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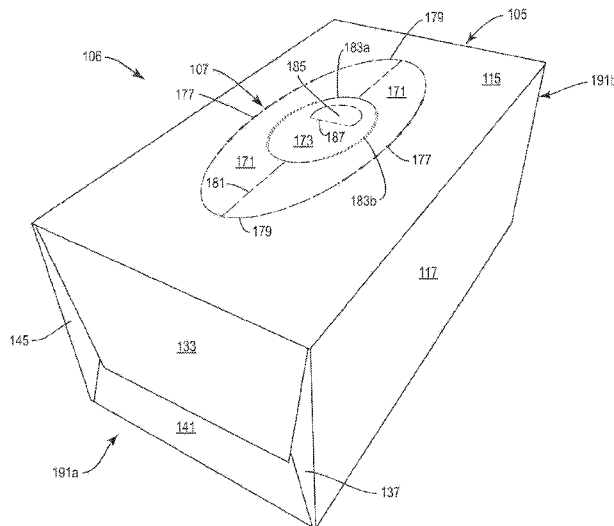


FIG. 3

(57) Abstract: A carton for holding a sheeted material arranged in a plurality of sheets. The carton can comprise a plurality of panels that extends at least partially around an interior of the carton and a dispenser extending in at least a panel of the plurality of panels. The dispenser can comprise at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap can be foldably connected to the panel. At least one of the first dispenser flap and the second dispenser flap can be biased toward a closed position. The first dispenser flap and the second dispenser flap can be configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet.



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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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**CARTON WITH DISPENSER****CROSS-REFERENCED TO RELATED APPLICATIONS**

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 63/427,652, filed on November 23, 2022.

**INCORPORATION BY REFERENCE**

[0002] The disclosure of U.S. Provisional Patent Application No. 63/427,652, which was filed on November 23, 2022, is hereby incorporated by reference for all purposes as if presented herein in its entirety.

**BACKGROUND OF THE DISCLOSURE**

[0003] The present disclosure generally relates to cartons/boxes for holding and/or dispensing sheeted material or other types of articles. More specifically, the present disclosure relates to dispensers for dispensing sheeted material, such as facial tissues, towels, wipes, cloths, etc. from cartons/boxes.

**SUMMARY OF THE DISCLOSURE**

[0004] In general, one aspect of the disclosure is directed to a carton for holding a sheeted material arranged in a plurality of sheets. The carton can comprise a plurality of panels that extends at least partially around an interior of the carton and a dispenser extending in at least a panel of the plurality of panels. The dispenser can comprise at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap can be foldably connected to the panel. At least one of the first dispenser flap and the second dispenser flap can be biased toward a closed position. The first dispenser flap and the second dispenser flap can be configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet.

[0005] In another aspect, the disclosure is generally directed to a package comprising a carton and a sheeted material arranged in a plurality of sheets. The carton can comprise a plurality of panels that extends at least partially around an interior of the carton and a dispenser extending in at least a panel of the plurality of panels. The dispenser can comprise at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap can be foldably connected to the panel. At least one of the first dispenser flap and the second dispenser flap can be biased toward a closed position. The first dispenser flap and the second dispenser flap can be

configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet.

[0006] In another aspect, the disclosure is generally directed to a blank for forming a carton for holding a sheeted material arranged in a plurality of sheets. The blank can comprise a plurality of panels and dispenser features extending in at least a panel of the plurality of panels for forming a dispenser in the carton formed from the blank. The dispenser can comprise at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap can be foldably connected to the panel. At least one of the first dispenser flap and the second dispenser flap can be biased toward a closed position. The first dispenser flap and the second dispenser flap can be configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet when the carton is formed from the blank.

[0007] In another aspect, the disclosure is generally directed to a method of forming a carton for holding a sheeted material arranged in a plurality of sheets. The method can comprise obtaining a blank comprising a plurality of panels and dispenser features extending in at least a panel of the plurality of panels. The dispenser features can comprise at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap can be foldably connected to the panel. The method further can comprise forming a carton by folding the plurality of panels to extend at least partially around an interior of the carton. The first dispenser flap and the second dispenser flap can be configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet. At least one of the first dispenser flap and the second dispenser flap can be biased toward a closed position.

[0008] 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.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0009] 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.

[0010] Fig. 1 is a plan view of a blank for forming a carton according to exemplary embodiments of the disclosure.

- [0011] Fig. 2 is a detail view of a dispenser of the blank of Fig. 1.
- [0012] Fig. 2A is a plan view of a blank similar to the blank of Fig. 1 with an alternative dispenser configuration.
- [0013] Fig. 3 is a perspective view of a package including a carton/box formed from the blank of Fig. 1 according to the exemplary embodiments of the disclosure.
- [0014] Figs. 4A-6B are views showing the opening of the dispenser of the carton of Fig. 3 and the dispensing of sheets of material from the package according to the exemplary embodiments of the disclosure.
- [0015] Figs. 7A-7C are views showing a sheet of material in a ready position, extending partially through the dispenser according to the exemplary embodiments of the disclosure.
- [0016] Fig. 8 is a plan view of a portion of a blank with an alternative embodiment of the dispenser.
- [0017] Fig. 9 is a plan view of a blank for forming a carton according to additional exemplary embodiments of the disclosure.
- [0018] Figs. 10A and 10B are detail views of respective portions of the blank of Fig. 9 showing dispenser features of the blank.
- [0019] Figs. 11A and 11B are views showing the opening of the dispenser of the carton formed from the blank of Fig. 9 according to the additional exemplary embodiments of the disclosure.
- [0020] Figs. 12A and 12B are views showing a sheet of material in a ready position, extending partially through the dispenser of the carton of Figs. 11A and 11B according to the exemplary embodiments of the disclosure.
- [0021] Fig. 13 is a plan view of a blank for forming a carton according to additional exemplary embodiments of the disclosure.
- [0022] Figs. 14A and 14B are detail views of respective portions of the blank of Fig. 13 showing dispenser features of the blank.
- [0023] Figs. 15 and 16 are views showing the opening of the dispenser of the carton formed from the blank of Fig. 13 according to the additional exemplary embodiments of the disclosure.

[0024] Figs. 17A and 17B are views showing a sheet of material in a ready position, extending partially through the dispenser of the carton of Figs. 15 and 16 according to the exemplary embodiments of the disclosure.

[0025] Corresponding parts are designated by corresponding reference numbers throughout the drawings.

#### **DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENT**

[0026] The present disclosure generally relates to boxes/cartons that contain articles such as sheeted materials. For the purpose of illustration and not for the purpose of limiting the scope of the disclosure, the following detailed description describes sheeted material such as paper tissue, cloth items, wet wipes, etc. In exemplary embodiments the sheeted materials can include consumer products and hygiene products. The sheeted materials can be made from suitable materials for the consumer/hygiene application, including, but not limited to, polymers/plastics such as polyester, polypropylene, and/or rayon fibers formed into sheets; natural/renewable materials such as cotton, wood pulp, etc. formed into sheets; composite materials; woven and/or non-woven materials; and the like, or any combination thereof.

[0027] 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 sheeted materials that may be interleaved or solely sheeted (e.g., tissues, towels, wipes, etc.) as disposed within the carton embodiments. In this specification, the terms “inner,” “outer,” “interior,” “exterior,” “lower,” “bottom,” “upper,” and “top” indicate orientations determined in relation to fully erected and upright cartons. As described herein, cartons/boxes can be formed from blanks by being glued with multiple panels, portions, tabs, and/or flaps. Such panels, portions, tabs, and/or flaps may be designated herein in terms relative to one another, e.g., “first”, “second”, “third”, etc., in sequential or nonsequential reference, without departing from the disclosure.

[0028] Fig. 1 is a plan view of the exterior side 101 of a blank, generally indicated at 103, used to form a carton or box 105 (Fig. 3) according to exemplary embodiments of the disclosure (e.g., a first exemplary embodiment of the disclosure). The box 105 can be used to house a plurality of articles such as sheeted materials M (e.g., interleaved tissues, wipes, or towels) (Figs. 5 and 6B-7C) so that the box 105 and the containers C form a package 106 (Figs. 3-7C). In embodiments, the sheeted materials M can be in an arrangement of a plurality of sheeted materials positioned in an interior of the box 105 to form the package 106. As explained in more detail below, the box 105 has a dispenser, generally indicated at 107, for allowing access to the sheeted materials M in the package 106.

**[0029]** The blank 103 has a longitudinal axis L1 and a lateral axis L2. In the illustrated embodiment, the blank 103 comprises a top panel 115 foldably connected to a first side panel 117 at a first lateral fold line 119, a bottom panel 121 foldably connected to the first side panel 117 at a second lateral fold line 123, a second side panel 125 foldably connected to the top panel 115 at a third lateral fold line 127, and an attachment flap 129 foldably connected to the second side panel 115 at a fourth lateral fold line 131. Any of the top and bottom panels 115, 121 and the side panels 117, 125 could be omitted or could be otherwise shaped, arranged, and/or configured without departing from the disclosure. For example, the attachment flap 129 could be foldably connected to the bottom panel 121. Additionally, the blank 103 alternatively could include two top panels cooperating to form a top of the box, two bottom panels cooperating to form a bottom of the box, or two side panels that cooperate to form one of the sides of the box.

**[0030]** The top panel 115 is foldably connected to a first top end flap 133 and a second top end flap 135. The first side panel 117 is foldably connected to a first side end flap 137 and a second side end flap 139. The bottom panel 121 is foldably connected to a first bottom end flap 141 and a second bottom end flap 143. The second side panel 125 is foldably connected to a first side end flap 145 and a second side end flap 147. When the box 105 is erected, the top and bottom end flaps 133 and 141 and side end flaps 137 and 145 close a first end 191a of the box 105 (Fig. 3), and the top and bottom end flaps 135 and 143 and side end flaps 139 and 147 close a second end 191b of the box 105 (Fig. 3). In accordance with an alternative embodiment of the present disclosure, different flap arrangements can be used for at least partially closing the ends 191a, 191b of the box 105.

**[0031]** In the illustrated embodiment, the top and bottom end flaps 133 and 141 and side end flaps 137 and 145 extend along a first marginal area of the blank 103 and are foldably connected at a first longitudinal fold line 162 that extends along the length of the blank. Also in the illustrated embodiment, the top and bottom end flaps 135 and 143 and side end flaps 139 and 147 extend along a second marginal area of the blank 103 and are foldably connected at a second longitudinal fold line 164 that also extends along the length of the blank. The longitudinal fold lines 162, 164 may be, for example, substantially straight, or offset at one or more locations to account for blank thickness or for other factors.

**[0032]** As shown in Figs. 1 and 2, the blank 103 can include the dispenser 107 and/or engagement features and dispenser features for forming the dispenser 107 in the box 105 (Fig. 3), which can provide one or more surfaces for receiving a human hand to open the box and to dispense the sheeted material from the packaging. In the illustrated embodiment, the dispenser features can include two outer panels or dispenser flaps 171 (e.g., a first dispenser flap and a second dispenser flap) (or any suitable number of dispenser flaps 171) and an inner panel or dispenser panel 173 extending along and removably attached to the dispenser flaps 171 for initiating opening of the dispenser 107. When

the dispenser panel 173 is removed from the box 105 (Figs. 4A and 4B), a dispenser opening 175 (Fig. 5) of the dispenser 107 is exposed that allows the sheeted materials M to be selectively dispensed from the box. As shown in Figs. 1 and 2, the dispenser flaps 171 are defined in the blank 103 by cut or tear lines and by fold lines. For example, the dispenser flaps 171 can be foldably connected to the top panel 115 along respective arcuate fold lines 177 and can be separable from the top panels 115 along arcuate tear lines 179. In embodiments, the fold lines 177 can be cut-crease fold lines that are curved so that they are concave with respect to the dispenser flaps 171, and the fold lines 177 can extend predominantly in the lateral direction L2. Alternatively, the fold lines 177 can be any suitable style of fold line and/or can have any suitable shape and/or orientation. As shown in Figs. 1 and 2, the tear lines 179 can be in the form of cuts separated by nicks or can be any suitable style of tear or cut line. In the illustrated embodiments, the tear lines 179 can be curved (e.g., progressive radial longitudinal cut lines) and can extend from respective ends of the arcuate fold lines 179 so that the shape of the dispenser 107 is an oval. Alternatively, the fold lines 177, the tear lines 179, and/or the dispenser 107 could have any suitable shape. In embodiments, the dispenser flaps 171 can be separable from one another along a lateral cut or tear line 181 (e.g., extending along a centerline of the dispenser 107).

**[0033]** As shown in Figs. 1 and 2, the dispenser panel 173 can be defined by two cut or tear lines 183a and two cut or tear lines 183b extending along the dispenser flaps 171 so that the dispenser panel 173 is separable from the dispenser flaps 171 along the tear lines 183a, 183b. In the illustrated embodiments, the tear lines 183a, 183b can be arcuate so that the dispenser panel 173 is an oval, and the dispenser panel 173 can be centered in the dispenser 107 (e.g., so that the dispenser panel 173 interrupts the tear line 181). Alternatively, the dispenser panel 173 could be otherwise shaped and/or could be otherwise positioned in the dispenser 107. In embodiments, the tear lines 183a can include cuts interrupted by one or more nicks (e.g., can be progressive radial longitudinal curve cut lines) and the tear lines 183b can be curved perforated cut lines extending predominantly in the lateral direction L2. Alternatively, the tear lines 183a, 183b can be any suitable style of tear line and/or can have any suitable shape and/or orientation. As shown in Figs. 1 and 2, the dispenser 107 further can include a tab panel or access tab 185 for assisting in removing the dispenser panel 173 from the dispenser 107 as described in more detail below. In embodiments, the access flap 185 can be foldably connected to the dispenser panel 173 along a longitudinal fold line 187 and can be separable from the dispenser panel 173 along a curved cut or tear line 189 (e.g., cuts interrupted by one or more nicks). In exemplary embodiments, the tear line 189 can be radial cut lines extending from ends of the longitudinal fold line 187 and rotating 110 degrees (e.g., approximately 110 degrees). Alternatively, the tear line 189 can be any suitable style of tear line and/or can have any suitable shape and/or orientation.



**[0034]** Any of the dispenser flaps 171, the dispenser panel 173, the access flap 185, the fold lines 177, 187, and/or the tear lines 179, 181, 183a, 183b, 189 could be omitted or could be otherwise shaped, arranged, configured, and/or positioned without departing from the disclosure. For example, an alternative blank 103' is shown in Fig. 2A, wherein the blank 103' can be substantially the same as the blank 103 of Fig. 1 except that the dispenser 107' is oriented to extend predominantly in the longitudinal direction L1 (e.g., is rotated 90 degrees with respect to its orientation in Fig. 1). In other embodiments, the dispenser could extend predominantly in an oblique direction.

