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(54) Title: CARTON WITH POUR SPOUT

(57) Abstract: Cartons with pour spouts for dispensing materials such as granular or pelletal materials are disclosed. A carton according to the disclosure is easily converted from a closed configuration for storing materials to an open configuration in which a spout is formed for pouring materials from the carton. The carton can also be easily and securely reclosed after being used in the open configuration. When the carton is in a closed configuration, a top panel can be formed from overlapping side top flaps. A front top end flap or panel can be folded under the side top flaps. The front top end flap or panel and portions of the side top flaps can be unfolded to form a spout and thereby place the carton in an open configuration. The spout and the side top flaps can be folded into closed positions after opening the carton in order to place the carton in a reclosed configuration.



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CARTON WITH POUR SPOUT

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 61/193,067, filed on October 27, 2008, the entire disclosure of which is incorporated herein by reference.

BACKGROUND

[0002] The disclosure generally relates to cartons for storing and dispensing materials, and methods blanks for forming such cartons. It is desirable to provide a carton that can easily be converted from a closed configuration for storing materials to an open configuration for pouring the materials out of the carton. It also desirable to provide a carton that can be easily and securely reclosed after being opened. Additional objects and desires will become apparent from the following disclosure, drawings and claims.

SUMMARY

[0003] The disclosure generally relates to cartons suitable for storing and dispensing material such as, for example, granular or pelletal material, and methods of erecting such cartons from a carton blank. The material can be stored inside the carton within a bag, or the material can be stored without a bag.

[0004] According to an embodiment, a carton can comprise a front panel, a rear panel, a first side panel, a second side panel opposite the first side panel, a bottom panel, a top panel comprising a first side top flap and a second side top flap, and a front top end panel foldably connected to the front panel, the first side top flap and the second side top flap. The carton can be constructed such that, when the carton is in a closed configuration, the front top end panel extends inwardly from the front panel towards an interior of the carton, the second side top flap partially overlaps the first side top flap, and the first side top side flap and the second side top side flap lie over the front top end panel. The carton can be placed in an open configuration in which a spout is formed in a top of the carton

and defines an opening for pouring contents from the carton. The front top end panel can be folded outwardly away from the interior of the carton to form a front lip of the spout, and portions of the first and second top side flaps form side walls of the spout.

[0005] According to another embodiment, a carton can comprise a front panel, a rear panel, a first side panel, a second side panel opposite the first side panel, a bottom panel, a top panel, and a front top end flap or panel foldably connected to the front panel. The top panel can comprise a first side top flap and a second side top flap. The first side top flap can include a first flap section, a second flap section and a first break line between the first flap section and the second flap section. The second side top flap can include a third flap section, a fourth flap section and a second break line between the third flap section and the fourth flap section. When the carton is in a closed configuration, the front top end panel extends inwardly from the front panel towards an interior of the carton beneath the first side top flap and the second side top flap, and the second side top flap partially overlaps the first side top flap, or the first side top flap partially overlaps the second side top flap. The carton can be placed in an open configuration in which a spout is formed in a top of the carton and defines an opening for pouring contents from the carton. When the carton is in the open configuration, the front top end flap or panel is folded outwardly away from the interior of the carton and forms a front lip of the spout. Additionally, when the carton is in the open configuration, the first flap section and the second flap section are detached from each other along the first break line, the third flap section and the fourth flap section are detached from each other along the second break line, and the first flap section and the third flap section extend transversely to the second flap section and the fourth flap section, thereby forming side walls of the spout.

[0006] According to other embodiments, blanks for forming the cartons are disclosed.

[0007] Additional features and advantages will be appreciated from the following detailed description, drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is a plan view of a carton blank with an outer or print side of the blank facing upward.

[0009] FIGS. 2 and 3 are perspective views of a carton erected from the blank of FIG. 1, wherein the carton is in a closed configuration.

[00010] FIG. 4 is a bottom view of the carton of FIGS. 2 and 3.

[00011] FIGS. 5 and 6 show the carton of FIGS. 2 and 3 in an open configuration for pouring contents out of the carton.

[00012] FIG. 7 shows the carton of FIGS. 2 and 3 in a reclosed configuration.

[00013] FIG. 8 is a plan view of a carton blank according to another embodiment with an outer or print side of the blank facing upward.

[00014] FIG. 9 is a perspective view of a carton erected from the blank of FIG. 8, wherein the carton is in a closed configuration.

[00015] FIG. 10 shows the carton of FIG. 9 in an open configuration for pouring contents out of the carton.

[00016] FIG. 11 shows the carton of FIG. 9 in a reclosed configuration.

[00017] FIG. 12 is a plan view of a carton blank according to another embodiment with an outer or print side of the blank facing upward.

[00018] FIG. 13 is a perspective view of a carton erected from the blank of FIG. 12, wherein the carton is in a closed configuration.

[00019] FIG. 14 is a bottom view of the carton of FIG. 12.

[00020] FIGS. 15 and 16 show the carton of FIG. 12 in an open configuration for pouring contents out of the carton.

[00021] FIG. 17 shows the carton of FIG. 12 in a reclosed configuration.

[00022] FIG. 18 is a plan view of a carton blank according to yet another embodiment with an outer or print side of the blank facing upward.

[00023] FIG. 19 is a perspective view of a carton erected from the blank of FIG. 18, wherein the carton is in a closed configuration.

[00024] FIG. 20 is a bottom view of the carton of FIG. 19.

[00025] FIGS. 21 and 22 show the carton of FIG. 19 in an open configuration for pouring contents out of the carton.

[00026] FIG. 23 is a perspective view of a carton of FIG. 19 in a reclosed configuration.

[00027] FIG. 24 is a plan view of a carton blank according to yet another embodiment with an outer or print side of the blank facing upward.

[00028] FIG. 25 is a perspective view of a carton erected from the blank of FIG. 24, wherein the carton is in a closed configuration.

[00029] FIG. 26 is a bottom view of the carton of FIG. 25.

[00030] FIGS. 27 and 28 show the carton of FIG. 25 in an open configuration for pouring contents out of the carton.

[00031] FIG. 29 shows the carton of FIG. 25 in a reclosed configuration.

DETAILED DESCRIPTION

[00032] The disclosure generally relates to cartons suitable for storing and dispensing material such as, for example, granular or pelletal material, and methods of erecting such cartons from a carton blank. For purposes of illustration and not limitation, the detailed description below describes several embodiments of the invention within the context of a carton with a pour spout for dispensing material from the carton. Further, references herein to “end,” “side,” “front,” “rear,” “bottom,” and “top” refer to orientations or positions of elements when the

carton is erected and disposed in an upright orientation. The terms “upper,” “lower,” “vertical,” “horizontal,” “lateral,” and “oblique,” and any variations thereof, generally refer to the location and/or orientation of an element or line with respect to a drawing figure in which it appears. Reference characters shared among the various embodiments disclosed herein indicate similar parts.

[00033] Referring now in more detail to the drawing figures, wherein like reference characters indicate like parts throughout the several views, FIG. 1 illustrates a carton blank 1 from which a carton 200 (FIG. 2) may be erected. The blank 1 is shown with its outside or print side up. The blank 1 includes a front panel 10, a first side panel 20, a second side panel 30, a rear closure flap 40, and a rear flap 50. Horizontal fold lines 16, 18 form top and bottom edges, respectively, of the panels 10, 20, 30 and the flaps 40, 50. The first and second side panels 20, 30 are foldably connected to opposite sides of the front panel 10 along vertical fold lines 12, 14, respectively. The rear closure flap 40 is foldably connected to the first side panel 20 along a vertical fold line 22. The rear flap 50 is foldably connected to the second side panel 30 along a vertical fold line 32. Each of the panels 10, 20, 30 and flaps 40, 50 are substantially rectangular in shape. However, other shapes are possible.

[00034] A first side top flap 80 and a first bottom flap 90 are foldably connected to the first side panel 20 along the fold lines 16, 18, respectively. A front top end panel 60 and a front bottom end flap 70 are foldably connected to the front panel 10 along the fold lines 16, 18, respectively. A second side top flap 100 and a second bottom flap 110 are foldably connected to the second side panel 30 along the fold lines 16, 18, respectively. The front top end panel 60 is also foldably connected to the first and second side top flaps 80, 100 along the fold lines 12, 14, respectively. A rear top end flap 120 and a rear bottom end flap 130 are foldably connected to the rear flap 50 along the fold lines 16, 18, respectively. The flaps 70, 80, 90, 100, 110, 130 and the front top end panel 60 are generally rectangular in shape, however other shapes are possible.

[00035] The first side top flap 80 includes a first break line 86 extending substantially vertically between the laterally extending outer edge of the first side top flap 80 and the fold line 16. The first break line (e.g., cut and/or tear line) 86 includes a cut segment 86a extending from the laterally extending outer edge of the first side top flap 80 and a perforated segment 86b extending from the cut segment 86a to the fold line 16. The break line 86 divides the first side top flap 80 into a first side top flap section 82 and a second side top flap section 84. The second side top flap 100 includes a second break line 106 extending substantially vertically between the laterally extending outer edge of the second side top flap 100 and the fold line 16. The second break line 106 includes a cut segment 106a extending from the laterally extending outer edge of the second side top flap 100 and a perforated segment 106b extending from the cut segment 106a to the fold line 16. The break line 106 divides the second side top flap 100 into a third side top flap section 102 and a fourth side top flap section 104. The first side top flap 80 optionally includes adhesive regions 88 in the first side top flap section 82 for releasably adhesively attaching the first and second side top flaps 80, 100 together at the first and third side top flap sections 82, 102 in overlapping fashion. The adhesive regions 88 may be defined by score patterns or partial cut patterns 89 extending partially through the thickness of the blank 1 (into the page). The releasable adhesive attachment between the first and third side top flap sections 82, 102 may be provided in any suitable manner.

[00036] Opposite edges of the front top end panel 60 are foldably connected to the first and second side top flaps 80, 100 by the fold lines 12, 14, respectively. The front top end panel 60 includes a substantially triangular center section 62, a substantially triangular first side section 64 foldably connected to the center section 62 along a first oblique fold line 63, and a substantially triangular second side section 66 foldably connected to the center section 62 along a second oblique fold line 65. The oblique fold lines 63, 65 extend between the fold line 16 and the laterally extending outer edge of the front top end panel 60, and converge towards each other as they extend from the fold line 16.

[00037] A closure feature, or female locking member/receptacle 140 is optionally provided in the front panel 10. The closure feature 140 includes an arcuate tear line 142, a vertical cut line or tear line 144 extending downwardly from the arcuate tear line 142, and a v-shaped fold line 146 positioned below the cut line 144.

[00038] Referring to FIGS. 2 -4, the blank 1 can be erected into a carton 200. In FIGS. 2 and 3, the carton 200 is in a closed configuration. Referring to FIGS. 2 and 3, the side panels 20, 30 are folded inwardly along the fold lines 12, 14, respectively, such that the first and second side panels 20, 30 extend substantially parallel to each other and perpendicularly to the front panel 10. The rear closure flap 40 is folded inwardly along the fold line 22 so as to extend substantially parallel to the front panel 10. The rear flap 50 is folded inwardly along the fold line 32 so as to overlap the rear closure flap 40 and extend substantially parallel to the front panel 10. The rear flap 50 and the rear closure flap 40 together form a rear panel 170 (FIG. 3) of the carton 200, extending substantially parallel to the front panel 10. The rear closure flap 40 may be adhesively or otherwise attached to the inner side of the rear panel 50.

[00039] Still referring to FIGS. 2 and 3, the center section 62 of the front top end panel 60 is folded inwardly along the fold line 16, and the first and second side sections 64, 66 of the front top end panel 60 are folded over the center section 62 along the respective oblique fold lines 63, 65 such that the front top end panel 60 is folded towards the interior of the carton 200. The rear top end flap 120 is folded inwardly along the fold line 16 towards the interior of the carton 200. The first and second side top flaps 80, 100 are folded along the fold line 16 such that the second side top flap 100 partially overlaps the first side top flap 80 and the first and second side top flaps 80, 100 lie over the front top end panel 60 and the rear top end flap 120. The first and second side top flaps 80, 100 are secured together such as by way of adhesive material at adhesive regions 88, and adhesive material between the second and fourth side top flap sections 84, 104, so that the first and second side top flaps 80, 100 form a top panel 150 extending between the first and second side panels 20, 30 and the front and rear panels 10, 170. The

second and fourth side top flap sections 84, 104 may be attached to each other in a more permanent manner than the first and third side top flap sections 82, 102, such as by a more secure adhesive attachment. The top panel 150 extends substantially perpendicularly to the front panel 10, the rear panel 170, and the first and second side panels 20, 30. The first and third side top flap sections 82, 102 are positioned adjacent to each other in the top panel 150 to form a partially detachable portion of the top panel 150.

[00040] As shown in FIG. 4, the front bottom end flap 70 and the rear bottom end flap 130 are folded inwardly along the fold line 18, and the first and second bottom flaps 90, 110 are folded inwardly along the fold line 18 over the front bottom end flap 70 and the rear bottom end flap 130 such that the second bottom flap 110 overlaps the first bottom flap 90. The first and second bottom flaps 90, 110 form a bottom panel 160 extending substantially parallel to the top panel 150. The first and second bottom flaps 90, 110 may be adhesively or otherwise secured together.

[00041] FIGS. 5 and 6 show the carton 200 in an open configuration for pouring contents therefrom. In the open configuration, the first and third side top flap sections 82, 102 are separated from the second and fourth top panel sections 84, 104, respectively, along the respective break lines 86, 106 and are folded outwardly along the fold line 16 so as to extend transversely to the second and fourth side top flap sections 84, 104, which form a remainder of the top panel 150. The center section 62 of the front top end panel 60 is folded outwardly along the fold lines 16, 63, 65, and the first and second side sections 64, 66 of the front top end panel 60 are folded outwardly along the fold lines 63, 65, 12, 14, such that the front top end panel 60 extends transversely between the first and third side top flap sections 82, 102. The center section 62 extends outwardly and upwardly from the front panel 10, and the first and second side sections 64, 66 extend rearwardly and outwardly from the center section 62 to the first and third side top flap sections 82, 102, respectively. The first and third side top flap sections 82, 102 and the front top end panel 60 thereby form a spout 170 having an opening 172 at the top of the carton 200. The first and third side top flap sections 82, 102

form first and second side walls of the spout 170, and the front top end panel 60 forms a front spout lip 174. The second and fourth side top flap sections 84, 104 are adhesively secured such that they are not opened with the spout 170. Contents within the carton 200 can be poured out of the spout 170 through the opening 172. The lip 174 is configured to direct the flow of contents as they are poured out of the spout 170.

[00042] FIG. 7 shows the carton 200 in an optional reclosed configuration. In the configuration of FIG. 7, the top panel 150 is reclosed after the carton has been used in the open configuration of FIGS. 5 and 6. The first and third side top flap sections 82, 102 are folded inwardly along the fold line 16 such that the third side top flap section 102 partially overlaps the first side top flap section 82. The center section 62 of the spout 170 is folded downwardly about the fold line 16, and the first and second side sections 64, 66 of the spout 170 are folded inwardly and downwardly over the center section 62 along the respective oblique fold lines 63, 65. Thus, the lip 174 of the spout 170 extends downwardly, substantially parallel to the front panel 10. The tear line 144 in the front panel is broken to form an arcuate opening 145, and the outer tip 175 (FIGS. 5-7) of the spout 170 is secured in the opening 145, thereby closing the spout 170 and securing the top panel 150 in a closed configuration. The fold lines 144, 146 allow the front panel 10 to flex in the vicinity of the fold lines 144, 146 to facilitate inserting the tip 175 into the opening 145. The spout 170 may be reopened by reversing the closing procedure.

[00043] FIG. 8 shows a carton blank 202 according to another embodiment, from which a carton 400 (FIG. 9) may be erected. The blank 202 is similar to the blank 1 of the previous embodiment, with the exception that the blank 202 includes first and second side top flaps 300, 310 instead of the previously described side top flaps 80, 100, and the front panel 10a may lack (or it may include) the closure feature 140 of the previous embodiment.

[00044] The first side top flap 300 includes a first break line 306 extending substantially vertically from the laterally extending outer edge of the first side top flap 300, and a third oblique fold line 308 extending obliquely from the first break

line 306 to an intersection point of the fold lines 12, 16. The break line 306 and the third oblique fold line 308 divide the first side top flap 300 into a first side top flap section 302 and a second side top flap section 304. The second side top flap 310 includes a second break line 316 extending substantially vertically from the laterally extending outer edge of the second side top flap 310, and a fourth oblique fold line 318 extending obliquely from the second break line 316 to an intersection point of the fold lines 14, 16. The break line 316 and the fourth oblique fold line 318 divide the second side top flap 300 into a third side top flap section 312 and a fourth side top flap section 314. The first side top flap 300 includes adhesive regions 88 in the first side top flap section 302 for releasably adhesively attaching the first and third side top flap sections 302, 312 together.

[00045] FIG. 9 shows the carton 400 erected, in a closed configuration, from the blank 202. The carton 400 is similar to the carton 200 of the previous embodiment, with the exception of the top panel 350, and optionally the front panel 10a. As shown in FIG. 8, the first and second side top flaps 300, 310 are folded along the fold line 16 such that the second side top flap 310 partially overlaps the first side top flap 300 and the first and second side top flaps 300, 310 lie over the front top end panel 60 and the rear top end flap 120. The first and third side top flap sections 302, 312 of the first and second side top flaps 300, 310, respectively, may be releasably secured together by adhesive material at the adhesive regions 88, and the second and fourth side top flap sections 304, 314 may be more permanently secured together (such as by a more permanent adhesive attachment) such that the first and second side top flaps 300, 310 form the top panel 350 extending between the first and second side panels 20, 30 and the front and rear panels 10, 170. The top panel 350 extends substantially perpendicularly to the front panel 10, the rear panel 170, and the first and second side panels 20, 30. The first and third side top flap sections 302, 312 are positioned adjacent to each other in the top panel 350 to form a partially detachable portion of the top panel 350.

[00046] FIG. 10 shows the carton 400 in an open configuration for pouring contents therefrom. In the open configuration, the first and third side top flap sections 302, 312 are separated from the second and fourth top panel sections 304, 314, respectively, along the respective break lines 306, 316 and are folded outwardly along the fold line 16 so as to extend transversely to the second and fourth side top flap sections 304, 314, which form a remainder of the top panel 350. The center section 62 of the front top end panel 60 is folded outwardly along the fold lines 16, 63, 65, and the first and second side sections 64, 66 of the front top end panel 60 are folded outwardly along the fold lines 63, 65, 12, 14, such that the front top end panel 60 extends transversely between the first and third side top flap sections 302, 312. The center section 62 extends outwardly and upwardly from the front panel 10a, and the first and second side sections 64, 66 extend rearwardly and outwardly from the center section 62 to the first and third side top flap sections 302, 312, respectively. The first and third side top flap sections 302, 312 and the front top end panel 60 thereby form a spout 370 having an opening 372 at the top of the carton 400. The first and third side top flap sections 302, 312 form first and second side walls of the spout 370, and the front top end panel 60 forms a front spout lip 374. The second and fourth side top flap sections 304, 314 are adhesively secured such that they are not opened with the spout 370. Contents within the carton 400 can be poured out of the spout 370 through the opening 372. The lip 374 is configured to direct the flow of contents as they are poured out of the spout 370.

