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(54) **Carton and carton blank**

(57) A carton and a blank (10) for forming a carton for encircling one or more articles (A), for example bottles, comprising a plurality of panels including a first wall panel (14,16,18) and an adjacent second wall panel (20,22,24,26) for forming a tubular structure. The carton is provided with an article retention structure arranged in spaced, substantially parallel relationship with the first

wall and further comprises one or more apertures (44,52) for receiving at least one of the articles (A). The spacer means (60,62) is provided to maintain spaced relationship between the first wall and the retention structure and anchor means is provided to substantially prevent lateral and/or transverse movement of the retention structure relative to the first wall.

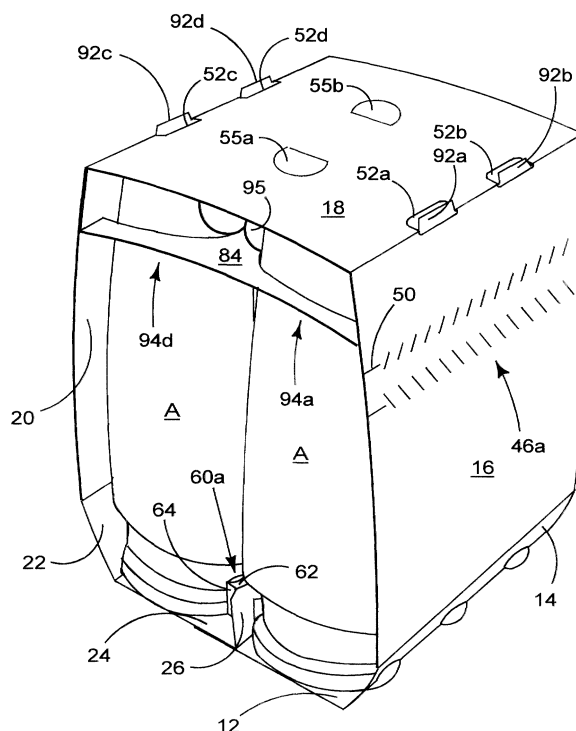


FIGURE 5

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Description

[0001] The present invention relates to a carton and blank for forming a carton for packaging one or more articles. More particularly, the present invention relates to a wraparound carton having a retaining structure for retaining articles such as bottles of cosmetic or hair care products formed from one or more blanks of paperboard or other suitable foldable sheet material.

[0002] US 4,131,198 (Fisher) discloses a carton for packaging two light bulbs that has a panel spaced from the base panel of the carton that has an aperture for receiving the glass portion of the bulb, and an opposing panel adjacent the top panel of the carton for receiving the fitting portion of the bulb.

[0003] US 3,167,214 (Mahon) discloses a bottle carrier with end retention means with a shaped portion to engage the contours of the bottles and retain them within the carton.

[0004] EP 0,122,397 (Unilever Plc) discloses a bottle carrier with an insert spaced from the top panel thereof and arranged to engage the necks of the bottles.

[0005] The prior art generally requires glue to be used in the construction of retention structures for wraparound cartons, which naturally adds both cost and complexity to the carton erection process. Furthermore, prior art cartons including retaining structures have not been designed with ease of mechanisation in mind and generally require large amounts of paperboard to be used in their construction.

[0006] The present invention and its preferred embodiments seek to overcome or at least mitigate the problems of the prior art.

[0007] One aspect of the invention provides a carton for encircling one or more articles, for example bottles, comprising a plurality of panels including a first wall panel and an adjacent second wall panel for forming a tubular structure. The carton is provided with an article retention structure arranged in spaced, substantially parallel relationship with the first wall and further comprising one or more apertures for receiving at least one of the articles. Spacer means is provided to maintain spaced relationship between the first wall and the retention structure and anchor means is provided to substantially prevent lateral and/or transverse movement of the retention structure relative to the first wall. Preferably, the spacer means may comprise a spacer panel arranged so as to extend between the retention structure and the first wall. More preferably, the spacer panel may extend to an intersection between the first wall and the second wall of the tubular structure.

[0008] According to an optional feature of this aspect of the invention the anchoring means may comprise a protruding element provided on the edge of the spacer means engaging the first wall, the protruding element being so arranged as to engage a corresponding aperture provided in the first wall thereby preventing lateral movement of the retaining structure relative to the first

wall.

[0009] According to another optional feature of this aspect of the invention a tab may be struck from the article receiving aperture and is formed integrally with the spacer panel such that folding the tab out of the plane of the article receiving aperture causes the spacer panel to simultaneously be folded.