**[0035]** In the illustrated embodiments, the box 105 can be erected from the blank 103 by folding the panels 115, 117, 121, 125 along the lateral fold lines 119, 123, 127, 131 and gluing the attachment flap 129 to the bottom panel 121 to form an open-ended sleeve (not shown). One or both of the ends 191a, 191b of the open-ended sleeve can be at least partially closed by folding the end flaps along the respective fold lines 162, 164 over the respective end. In the illustrated embodiment, the sheeted materials M are loaded into the open-ended sleeve before the ends 191a, 191b are closed. Alternatively, the sheeted materials M can be loaded before or after either of the ends 191a, 191b is closed. In the illustrated embodiment, the first end 191a can be closed by folding the side end flaps 137, 145 along the longitudinal fold line 162 over the open first end of the open-ended sleeve, and then the top end flap 133 and the bottom end flap 141 can be folded along the longitudinal fold line 162 to overlap the side end flaps 137, 145. The overlapping end flaps 133, 137, 141, 145 can be glued together to at least partially secure the end flaps in the closed position. In an alternative embodiment, the end flaps 133, 137, 141, 145 could have different overlapping arrangements without departing from the disclosure.

**[0036]** The second end 191b can be closed in a similar manner as the first end 191a is closed. The package 106 including the erected box 105 with the sheeted materials M is shown in Fig. 3. The box 105 can be erected and/or the ends 191a, 191b could be closed by other forming or folding steps as described herein without departing from the disclosure.

**[0037]** As shown in Figs. 4A-5, and as described in the following in accordance with an exemplary method, the dispenser 107 may be opened to allow the sheeted materials M to be selectively dispensed from the box 105 by removing the dispenser panel 173 to expose the dispenser opening 175 (Fig. 5). In the illustrated embodiment, the removal of the dispenser panel 173 can be initiated by actuating the access tab 185, which can facilitate pulling the dispenser panel 173 upwardly, away from the dispenser flaps 171, tearing along the tear lines 183a, 183b. For example, as shown in Figs. 4A and 4B, the access tab 185 can be pushed inwardly into the interior 192 of the box 105, such as with a user's finger (e.g., any finger of either hand), tearing the access tab 185 away from the dispenser panel 173 along the tear line 189 and folding the access tab 185 along the longitudinal fold line 187 to at least partially form an access opening 193 in the dispenser panel 173 (Fig. 4A). As shown in Figs. 4A

and 4B, a user can grasp the dispenser panel 173 at the access opening 193 with either hand (e.g., can place the tip of the finger used to press the access tab 185 inwardly underneath the edge of the dispenser panel 173 formed by tearing the radial tear line 189) and can pull the dispenser panel 173 upwardly, tearing along the tear lines 183a, 183b to at least partially remove the dispenser panel 173 from the dispenser 107. In some embodiments, the user can grasp the dispenser panel 173 at the fold line 187. Accordingly, the dispenser opening 175 is formed in the dispenser 107, extending along edges of the dispenser flaps 171 so that one or more of the sheeted materials M are visible and accessible via the dispenser opening 175. The dispenser panel 173 could be otherwise removed and/or the dispenser opening 175 could be otherwise formed without departing from the scope of the disclosure.

**[0038]** As shown in Figs. 6A and 6B, one or more sheets of the sheeted materials M can be removed from the box 105 via the dispenser 107. For example, a user can reach through the dispenser opening 175 (e.g., with one or more fingers and thumb) and pinch/grasp a topmost sheet M1 with either hand. In embodiments, the fingers can apply pressure to the dispenser flaps 171 (e.g., can press downwardly on the dispenser flaps) as the fingers move into the dispenser opening 175, and the pressure can break the tear lines 179, 181 and cause the dispenser flaps 171 to fold along the arcuate fold lines 177 so that the dispenser flaps 171 at least partially separate from one another along the tear line 181 and at least partially separate from the top panel 115 along the tear lines 179. As shown in Fig. 6B, the sheet M can be pulled upwardly through the dispenser 107 to remove the sheet M1 from the package 106. In the illustrated embodiments, the sheet M1 can push upwardly on the dispenser flaps 171 as it is pulled through the dispenser opening 175, causing the dispenser flaps 171 to fold/pivot upwardly along the arcuate fold lines 177, which can expand the size of the dispenser opening 175 during removal of the sheet M1. The upward urging of the dispenser flaps 171 by the sheet M1 further can cause the dispenser flaps 171 to tear along the tear lines 179, 181 if the tear lines or portions of the tear lines were not previously broken. In embodiments, the dispenser flaps 171 can be biased toward their closed position (e.g., the position shown in Fig. 5) as discussed in more detail below. Accordingly, the dispenser flaps 171 can engage/contact and drag against the sheeted materials M as they are moved through the dispenser opening 175.

**[0039]** In embodiments, a subsequent sheet M2 can be drawn upwardly through the dispenser opening 175 with the pulled sheet M1 (e.g., due to friction between the sheets M1, M2 such as when the sheeted materials are interleaved), and the biased dispenser flaps 171 can help retain the subsequent sheet M2 as the pulled sheet M1 is pulled away from the dispenser 107 and the box 105. In exemplary embodiments, when the top sheet M1 is pulled away, the pressure on the dispenser flaps 171 caused by the upward urging by the pulled sheet can be removed and the bias of the dispenser flaps 171 can cause the dispenser flaps to move inwardly toward their closed position (e.g., can return

nearly to their original position). As shown in Figs. 7A and 7B, the subsequent sheet M2 can remain with the package 106, extending through the dispenser opening 175, and being at least partially retained (e.g., pinched, clutched) between the biased dispenser flaps 171 in a stable rising state. In embodiments, the subsequent sheet M2 can be maintained in the stable rising state or ready position by the dispenser flaps 171 so that it is easy to grasp and pull from the box 105 (Fig. 7C). When the subsequent sheet M2 is removed, a further subsequent sheet (not shown) can be pulled partially through the dispenser opening 175 to the ready position as the sheet M2 was. This process of removing the sheets one-by-one via the dispenser 107 can be repeated until the sheeted materials are depleted. The sheeted materials M could be otherwise removed through the dispenser 107 without departing from the disclosure.

**[0040]** In exemplary embodiments, the curve of the arcuate fold lines 177 so that the arcuate fold lines 177 are concave with respect to the dispenser flaps 171 can help bias the dispenser flaps 171 toward their closed position. Accordingly, the dispenser flaps 171 can help retain the sheeted materials M in the box 105 and/or can at least partially close the dispenser opening 175 to help keep contaminants such as dust out of the interior of the box 105 (e.g., can protect the interior of the box from outside environs). In some embodiments, the arcuate fold lines 177 can cooperate with the grain direction of the blank 103 to bias the dispenser flaps 171. For example, the grain direction can be oriented in the longitudinal direction L1 of the blank and the arcuate fold lines 177 can extend predominantly in the lateral direction L2 (e.g., the arcuate fold lines 177 can extend predominantly in a direction that is perpendicular or oblique with respect to the grain direction of the blank 103).

**[0041]** In embodiments, the dispenser 107 and the other dispensers of the present application can provide advantages over other sheeted material dispensers. For example, some boxes configured to dispense sheeted materials can include a synthetic resin (e.g., a plastic film) attached to an interior surface of the top panel of a box along an opening in the top panel (e.g., formed by removing a tear-away panel from the top panel). In embodiments, the sheeted material can be dispensed through a slot extending in the plastic film and the opening in the top panel. The resilience and/or flexibility of the plastic film can help keep the slot at least partially closed (e.g., to help protect the sheeted materials in the box and/or to help keep contaminants out of the box), can facilitate the smooth removal of the sheeted materials through the dispenser at a single sheet at a time, and can help retain one or more sheets of the sheeted material in a ready position extending at least partially through the dispenser so that the sheet may be grasped and pulled from the box. However, the dispensers of the present application can include at least these functions/advantages without having additional materials attached to the blank (e.g., reducing materials, manufacturing steps, and cost) and without using plastic (e.g., reducing plastic waste from the life cycle of the packaging). The boxes of the present application also can reduce the introduction of mixed materials into a waste stream (e.g., making the

packaging easier to recycle since the packaging does not include plastic attached to paperboard). Further, the dispensers of the present application allow the dispensing functions to be included in the box without adding to the material used to form the box and without increasing the size of the blank footprint. In embodiments, the dispensing features of the dispensers of the present application (e.g., the dispenser flaps, dispenser panels, etc.) can help maintain at least a portion of the structural integrity of the box (e.g., the rigidity/resistance to deformation of the box), such as when compared to a box with an opening rather than the dispenser features of the present application.

**[0042]** Fig. 8 is a plan view of a portion (e.g., a top panel) of a blank (e.g., that is to the blank 103 of Fig. 1) for forming a carton (not shown) and a package (not shown) of additional embodiments of the disclosure (e.g., 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 Fig. 8, the top panel 115 includes a dispenser 207 that has a different shape compared to the dispenser 107 of the first embodiment. For example, the tear lines 279 have a different shape than the tear lines 179 and provide wider ends of the dispenser flaps 271. In embodiments, the tear lines 279 at the opposing ends of the dispenser flaps 271 can be considered to have orthogonal portions (e.g., portions extending in the lateral direction L2 or the longitudinal direction L1) connected by curved corner portions as shown in Fig. 8. Additionally, as shown in Fig. 8, the dispenser panel 273 is round (e.g., circular) with the tear lines 283a, 283b extending along its circumference. The dispenser 207 could be otherwise shaped, arranged, configured, and/or positioned without departing from the disclosure.

**[0043]** Fig. 9 is a plan view of a blank 303 for forming a carton 305 and a package 306 (Figs. 11A-12B) of additional embodiments of the disclosure (e.g., 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. 9, the top panel 115 can be a first top panel and the blank 303 can include a second top panel 315 at an opposite end of the blank 303 from the first top panel 115. In the illustrated embodiments, the bottom panel 121 can be foldably connected to the first side panel 117 along the fold line 123 and to the second side panel 125 along a fold line 320 in the blank 303. As shown in Fig. 9, the first top panel 115 is foldably connected to the second side panel along the fold line 127, and the second top panel 315 is foldably connected to the first side panel 117 along a fold line 319 with the top panels 115, 315 at opposite ends of the blank 303. In embodiments, the top panels 115, 315 can be overlapped (e.g., with the first top panel 115 being an outer top panel and the second top panel 315 being an inner top panel) to form a top wall 316 (Figs. 11A and 11B) when the box is formed from the blank 303. The

inner top panel 315 can be glued or otherwise attached in face-to-face contact with the outer top panel 115.

**[0044]** As shown in Figs. 9-10B, the blank 303 can include dispenser features in the top panels 115, 315 for forming a dispenser 307 (Figs. 11A-12B) in the top wall of the box. For example, as shown in Figs. 9 and 10A, the dispenser features can include dispenser flaps 371 (e.g., a first dispenser flap and a second dispenser flap) extending in the inner top panel 315. The dispenser flaps can be foldably connected to the inner top panel 315 along respective fold lines 377 (e.g., lateral fold lines) and can be separable from the inner top panel 315 along curved cuts or tear lines 379. In embodiments, the fold lines 377 can be orthogonal (e.g., can extend in the lateral direction L2 as shown in Figs. 9 and 10A or the longitudinal direction L1 in other embodiments with a different orientation of the dispenser 307 in the inner top panel 315). Further, the dispenser flaps 371 can be separable from one another along a lateral tear line 381 and can define an access opening 393 therebetween. In the illustrated embodiments, the dispenser flaps 371 can include arcuate end cuts 394 at the ends of the tear line 381, and the dispenser flaps 371 can be connected by biasing features 395 (e.g., end connector panels). For example, each of the dispenser flaps 371 can be foldably connected to the end connector panels 395 along respective arcuate creases 397 (or other suitable lines of weakening) having ends that intersect with the tear lines 379 and the end cuts 394. In the illustrated embodiments, the dispenser flaps 371 can be separable from the connector panels 395 along the arcuate cuts 394, and the arcuate cuts 394 can act as tear stops at the ends of the tear line 381. In embodiments, the end connector panels 395 can allow the dispenser flaps 371 to fold out of the plane of the inner top panel 315 and to at least partially separate after tearing of the tear lines 379, 381 (e.g., due to pressure from removing the sheeted materials), and can bias the dispenser flaps 371 back together toward their original or closed position.

**[0045]** As shown in Figs. 9 and 10B, the dispenser features further can include a dispenser panel 373 in the outer top panel 115 that is separable from the outer top panel 115 along tear lines 383a, 383b. The access tab 185 can extend in the dispenser panel 373. In embodiments, the dispenser panel 373 is aligned with the dispenser flaps 371 so that the dispenser panel 373 overlaps the dispenser flaps 371 in the top wall 316 of the formed box 305. The blank 303 and/or the dispenser features could be otherwise shaped, arranged, configured, and/or positioned without departing from the disclosure.

**[0046]** In the illustrated embodiments, the carton 305 can be formed by folding the panels 115, 125, 121, 117, 315 around the interior of the carton and folding the end flaps over the respective ends of the carton similarly to the prior embodiments, except that the outer top panel 115 is positioned to overlap the inner top panel 315 in order to form the top wall 316 (Figs. 11A and 11B). In embodiments, the top panels 115, 315 can be adhered together (e.g., by glue strips and/or other suitable adhesive) with the dispenser panel 373 aligned (e.g., in the lateral direction L2 and the

longitudinal direction L1) with and overlapping the dispenser flaps 371 to form the dispenser 307. In the illustrated embodiments, the dispenser panel 373 can remain unattached to the dispenser flaps 371 so that the dispenser panel 373 can be removed without tearing the dispenser flaps 371.