[00047] FIG. 11 shows the carton 400 in an example of a reclosed configuration, upon the carton being reclosed from the open configuration of FIG. 10. The first and third side top flap sections 302, 312 are folded inwardly along the fold line 16 such that the third side top flap section 312 partially overlaps the first side top flap section 302, the center section 62 of the spout 370 is folded rearwardly about the fold line 16, and the first and second side sections 64, 66 of the spout 370 are folded inwardly and forwardly over the center section 62 along the respective oblique fold lines 63, 65. Thus, the lip 374 of the spout 370 extends rearwardly, substantially parallel to the top panel 350, and lies below the first and

third side top flap sections 302, 312. The top panel 350 and the spout 370 are thereby secured in a closed configuration. Other reclosed configurations, generally such as the one discussed for the prior embodiment, may be used.

[00048] FIG. 12 shows a carton blank 502 according to yet another embodiment, from which a carton 600 (FIG. 13) may be erected. The blank 502 includes the front panel 10a from the embodiment of FIGS. 8-11, and the first side panel 20, the second side panel 30, the rear closure flap 40, the rear flap 50, and the first bottom flap 90 of the two previous embodiments.

[00049] A first side top flap 540 and the first bottom flap 90 are foldably connected to the first side panel 20 along the fold lines 16, 18, respectively. A front top end flap 560 and a front bottom end flap 570 are foldably connected to the front panel 10a along the fold lines 16, 18, respectively. A second side top flap 550 and a second bottom flap 510 are foldably connected to the second side panel 30 along the fold lines 16, 18, respectively. A rear top end flap 520 and a rear bottom end flap 530 are foldably connected to the rear flap 50 along the fold lines 16, 18, respectively.

[00050] The first side top flap 540 includes a first break line 546 extending substantially vertically from the laterally extending outer edge of the first side top flap 540, and a third arcuate fold line 547 extending from the first break line 546. The first break line 546 and the third arcuate fold line 547 divide the first side top flap 540 into a first side top flap section 542 and a second side top flap section 544. The second side top flap 550 includes a second break line 556 extending substantially vertically from the laterally extending outer edge of the second side top flap 550, and a fourth arcuate fold line 557 extending from the second break line 556. The second break line 556 and the fourth arcuate fold line 557 divide the second side top flap 550 into a third side top flap section 552 and a fourth side top flap section 554. The second side top flap 550 includes adhesive regions 88 in the third side top flap section 552 for releasably adhesively attaching the first and third side top flap sections 542, 552 of the first and second side top flaps 540, 550, respectively, together in overlapping fashion.

[00051] Still referring to FIG. 12, the rear top end flap 520 includes an adhesive region 522 for securing the first side top flap 540 to the rear top end flap 520. Because the second side top flap 550 is configured lie over the rear top end flap 520 and the first side top flap 540 is configured to overlap the second side top flap 550 in the erected carton 600, the second side top flap 550 includes a corner cutout section 553 configured to allow the adhesive region 552 to contact the first side top flap 540 in the carton 600. The front bottom end flap 570 and the rear bottom end flap 530 include respective adhesive regions 572, 532 for securing the front bottom end flap 570 and the rear bottom end flap 530 to the first bottom flap 90. Because the second bottom flap 510 is configured lie over the front bottom end flap 570 and the rear bottom end flap 530, and the first bottom flap 90 is configured to overlap the second bottom flap 510 in the erected carton 600, the second bottom flap 510 includes corner cutout sections 512 configured to allow the adhesive regions 572, 532 to contact the first bottom flap 90 in the carton 600.

[00052] The front top end flap 560 includes a center section 562, a first side section 564 foldably connected to the center section 562 along a first arcuate fold line 563, and a second side section 566 foldably connected to the center section 562 along a second arcuate fold line 565. The arcuate fold lines 563, 565 extend between the fold line 16 and the laterally extending outer edge of the front top end flap 560, and converge towards each other as they extend from the fold line 16.

[00053] Referring to FIGS. 13 and 14, the blank 502 can be erected into a carton 600. In FIGS. 13 and 14, the carton 600 is in a closed configuration. Referring to FIG. 13, the carton 600 includes the front panel 10a, side panels 20, 30 and a rear panel 170 (not shown in this embodiment) of the previous embodiment of FIGS. 8-11. The front top end flap 560 is folded inwardly along the fold line 16, and the first and second side sections 564, 566 of the front top end flap 560 are folded inwardly along the respective oblique fold lines 563, 565 such that the front top end flap 560 is folded towards the interior of the carton 600 and the first and second side sections 564, 566 extend transversely to the center section 562. The rear top end flap 520 is folded inwardly along the fold line 16 towards the interior of the carton 200. The first and second side top flaps 540, 550

are folded along the fold line 16 such that the first side top flap 540 partially overlaps the second side top flap 550 and the first and second side top flaps 540, 550 lie over the front top end panel 560 and the rear top end flap 520. The first and third side top flap sections 542, 552 of the first and second side top flaps 540, 550, respectively, may be releasably secured together by adhesive material at the adhesive regions 88, and the second and fourth side top flap sections 544, 554 may be more securely attached together, such as by a more permanent adhesive. The first side top flap 540 may be secured to the rear top end flap 520 via attachment to the adhesive region 522. The first and second side top flaps 540, 550 thereby form a top panel 555 extending between the first and second side panels 20, 30 and the front and rear panels 10a, 170. The top panel 555 extends substantially perpendicularly to the front panel 10a, the rear panel 170, and the first and second side panels 20, 30.

[00054] Referring to FIG. 14, the front bottom end flap 570 and the rear bottom end flap 530 are folded inwardly along the fold line 18, and the first and second bottom flaps 90, 510 are folded inwardly along the fold line 18 over the front bottom end flap 570 and the rear bottom end flap 530 such that the first bottom flap 90 overlaps the second bottom flap 510. The first bottom flap 90 is secured to the front bottom end flap 570 and the rear bottom end flap 530 at adhesive regions 572, 532. The first and second bottom flaps 90, 510 form a bottom panel 515 extending substantially parallel to the top panel 555.

[00055] FIGS. 15 and 16 show the carton 600 in an open configuration for pouring contents therefrom. In the open configuration, the first and third side top flap sections 542, 552 are partially separated from the second and fourth top panel sections 544, 554, respectively, along the respective break lines 546, 556 and are folded outwardly along the third and fourth arcuate fold lines 547, 557, respectively, so as to extend transversely to the second and fourth side top flap sections 544, 554, which form a remainder of the top panel 555. The front top end flap 560 is folded outwardly along the fold line 16 such that the front top end panel 560 extends upwardly between the first and third side top flap sections 542, 552. The center section 562 extends upwardly substantially parallel to front panel

10a, and the first and second side sections 564, 566 extend rearwardly and substantially perpendicularly to the center section 562. The first and third side top flap sections 542, 552 and the front top end panel 560 thereby form a spout 590 having an opening 592 at the top of the carton 600. The first and third side top flap sections 542, 552 form first and second side walls of the spout 590, and the front top end panel 560 forms a front spout lip 594. The second and fourth side top flap sections 544, 554 are secured such that they do not open with the spout 590. Contents within the carton 600 can be poured out of the spout 590 through the opening 592. The lip 594 is configured to direct the flow of contents as they are poured out of the spout 590.

[00056] FIG. 17 shows the carton 600 in a reclosed configuration. In the configuration of FIG. 17, the top panel 555 is reclosed after the carton has been used in the open configuration of FIGS. 15 and 16. The first and third side top flap sections 542, 552 are folded inwardly along the fold line 16 such that the first side top flap section 542 partially overlaps the third side top flap section 552, and the lip 594 of the spout 590 is folded inwardly about the fold line 16, beneath the first and second side top flap sections 542, 552. Thus, the spout 590 and the top panel 550 are returned to a closed configuration.

[00057] FIG. 18 shows a carton blank 702 according to another embodiment, from which a carton 800 (FIG. 19) may be erected. The blank 702 includes a rear panel 710, a first side panel 20, a second side panel 30, a front closure flap 704, and a front flap 780. Horizontal fold lines 16, 18 form top and bottom edges, respectively, of the panels 710, 20, 30 and the flaps 704, 780. The first and second side panels 20, 30 are foldably connected to opposite sides of the rear panel 710 along vertical fold lines 712, 714, respectively. The front closure flap 704 is foldably connected to the first side panel 20 along a vertical fold line 22. The front flap 780 is foldably connected to the second side panel 30 along a vertical fold line 32.

[00058] A first side top flap 740 and a first bottom flap 790 are foldably connected to the first side panel 20 along the fold lines 16, 18, respectively. A

rear top end flap 760 and a rear bottom end flap 770 are foldably connected to the rear panel 710 along the fold lines 16, 18, respectively. A second side top flap 750 and a second bottom flap 110 are foldably connected to the second side panel 30 along the fold lines 16, 18, respectively. A front top end flap 720 and a front bottom end flap 730 are foldably connected to the front flap 780 along the fold lines 16, 18, respectively.

[00059] The rear panel 710 includes arcuate fold lines 713, 717 extending adjacent to the fold lines 712, 714, respectively, and defining respective gripping regions 715, 719 at the lateral edges of the rear panel 710.

[00060] The front top end flap 720 includes a center section 722, a first side section 724 foldably connected to the center section 722 along a first arcuate fold line 723, and a second side section 726 foldably connected to the center section 722 along a second arcuate fold line 725. The arcuate fold lines 723, 725 extend between the fold line 16 and the laterally extending outer edge of the front top end flap 720, and converge towards each other as they extend from the fold line 16.

[00061] Still referring to FIG. 18, the first side top flap 740 includes a first break line 746 (e.g., a cut line and/or score line) extending substantially vertically from the laterally extending outer edge of the first top flap 740, and a third arcuate fold line 747 extending from the first break line 746. The first break line 746 and the third arcuate fold line 747 divide the first top flap 740 into a first top flap section 742 and a second top flap section 744. The second top flap 750 includes a second break line 756 (e.g., a cut line and/or score line) extending substantially vertically from the laterally extending outer edge of the second top flap 750, and a fourth arcuate fold line 757 extending from the second break line 756. The second break line 756 and the fourth arcuate fold line 757 divide the second side top flap 750 into a third side top flap section 752 and a fourth side top flap section 754. The first side top flap 740 includes adhesive regions 88 in the first side top flap section 742 for releasably adhesively attaching the first and third side top flap sections, 742, 752 of the first and second side top flaps 740, 750, respectively, together in overlapping fashion. The first and third side top flap sections 742, 752

include respective V-notches 745, 755 in their laterally extending outer edges. The V-notches 745, 755 are configured to interlockingly engage each other, as will be described later.

[00062] The rear top end flap 760 includes an adhesive region 762 for securing the second side top flap 750 to the rear top end flap 760. Because the second side top flap 750 is configured overlap the first side top flap 740 and the first side top flap 740 is configured to lie over the rear top end flap 760 in the erected carton 800, and the first side top flap 740 includes a corner cutout section 746 configured to allow the adhesive region 762 to contact the second side top flap 750 in the carton 800. The rear bottom end flap 770 and the front bottom end flap 730 include respective adhesive regions 772, 732 for securing the rear bottom end flap 770 and the front bottom end flap 730 to the second bottom flap 110. Because the first bottom flap 790 is configured lie over the front bottom end flap 730 and the rear bottom end flap 770, and the second bottom flap 110 is configured to overlap the first bottom flap 790 in the erected carton 800, the first bottom flap 790 includes corner cutout sections 795 configured to allow the adhesive regions 732, 772 to contact the second bottom flap 110 in the carton 800.

[00063] Referring to FIGS. 19 and 20, the blank 702 can be erected into the carton 800. In FIGS. 19 and 20, the carton 800 is in a closed configuration. Referring to FIG. 19, the side panels 20, 30 are folded inwardly along the fold lines 712, 714, respectively, such that the first and second side panels 20, 30 extend substantially parallel to each other and perpendicularly to the rear panel 710. The front closure flap 704 is folded inwardly along the fold line 22 so as to extend substantially parallel to the rear panel 710. The front flap 780 is folded inwardly along the fold line 32 so as to overlap the front closure flap 704 and extend substantially parallel to the rear panel 710. The front flap 780 and the rear closure flap 704 together form a front panel 785 of the carton 800, extending substantially parallel to the rear panel 710. The front closure flap 704 may be adhesively or otherwise attached to the inner side of the front panel 780. The rear panel 710 is creased along the fold lines 713, 717 such that the gripping regions

715, 719 extend transversely to the remainder of the rear panel 710, thereby facilitating gripping of the rear panel 710 by a person's hand.

[00064] Still referring to FIG. 19, the front top end flap 720 is folded inwardly along the fold line 16 towards the interior of the carton, and the first and second side sections 724, 726 of the front top end flap 720 are folded inwardly along the respective oblique fold lines 723, 725 such that the front top end flap 720 is folded towards the interior of the carton 800 and the first and second side sections 724, 726 extend transversely to the center section 722. The rear top end flap 760 is folded inwardly along the fold line 16 towards the interior of the carton 800. The first and second top flaps 740, 750 are folded along the fold line 16 such that the second side top flap 750 partially overlaps the first side top flap 740 and the first and second side top flaps 740, 750 lie over the front top end flap 720 and the rear top end flap 760. The first and third side top flap sections 742, 752 of the first and second side top flaps 740, 750, respectively, may be releasably secured together by adhesive material at the adhesive regions 88, and the second and fourth side top flap sections 744, 754 may be more permanently secured together, such as by a more permanent adhesive material. The second side top flap 750 may be secured to the rear top end flap 760 at the adhesive region 762. Thus, the first and second side top flaps 740, 750 form a top panel 758 extending between the first and second side panels 20, 30 and the front and rear panels 785, 710. The top panel 758 extends substantially perpendicularly to the front panel 785, the rear panel 710, and the first and second side panels 20, 30. The first and third side top flap sections 742, 752 are positioned adjacent to each other in the top panel 758 to form a partially detachable portion of the top panel 758.

[00065] Referring to FIG. 20, the rear bottom end flap 770 and the front bottom end flap 730 are folded inwardly along the fold line 18, and the first and second bottom flaps 790, 110 are folded inwardly along the fold line 18 over the rear bottom end flap 770 and the front bottom end flap 730 such that the second bottom flap 110 overlaps the first bottom flap 790. The second bottom flap 110 is secured to the rear bottom end flap 770 and the front bottom end flap 730 at

adhesive regions 772, 732. The first and second bottom flaps 790, 110 form a bottom panel 796 extending substantially parallel to the top panel 758.

[00066] FIGS. 21 and 22 show the carton 800 in an open configuration for pouring contents out of the carton. In the open configuration, the first and third side top flap sections 742, 752 are partially separated from the second and fourth side top flap sections 744, 754, respectively, along the respective break lines 746, 756 and are folded outwardly along the third and fourth arcuate fold lines 747, 757, respectively, so as to extend transversely to the second and fourth side top flap sections 744, 754, which form a remainder of the top panel 758. The front top end flap 720 is folded outwardly along the fold line 16 such that the front top end panel 720 extends upwardly between the first and third side top flap sections 742, 752. The center section 722 extends upwardly substantially parallel to front panel 780, and the first and second side sections 724, 726 extend rearwardly and substantially perpendicularly to the center section 722. The first and third side top flap sections 742, 752 and the front top end panel 720 thereby form a spout 797 having an opening 798 at the top of the carton 800. The first and third side top flap sections 742, 752 form first and second side walls of the spout 797, and the front top end panel 720 forms a front spout lip 799. The second and fourth side top flap sections 744, 754 are secured such that they do not open with the spout 797. Contents within the carton 800 can be poured out of the spout 797 through the opening 798. The lip 799 is configured to direct the flow of contents as they are poured out of the spout 797.

[00067] FIG. 23 shows the carton 800 in a reclosed configuration, wherein the carton is reclosed after being used in the open configuration shown in FIGS. 21 and 22. In the reclosed configuration, the first and third side top flap sections 742, 752 are folded inwardly along the fold line 16 such that the first side top flap section 742 partially overlaps the third side top flap section 752, and the front spout lip 799 is folded inwardly about the fold line 16, beneath the first and third side top flap sections 742, 752. The V-notches 745, 755 are interlocked with each other to secure the first and third side top flap sections 742, 752 together. Thus, the spout 797 and the top panel 758 are returned to a closed configuration.

[00068] FIG. 24 illustrates a carton blank 902, according to another embodiment, that can be erected into a carton 1000 (FIG. 25). The blank 902 is similar to the blank 702, except that the blank 902 includes first and second side top flaps 840, 850 in place of the previous first and second side top flaps 740, 750, a front top end flap 820 in place of the previous front top end flap 720, and a second bottom flap 810 in place of the previous second bottom flap 110. The second bottom flap 810 is similar to the previous bottom flap 710, but includes a notch 812 in its laterally extending outer edge to facilitate gripping of the second bottom flap 810.

[00069] The front top end flap 820 includes a center section 822, a first side section 824 foldably connected to the center section 822 along a first arcuate fold line 823, a second side section 826 foldably connected to the center section 822 along a second arcuate fold line 825, and a bottom section 828 positioned below the center section 822 and the first and second sections 824, 826, and connected thereto along a concave fold line 827. The arcuate fold lines 823, 825 extend from the concave fold line 827 towards the laterally extending outer edge of the front top end flap 820, and converge towards each other as they extend from the concave fold line 827.

[00070] Still referring to FIG. 24, the first side top flap 840 includes a first break line 846 (e.g., a cut line and/or score line) extending substantially vertically from the laterally extending outer edge of the first side top flap 840, and a third arcuate fold line 847 extending from the first break line 846. The first break line 846 and the third arcuate fold line 847 divide the first side top flap 840 into a first top flap section 842 and a second top flap section 844. The second top flap 850 includes a second break line 856 (e.g., a cut line and/or score line) extending substantially vertically from the laterally extending outer edge of the second top flap 850, and a fourth arcuate fold line 857 extending from the second break line 856. The second break line 856 and the fourth arcuate fold line 857 divide the second top flap 850 into a third top flap section 852 and a fourth top flap section 854. The second side top flap 850 includes adhesive regions 88 in the third side top flap section 852 for releasably adhesively attaching the first and third side top

flap sections 842, 852 together in overlapping fashion. The first and third side top flap sections 842, 852 include respective notches 845, 855 in their laterally extending outer edges. The notches 845, 855 are configured facilitate opening of the first and third flap sections 845, 855 as will be described later. Because the first side top flap 840 is configured to overlap the second side top flap 850 and the second side top flap 850 is configured to lie over the rear top end flap 760 in the erected carton 1000, the second side top flap 850 includes a corner cutout section 859 that allows the first side top flap 840 to be attached to the adhesive region 762.