[0010] According to another optional feature of this aspect of the invention the retention structure may be formed from a separate blank to the carton.

[0011] According to another optional feature of this aspect of the invention the anchoring means may comprise a panel disposed in substantially face contacting relationship with the second wall of the tubular structure which panel is connected to the retention structure. Preferably, the face contacting panel is positioned intermediate said second wall and the article. More preferably, a gusset structure may hingedly interconnect the anchoring means to the retention structure. Optionally, the gusset structure comprises a pair of hinged gusset panels hingedly interconnecting the face contacting panel and the retention structure.

[0012] According to a further optional feature of this aspect of the invention a spacer panel may hingedly interconnect the article retention structure to the first wall.

[0013] According to yet another optional feature of this aspect of the invention the article retention structure may be hingedly connected to the carton by the anchoring means.

[0014] According to a still further optional feature of this aspect of the invention a spacer tab may be struck from one or more of the article receiving apertures and is arranged so as to reinforce the spacing between the retention structure and first wall.

[0015] A second aspect of the invention provides an article retention structure for retaining articles in a carton including a plurality of panels including a first wall panel interconnected for forming a tubular structure, for example, the retention structure comprising one or more article receiving apertures, and being spaced from the first wall by spacer means in substantially parallel relationship thereto. Anchor means is provided to substantially prevent relative transverse and/or lateral movement between the retention structure and the first wall.

[0016] A third aspect of the invention provides a blank for forming a carton for encircling one or more articles, for example bottles, comprising a base wall panel, first side wall panel, top wall panel and a second side wall panel interconnected in series, the blank being provided with an article retaining structure for retaining one or more articles. The retaining structure comprises in series a spacer panel and an article retaining panel and further comprises one or more apertures struck from the retaining panel for receiving one or more of the articles. Anchor means is provided arranged so as to cooperate with an aperture on the top wall of said carton. Preferably, the aperture may be adjacent the fold line interconnecting the top wall with one of said side walls.

[0017] According to an optional feature of the third aspect of the invention the anchoring means may comprise a protruding element provided on the edge of the spacer.

[0018] According to another optional feature of the third aspect of the invention a tab may be struck from the article receiving aperture and formed integrally with the spacer panel.

[0019] According to a further optional feature of the third aspect of the invention a second spacer panel may be hingedly connected to an opposing edge of the retaining panel relative to the first spacer panel.

[0020] According to yet another optional feature of the third aspect of the invention the retaining structure may be formed from a separate blank to the base, side and top wall panels.

[0021] A fourth aspect of the invention provides a blank for forming a wraparound carton for encircling one or more articles for example bottles, comprising a base wall panel, first side wall panel, top wall panel and second side wall panel interconnected in series. The retaining panel is hingedly interconnected to an end edge of one of the wall panels. One or more apertures for receiving one or more articles are provided, wherein anchoring means comprising a flap hingedly connected to a further end edge of the blank, and interconnected to the retaining panel by a gusset structure is further provided. Preferably a spacer panel may hingedly interconnect the retaining panel to the end edge of one of the wall panels.

[0022] According to yet another optional feature of the fourth aspect of the invention a spacer tab may be struck from one or more of the article receiving apertures.

[0023] According to a yet further optional feature of the fourth aspect of the invention the gusset structure may comprise a first gusset panel hingedly connected to the retaining panel and a second gusset panel hinged connected to the first gusset panel and the end edge flap.

[0024] Exemplary embodiments of the invention may now be described, by way of example only, with reference to the accompanying drawings in which;

FIGURES 1A and 1B illustrate a two-part blank according to one embodiment of the invention;

FIGURE 2 illustrates a blank according to a second embodiment of the invention;

FIGURE 3 illustrates the blank of Figure 1B during construction of the retention structure;

FIGURE 4 illustrates the introduction of the retention structure of Figure 1B onto the blank of Figure 1A;

FIGURE 5 illustrates the carton the first embodiment in a set up and loaded condition constructed

from the blanks of Figures 1A and 1B;

FIGURE 6 illustrates the blank of Figure 2 during construction of the retention structure;

FIGURE 7 illustrates the blank of Figure 2 at a later stage of the construction of the retention structure;

FIGURE 8 illustrates the partially constructed blank of the second embodiment with a number of articles in place; and

FIGURE 9 illustrates the carton of the second embodiment in a set up and loaded condition constructed from the blank of Figure 2.

[0025] Referring to the drawings and, in particular Figures 1A, 1B and 2, there are shown blank for forming a carton made from one or more blanks of paperboard or similar foldable sheet material. More particularly, the blank 10 of Figure 1A comprises a plurality of panels for forming a wraparound carrier. Of course, in other embodiments the blank may be adapted to form other carton types, for example a fully enclosed carton.