**[0047]** As shown in Figs. 11A and 11B, the dispenser panel 373 can be removed by actuating the access tab 185 and pulling upwardly on the dispenser panel 373 as described with respect to the first embodiment above. As the dispenser panel 373 is lifted, it is torn away from the outer top panel 115 along the tear lines 383a, 383b (Fig. 11A) until the dispenser panel 373 is fully removed to form an outer dispenser opening 398 in the outer top panel 115. As shown in Fig. 11B, the dispenser flaps 371 are exposed and accessible through the outer dispenser opening 398 for dispensing the sheeted material M. As shown in Figs. 12A and 12B, the sheeted material M can be pulled through the dispenser 307 similarly to the prior embodiments. For example, the sheeted material M can be grasped via the access opening 393 and pulled upwardly past the dispenser flaps 371. As the dispenser flaps 371 are folded upwardly along the fold lines 377, they can separate from one another along the tear line 381 and from the inner top panel 315 along the tear lines 379 and can move upwardly at least partially through the outer dispenser opening 398 in the outer top panel 115. As shown in Figs. 12A and 12B, the dispenser flaps 371 are folded upwardly, the dispenser flaps 371 can partially separate from the end connector panels 395 along the end cuts 394 and can fold with respect to the end connector panels 395 along the curved creases 397. Further, the end connector panels 395 can move upwardly away from the top wall 316, separating from the outer top panel 115 along the respective tear lines 379. In embodiments, the end connector panels 395 can help keep the dispenser flaps 371 from continuing to fold upwardly and outwardly and can bias the dispenser flaps 371 toward one another and toward the closed position (e.g., Fig. 11B). Accordingly, the dispenser flaps 371 can press inwardly on a sheet of the sheeted material M pulled upwardly between the dispenser flaps 371 to help hold the sheet in its ready position (e.g., Figs. 12A and 12B). The dispenser 307 could be otherwise actuated and operated without departing from the disclosure.

**[0048]** Fig. 13 is a plan view of a blank 403 for forming a carton 405 and a package 306 (Figs. 15-17B) of additional embodiments of the disclosure (e.g., a fourth embodiment of the disclosure). The fourth 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 can include a first/outer dispenser flap 471a in the outer top panel 115 and a second/inner dispenser flap 471b in the inner top panel 415. In embodiments, the outer dispenser flap 471a can be foldably connected to the outer top panel 115 along an arcuate fold line 477a and can be separable from the outer top panel 115 along tear lines 483a, 483b (Figs. 13 and 14B). As shown in Figs. 13 and 14B, the outer dispenser flap 471a can include an access tab 485 foldably connected to

the outer dispenser flap 471a along a curved fold line 487 and extending along an access opening 493. As shown in Figs. 13 and 14A, the inner dispenser flap 471b can be foldably connected to the inner top panel 415 along a fold line 477b (e.g., a curved fold line 477b) and can be separable from the inner top panel 415 along cut or tear lines 479. In embodiments, the inner dispenser flap 471b can extend along a laterally extending edge of the inner top panel 415 and can include an access indentation 496. In the illustrated embodiments, the dispenser flaps 471a, 471b are aligned so that the outer dispenser flap 471a at least partially overlaps the inner dispenser flap 471b in the top wall 416 of the erected box 405 (Figs. 15-17B). The blank 403 and/or the dispenser features could be otherwise shaped, arranged, configured, and/or positioned without departing from the disclosure.

**[0049]** In the illustrated embodiments, the outer dispenser flap 471a can at least partially overlap the inner dispenser flap 471b in the top wall 416 of the carton 405. As shown in Figs. 15 and 16, the outer dispenser flap 471a can be grasped at the access tab 485 (e.g., via the access opening 493) and pulled upwardly, folding along the arcuate fold line 477a and separating from the outer top panel 115 along the tear lines 483b, 483a. In embodiments, the folding of the outer dispenser flap 471a can form a dispenser opening 498 in the top wall 416 and can expose the inner dispenser flap 471b. As shown in Fig. 16, the sheeted material M can be accessed via the dispenser opening 498 and the access recess 496 and pulled upwardly through the dispenser opening 498. Pulling upwardly on the sheeted material M can cause the inner dispenser flap 471b to fold upwardly along the curved fold line 477b, tearing the inner dispenser flap 471b along the tear lines 479 (Figs. 17A and 17B). Alternatively, a user can grasp the inner dispenser flap 471b (e.g., at the access recess 496) and manually fold the inner dispenser flap 471b upwardly. In the illustrated embodiments, at least the inner dispenser flap 471b can be biased toward its closed position so that it drags against a sheet of the sheeted material M as the sheet is pulled through the dispenser 407 and can help hold the sheet in its ready position (e.g., Figs. 17A and 17B). The dispenser 407 could be otherwise actuated and operated without departing from the disclosure.

**[0050]** In embodiments, the disclosure can be generally directed to an opening for accessing sheeted material, the opening comprising a plurality of panels incorporated on the upper surface panel of a box. The dispenser can have an inner panel connected to outer panels by cuts and gaps, at least one holed or semi holed shape internally of the inner panel to assist the panel to be separated forcibly. A resulting inner panel void can allow access to the sheeted material. The outer panels can be held together by cuts and gaps to be split and can be biased inside or outside to return to a previous state. The outer panels can facilitate controlling material flow through position to engage with the material passing through the outer panel split sequentially. In embodiments, the material flow is non-reversible, and the access to the next sheeted material comes from the central section void.

- [0051] In embodiments, the disclosure can be generally directed to an opening in a box made of cardboard, a formed box comprising of at least six sides, a box that at least has one side to be opened to insert sheeted material before closure, a box that has at least one side closure that may or may not use glue to help seal the box, a box that has different engineered side closures.
- [0052] In embodiments, the disclosure can be generally directed to the outer panels when split to mimic the same or similar function as a synthetic resin glued to a box. This action abolishes and/or reduces the need for the synthetic resin and its combined effect to recycling and product life cycle. The use of the primary material for the opening and functions to be a complete package for the product.
- [0053] 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. Further, it is noted that the dispensing features of the various embodiments can be incorporated into a box or carton having any carton style or panel configuration. The carton styles and panel configurations described above are included by way of example.
- [0054] The blanks according to any of the embodiments of the present disclosure can be, for example, formed from coated paperboard and similar materials. For example, the interior and/or exterior sides of the blank 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 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. In accordance with the above-described embodiments, the blank may be constructed of paperboard of a caliper such that it is heavier and more rigid than ordinary paper. The blank 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 blank can also be laminated or coated with one or more sheet-like materials at selected panels or panel sections.
- [0055] 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.



**[0056]** 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.

**[0057]** 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.

**[0058]** The foregoing description of the disclosure illustrates and describes various exemplary embodiments. Various additions, modifications, changes, etc., could be made to the exemplary embodiments without departing from the spirit and 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. 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 sheeted material arranged in a plurality of sheets, the carton comprising:
  - a plurality of panels that extends at least partially around an interior of the carton; and
  - a dispenser extending in at least a panel of the plurality of panels, the dispenser comprising at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap is foldably connected to the panel, wherein at least one of the first dispenser flap and the second dispenser flap is biased toward a closed position;
  - wherein the first dispenser flap and the second dispenser flap are configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet.
2. The carton of claim 1, wherein the first dispenser flap is foldably connected to the panel along an arcuate fold line, and wherein the arcuate fold line is concave with respect to the first dispenser flap for biasing the first dispenser flap toward the closed position.
3. The carton of claim 2, wherein the first dispenser flap is at least partially separable from the panel along one or more tear lines.
4. The carton of claim 3, wherein the panel is a first panel, the arcuate fold line is a first arcuate fold line, and the one or more tear lines is one or more first tear lines, wherein the second dispenser flap is foldably connected to a second panel of the plurality of panels along a second arcuate fold line and is at least partially separable from the second panel along one or more second tear lines.
5. The carton of claim 2, wherein the arcuate fold line is a first arcuate fold line, and the second dispenser flap is foldably connected to the panel along a second arcuate fold line.
6. The carton of claim 5, wherein each of the first dispenser flap and the second dispenser flap is at least partially separable from the panel along one or more tear lines.
7. The carton of claim 5, wherein the first dispenser flap and the second dispenser flap are separable from one another along a tear line, and wherein the dispenser comprises a dispenser panel extending along the first dispenser flap and the second dispenser flap so that the dispenser panel interrupts the tear line.

8. The carton of claim 5, wherein the dispenser comprises a dispenser panel, the dispenser panel being at least partially separable from the first dispenser flap and the second dispenser flap along one or more tear lines.

9. The carton of claim 2, wherein the panel is a first panel, the plurality of panels comprises a second panel, and the first panel at least partially overlaps the second panel, and wherein the second dispenser flap is foldably connected to the second panel and the first dispenser flap at least partially overlaps the second dispenser flap.

10. The carton of claim 1, wherein the first dispenser flap and the second dispenser flap are separable from the panel and from one another along one or more tear lines.

11. The carton of claim 1, wherein each of the first dispenser flap and the second dispenser flap is foldably connected to the panel along a respective first fold line and second fold line.

12. The carton of claim 11, wherein the dispenser further comprises a dispenser panel configured for initiating opening of the dispenser and an access flap foldably connected to the dispenser panel along a fold line.

13. The carton of claim 12, wherein the dispenser panel extends along at least a portion of the first dispenser flap and the second dispenser flap, and the dispenser panel is at least partially separable from the first dispenser flap and the second dispenser flap along one or more tear lines.

14. The carton of claim 12, wherein the panel is a second panel, the plurality of panels comprises a first panel at least partially overlapping the second panel, and wherein the dispenser panel extends in the first panel and is at least partially separable from the first panel along one or more tear lines.

15. The carton of claim 14, wherein the dispenser panel at least partially overlaps the first dispenser flap and the second dispenser flap.

16. The carton of claim 11, wherein the first dispenser flap and the second dispenser flap are connected to one another by an end connector panel for biasing the first dispenser flap and the second dispenser flap toward the closed position.

17. The carton of claim 16, wherein the first dispenser flap and the second dispenser flap are foldably connected to the end connector panel along a respective crease.

18. The carton of claim 16, wherein the first dispenser flap and the second dispenser flap are separable from the end connector panel along an arcuate cut, wherein the first dispenser flap, the second dispenser flap, and the end connector panel are separable from the panel along at least a tear line.

19. The carton of claim 16, wherein the end connector panel is a first end connector panel, wherein the first dispenser flap and the second dispenser flap are connected to one another by a second end connector panel, and wherein the first end connector and the second end connector are at opposite ends of the dispenser.

20. The carton of claim 1, wherein the panel is a first panel, the plurality of panels comprises a second panel, and the first panel at least partially overlaps the second panel, and wherein the first dispenser flap is foldably connected to the first panel, the second dispenser flap is foldably connected to the second panel, and the first dispenser flap at least partially overlaps the second dispenser flap.

21. A package comprising a carton and a sheeted material arranged in a plurality of sheets, the carton comprising:

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

a dispenser extending in at least a panel of the plurality of panels, the dispenser comprising at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap is foldably connected to the panel, wherein at least one of the first dispenser flap and the second dispenser flap is biased toward a closed position;

wherein the first dispenser flap and the second dispenser flap are configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet.

22. The package of claim 21, wherein the panel is a first panel, wherein the first dispenser flap is foldably connected to the first panel along an arcuate fold line, wherein the arcuate fold line is concave with respect to the first dispenser flap for biasing the first dispenser flap toward the closed position, and wherein the second dispenser flap is foldably connected to a second panel of the plurality of panels along a second arcuate fold line, and each of the first dispenser flap and the second dispenser flap is at least partially separable from the respective first panel and second panel along one or more tear lines.

23. The package of claim 22, wherein the first dispenser flap is foldably connected to the panel along a first arcuate fold line, and the second dispenser flap is foldably connected to the panel along a second arcuate fold line, and wherein each of the first arcuate fold line and the second arcuate fold

line is concave with respect to the respective first dispenser flap and second dispenser flap for biasing the respective first dispenser flap and second dispenser flap toward the closed position.

24. The package of claim 23, wherein the dispenser comprises a dispenser panel, the dispenser panel being at least partially separable from the first dispenser flap and the second dispenser flap along one or more tear lines.

25. The package of claim 21, wherein the first dispenser flap and the second dispenser flap are separable from the panel and from one another along one or more tear lines.

26. The package of claim 21, wherein each of the first dispenser flap and the second dispenser flap is foldably connected to the panel along a respective first fold line and second fold line, and wherein the dispenser further comprises a dispenser panel configured for initiating opening of the dispenser and an access flap foldably connected to the dispenser panel along a fold line.

27. The package of claim 26, wherein the dispenser panel extends along at least a portion of the first dispenser flap and the second dispenser flap, and the dispenser panel is at least partially separable from the first dispenser flap and the second dispenser flap along one or more tear lines.

28. The package of claim 26, wherein the panel is a second panel, the plurality of panels comprises a first panel at least partially overlapping the second panel, wherein the dispenser panel extends in the first panel and is at least partially separable from the first panel along one or more tear lines, and wherein the dispenser panel at least partially overlaps the first dispenser flap and the second dispenser flap.

29. The package of claim 21, wherein each of the first dispenser flap and the second dispenser flap is foldably connected to the panel along a respective first fold line and second fold line, and wherein the first dispenser flap and the second dispenser flap are connected to one another by an end connector panel for biasing the first dispenser flap and the second dispenser flap toward the closed position.

30. The package of claim 21, wherein the panel is a first panel, the plurality of panels comprises a second panel, and the first panel at least partially overlaps the second panel, and wherein the first dispenser flap is foldably connected to the first panel, the second dispenser flap is foldably connected to the second panel, and the first dispenser flap at least partially overlaps the second dispenser flap.

31. A blank for forming a carton for holding a sheeted material arranged in a plurality of sheets, the blank comprising:

a plurality of panels; and

dispenser features extending in at least a panel of the plurality of panels for forming a dispenser in the carton formed from the blank, the dispenser features comprising at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap is foldably connected to the panel, wherein at least one of the first dispenser flap and the second dispenser flap is biased toward a closed position;

wherein the first dispenser flap and the second dispenser flap are configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least partially retaining the at least one sheet when the carton is formed from the blank.

32. The blank of claim 31, wherein the first dispenser flap is foldably connected to the panel along an arcuate fold line, and wherein the arcuate fold line is concave with respect to the first dispenser flap for biasing the first dispenser flap toward the closed position.

33. The blank of claim 32, wherein the first dispenser flap is at least partially separable from the panel along one or more tear lines.

34. The blank of claim 33, wherein the panel is a first panel, the arcuate fold line is a first arcuate fold line, and the one or more tear lines is one or more first tear lines, wherein the second dispenser flap is foldably connected to a second panel of the plurality of panels along a second arcuate fold line and is at least partially separable from the second panel along one or more second tear lines.

35. The blank of claim 31, wherein the first dispenser flap and the second dispenser flap are separable from the panel and from one another along one or more tear lines.

36. The blank of claim 31, wherein each of the first dispenser flap and the second dispenser flap is foldably connected to the panel along a respective first fold line and second fold line.