[00071] FIGS. 25 and 26 show the carton 1000 erected, in a closed configuration, from the blank 902. The carton 1000 is similar to the previous carton 800, except that the carton 1000 includes a top panel 858 (FIG. 25) and a bottom panel 896 (FIG. 26). Referring to FIG. 25, the front top end flap 820 is folded inwardly along the fold line 16 towards the interior of the carton 1000, and the first and second side sections 824, 826 of the front top end flap 820 are folded inwardly along the respective oblique fold lines 823, 825 such that that the front top end flap 820 is folded towards the interior of the carton 1000 and the first and second side sections 824, 826 extend transversely to the center section 822 and the bottom section 828. The rear top end flap 760 is folded inwardly along the fold line 16 towards the interior of the carton 1000. The first and second side top flaps 840, 850 are folded along the fold line 16 such that the first side top flap 840 partially overlaps the second side top flap 850 and the first and second side top flaps 840, 850 lie over the front top end flap 820 and the rear top end flap 760. The first and third side top flap sections 842, 852 of first and second side top flaps 840, 850, respectively, may be releasably secured together by adhesive material at the adhesive regions 88, and the second and fourth side top flap sections 844, 854 may be more permanently secured together, such as by a more permanent adhesive material. The first side top flap 840 may be secured to the rear top end flap 760 at the adhesive region 762. Thus, the first and second side top flaps 840, 850 form a top panel 858 extending between the first and second side panels 20, 30 and the front and rear panels 785, 710. The top panel 858 extends substantially

perpendicularly to the front panel 785, the rear panel 710, and the first and second side panels 20, 30. The first and third side top flap sections 842, 852 are positioned adjacent to each other in the top panel 858 to form a partially detachable portion of the top panel 858. The notch 845 in the first side top flap section 842 is exposed in the top panel 858, allowing the first side top flap section 842 to be easily gripped by a person's hand.

[00072] Referring to FIG. 26, the rear bottom end flap 770 and the front bottom end flap 730 are folded inwardly along the fold line 18, and the first and second bottom flaps 790, 810 are folded inwardly along the fold line 18 over the rear bottom end flap 770 and the front bottom end flap 730 such that the second bottom flap 810 overlaps the first bottom flap 790, and the notch 812 is exposed. The second bottom flap 810 is secured to the rear bottom end flap 770 and the front bottom end flap 730 at adhesive regions 772, 732. The first and second bottom flaps 790, 810 form a bottom panel 896 extending substantially parallel to the top panel 858.

[00073] FIG. 28 shows the carton 1000 in an open configuration for pouring contents out of the carton. In the open configuration, the first and third side top flap sections 842, 852 are partially separated from the second and fourth top panel sections 844, 854, respectively, along the respective break lines 846, 856 and are folded outwardly along the third and fourth arcuate fold lines 847, 857, respectively, so as to extend transversely to the second and fourth side top flap sections 844, 854, which form a remainder of the top panel 858. The center section 822, the first side section 824 and the second side section 826 of the front top end flap 820 are folded upwardly along the concave fold line 827 such that the bottom section 828 of the front top end panel 720 extends substantially horizontally (perpendicularly to the front panel 780), and the center section 822, the first side section 824 and the second side section 826 extend upwardly from the bottom section 828 between the first and third side top flap sections 842, 852. The first and second side sections 824, 826 extend rearwardly and transversely to the center section 822. The first and third side top flap sections 842, 852 and the front top end panel 820 thereby form a spout 897 having an opening 898 at the top

of the carton 1000. The first and third side top flap sections 842, 852 form first and second side walls of the spout 897, and the front top end panel 820 forms a front spout lip 899. The second and fourth side top flap sections 844, 854 are secured such that they do not open with the spout 897. Contents within the carton 1000 can be poured out of the spout 797 through the opening 898. The lip 899 is configured to direct the flow of contents as they are poured out of the spout 897.

[00074] FIG. 29 shows the carton 1000 in a reclosed configuration, wherein the carton 1000 is reclosed after being used in the open configuration shown in FIG. 28. In the reclosed configuration, the first and third side top flap sections 842, 852 are folded inwardly along the fold line 16 such that the first side top flap section 842 partially overlaps the third side top flap section 852, and the center segment and the first and second side segments 824, 826 of the front spout lip 899 are folded downwardly about the concave fold line 827, beneath the first and third side top flap sections 842, 852. The notches 845, 855 may be interlocked with each other to secure the first and third top flap sections 842, 852 together. Thus, the spout 897 and the top panel 858 are returned to a closed configuration.

[00075] In some embodiments described and shown herein, the second side top flap partially overlaps the first side top flap when the carton is in the closed configuration, such that the third and fourth side top flap sections partially overlap the first and second side top flap sections. In other embodiments, the first side top flap partially overlaps the second side top flap when the carton is in the closed configuration, such that the first and second side top flap sections partially overlap the third and fourth side top flap sections. It should be appreciated, however, that in any of the embodiments, it is possible to reverse the overlapping arrangement of the first and second side top flaps, and thus the overlapping arrangement of the side top flap sections.

[00076] In some instances in the foregoing, attaching parts together is described with reference to specific features and methods. However, the attaching may be carried out in any suitable manner, such as, but not limited to, through the use of adhesive material.

[00077] The term “break line” is used throughout the specification. A break line may be any suitable line of disruption, such as a tear line and/or a cut line (e.g., a slit). The term “fold line” is used throughout the following description. It is noted that, unless stated otherwise, the term “fold line” can include any at least somewhat line-like arranged, although not necessarily straight, form of weakening that facilitates folding therealong; and a tear line can be any at least somewhat line-like arranged, although not necessarily straight, form of weakening that facilitates tearing therealong. More specifically, but not for the purpose of narrowing the scope of the present invention, conventional fold lines include: a crease, such as formed by folding; a score line, such as formed with a blunt scoring knife, or the like, which creates a crushed portion in the material along the desired line of weakness; 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. The term “tear line” is also used throughout the specification. More specifically, but not for the purpose of narrowing the scope of the present invention, conventional tear lines include a slit that extends partially into the material along the desired line of weakness, a series of spaced apart slits that extend partially into and/or completely through the material along the desired line of weakness, or any combination of these features.

[00078] The foregoing disclosure provides illustrative embodiments of the invention and is not intended to be limiting. As understood by those of skill in the art, the overall invention encompasses other embodiments not specifically enumerated herein. For example, although the cartons shown in the form of a parallelepipedal box, they can alternatively be shaped differently, and likewise the various detachable sections, panel sections, panels and flaps described herein can be shaped and arranged differently.

CLAIMS

What is claimed is:

1. A carton comprising:
 - a front panel;
 - a rear panel;
 - a first side panel;
 - a second side panel opposite the first side panel;
 - a bottom panel;
 - a top panel comprising a first side top flap and a second side top flap; and
 - a front top end panel foldably connected to the front panel, the first side top flap and the second side top flap;wherein, when the carton is in a closed configuration
 - the front top end panel extends inwardly from the front panel towards an interior of the carton,
 - the second side top flap partially overlaps the first side top flap or the first side top flap partially overlaps the second side top flap, and
 - the first side top side flap and the second side top side flap lie over the front top end panel; andwherein the carton is configured to be placed in an open configuration in which a spout is formed in a top of the carton and defines an opening for pouring contents from the carton; and
 - wherein, when the carton is in the open configuration, the front top end panel is folded outwardly away from the interior of the carton and forms a front lip of the spout, and portions of the first and second top side flaps form side walls of the spout.

2. The carton of claim 1, wherein the front top end panel comprises a center section foldably connected to the front panel, a first side section foldably connected to center section and the first side top flap, and a second side section foldably connected to the center section and the second side top flap.

3. The carton of claim 2, wherein, when the carton is in the closed configuration, the first side section and the second side section are folded over the center section.

4. The carton of claim 3, wherein the center section, the first side section and the second side section are triangular sections.

5. The carton of claim 1, wherein:

the first side top flap comprises a first flap section, a second flap section and a first break line between the first flap section and the second flap section, the first flap section being foldably connected to the front top end panel; and

the second side top side flap comprises third flap section, a fourth flap section and a second break line between the third flap section and the fourth flap section, the third flap section being foldably connected to the front top end panel;

wherein, when the carton is in the closed configuration

the first flap section and the second flap section are detachably connected to each other along the first break line,

the third flap section and the fourth flap sections are detachably connected to each other along the second break line, and

the second and fourth flap sections are attached to each other.

6. The carton of claim 5, wherein:

the first flap section and the second flap section are foldably connected to each other along a first fold line extending from the first break line; and

the third flap section and the fourth flap section are foldably connected to each other along a second fold line extending from the second break line.

7. The carton of claim 6, wherein the first and second fold lines are oblique fold lines.
8. The carton of claim 6, wherein, when the carton is in the open configuration:
the first flap section and the second flap section are detached from each other along the first break line,
the third flap section and the fourth flap section are detached from each other along the second break line,
the second flap section and the fourth flap section are attached to each other, and
the first flap section and the third flap section are folded along the first fold line and the second fold line, respectively, and extend transversely to the second flap section and the fourth flap section, thereby forming the side walls of the spout.
9. The carton of claim 5, wherein, when the carton is in the open configuration:
the first flap section and the second flap section are detached from each other along the first break line;
the third flap section and the fourth flap section are detached from each other along the second break line;
the second flap section and the fourth flap section are attached to each other;
and
the first flap section and the third flap section extend transversely to the second flap section and the fourth flap section, thereby forming the side walls of the spout.
10. The carton of claim 1, wherein the front panel comprises a female locking member configured to receive and retain a tip of the spout lip for reclosing the carton after the carton has been placed in the open configuration.

11. The carton of claim 1, wherein:
the carton is configured to be placed in a reclosed configuration after being placed in the open configuration; and
when the carton is in the reclosed configuration, the first side top flap and the second side top flap are folded in an overlapping relationship, the front lip of the spout extends downwardly, substantially parallel to the front panel, and a tip of the front lip is received in a female locking member in the front panel.
12. The carton of claim 1, wherein:
the carton is configured to be placed in a reclosed configuration after being placed in the open configuration; and
when the carton is in the reclosed configuration, the first side top flap and the second side top flap are folded in an overlapping relationship, and the front lip of the spout extends substantially parallel to and lies below the first side top flap and the second side top flap.
13. A carton comprising:
a front panel;
a rear panel;
a first side panel;
a second side panel opposite the first side panel;
a bottom panel;
a top panel comprising
a first side top flap comprising a first flap section, a second flap section, and a first break line between the first flap section and the second flap section; and
a second side top flap comprising a third flap section, a fourth flap section, and a second break line between the third flap section and the fourth flap section; and
a front top end flap or front top end panel foldably connected to the front panel;

wherein, when the carton is in a closed configuration

the front top end flap or front top end panel extends inwardly from the front panel towards an interior of the carton beneath the first side top flap and the second side top flap, and

the second side top flap partially overlaps the first side top flap, or the first side top flap partially overlaps the second side top flap;

wherein the carton is configured to be placed in an open configuration in which a spout is formed in a top of the carton and defines an opening for pouring contents from the carton; and

wherein, when the carton is in the open configuration

the front top end flap or front top end panel is folded outwardly away from the interior of the carton and forms a front lip of the spout, the first flap section and the second flap section are detached from each other along the first break line,

the third flap section and the fourth flap section are detached from each other along the second break line, and

the first flap section and the third flap section extend transversely to the second flap section and the fourth flap section, thereby forming side walls of the spout.

14. The carton of claim 13, wherein the second flap section and the fourth flap section are attached to each other when the carton is in the closed configuration and when the carton is in the open configuration.

15. The carton of claim 13, wherein the front top end flap or front top end panel comprises a center section, a first side section foldably connected the center section, and a second side section foldably connected to the center section.

16. The carton of claim 13, wherein:
 - the first flap section and the second flap section are foldably connected to each other along a first fold line extending from the first break line; and
 - the third flap section and the fourth flap section are foldably connected to each other along a second fold line extending from the second break line.
17. The carton of claim 16, wherein the first and second fold lines are oblique fold lines or arcuate fold lines.
18. The carton of claim 16, wherein, when the carton is in the open configuration, the first flap section and the third flap section are folded along the first fold line and the second fold line, respectively.
19. The carton of claim 1, wherein:
 - the carton is configured to be placed in a reclosed configuration after being placed in the open configuration; and
 - when the carton is in the reclosed configuration, the first flap section and the third flap section are folded in an overlapping relationship, the front lip of the spout extends inwardly from the front panel towards an interior of the carton, and the first flap section and the second flap section lie over the front lip.
20. The carton of claim 19, wherein the first flap section includes a first notch and the third flap section includes a second notch, and wherein the first notch and the second notch interlockingly engage each other when the carton is in the reclosed configuration.
21. The carton of claim 13, wherein the rear panel comprises gripping regions disposed adjacent to the first side panel and the second side panel, the gripping regions extending transversely to a remainder of the rear panel.

22. A carton blank for forming a carton, comprising:
- a front panel;
 - a rear panel;
 - a first side panel foldably connected to the front panel;
 - a second side panel foldably connected to the front panel;
 - a first side top flap foldably connected to the first side panel;
 - a second side top flap foldably connected to the second side panel;
 - a plurality of flaps configured to form a bottom panel of the carton; and
 - a front top end panel foldably connected to the front panel, the first side top flap and the second side top flap;
- wherein the blank is configured to form the carton in a closed configuration in which
- the front top end panel extends inwardly from the front panel towards an interior of the carton,
 - the second side top flap partially overlaps the first side top flap, or the first side top flap partially overlaps the second side top flap, and
 - the first side top side flap and the second side top side flap lie over the front top end panel; and
- wherein the blank is configured to form the carton in an open configuration in which
- a spout is formed in a top of the carton and defines an opening for pouring contents from the carton,
 - the front top end panel is folded outwardly away from the interior of the carton and forms a front lip of the spout, and
 - portions of the first and second top side flaps form side walls of the spout.

23. The carton blank of claim 22, wherein the front top end panel comprises a center section foldably connected to the front panel, a first side section foldably connected to center section and the first side panel, and a second side section foldably connected to the center section and the second side panel.

24. The carton blank of claim 23, wherein the first side section and the second side section are configured to be folded over the center section when the carton is in the closed configuration.

25. The carton blank of claim 24, wherein the center section, the first side section and the second side section are triangular sections.

26. The carton blank of claim 22, wherein:

the first side top flap comprises a first flap section and a second flap section detachably connected to each other along a first break line, the first flap section being foldably connected to the front top end panel; and

the second side top side flap comprises third flap section and a fourth flap section detachably connected to each other along a second break line, the third flap section being foldably connected to the front top end panel;

wherein, the blank is configured to form the carton in the closed configuration such that

the first flap section and the second flap section are detachably connected to each other along the first break line,

the third flap section and the fourth flap sections are detachably connected to each other along the second break line, and

the second and fourth flap sections are attached to each other.

27. The carton blank of claim 26, wherein:

the first flap section and the second flap section are foldably connected to each other along a first fold line extending from the first break line; and

the third flap section and the fourth flap section are foldably connected to each other along a second fold line extending from the second break line.

28. The carton blank of claim 27, wherein the first and second fold lines are oblique fold lines.

29. The carton blank of claim 27, wherein the blank is configured to form the carton in the open configuration such that:

the first flap section and the second flap section are detached from each other along the first break line,

the third flap section and the fourth flap section are detached from each other along the second break line,

the second flap section and the fourth flap section are attached to each other, and

the first flap section and the third flap section are folded along the first fold line and the second fold line, respectively, and extend transversely to the second flap section and the fourth flap section, thereby forming the side walls of the spout.

30. The carton blank of claim 26, wherein the blank is configured to form the carton in the open configuration such that:

the first flap section and the second flap section are detached from each other along the first break line;

the third flap section and the fourth flap section are detached from each other along the second break line;

the second flap section and the fourth flap section are attached to each other; and

the first flap section and the third flap section extend transversely to the second flap section and the fourth flap section, thereby forming the side walls of the spout.

31. The carton blank of claim 22, wherein the front panel comprises a female locking member configured to receive and retain a tip of the spout lip for reclosing the carton after the carton has been placed in the open configuration.

32. The carton blank of claim 22, wherein:
the blank is configured to form the carton in a reclosed configuration after the carton is placed in the open configuration; and
the front lip of the spout is configured to extend downwardly, substantially parallel to the front panel when the carton is in the reclosed configuration, with a tip of the front lip received in an opening in the front panel.
33. The carton blank of claim 22, wherein:
the blank is configured to form the carton in a reclosed configuration after the carton is placed in the open configuration;
the first side top flap and the second side top flap are configured to be folded in an overlapping relationship when the carton is in the reclosed configuration; and
the front lip of the spout is configured to extend substantially parallel to and lie below the first side top flap and the second side top flap when the carton is in the reclosed configuration.
34. A carton blank for forming a carton, comprising:
a rear panel;
a first side panel foldably connected to the rear panel;
a second side panel foldably connected to the rear panel;
a first side top flap foldably connected to the first side panel, the first side top flap comprising a first flap section, a second flap section and a first break line between the first flap section and the second flap section;
a second side top flap foldably connected to the second side panel, the second side top flap comprising a third flap section, a fourth flap section and a second break line between the third flap section and the fourth flap section;
a plurality of flaps configured to form a bottom panel of the carton;
a front flap foldably connected to the second side panel; and
a front top end flap or front top end panel foldably connected to the front flap;

wherein the blank is configured to form the carton in a closed configuration in which

the first side top flap and the second side top flap form a top panel of the carton,

the front top end flap or front top end panel extends inwardly from the front flap towards an interior of the carton beneath the first side top flap and the second side top flap,

the second side top flap partially overlaps the first side top flap, or the first side top flap partially overlaps the second side top flap; and

wherein the carton is configured to be placed in an open configuration in which

a spout is formed in a top of the carton and defines an opening for pouring contents from the carton,

the front top end flap or front top end panel is folded outwardly away from the interior of the carton and forms a front lip of the spout,

the first flap section and the second flap section are detached from each other along the first break line,

the third flap section and the fourth flap section are detached from each other along the second break line, and

the first flap section and the third flap section extend transversely to the second flap section and the fourth flap section, thereby forming side walls of the spout.

35. The carton blank of claim 34, wherein the front top end flap has a center section, a first side section foldably connected the center section, and a second side section foldably connected to the center section.

36. The carton blank of claim 34, wherein the second flap section and the fourth flap section are configured to be attached to each other when the carton is in the closed configuration and when the carton is in the open configuration.

