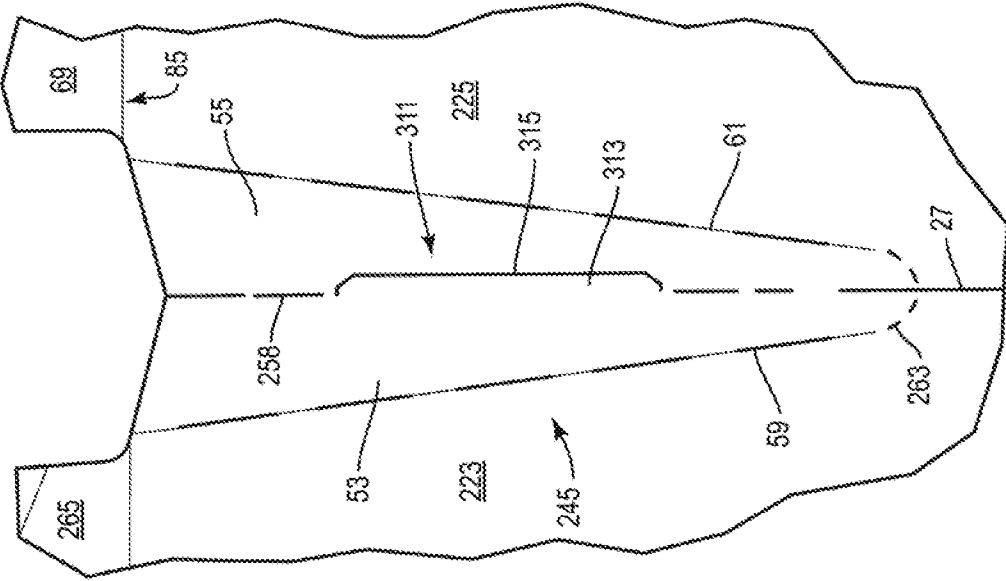


FIG. 11

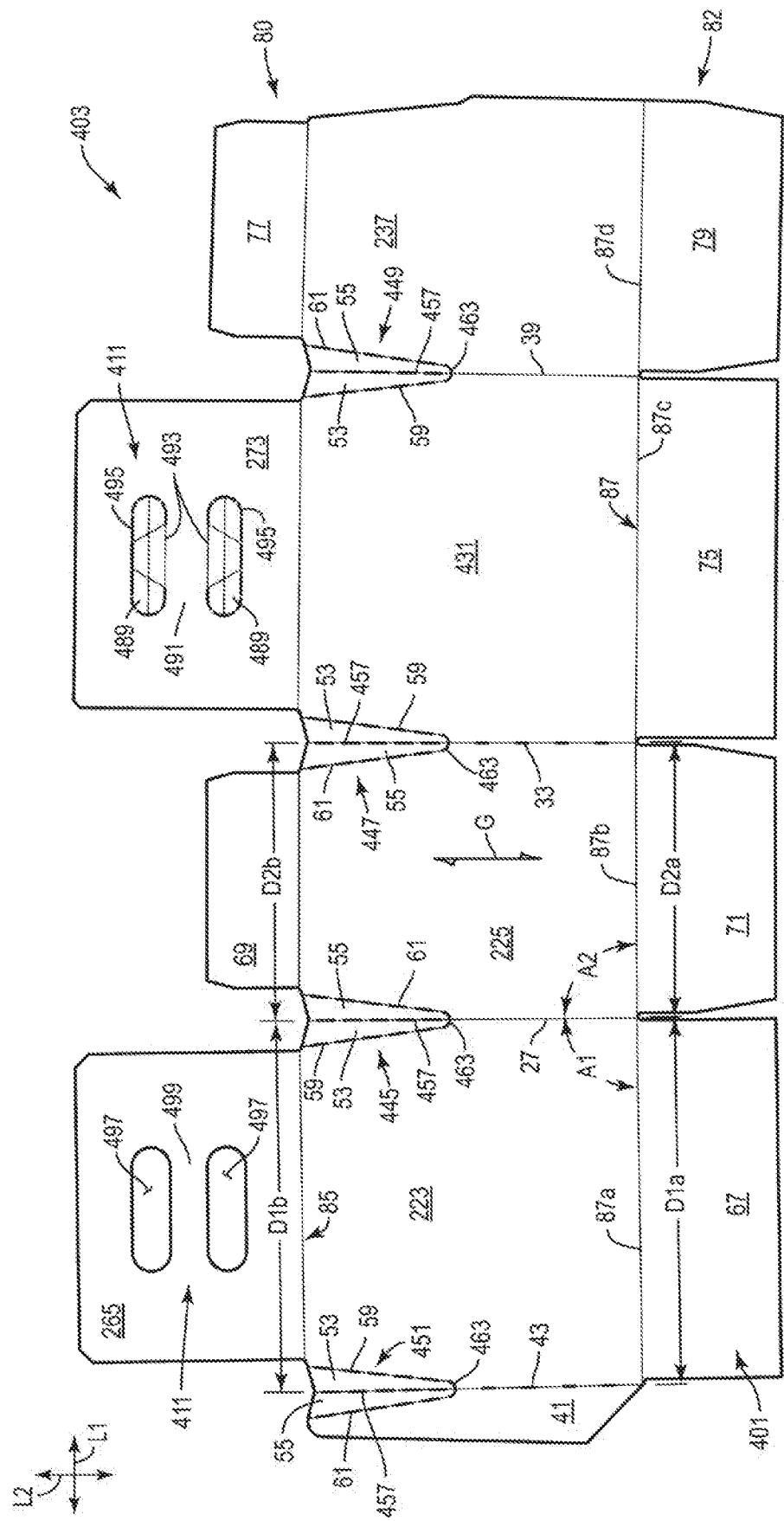


FIG. 13

A. CLASSIFICATION OF SUBJECT MATTER**B65D 71/36(2006.01)i, B65D 5/54(2006.01)i**

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 71/36; B65D 27/22; B65D 5/44; B65D 5/468; B65D 5/54; B65D 5/66; B65D 71/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & keywords: carton, container, bottle, open width, closed width, gusset, fold line, handle

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4307834 A (ROCCAFORTE, HARRY I.) 29 December 1981 See column 3, line 13 - column 5, line 61 and figures 1-4.	1-57
Y	US 4375258 A (CRAYNE et al.) 01 March 1983 See column 1, line 63 - column 2, line 65 and figures 1-3.	1-57
Y	US 2017-0233131 A1 (GRAPHIC PACKAGING INTERNATIONAL, INC.) 17 August 2017 See claim 1 and figures 1, 4.	7, 29
Y	JP 3196109 U (RENGO CO., LTD.) 19 February 2015 See paragraphs [0019]-[0020] and figures 1-3.	13-18, 35-40, 55-56
A	EP 0434401 A1 (THE MEAD CORPORATION) 26 June 1991 See column 3, line 2 - column 4, line 25 and figures 1-4.	1-57



Further documents are listed in the continuation of Box C.



See patent family annex.

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"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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

12 November 2019 (12.11.2019)

Date of mailing of the international search report

12 November 2019 (12.11.2019)

Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2019/042350

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JP 3196109 U	19/02/2015	None	
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