37. The blank of claim 36, wherein the dispenser features further comprise a dispenser panel configured for initiating opening of the dispenser when the carton is formed from the blank and an access flap foldably connected to the dispenser panel along a fold line, and wherein the dispenser panel extends along at least a portion of the first dispenser flap and the second dispenser flap, and the dispenser panel is at least partially separable from the first dispenser flap and the second dispenser flap along one or more tear lines.

38. The blank of claim 36, wherein the panel is a second panel and the plurality of panels comprises a first panel for at least partially overlapping the second panel when the carton is formed from the blank, wherein the dispenser features further comprise a dispenser panel configured for initiating opening of the dispenser when the carton is formed from the blank and an access flap foldably connected to the dispenser panel along a fold line, and wherein the dispenser panel extends in the first panel and is at least partially separable from the first panel along one or more tear lines.

39. The blank of claim 36, wherein the first dispenser flap and the second dispenser flap are connected to one another by an end connector panel for biasing the first dispenser flap and the second dispenser flap toward the closed position.

40. The blank of claim 39, wherein the first dispenser flap and the second dispenser flap are separable from the end connector panel along an arcuate cut, and wherein the first dispenser flap, the second dispenser flap, and the end connector panel are separable from the panel along at least a tear line.

41. The blank of claim 39, wherein the end connector panel is a first end connector panel, wherein the first dispenser flap and the second dispenser flap are connected to one another by a second end connector panel, and wherein the first end connector and the second end connector are at opposite ends of the dispenser.

42. The blank of claim 31, wherein the panel is a first panel, the plurality of panels comprises a second panel, and the first panel is for at least partially overlapping the second panel when the carton is formed from the blank, and wherein the first dispenser flap is foldably connected to the first panel, the second dispenser flap is foldably connected to the second panel, and the first dispenser flap is for at least partially overlapping the second dispenser flap when the carton is formed from the blank.

43. A method of forming a carton for holding a sheeted material arranged in a plurality of sheets, the method comprising:

obtaining a blank comprising a plurality of panels and dispenser features extending in at least a panel of the plurality of panels, the dispenser features comprising at least a first dispenser flap and a second dispenser flap, and at least one of the first dispenser flap and the second dispenser flap is foldably connected to the panel; and

forming a carton by folding the plurality of panels to extend at least partially around an interior of the carton;

wherein the first dispenser flap and the second dispenser flap are configured to engage at least one sheet of the plurality of sheets extending at least partially through the dispenser for at least

partially retaining the at least one sheet, and wherein at least one of the first dispenser flap and the second dispenser flap is biased toward a closed position.

44. The method of claim 43, wherein the first dispenser flap is foldably connected to the panel along an arcuate fold line, and wherein the arcuate fold line is concave with respect to the first dispenser flap for biasing the first dispenser flap toward the closed position.

45. The method of claim 43, wherein the panel is a first panel, the plurality of panels comprises a second panel, and the second dispenser flap is foldably connected to the second panel, and wherein the forming the carton further comprises positioning the first panel and the second panel in an overlapping relationship so that the first dispenser flap at least partially overlaps the first dispenser flap.

46. The method of claim 43, wherein each of the first dispenser flap and the second dispenser flap is foldably connected to the panel along a respective first fold line and second fold line, and wherein the dispenser further comprises a dispenser panel configured for initiating opening of the dispenser.

47. The method of claim 46, wherein the dispenser panel extends along at least a portion of the first dispenser flap and the second dispenser flap, and the dispenser panel is at least partially separable from the first dispenser flap and the second dispenser flap along one or more tear lines.

48. The method of claim 46, wherein the panel is a second panel, and the plurality of panels further comprises a first panel, wherein the dispenser panel extends in the first panel and is at least partially separable from the first panel along one or more tear lines, and wherein the forming the carton further comprises positioning the first panel to at least partially overlap the second panel so that the dispenser panel at least partially overlaps the first dispenser flap and the second dispenser flap.





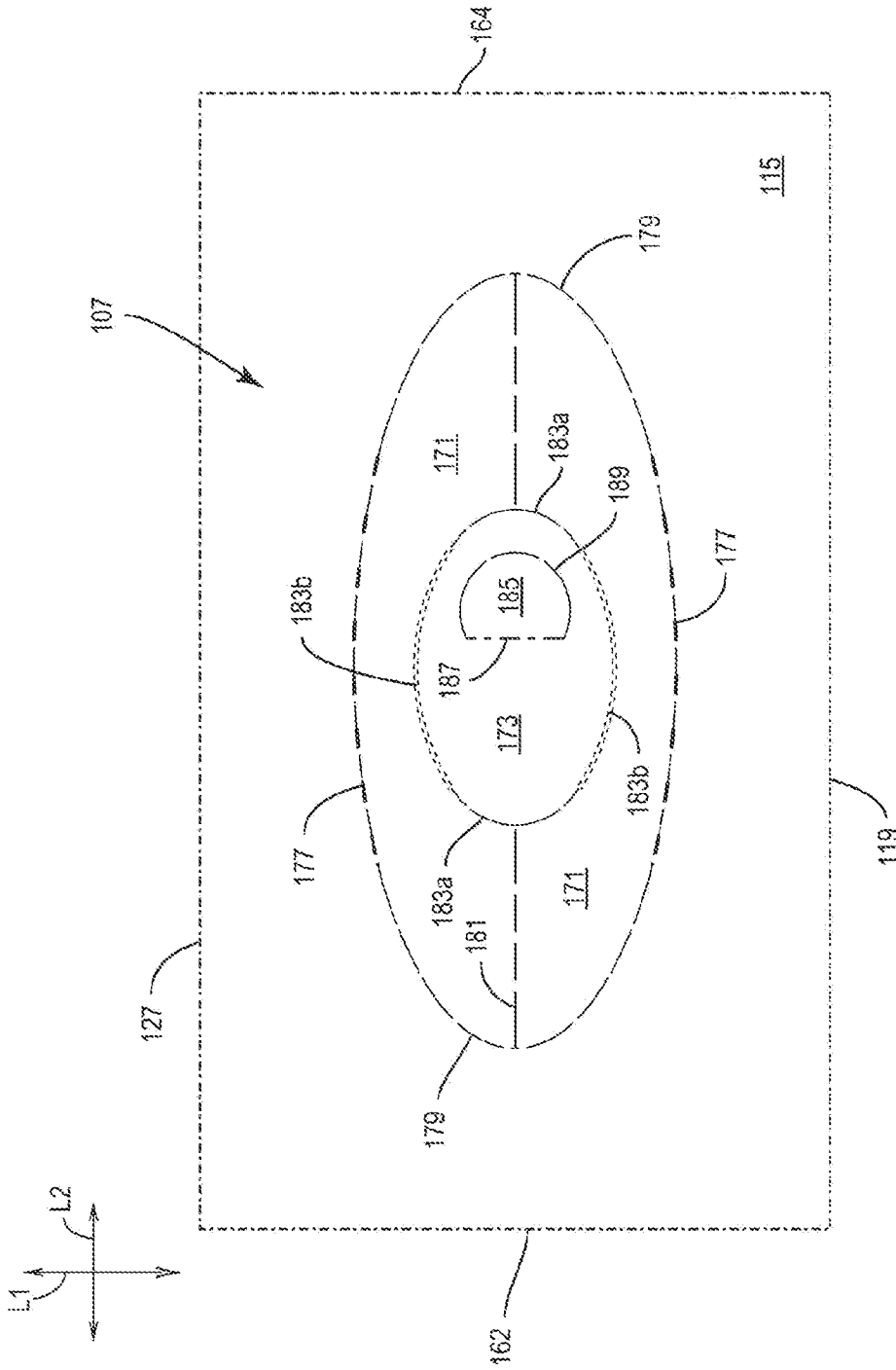
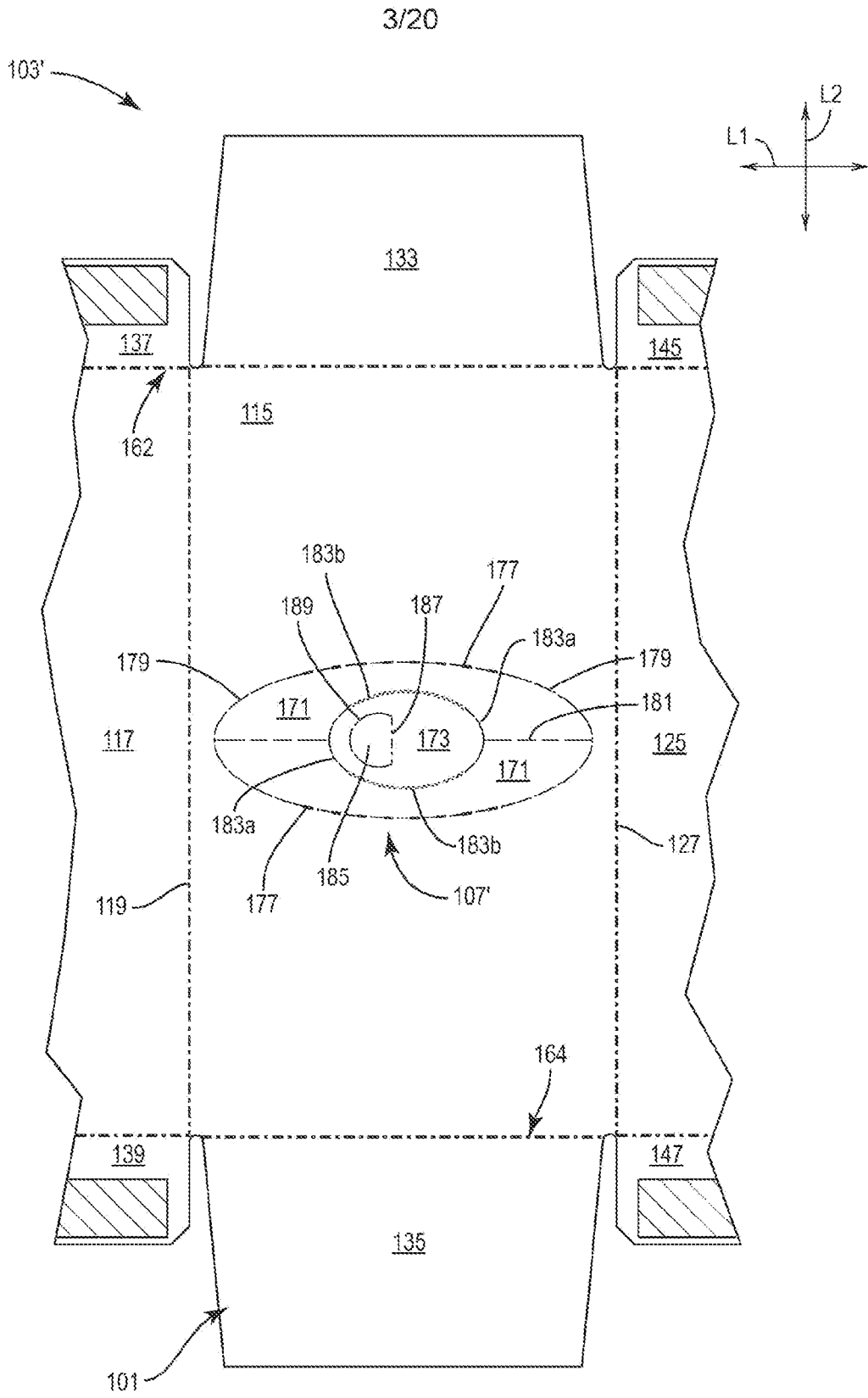