37. The carton blank of claim 34, wherein:
the first flap section and the second flap section are foldably connected to each other along a first fold line extending from the first break line; and
the third flap section and the fourth flap section are foldably connected to each other along a second fold line extending from the second break line.
38. The carton blank of claim 37, wherein the first and second fold lines are arcuate fold lines.
39. The carton blank of claim 37, wherein the blank is configured to form the carton in the open configuration such that the first flap section and the third flap section are folded along the first fold line and the second fold line, respectively.
40. The carton blank of claim 34, wherein:
the blank is configured to form the carton in a reclosed configuration after the carton is formed in the open configuration; and
the front lip of the spout is configured to extend the inwardly from the front panel towards an interior of the carton when the carton is in the reclosed configuration; and
the first flap section and the second flap section are configured to lie over the front lip when the carton is in the reclosed configuration.
41. The carton blank of claim 40, wherein the first flap section includes a first notch and the third flap section includes a second notch, and wherein the first notch and the second notch are configured to interlockingly engage each other when the carton is in the reclosed configuration.
42. The carton blank of claim 34, wherein the rear panel comprises gripping regions disposed adjacent the first side panel and the second side panel, and wherein the gripping regions are defined by a pair of fold lines in the rear panel and are configured to be folded to extend transversely to a remainder of the rear panel.

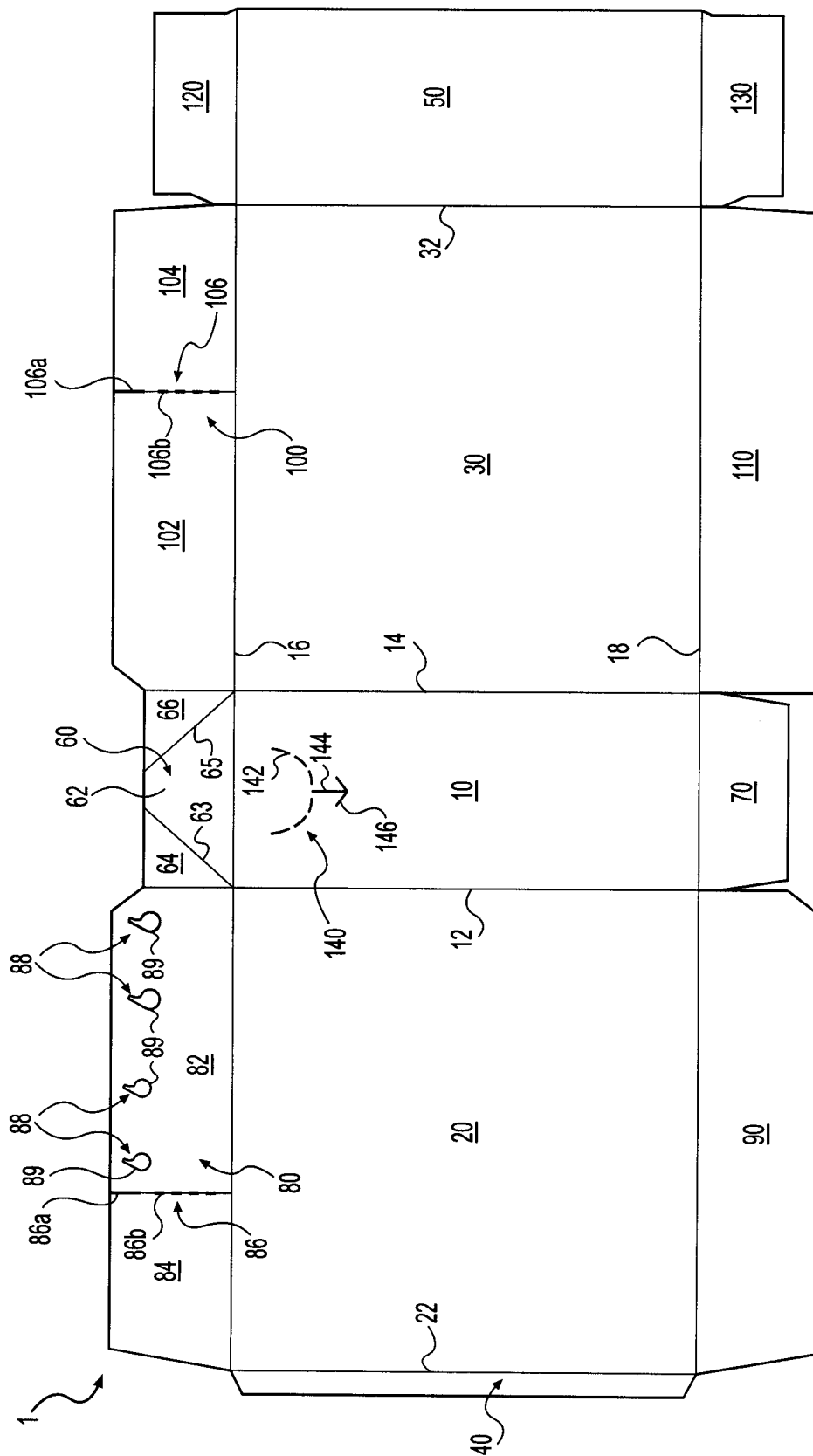
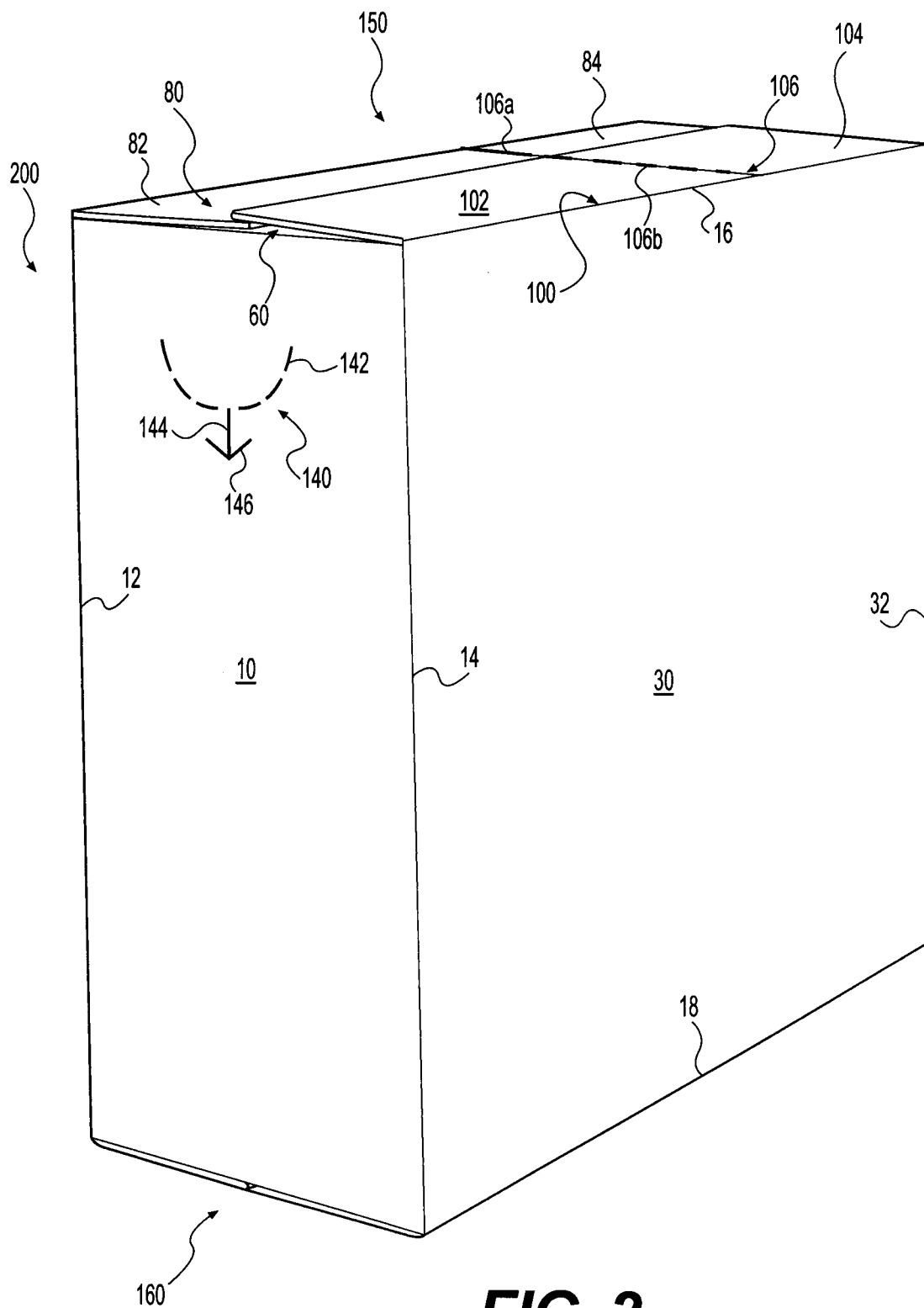
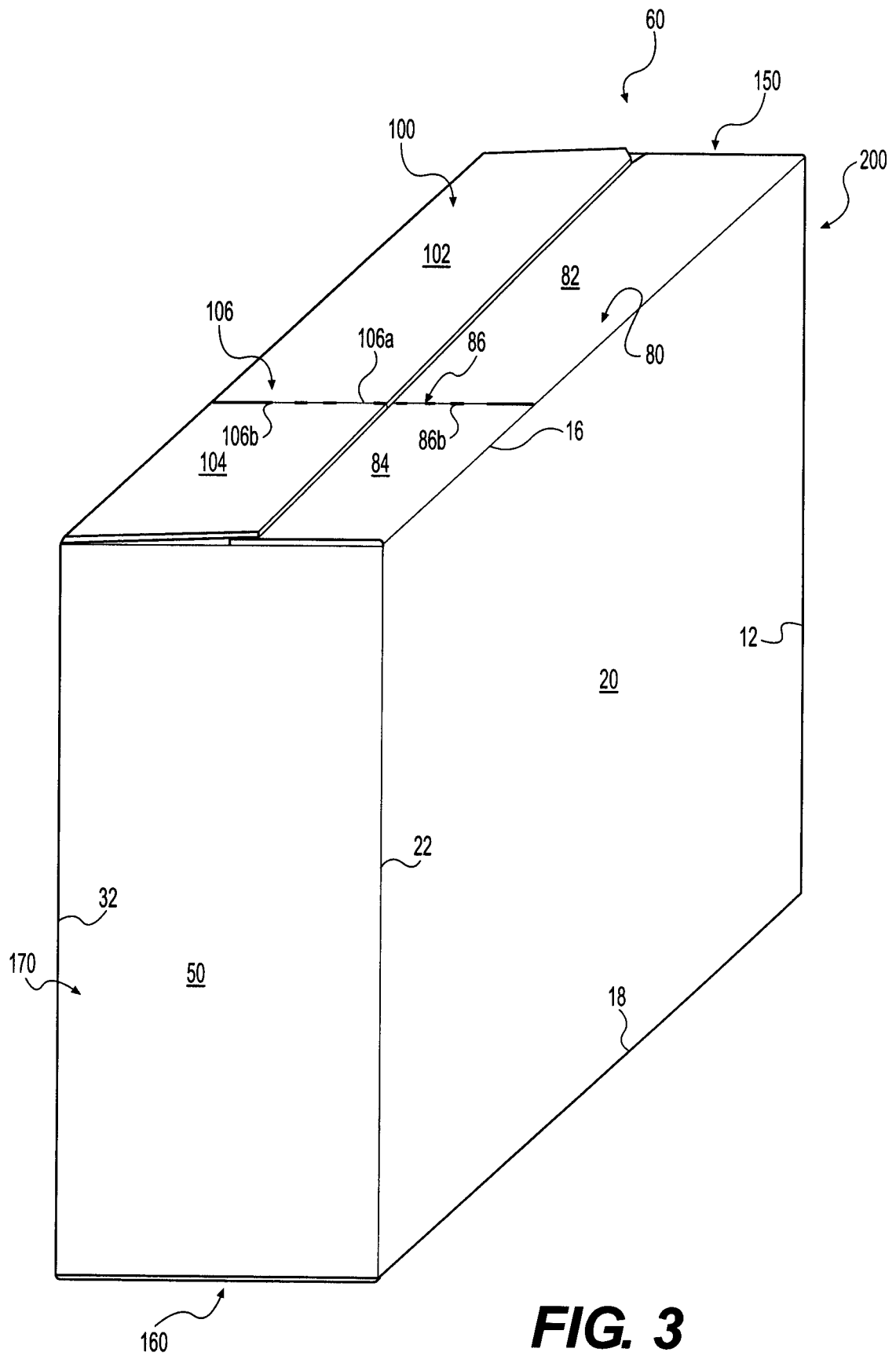