[0026] In this embodiment, the blank 10 comprises, in series, a first base panel 12, a first wall preferably comprising a lower side panel 14, and first upper side panel 16, top wall panel 18, a second side wall preferably comprising a second upper side panel 20, second lower side panel 22, second base panel 24 and keel panel 26 hingedly interconnected together in series by fold lines 28, 30, 32, 34, 36, 38 and 40 respectively.

[0027] In this embodiment, the base panels 12 and 24 are secured by locking tabs 42a and 42b which are struck from first base panel 12 and arranged so as to engage with the locking apertures 58a and 58b struck from second base panel 24. In alternative embodiments, the configuration and type of locking tabs may be altered, or other securing means such as glue may be used to secure the carton in a tubular state.

[0028] Heel apertures 44a, 44b and 44c are, optionally, provided and in this embodiment are struck from first lower side panel 14 and are arranged to accommodate a portion of the base of the articles held within the blank when erected to form a carton. In other classes of embodiment, heel apertures may be dispensed with and the number, size and shape of apertures may be altered according to the number, size and shape of the articles to be packaged, or other known heel retention arrangements may be used. Similar apertures 44d, 44e and 44f are preferably also provided in second lower side panel 22.

[0029] In order to access the articles held within the carton when fully erected, tear strips 46a and 46b are, preferably, provided in first and second upper side panels 16 and 20 respectively in this embodiment. The preferred construction of tear strip 46a comprises a pair of spaced parallel cut lines 50 arranged substantially per-

pendicular to and extending from an end edge of the upper side panel 16. The remainder of the tear strip comprises a plurality of relatively short and substantially parallel cut lines 48 arranged in a linear array at an acute angle to the direction of cut line 50 so as to provide a frangible connection. A further similar tear panel 46b is preferably provided on second upper side panel 20. In alternative classes of embodiment, other types of tear panel may be used, or tear panels may be dispensed with altogether.

[0030] Anchoring means is provided to retain the retention structure described below. In the embodiment shown in Figure 1, two elongate apertures 52a and 52b are struck from top panel 18 adjacent fold line 32 and are arranged to be engaged by protruding elements 92a and 92b of blank 80 as is further described below. Two further similarly arranged apertures 52c and 52d are also preferably provided proximate fold line 34 in top panel 18.

[0031] The size position of the apertures 52a, 52b, 52c and 52d is not limited to that shown in Figure 1. Indeed the apertures could be formed along different sections of top panel or side wall panel.

[0032] Handle means is provided which can comprise a pair of opposed finger apertures 56a and 56b are further advantageously struck from top panel 18. The apertures are preferably provided with finger cushioning tabs 55a and 55b hingedly interconnected to the top panel 18 by fold lines 54a and 54b as is well known. It is envisaged that in other classes of embodiment, other known hand or finger engaging means may be provided to facilitate lifting of the carton by an end user thereof.

[0033] In order to further retain the bases of the articles held within the blank when erected to form a complete carton, keel structures 60a, 60b and 60c are, in this embodiment, struck from second base panel 24 and heel panel 26, and are arranged to straddle fold line 40 therebetween. Each keel structure is substantially identical, and therefore only structure 60a is described in greater detail below.

[0034] Structure 60a comprises an article engaging panel 64 hingedly connected to second base panel 24 along fold line 69, and further hingedly connected to a spacer panel 62 along a curved cut/fold line 68. Spacer panel 62 is further interconnected to keel panel 26 along curved cut/fold line 66. In order to enable the article retaining panel 64 to better conform to the shape of a curved article, a cut line 70 preferably partially extends between cut/fold line 68 and cut/fold line 69. A fold line 67 further advantageously extends between cut/fold line 66 and the free edge of the blank.

[0035] Referring now to Figure 1B, there is shown a second blank 80 to be used as an article retention structure in conjunction with the blank of Figure 1A in constructing the carton according to the first embodiment of the invention. The blank 80 comprises in series a first spacer panel 82, a retention panel 84, and a second spacer panel 86 interconnected in series along fold lines

88 and 90.

[0036] In this embodiment, a pair of protruding elements 92a and 92b are provided on the free side edge of spacer panel 82, and as discussed above, are of a suitable size to engage in apertures 52a and 52b provided on blank 10 of Figure 1A. Two further protruding elements 92c and 92d are further preferably provided on the free edge of spacer panel 86 and are arranged to engage in apertures 52c and 52d of blank 10 when erected to form a carton. In other classes of embodiment, the number, size and shape of the protruding elements may be altered according to the requirements of the carton. Alternatively, the protruding elements could be shaped to be the male part of a known interference type lock to be engaged in the corresponding aperture. Beneficially, this would ensure that the inner and outer blank parts remain secured together.