FIG. 2



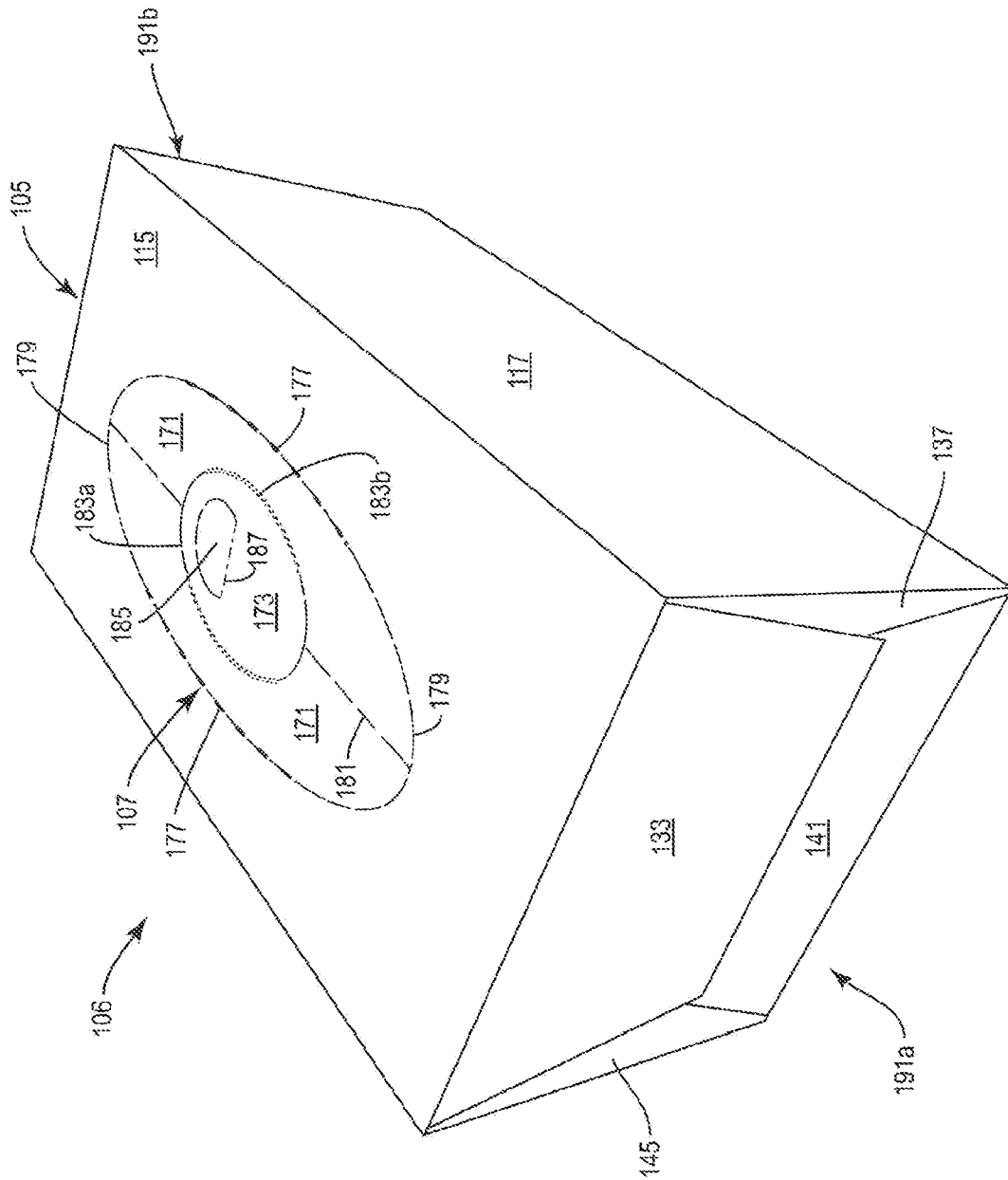


FIG. 3



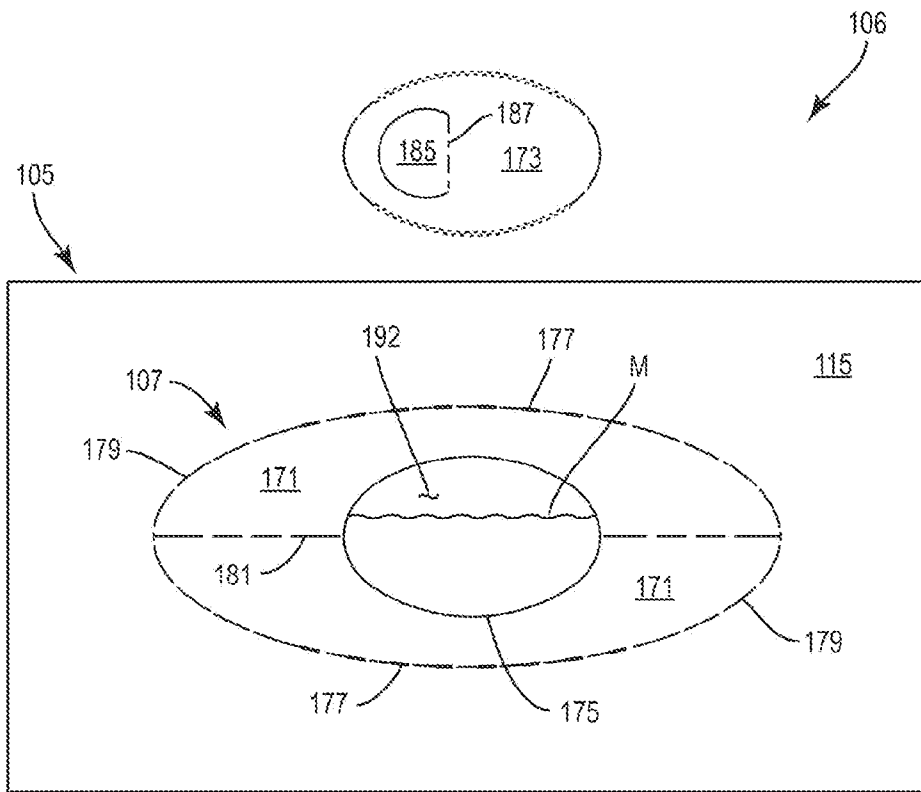


FIG. 5

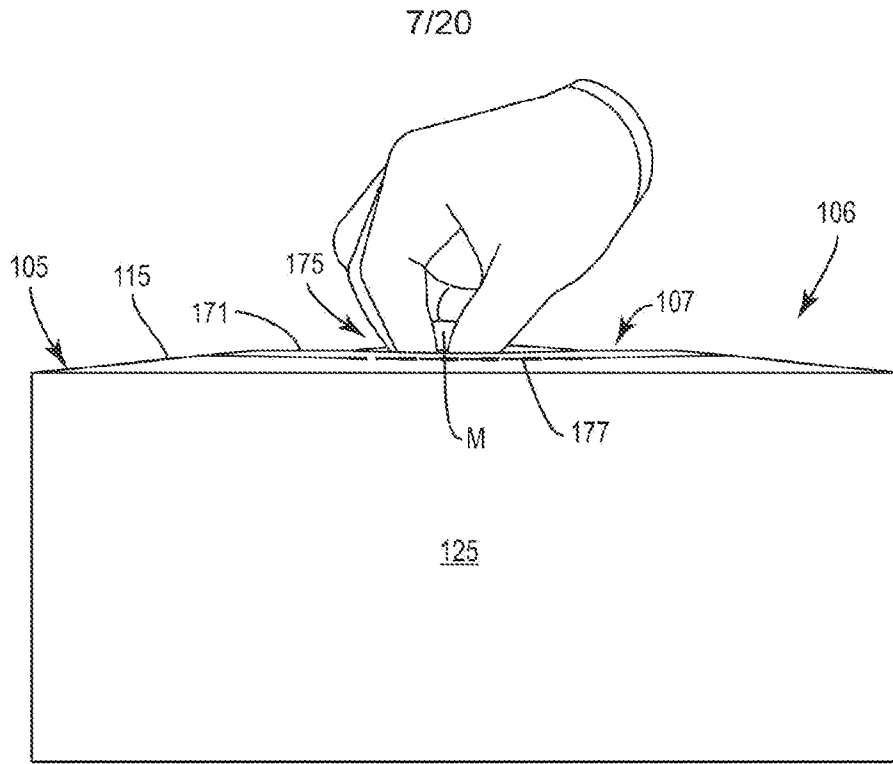


FIG. 6A

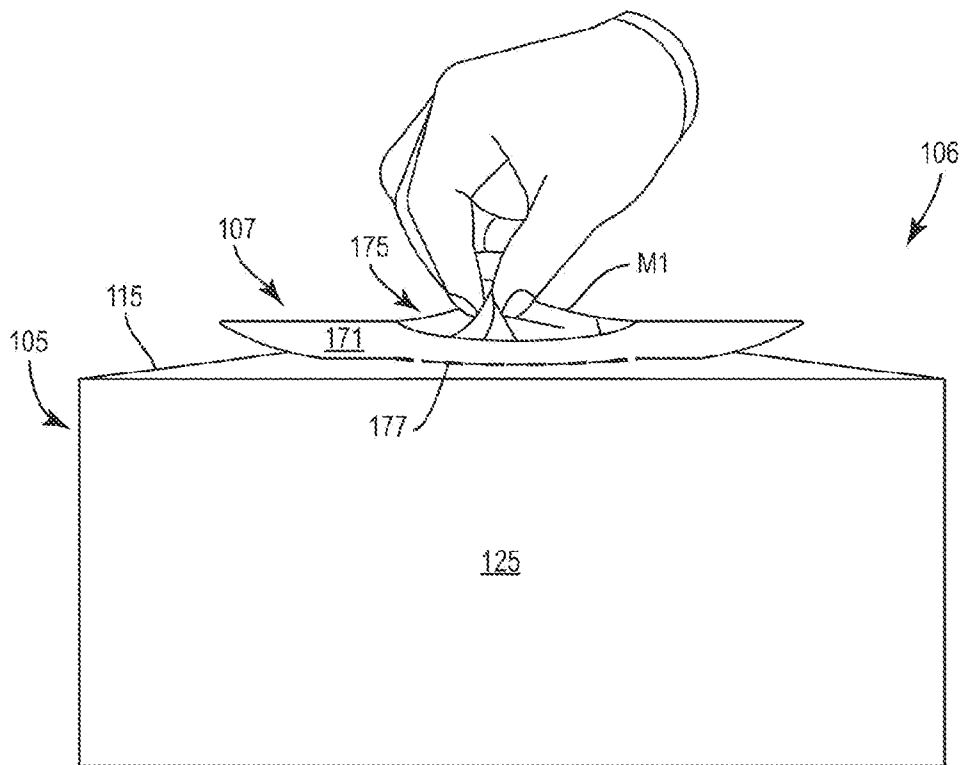


FIG. 6B

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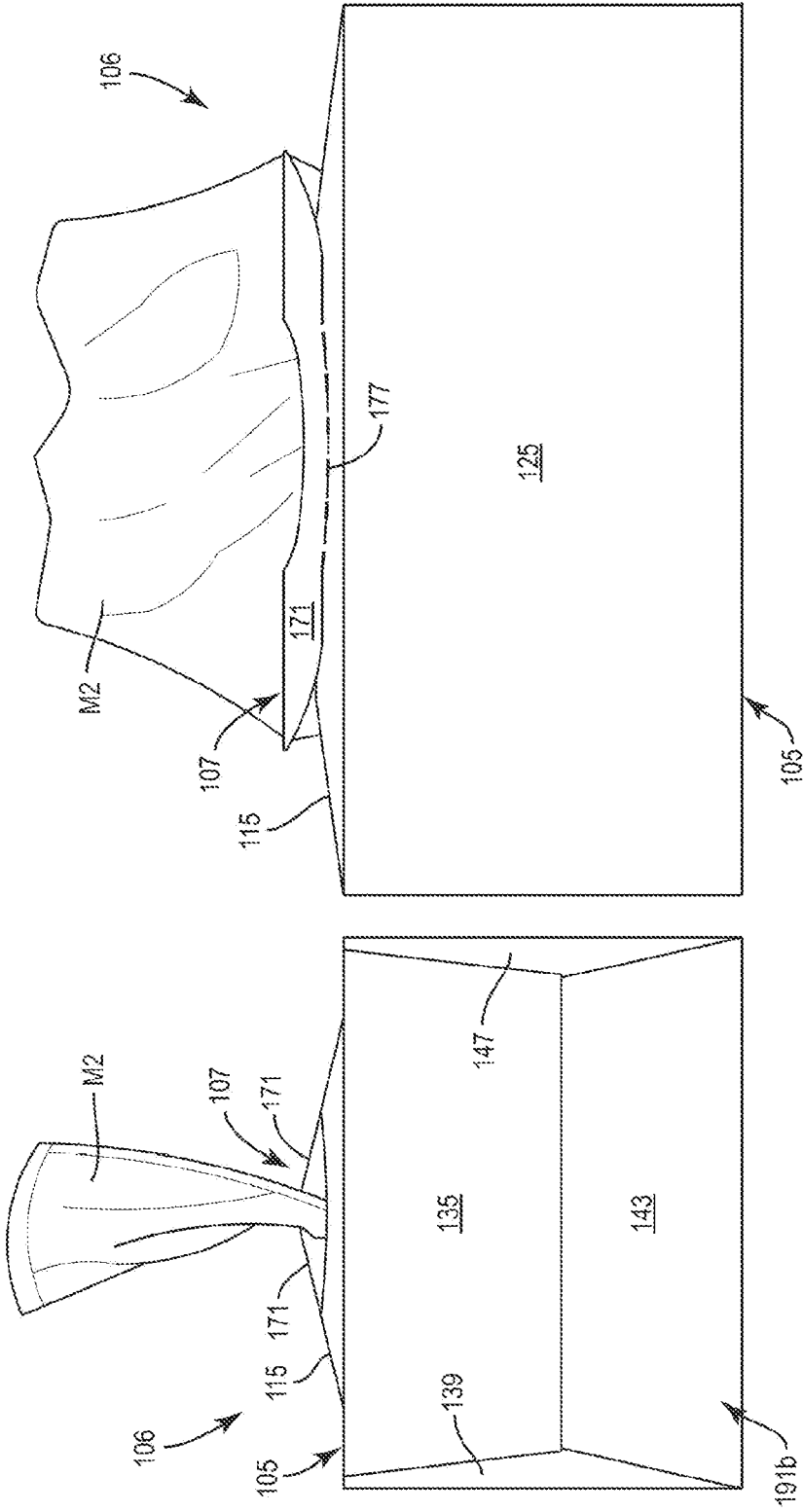


FIG. 7B

FIG. 7A



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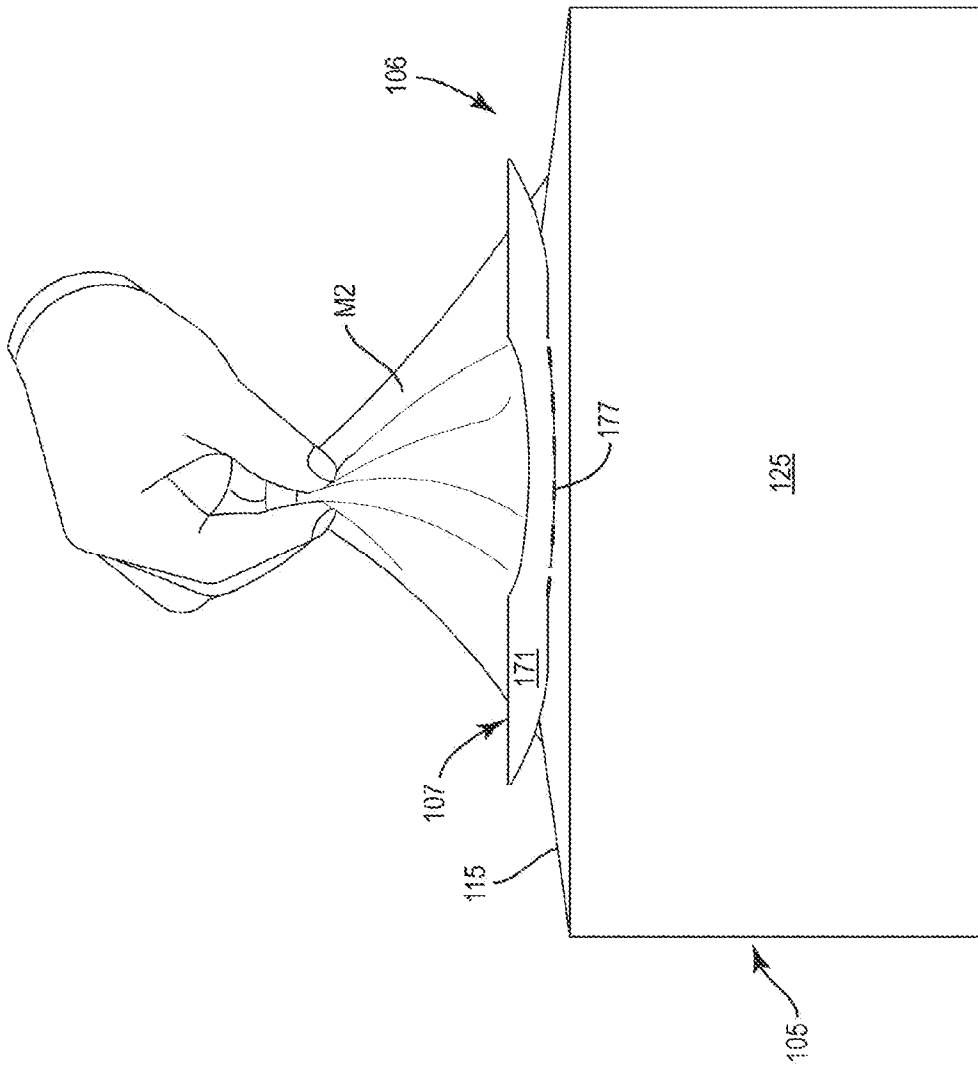