FIG. 1

**FIG. 2**

**FIG. 3**

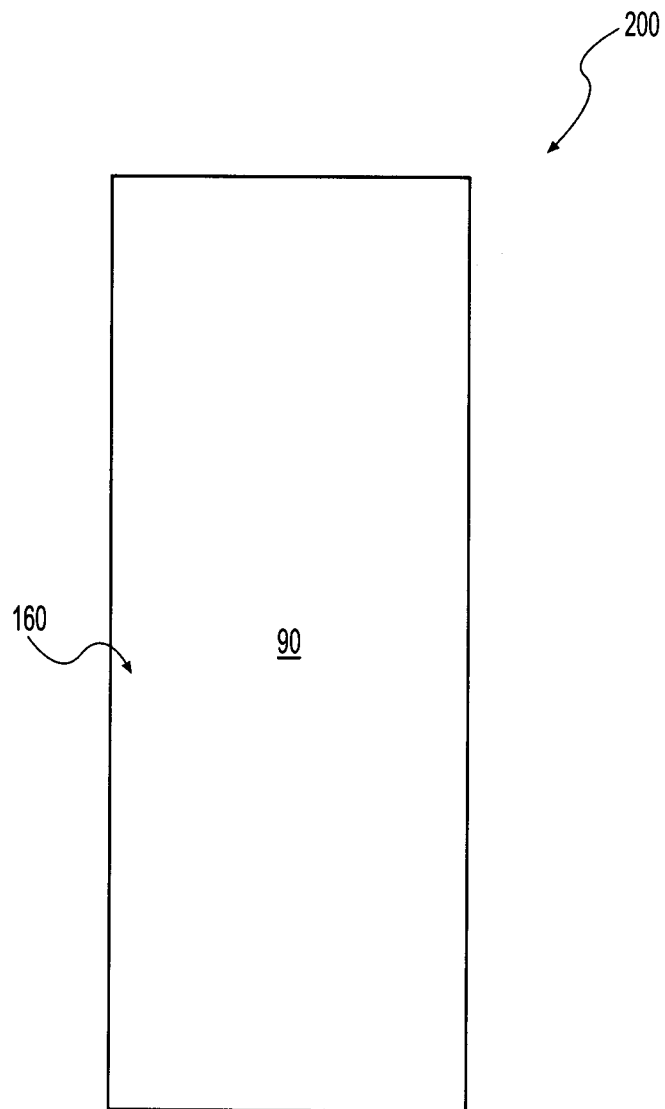


FIG. 4

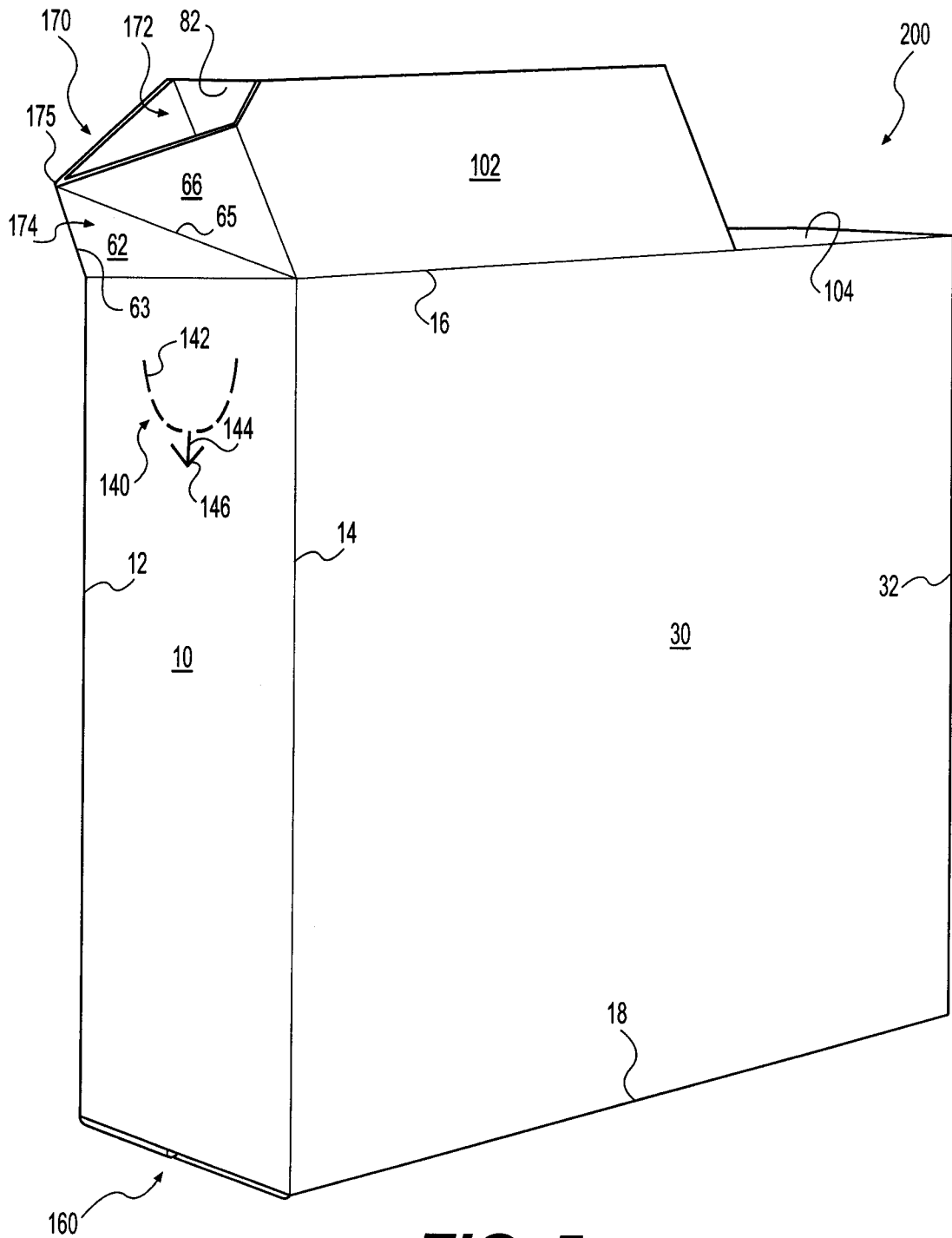


FIG. 5

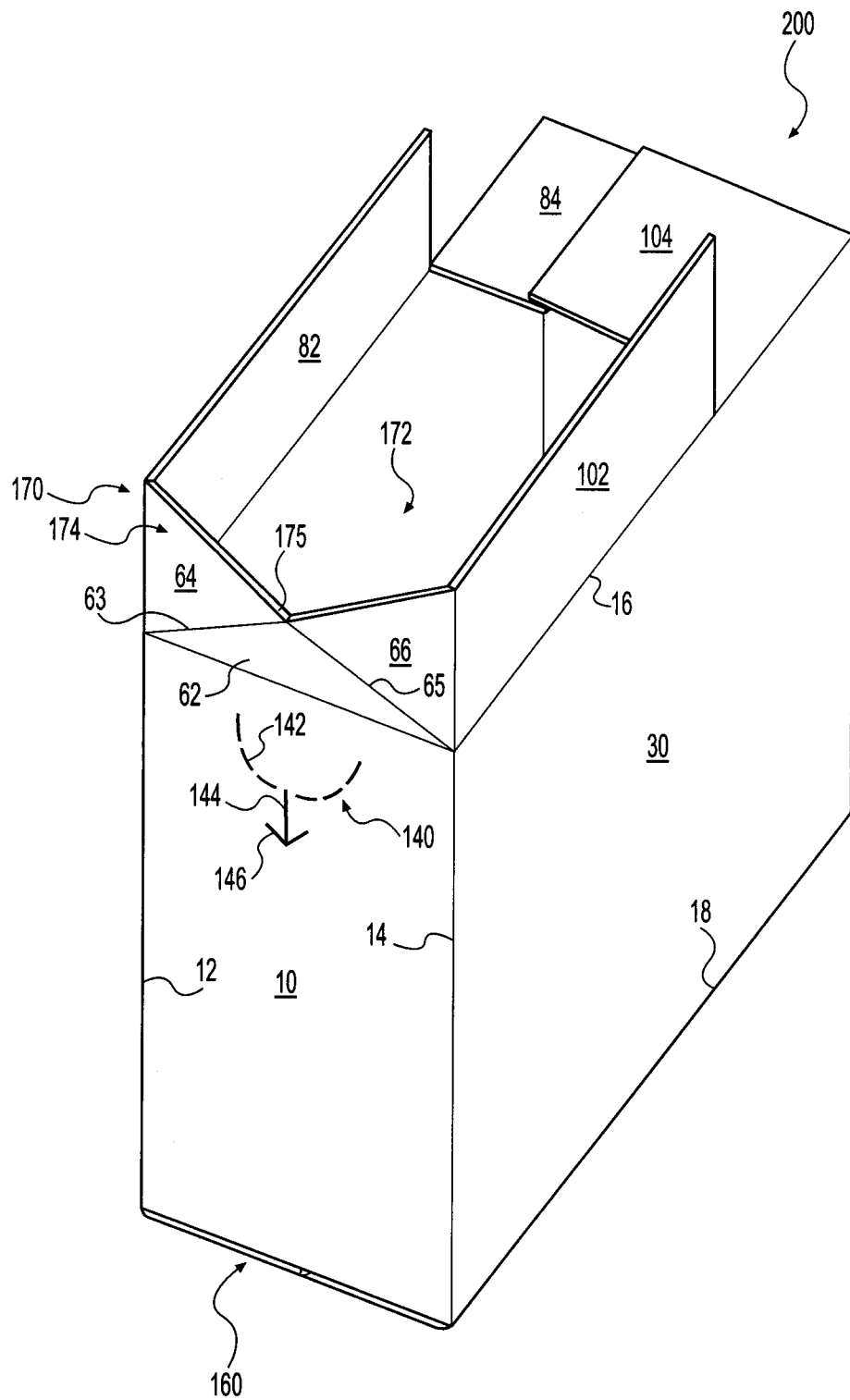


FIG. 6

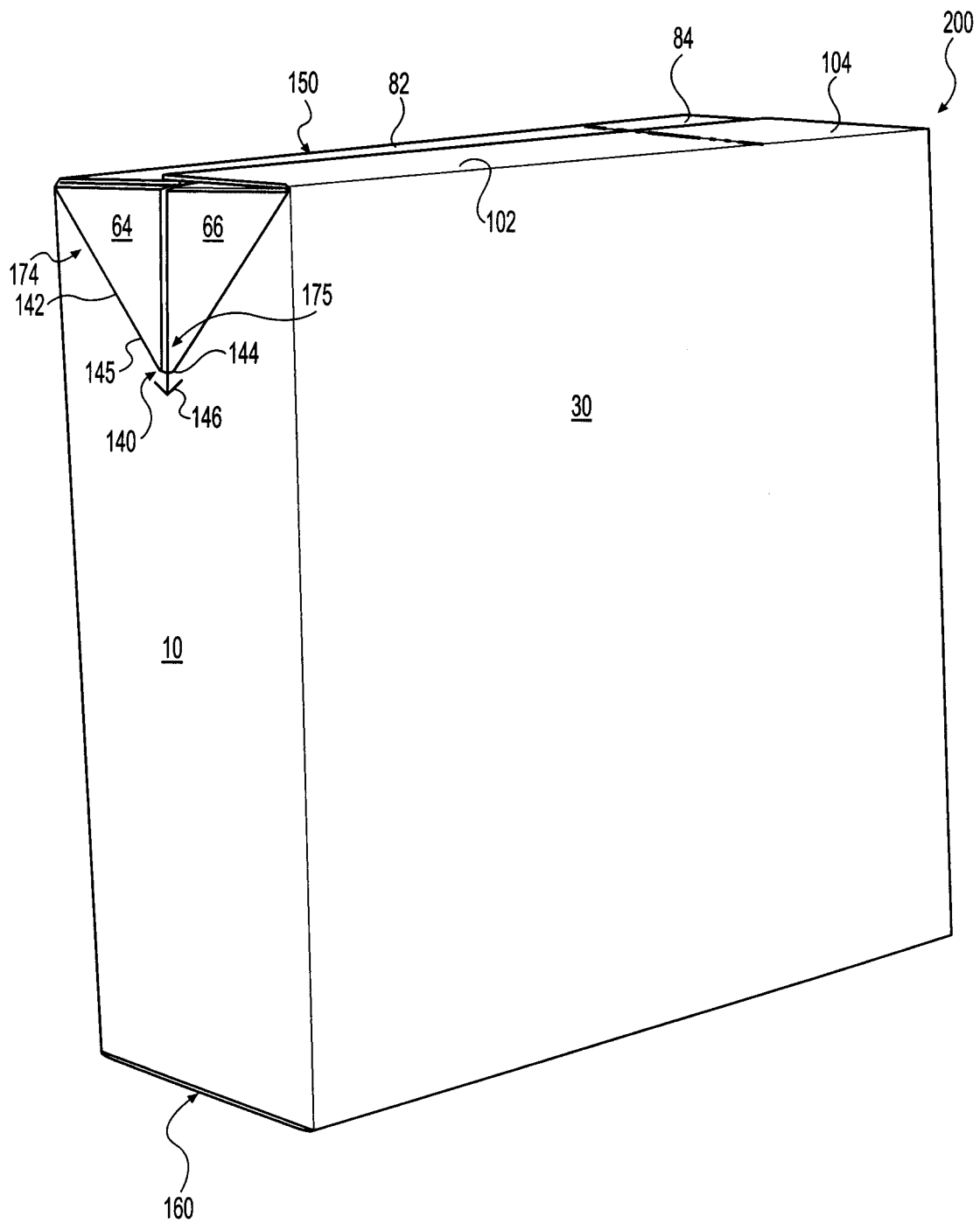


FIG. 7

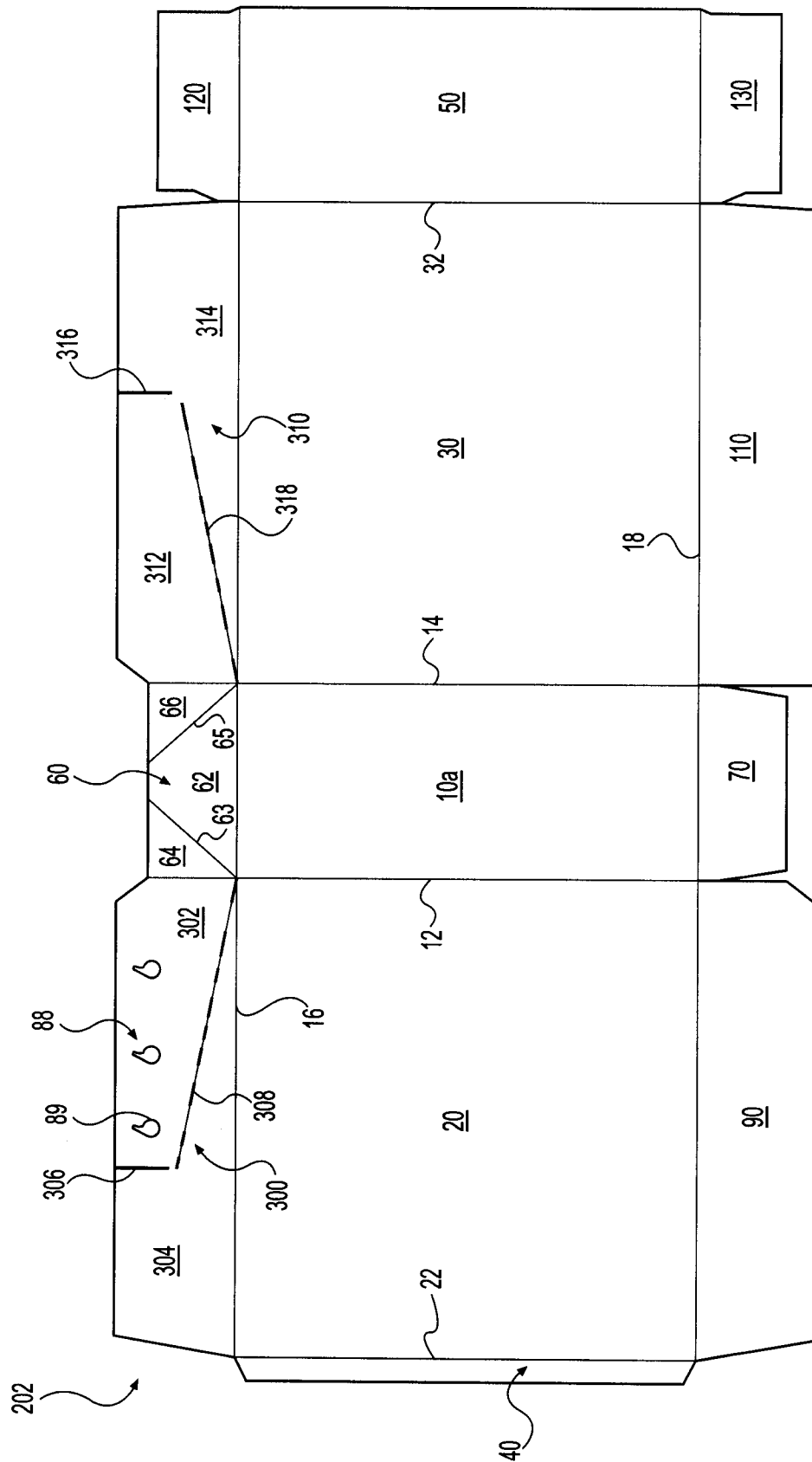


FIG. 8

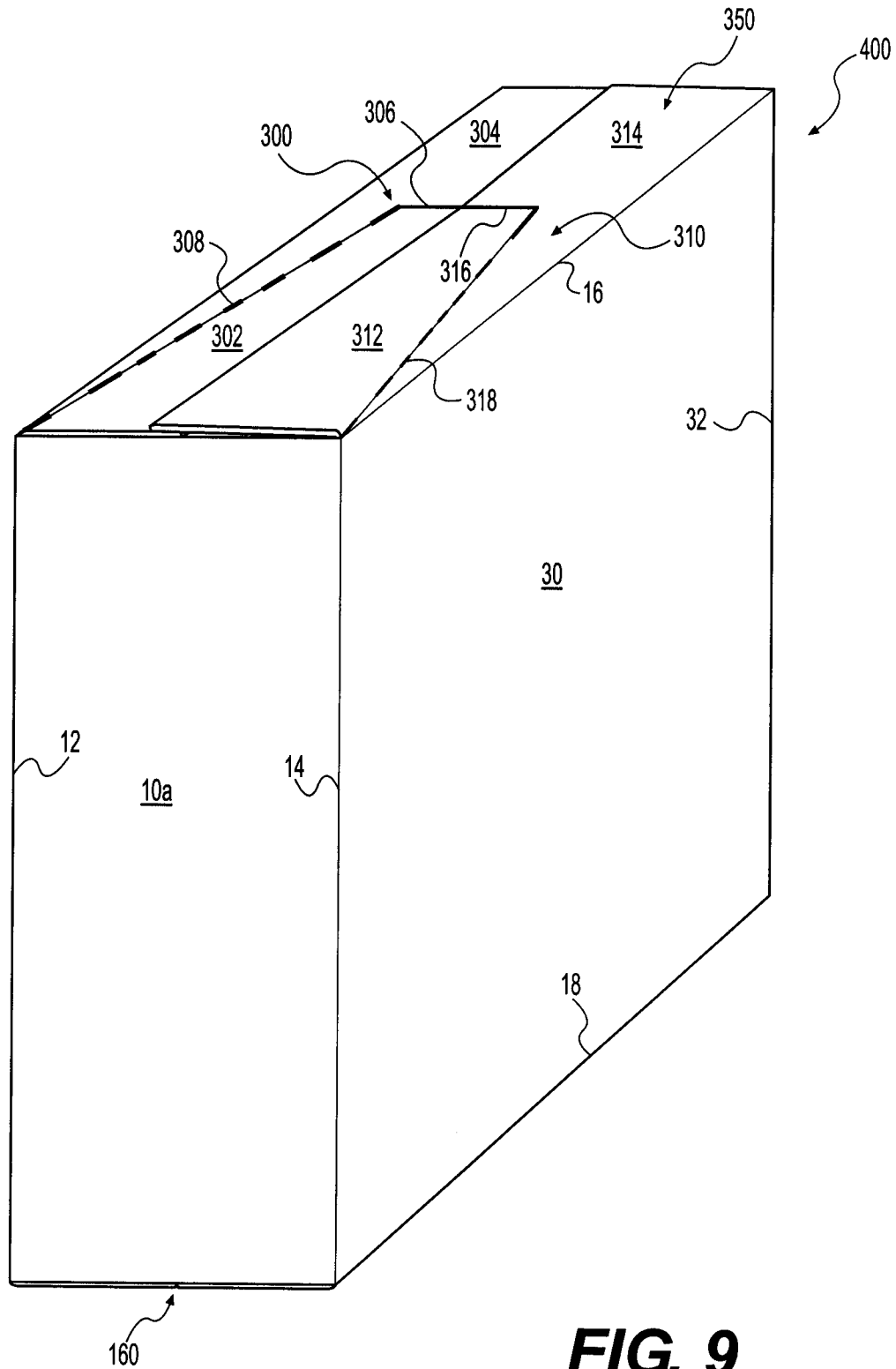


FIG. 9

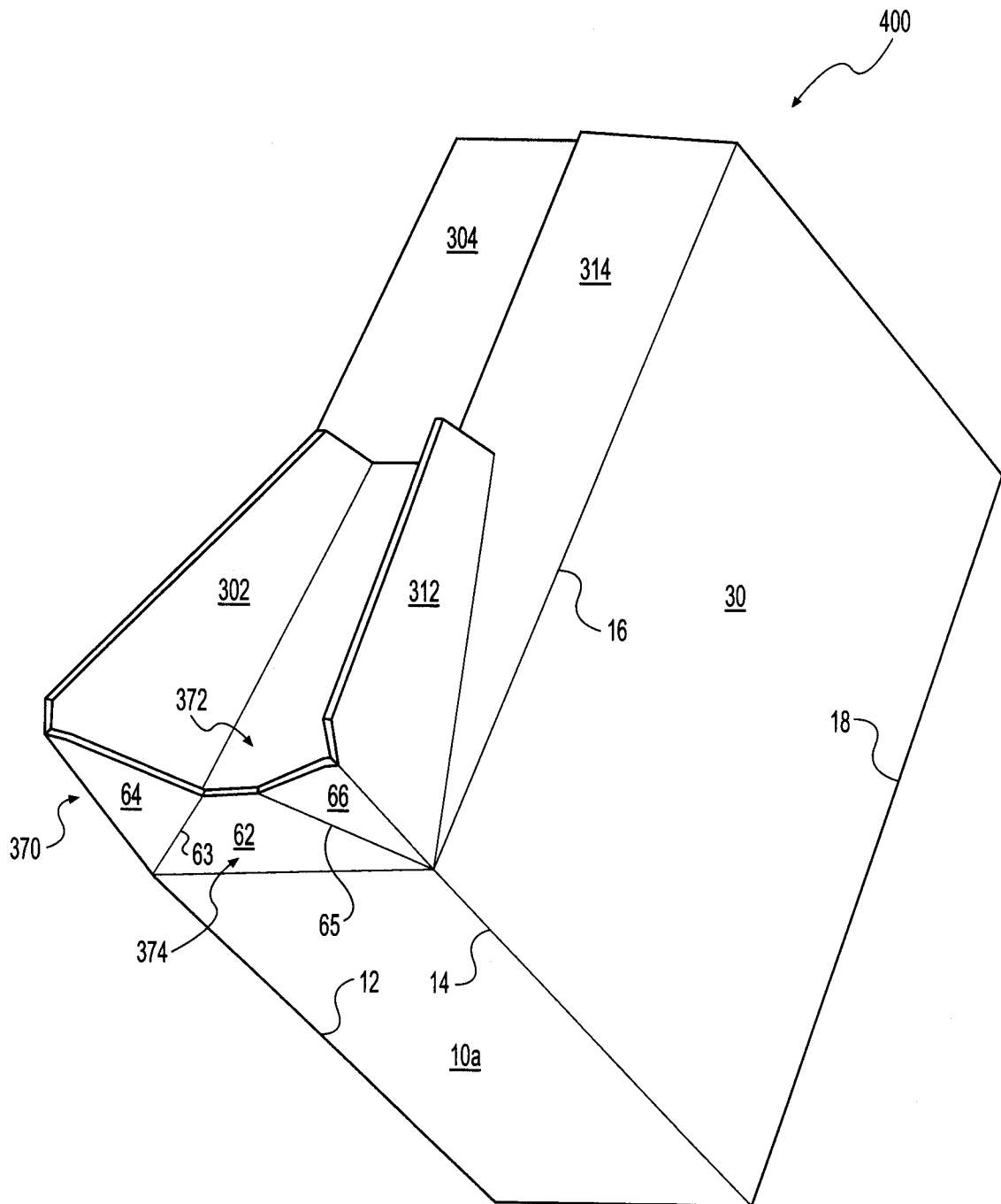


FIG. 10

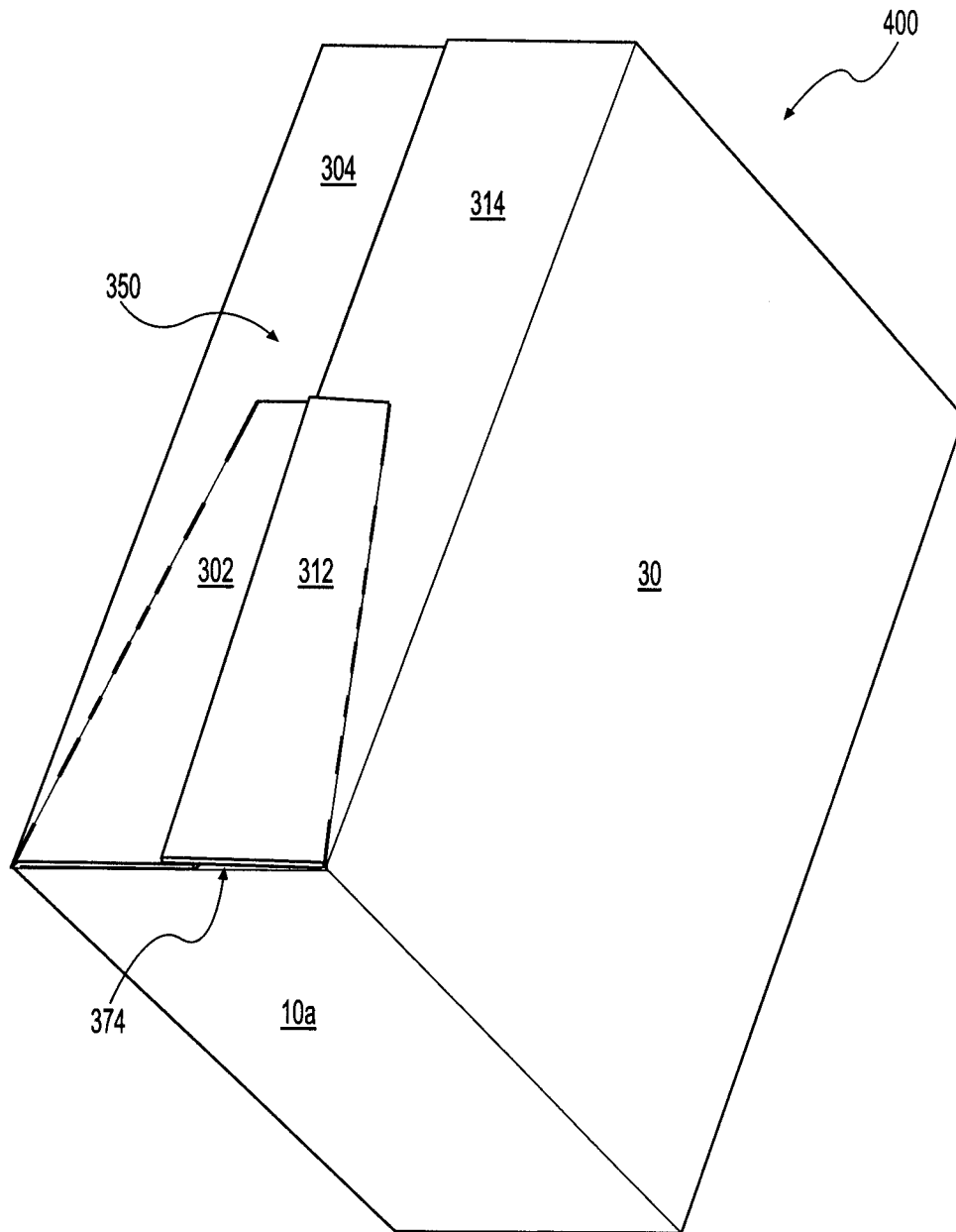


FIG. 11

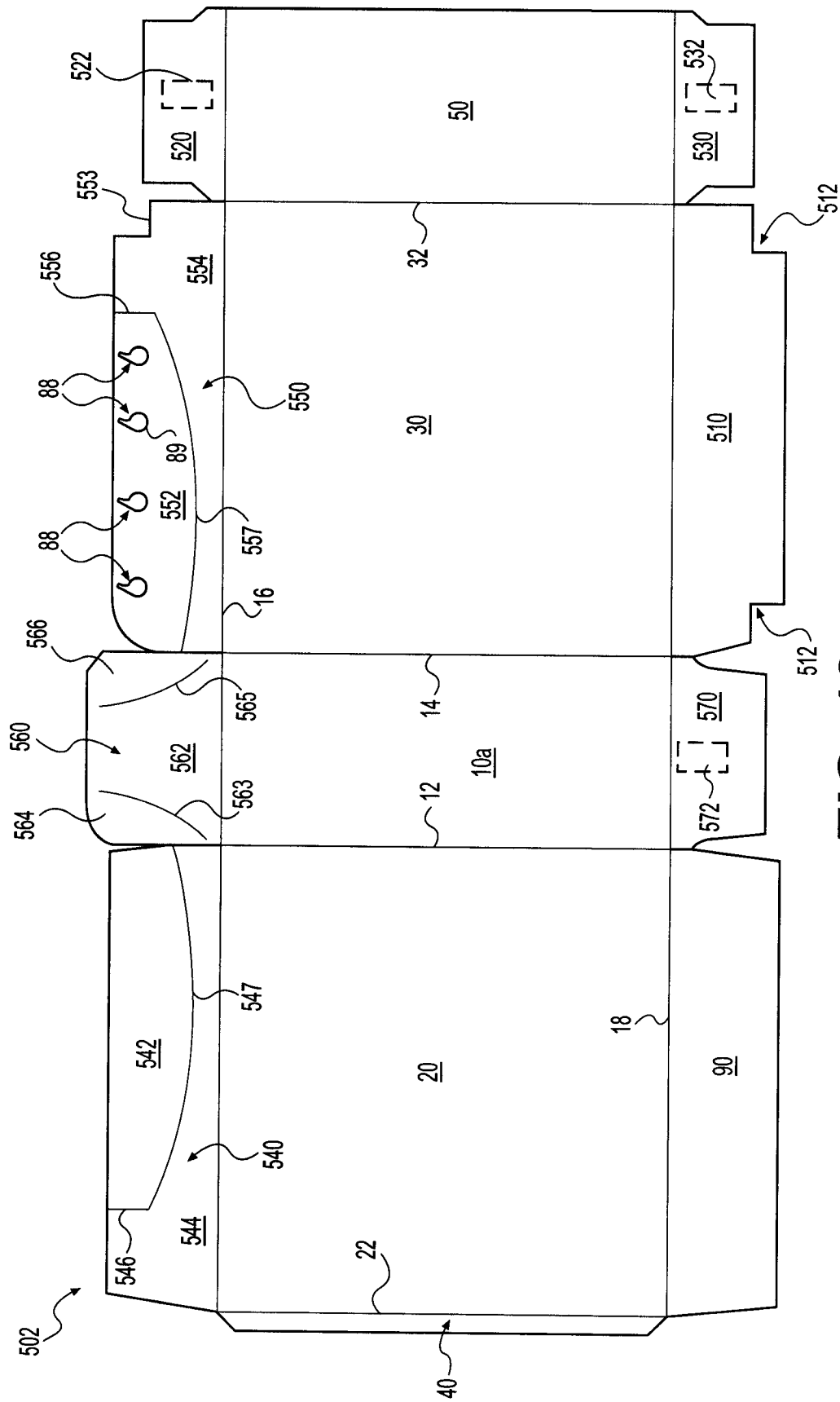
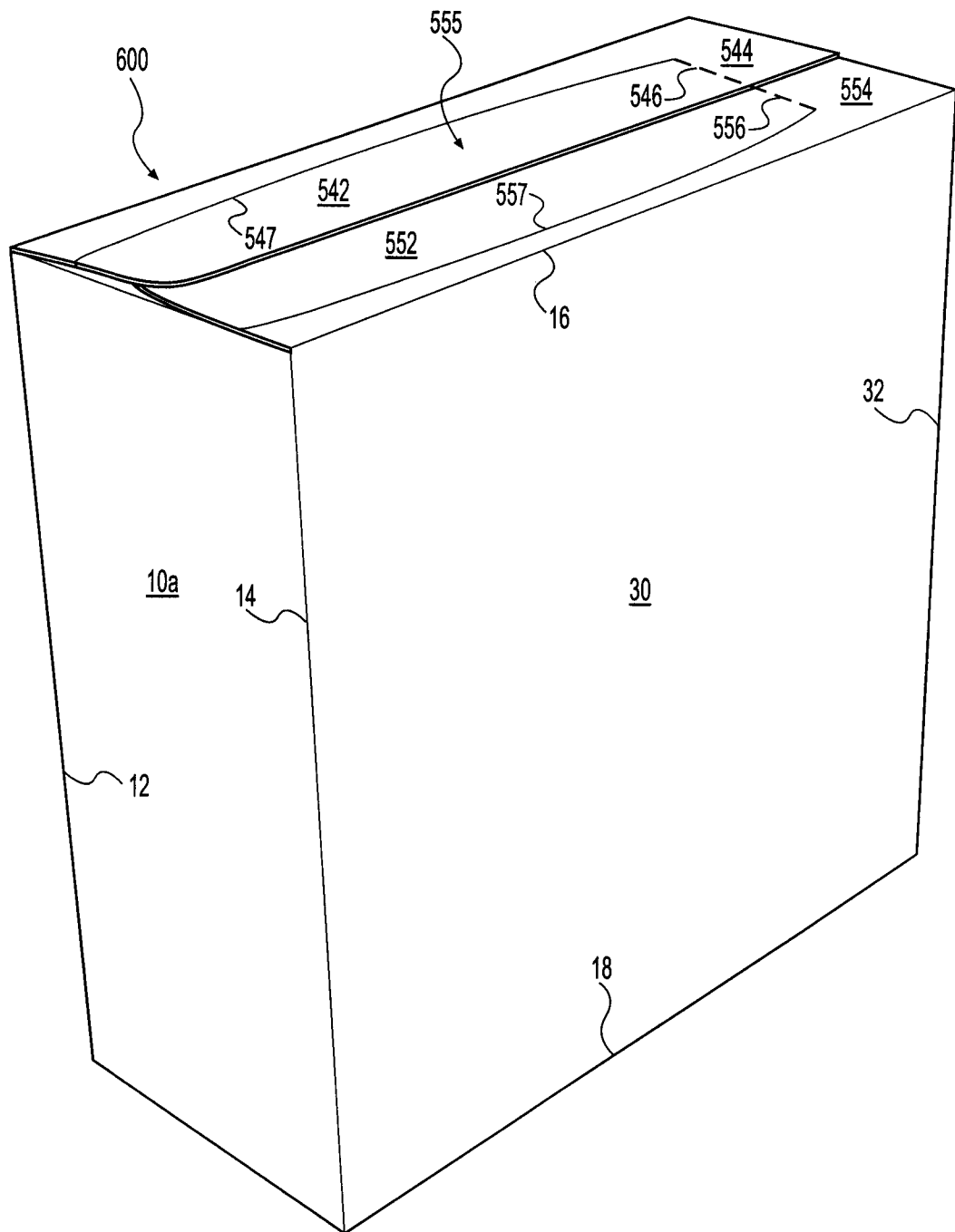