FIG. 7C

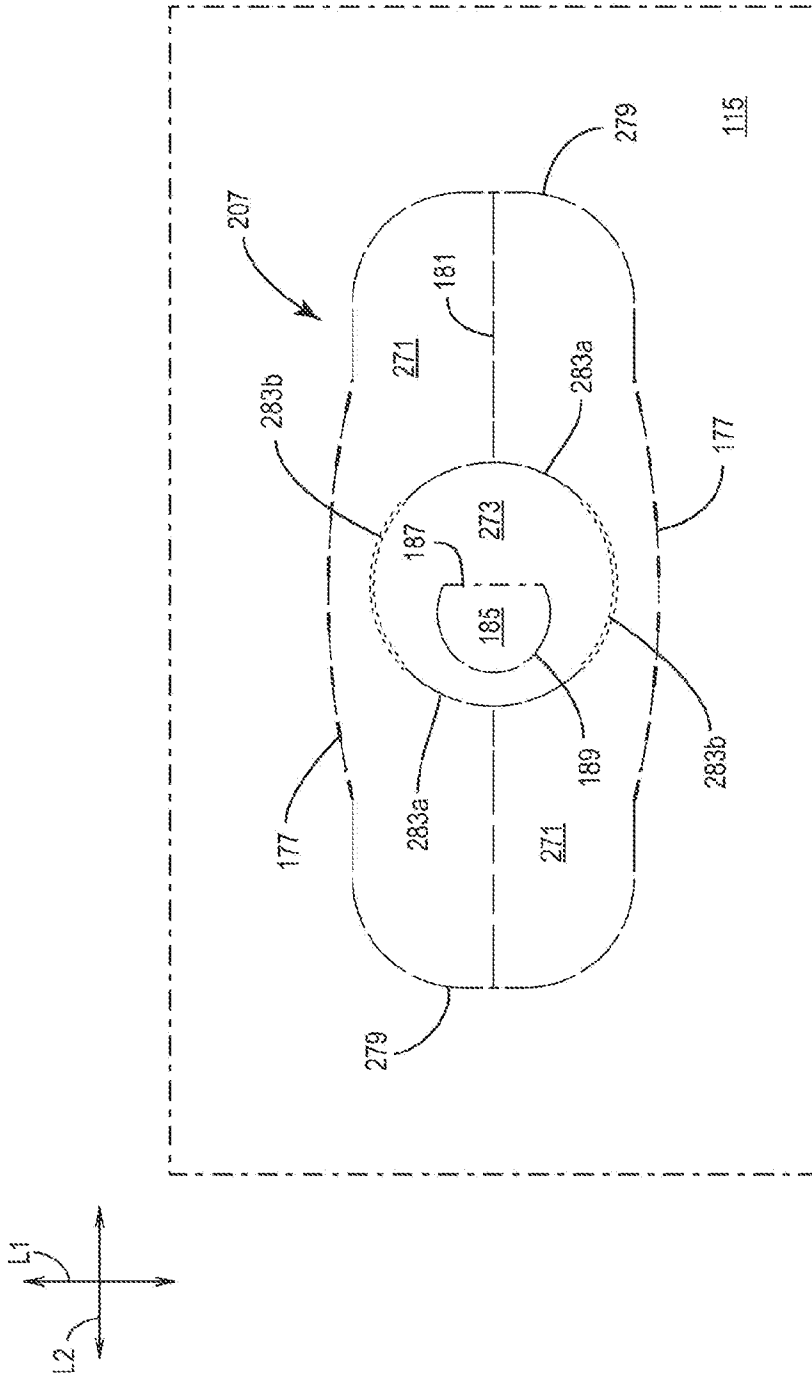


FIG. 8

11/20

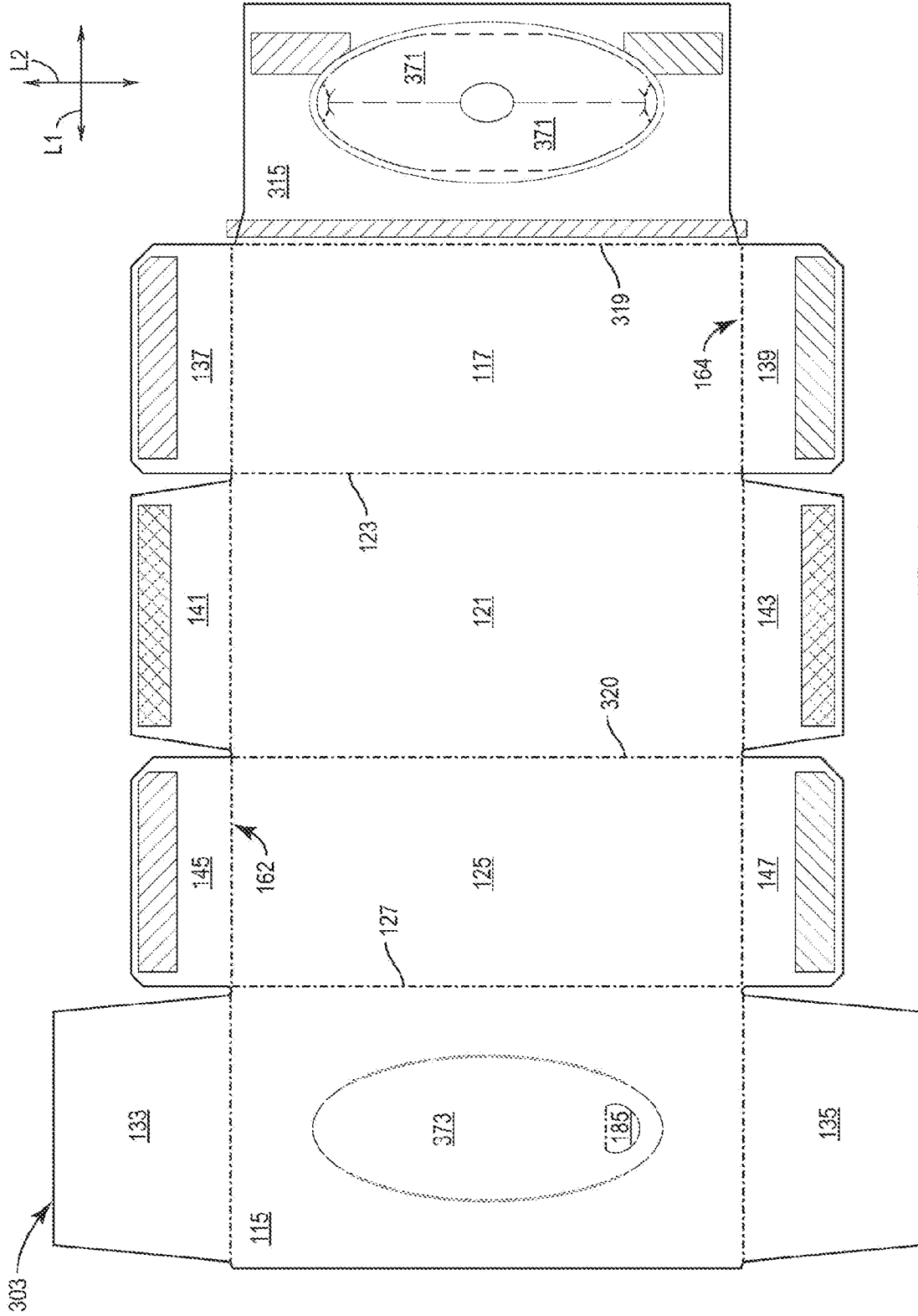


FIG. 9

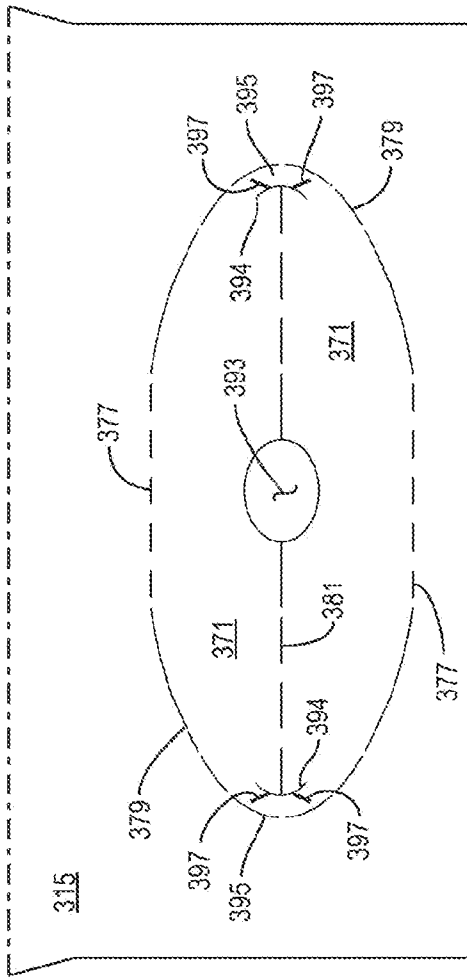


FIG. 10A

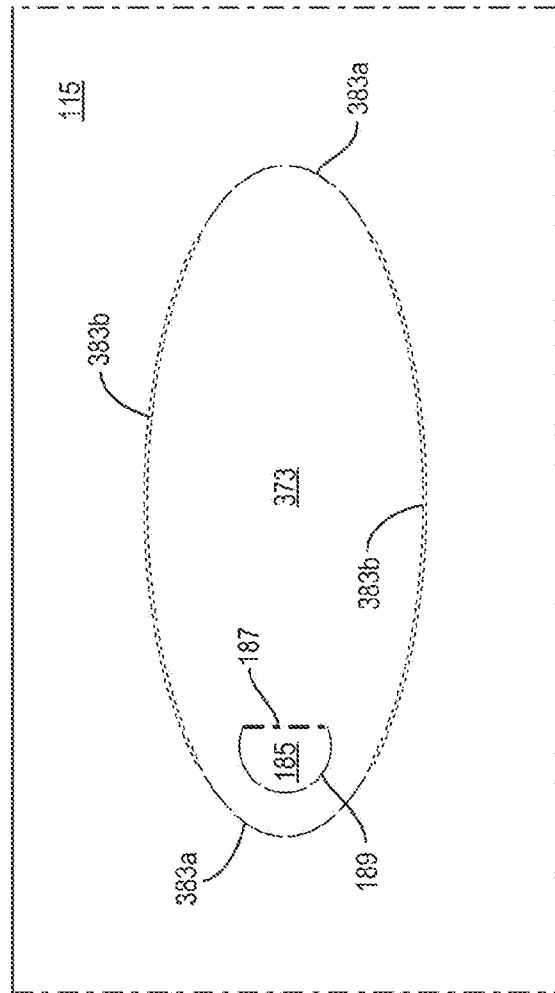


FIG. 10B

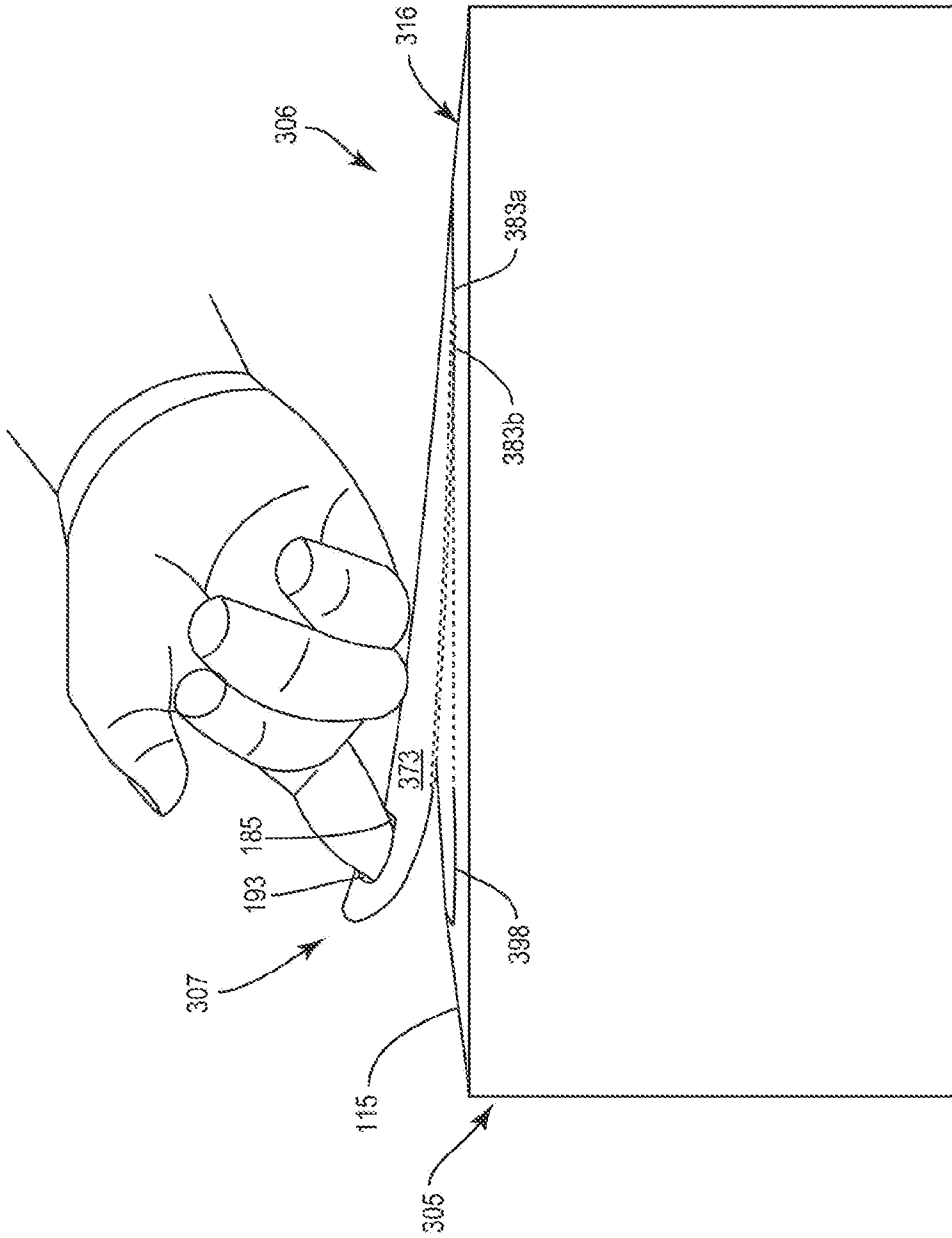


FIG. 11A