FIG. 12

**FIG. 13**

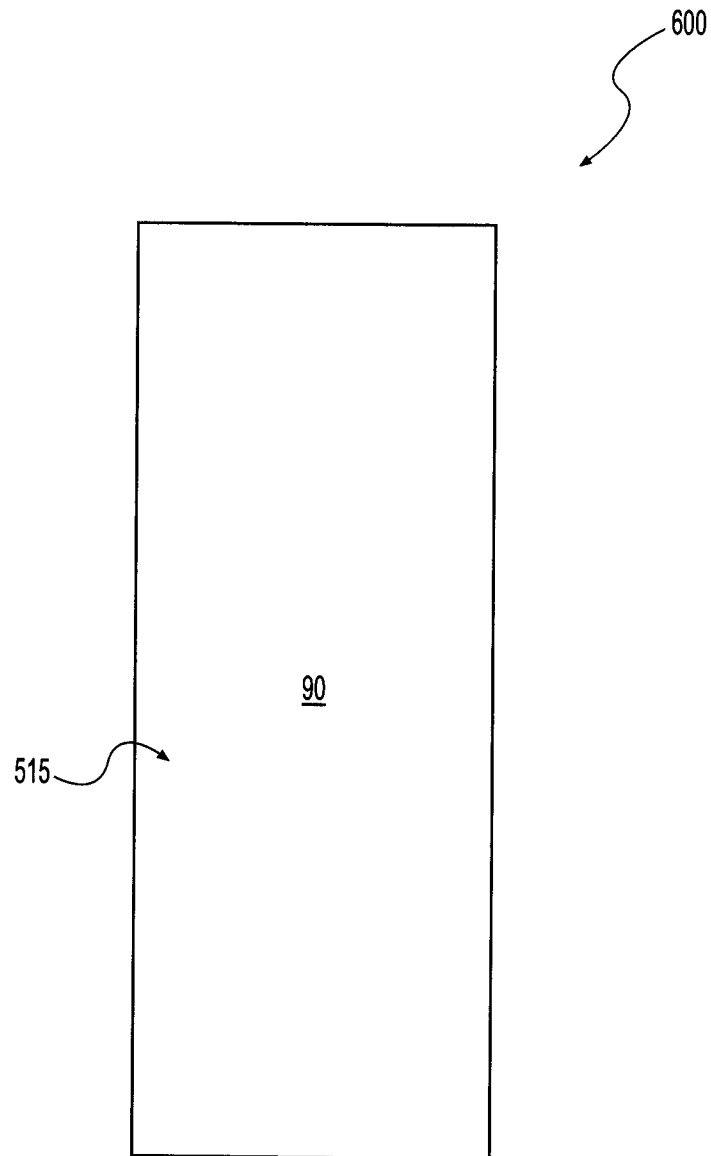


FIG. 14

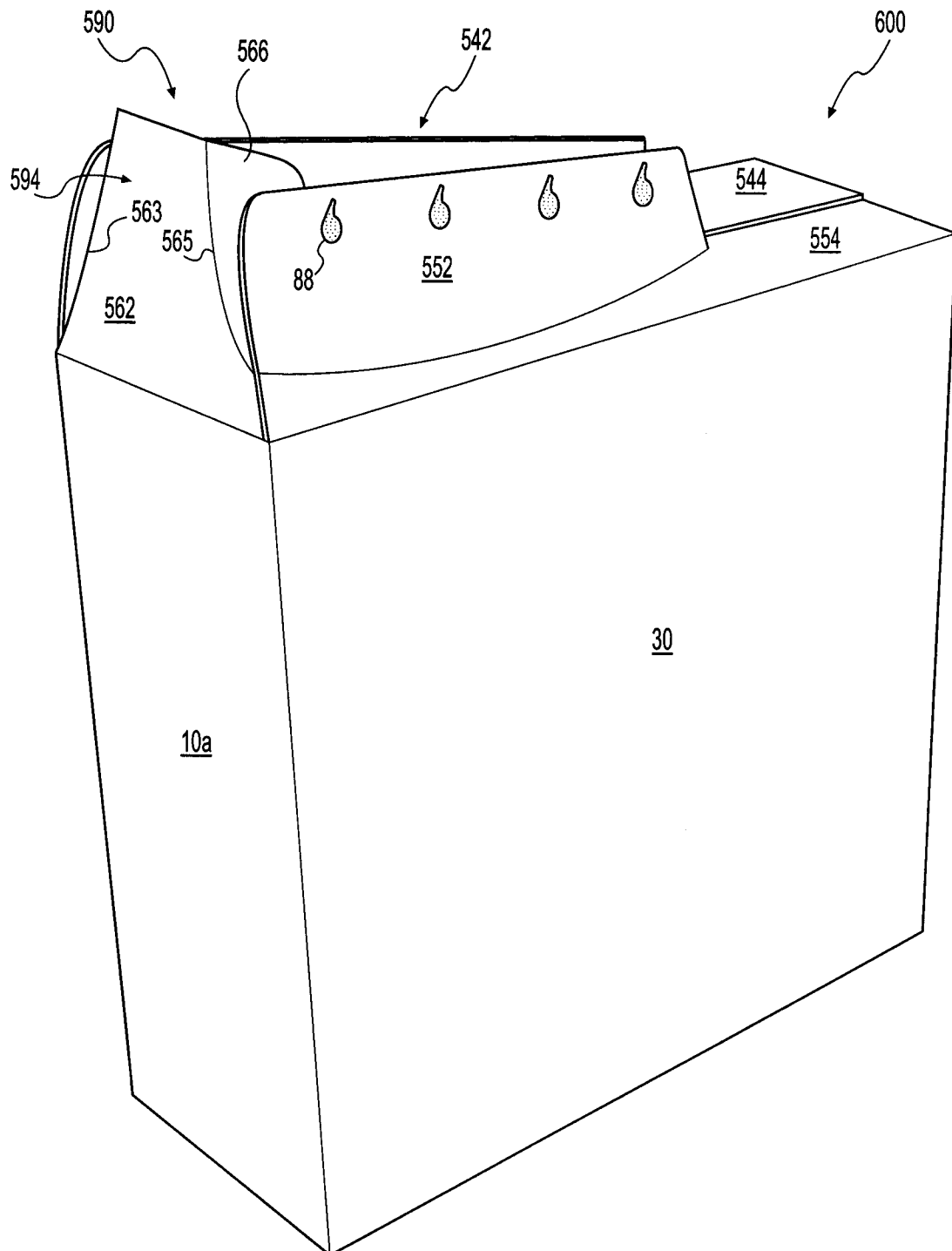


FIG. 15

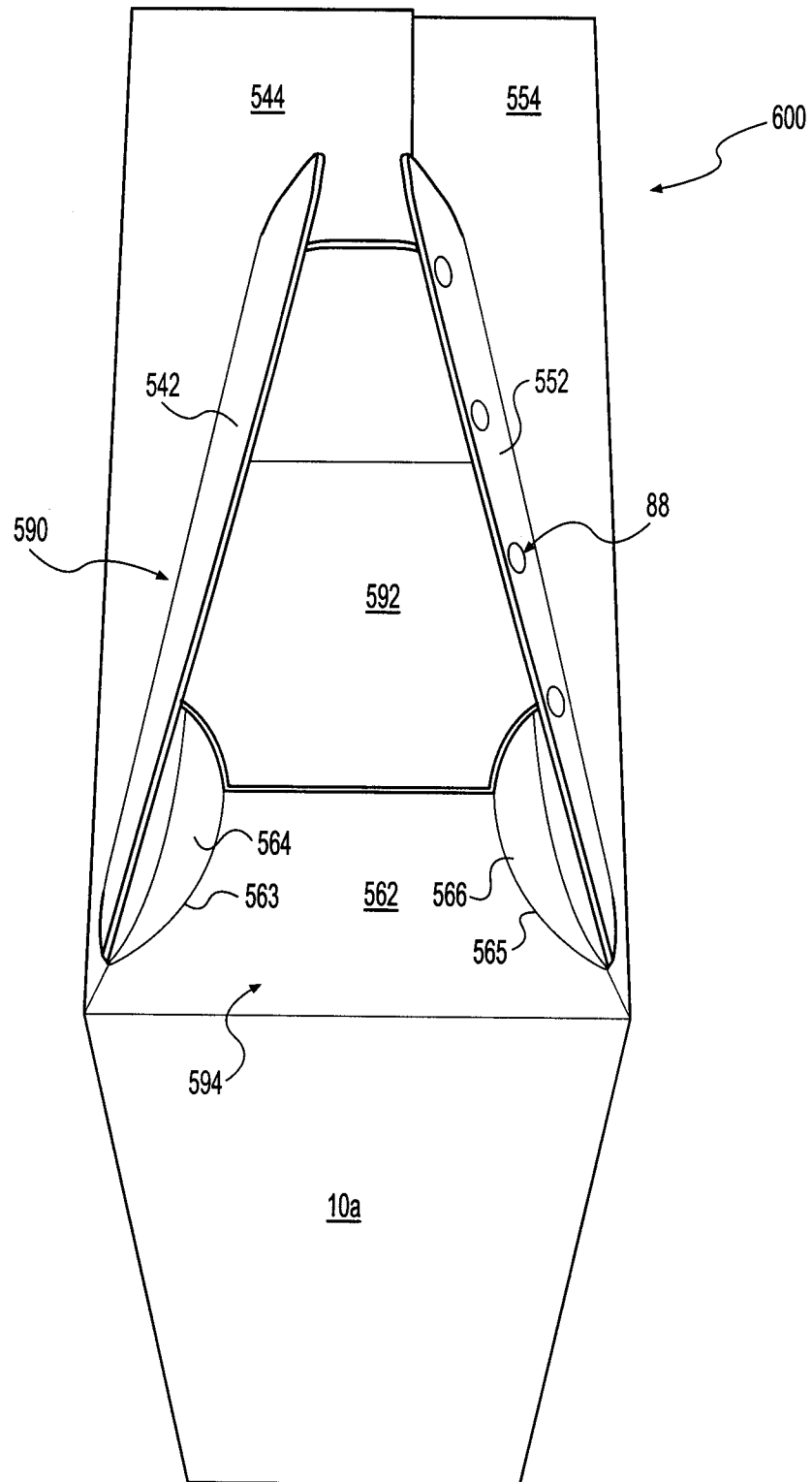


FIG. 16

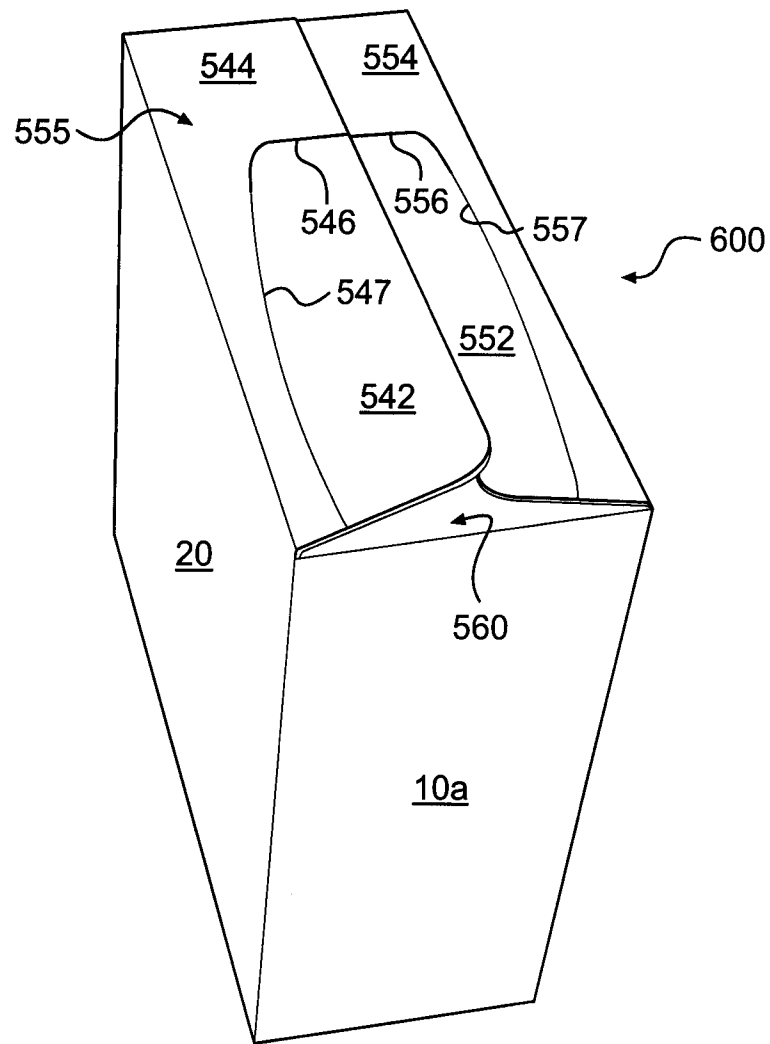


FIG. 17

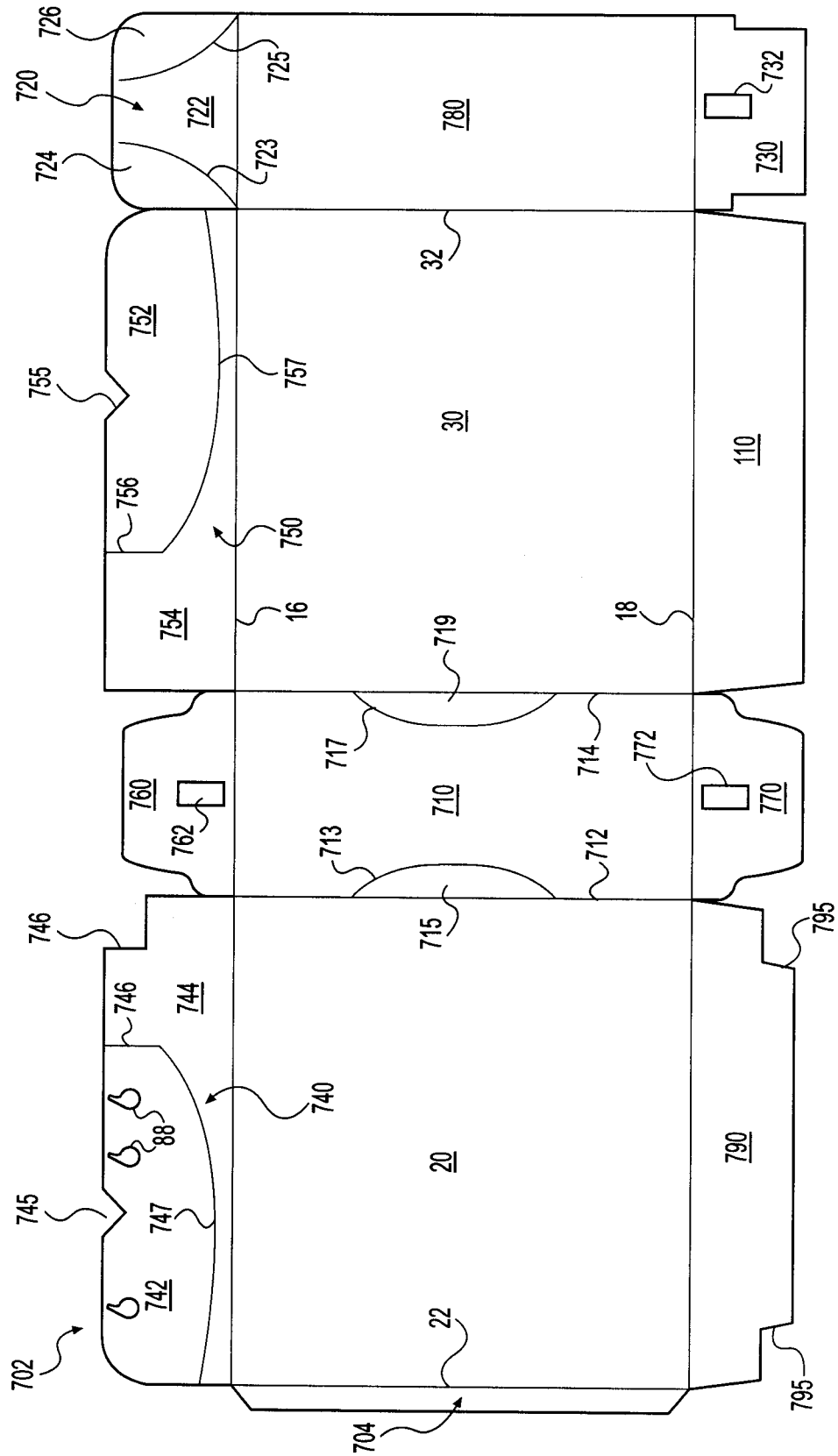


FIG. 18

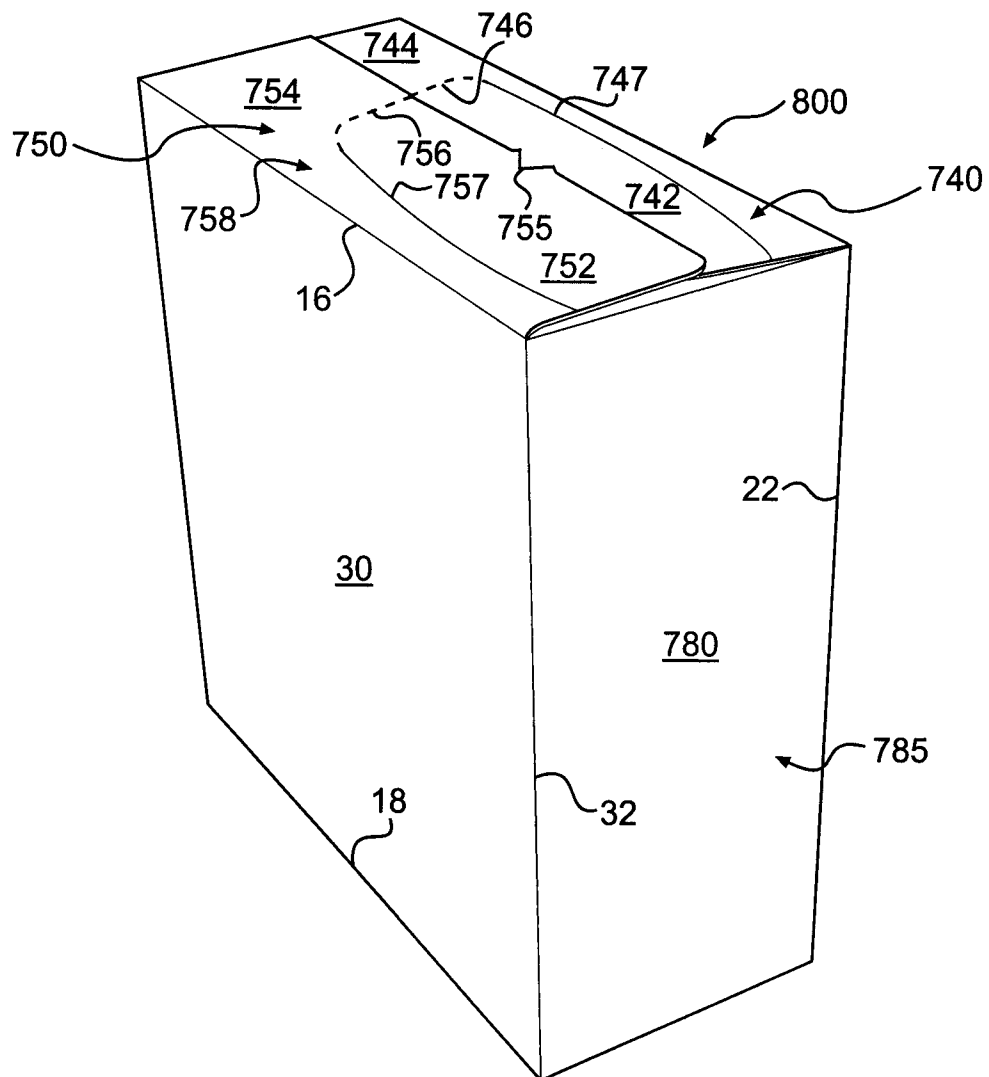


FIG. 19

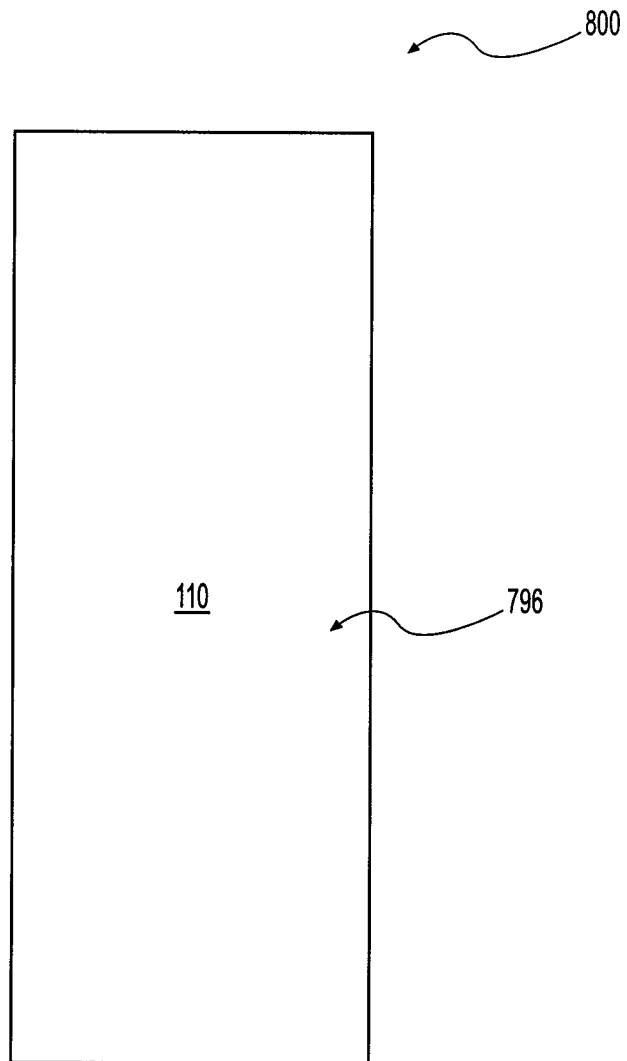


FIG. 20

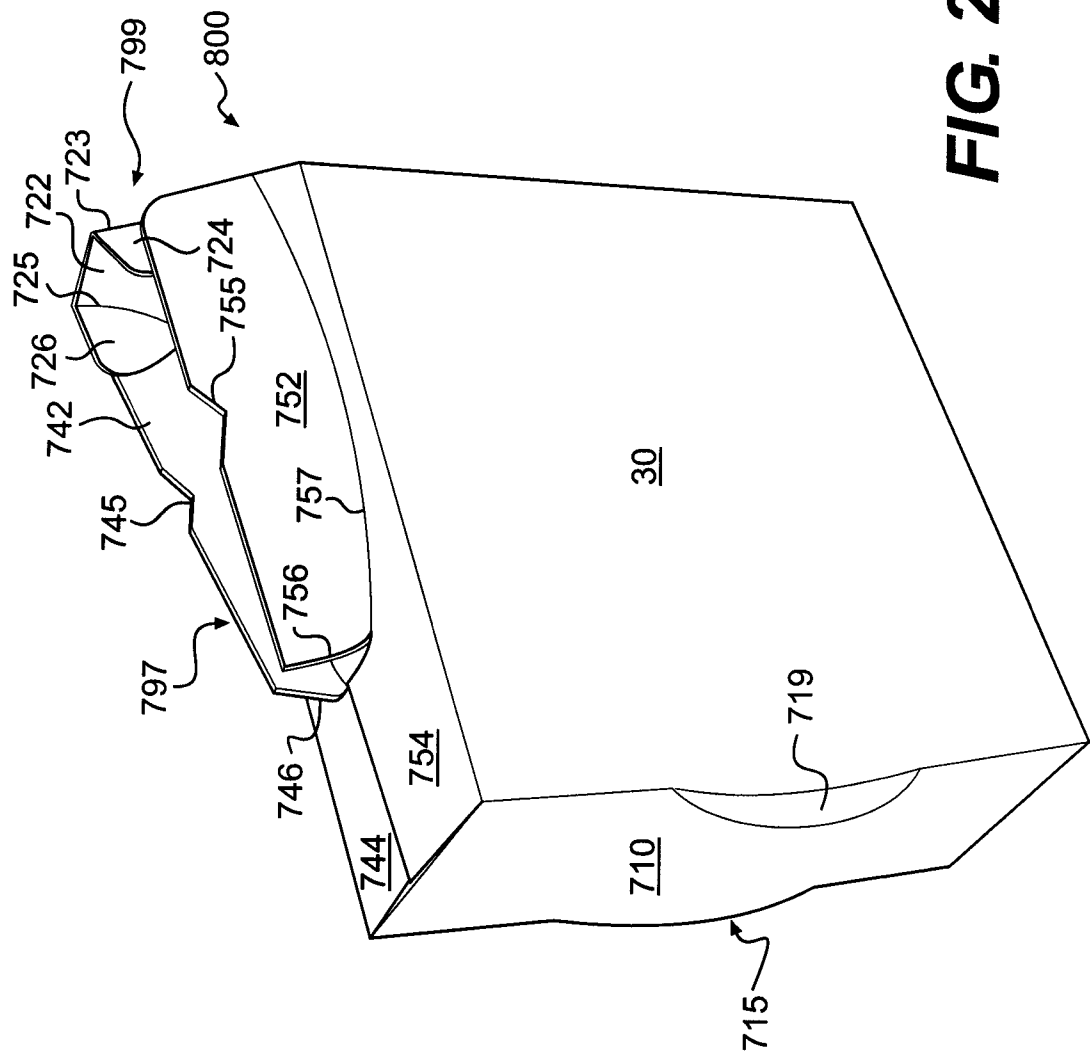
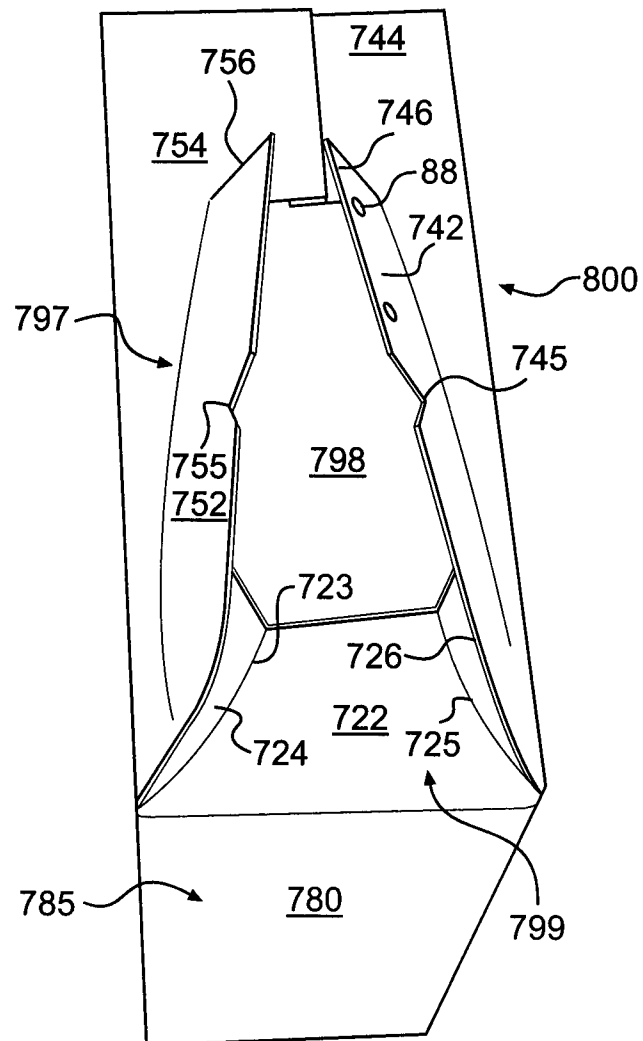


FIG. 21

**FIG. 22**

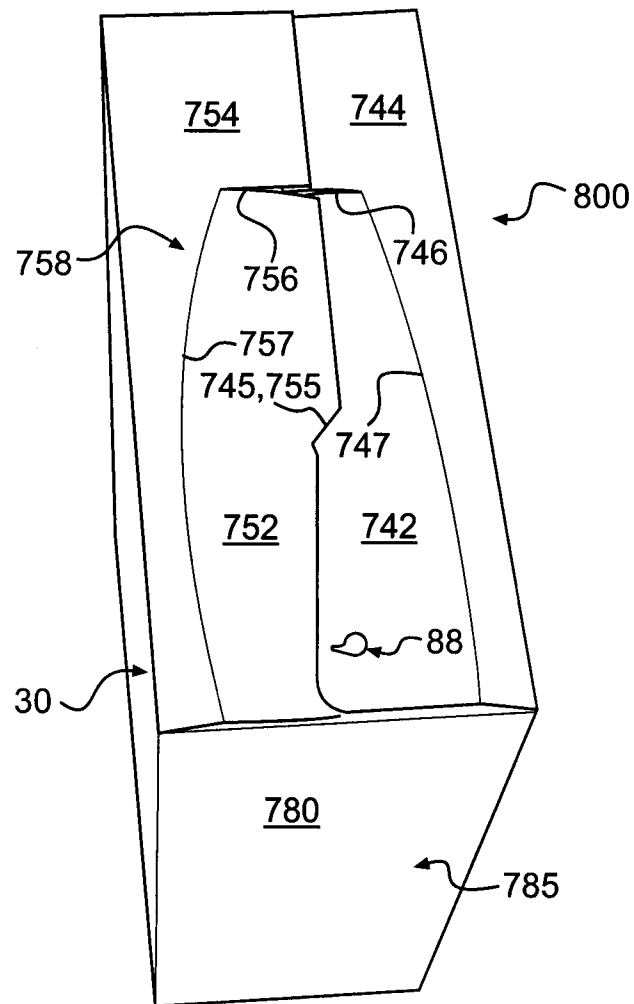
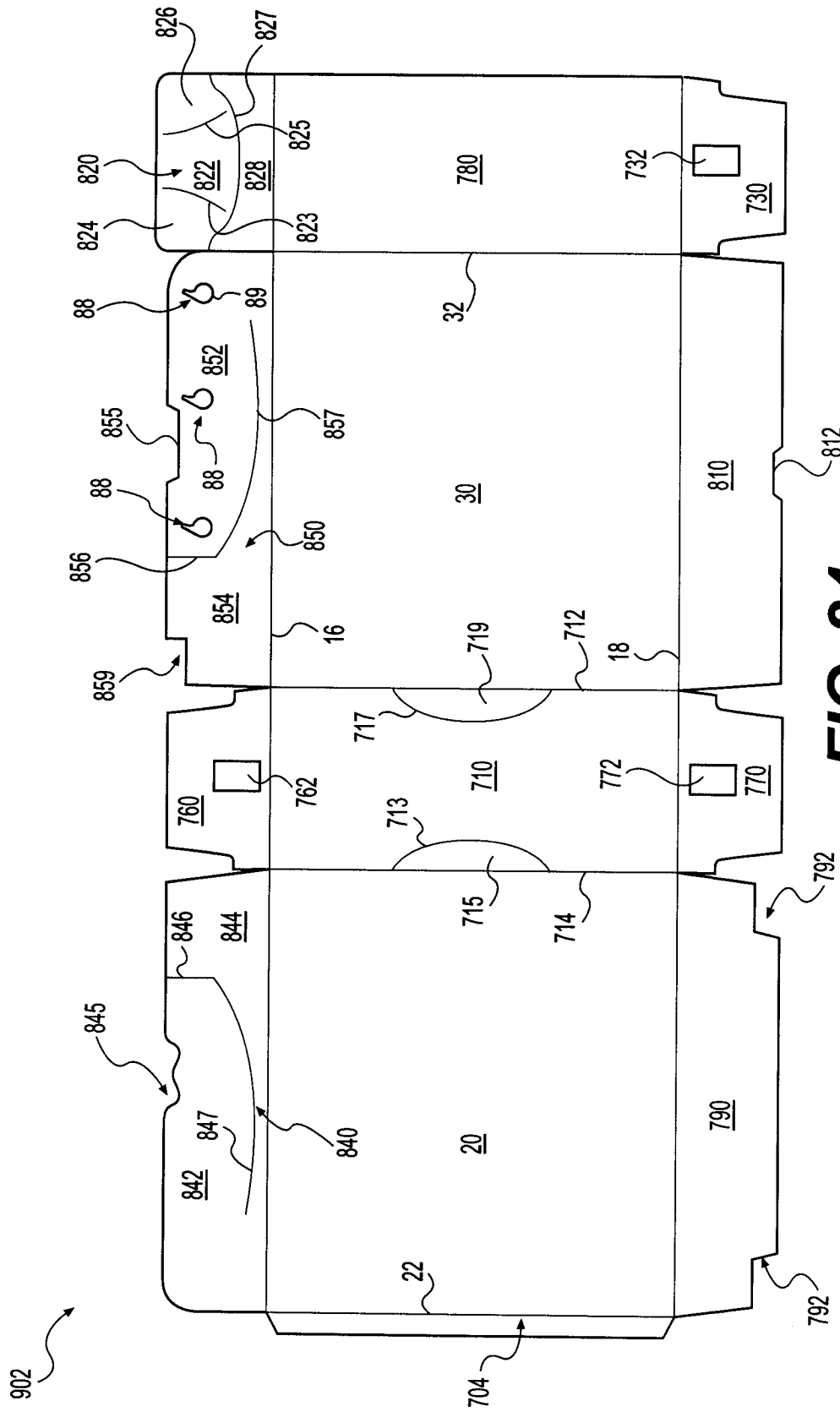


FIG. 23



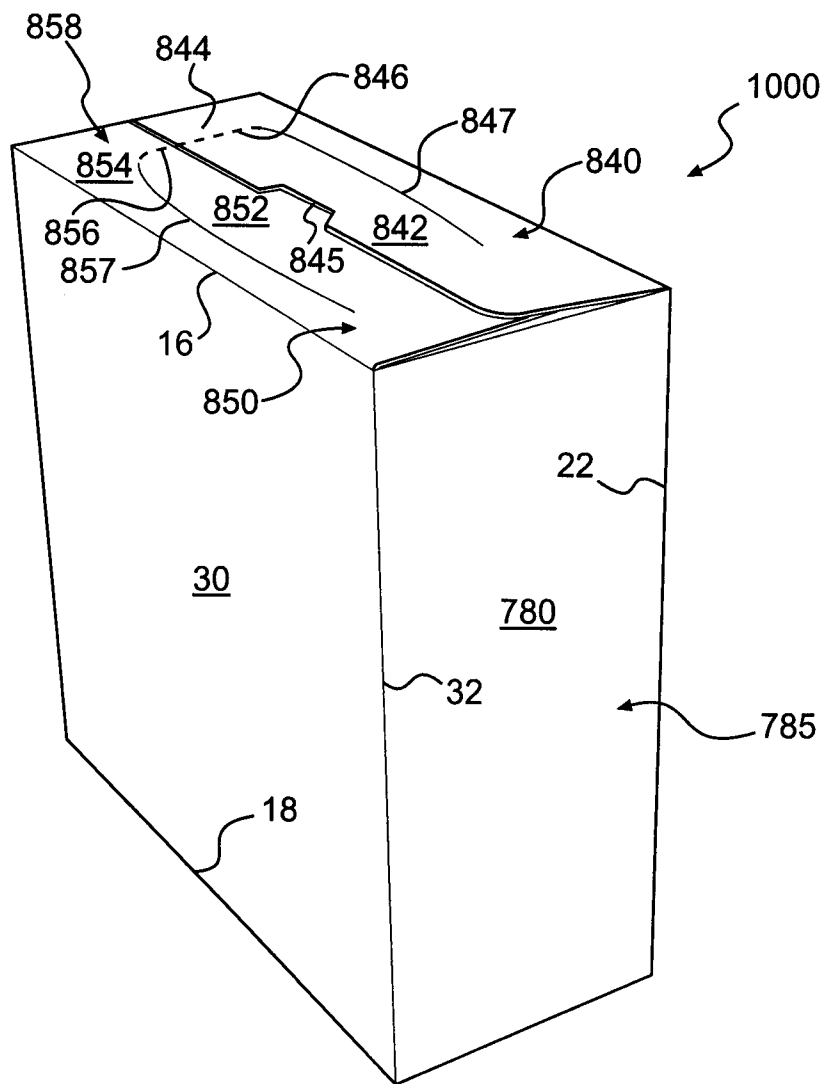


FIG. 25

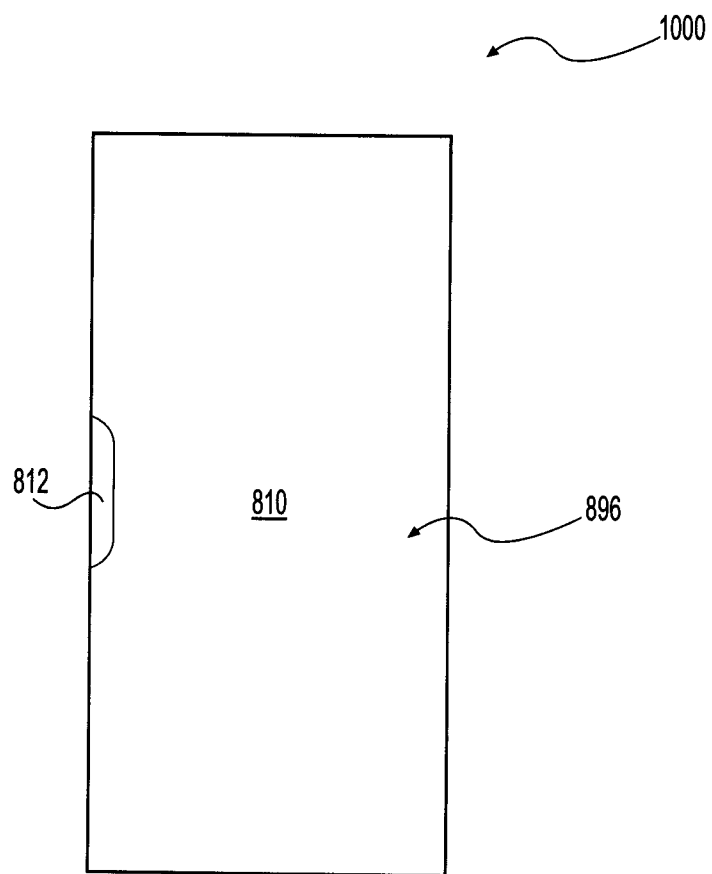


FIG. 26

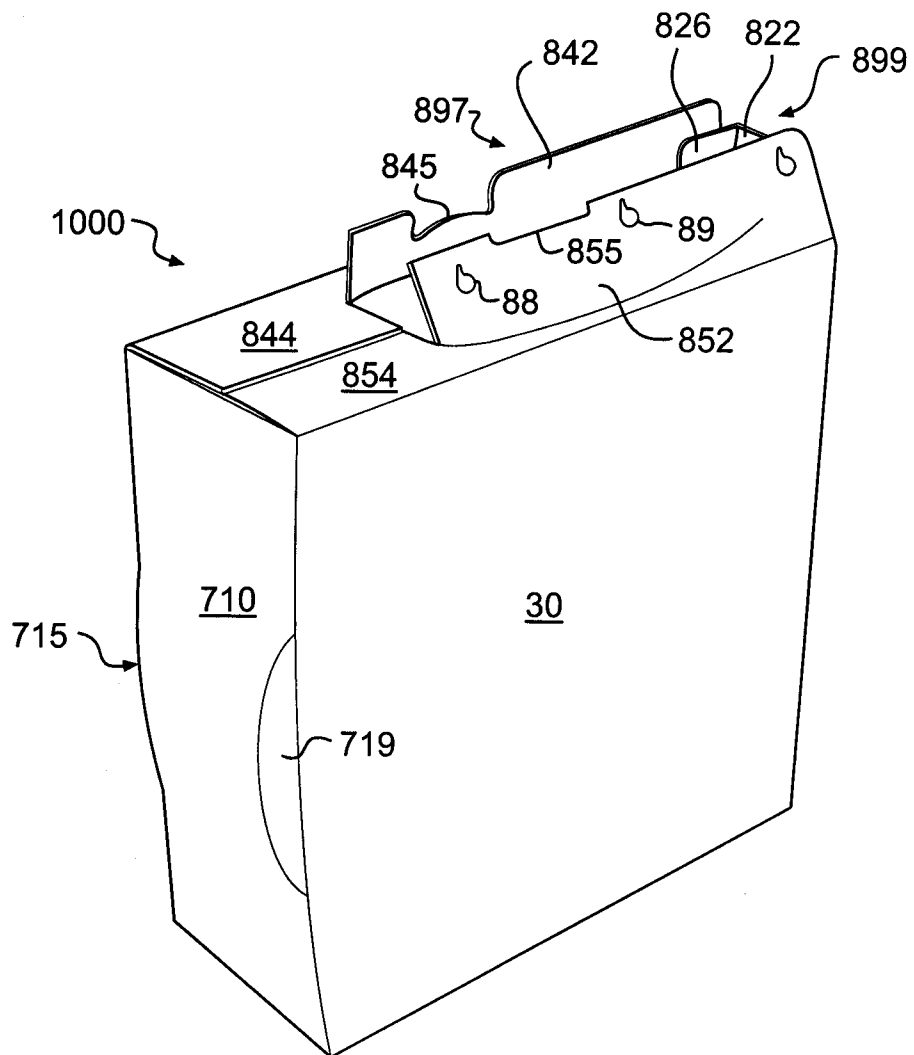


FIG. 27

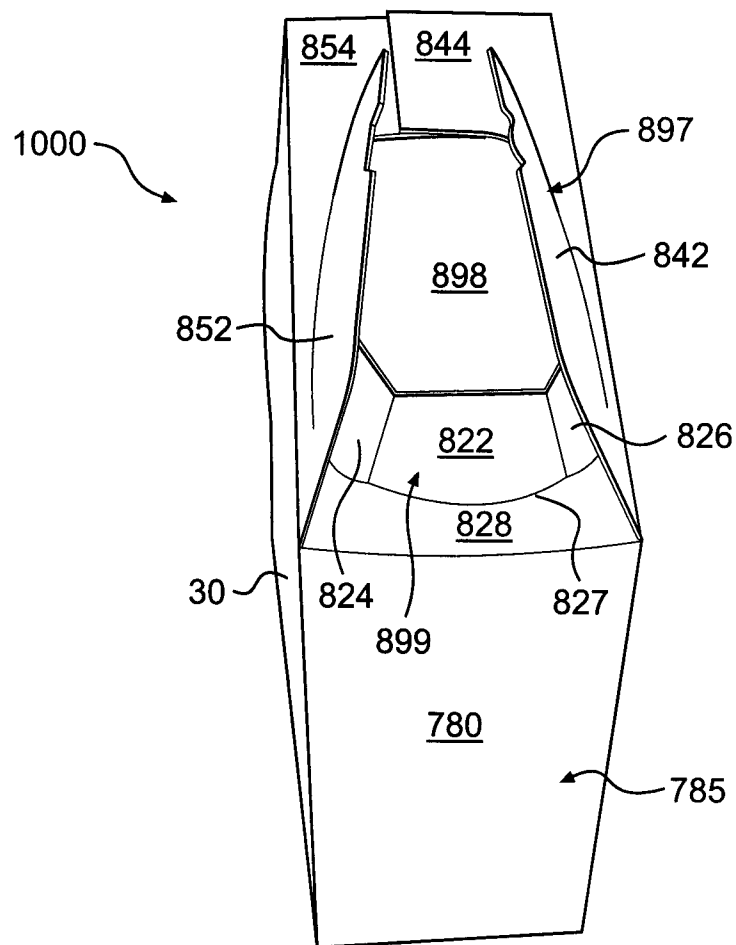


FIG. 28

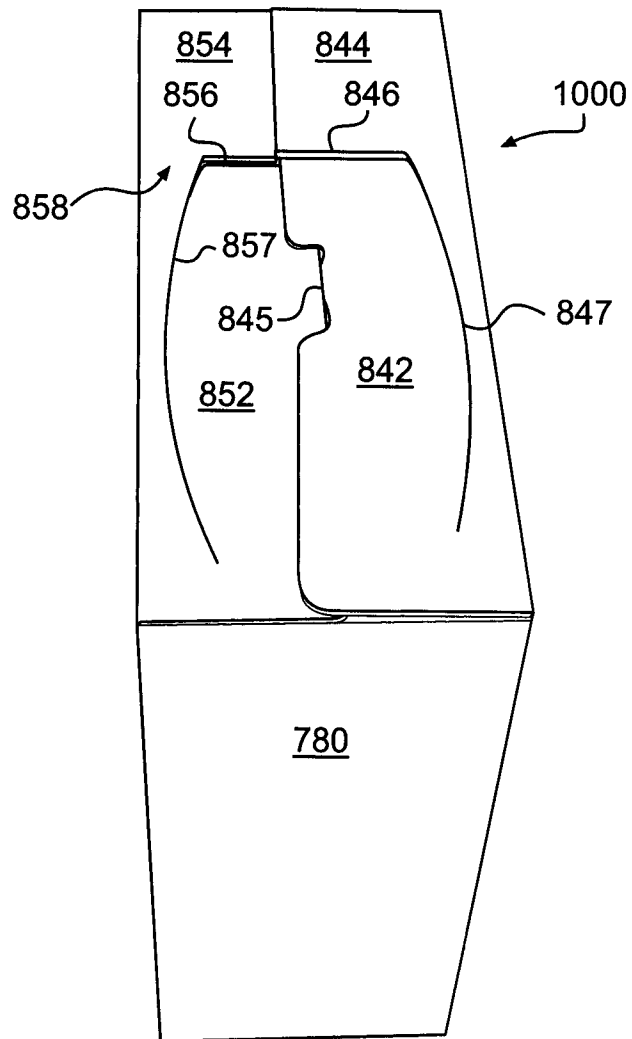


FIG. 29