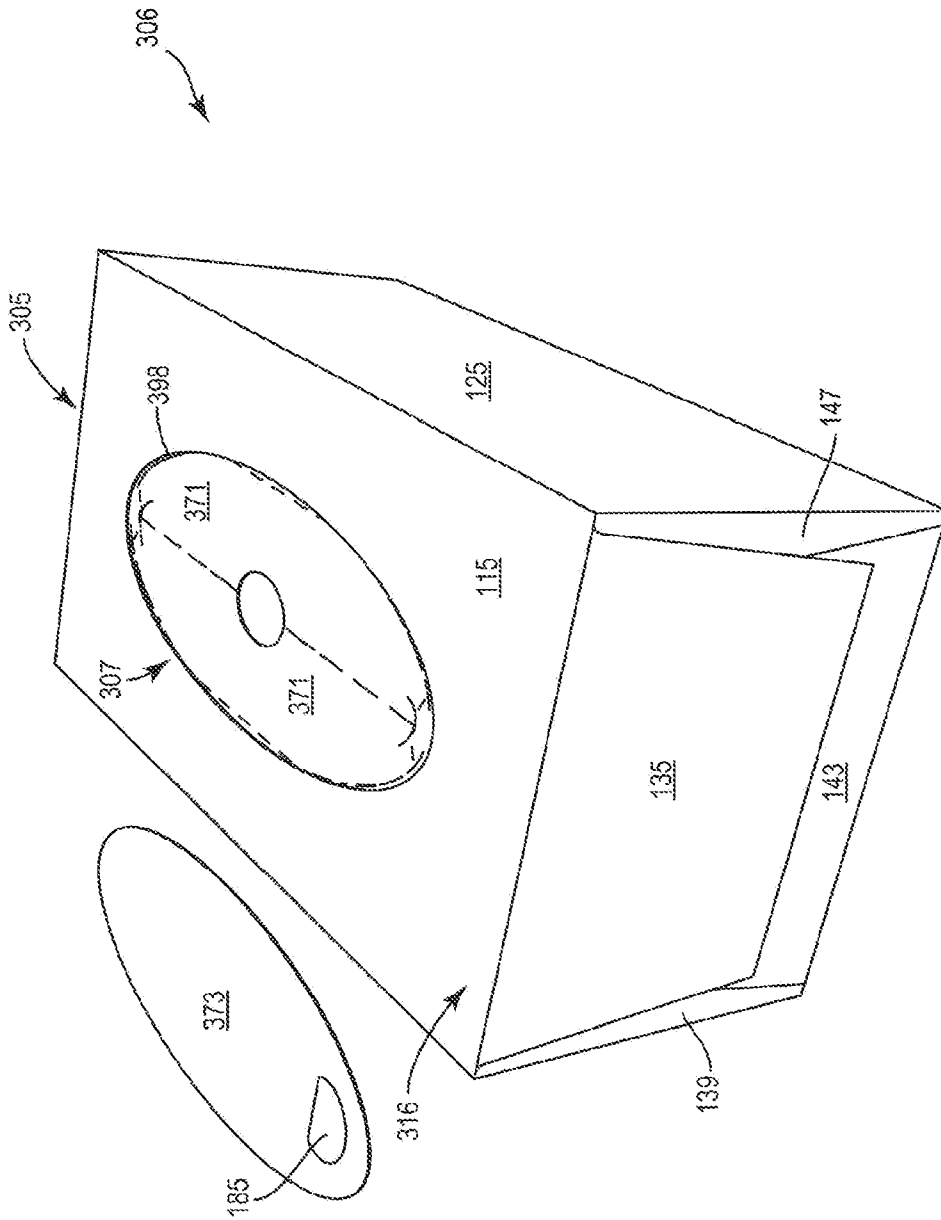


FIG. 11B

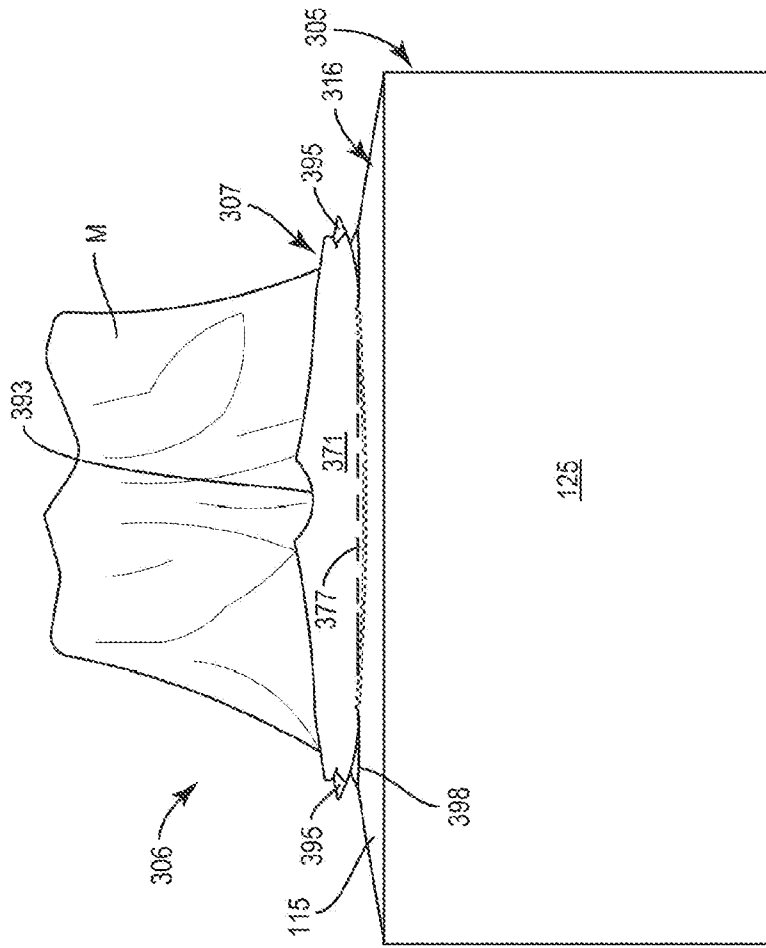


FIG. 12A

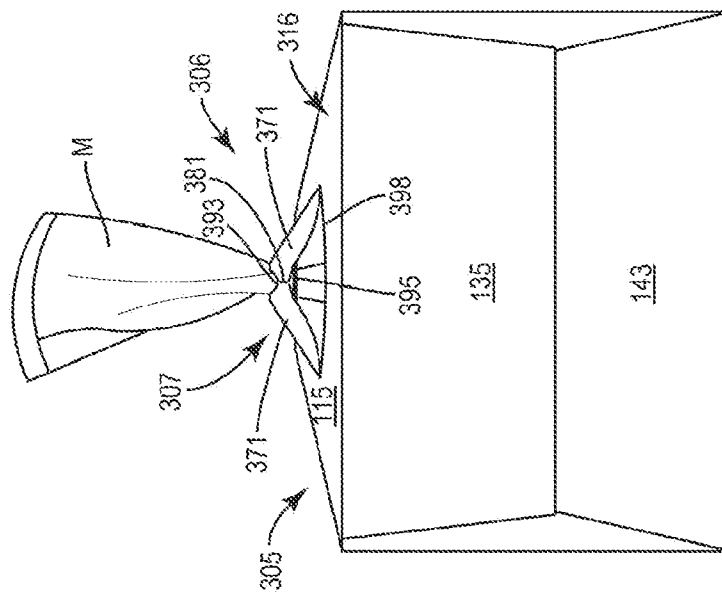


FIG. 12B

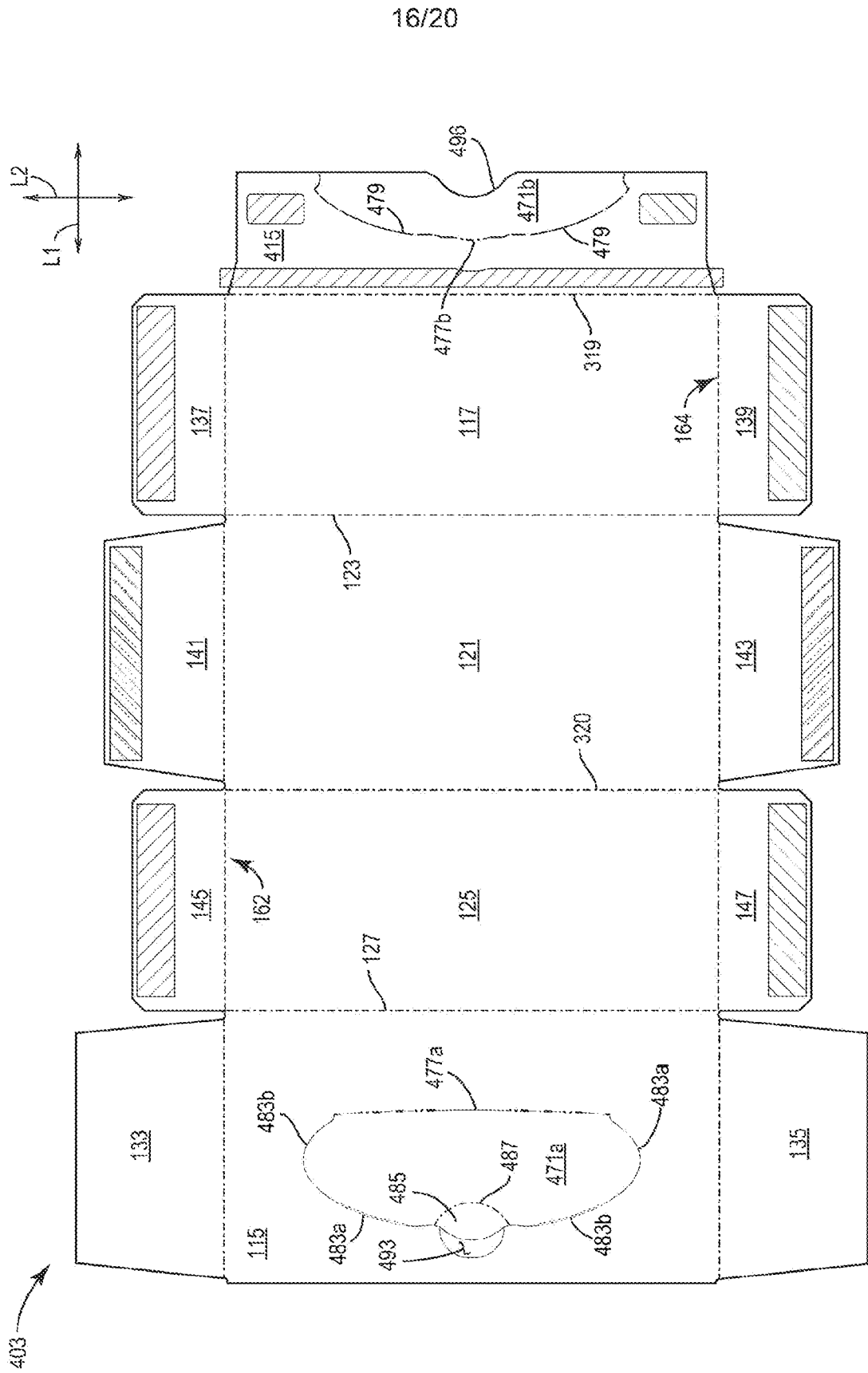


FIG. 13



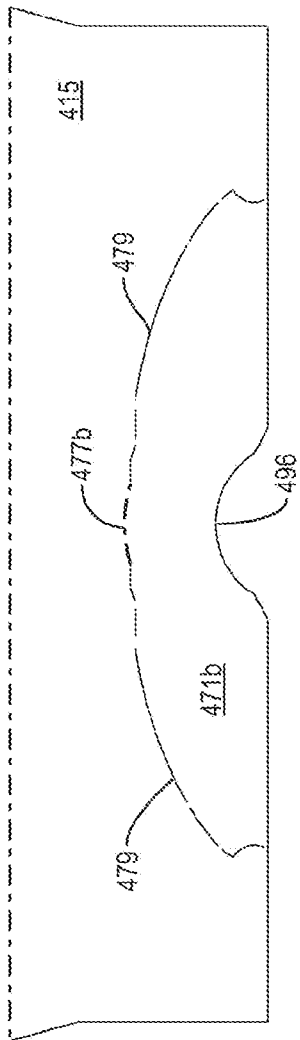
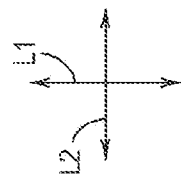


FIG. 14A

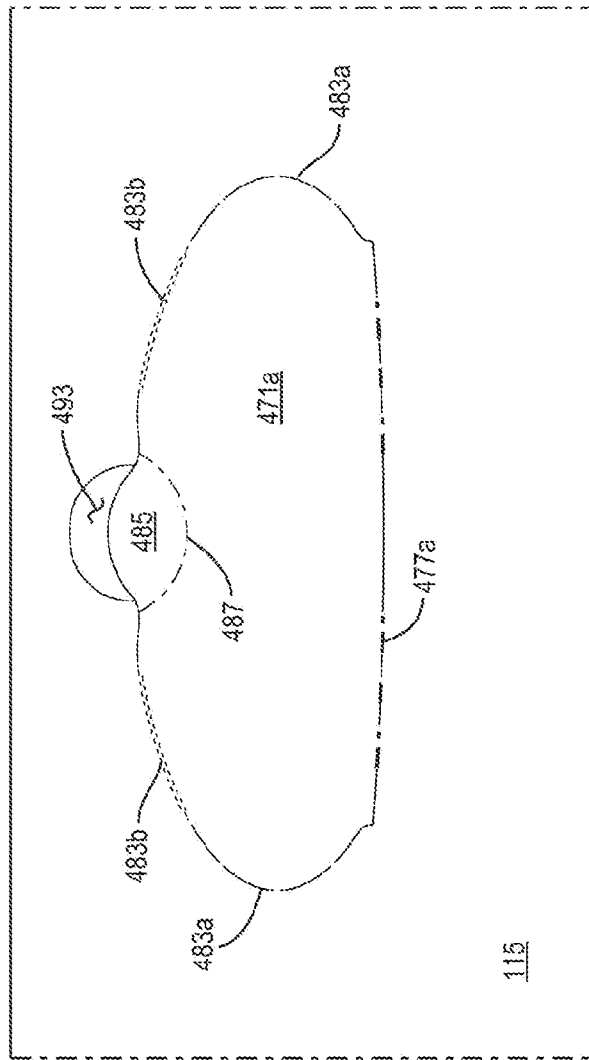


FIG. 14B

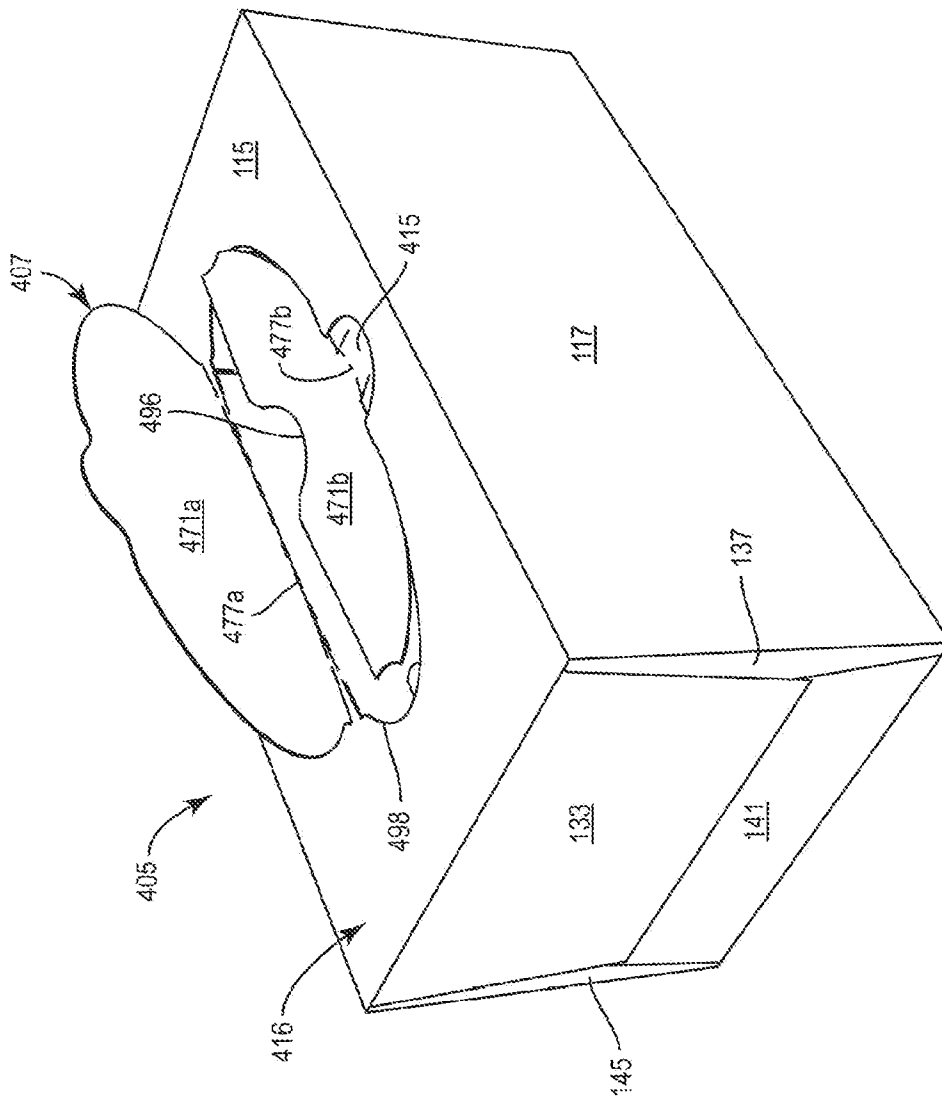


FIG. 15

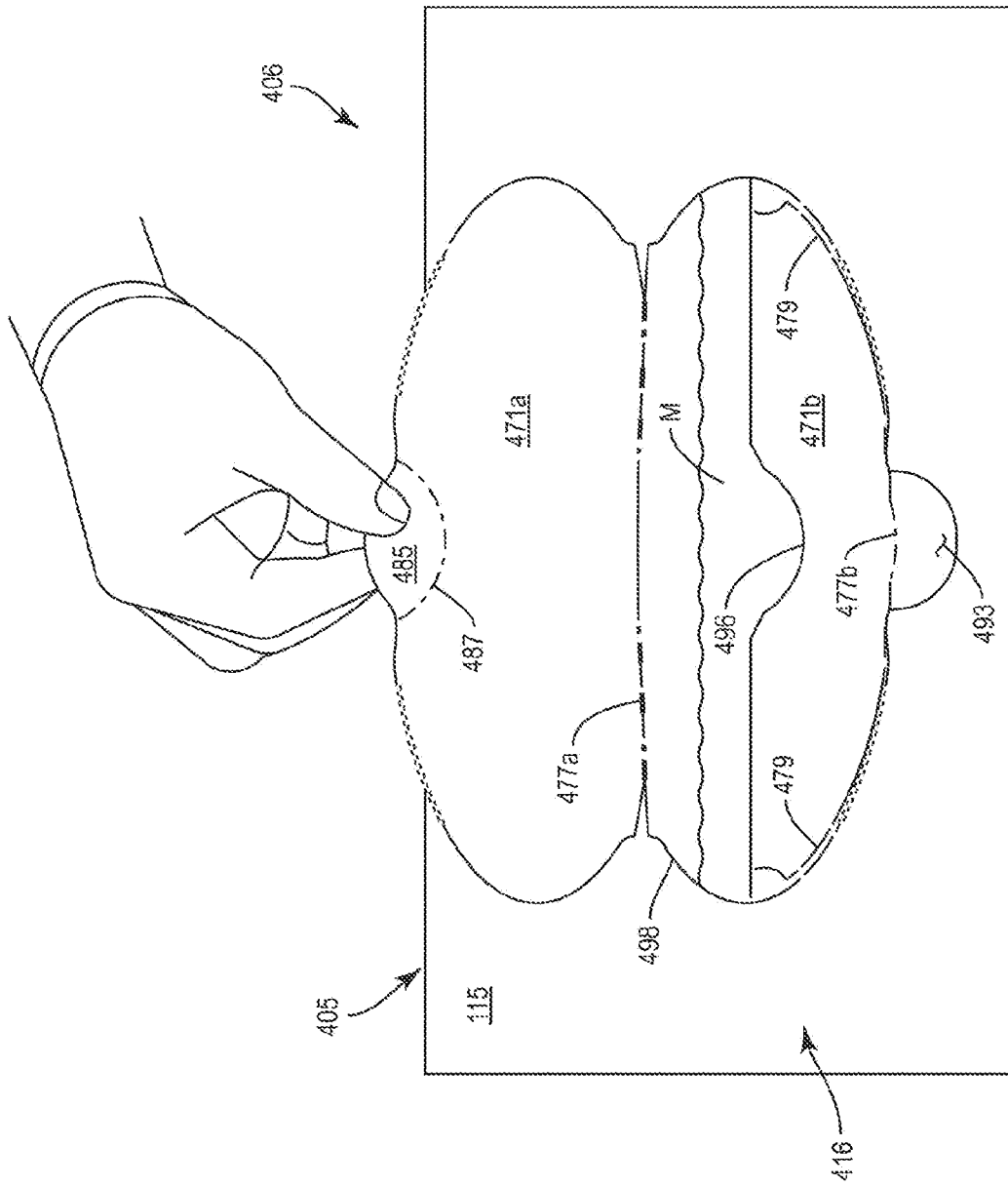


FIG. 16

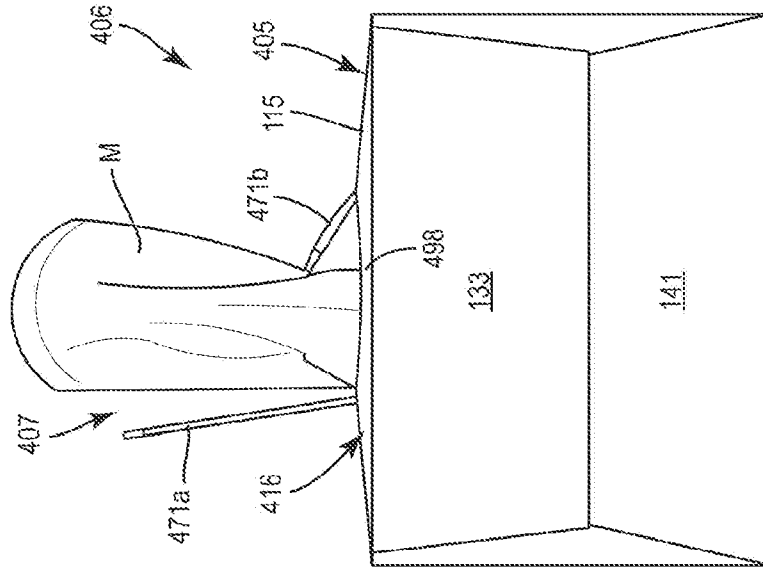


FIG. 17A

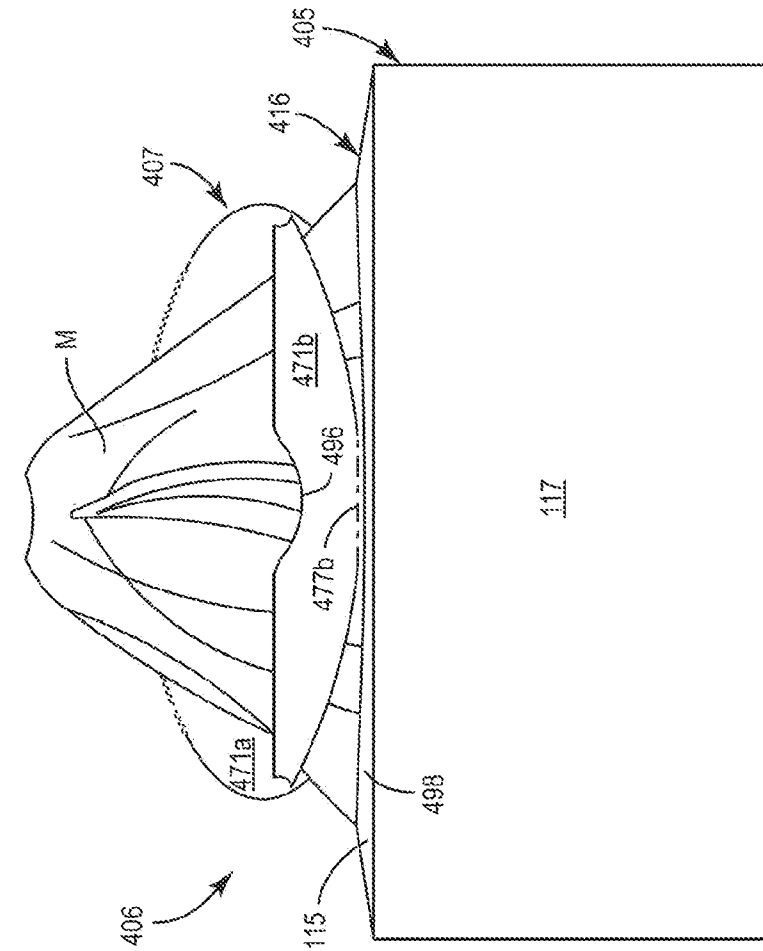


FIG. 17B

## INTERNATIONAL SEARCH REPORT

International application No.

**PCT/US2023/080452**

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
B65D 83/08(2006.01)i; B65D 5/54(2006.01)i; B65D 5/02(2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) B65D 83/08(2006.01); A47K 10/24(2006.01); A47K 10/42(2006.01); B65D 5/72(2006.01); B65H 1/00(2006.01)		
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, sheeted material, dispenser flap, arcuate fold line, tear line		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004-0164087 A1 (ISHIDA, JIRO) 26 August 2004 (2004-08-26) paragraphs [0028]-[0034] and figures 1-3	1-3,5-8,10-11,21,25,31-33,35-36,43-44,46-47
Y		4,9,12-20,22-24,26-30,34,37-42,45,48
Y	JP 08-244863 A (RENGO CO., LTD.) 24 September 1996 paragraph [0006] and figures 1-3	4,9,20,22-24,30,34,42,45
Y	US 2008-0257903 A1 (HIRASAWA et al.) 23 October 2008 (2008-10-23) paragraph [0061] and figures 1, 6	12-15,26-28,37-38
Y	US 5219421 A (TIPPING, PAUL R.) 15 June 1993 (1993-06-15) column 2, line 21 - column 3, line 39 and figures 1-5	14-19,28-29,38-41,48
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "D" document cited by the applicant in the international application "E" earlier application or patent but published on or after the international filing date "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 "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 <b>08 March 2024</b>		Date of mailing of the international search report <b>08 March 2024</b>
Name and mailing address of the ISA/KR <b>Korean Intellectual Property Office 189 Cheongsa-ro, Seo-gu, Daejeon 35208, Republic of Korea</b> Facsimile No. +82-42-481-8578		Authorized officer <b>PARK, Tae Wook</b> Telephone No. +82-42-481-3405

## INTERNATIONAL SEARCH REPORT

International application No.

**PCT/US2023/080452**

<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2009-184719 A (DAIKI K.K.) 20 August 2009 (2009-08-20) paragraph [0010] and figures 1-3	1-3,5-6,10-11,21,25, 31-33,35-36,43-44
X	JP 2009-102078 A (OJI PAPER CO., LTD.) 14 May 2009 (2009-05-14) paragraphs [0032]-[0036] and figure 6	1-3,5-6,10-11,21,25, 31-33,35-36,43-44

**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

International application No.

**PCT/US2023/080452**

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
US	2004-0164087	A1	26 August 2004	None			
JP	08-244863	A	24 September 1996	None			
US	2008-0257903	A1	23 October 2008	CN	1946616	A	11 April 2007
				CN	1946616	B	05 May 2010
				JP	5041806	B2	03 October 2012
				JP	WO2005-108238	A1	21 March 2008
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				WO	2005-108238	A1	17 November 2005
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JP	2009-184719	A	20 August 2009	None			
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				CN	1496934	A	19 May 2004
				HK	1061833	A1	08 October 2004
				JP	2004-315084	A	11 November 2004
				JP	4324774	B2	02 September 2009
				JP	4911327	B2	04 April 2012