[0037] One or more article receiving arrangements 94a, 94b, 94c, 94d, 94e and 94f are provided in retaining panel 84 in accordance with the number of articles the carton may package. In this embodiment, six such arrangements are provided in a 2x3 configuration. Each arrangement 94a, 94b, 94c, 94d, 94e and 94f is substantially identical, and therefore only arrangement 94a is discussed in further detail below.

[0038] Arrangement 94a comprises a tab 96 defined by cut lines 93 and 99 which are preferably curved as well as a further cut line 89. In this embodiment, the tab is formed integrally with spacer panel 82 and is divided longitudinally by a fold line 98. A further tab 95 is defined by cut lines 93, 99 and 89 and is hingedly interconnected to the retaining panel by a fold line 97. Unlike the remaining arrangements, arrangements 94a and 94d have an aperture 91 cut from panels 96 and 95 to assist in engaging with mechanical packaging equipment. When the blank is erected to form a carton, tabs 96 and 95 are folded out of the plane of retaining panel 84 to reveal an aperture substantially conforming to the shape of the article to be received. Therefore, the size and shape of the aperture thereby revealed may be altered according to the shape of the articles to be packaged. The inclusion of fold line 98 enables tab 96 to curve around the article A to some extent, thus imparting rigidity to the connection between tab 96 and spacer panel 82, which in some circumstances may improve the carton construction process.

[0039] In this embodiment tabs 95 are sized so that they correspond in height to spacer panels 82, 86 and also function as spacer panels whereby the upper edges of tabs 95 abut top panel 18.

[0040] Turning now to Figure 2, there is illustrated a blank for forming a carton according to a second embodiment of the invention. Where possible, like numerals have been used for like parts with the addition of the prefix "1". Therefore, only those parts that differ from the blanks of Figures 1A and 1B will be described in greater detail.

[0041] The blank 110 comprises a plurality of panels

for forming a carton. In this second embodiment there comprises in series a first base panel 112, a first side wall preferably comprising a first lower side panel 114 and first upper side panel 116, first top panel 118, a second side wall preferably comprising second upper side panel 120 and second lower side panel 122, second base panel 124 and a keel panel 126 hingedly interconnected along fold lines 128, 130, 132, 134, 136, 138 and 140 respectively.

[0042] Rather than providing a separate blank for forming the article retention structure as in the first embodiment, the structure is foldably interconnected to the end edges of the first and second upper side panels 116 and 120 and optionally the top panel 118. There are provided structures 230 and 232 that are substantially identical mirror images in this embodiment. Therefore only structure 230 will be described in further detail below.

[0043] Article retention structure 230 comprises a spacer panel 208 and a retaining panel 184a hingedly connected to the end edge of top panel 118 along fold lines 222 and 226 respectively. In one class of embodiments, the spacer panel 208 and retaining panel 184a are further hingedly connected to a gusset arrangement 212a along an extension of fold line 132 and gusset arrangement 212c along an extension of fold line 134. Gusset arrangement 212a is further hingedly connected to a side end flap 200 along interrupted fold line 220. Side end flap 200 is hingedly connected to first upper side panel 116 along fold line 222; a similar arrangement hingedly interconnects side panel 204 to second upper side panel 120 and gusset structure 212c. It is envisaged that in other classes of embodiment, the configuration of panels may be altered. For example, spacer panel 208 may be dispensed with, and the shape of side end flaps 200 and 204 may be altered.

[0044] In the preferred embodiment, gusset arrangements 212a, 212b, 212c and 212d are substantially identical and therefore only arrangement 212a is described in further detail. However, it is envisaged that the known gusset arrangements can be employed without departing from the scope of invention.

[0045] In this embodiment, gusset arrangement 212a comprises a first substantially triangular panel 182 defined by convergent fold lines 132 and 218. Fold line 218 is interrupted. The fold lines are arranged to intersect with fold line 226. The gusset structure further comprises an intermediate panel 214 that hingedly interconnects gusset panel 182 and side end flap 200, by fold lines 218 and 220. A further triangular shaped intermediate panel 216 is preferably provided to interconnect side end flap 200 with spacer panel 208 by fold lines 220 and 132. In alternative classes of embodiment, panel 214 may extend so as to contact panel 216 but be separated therefrom by a cut line or intermediate panels 214, 216 may be replaced by a single intermediate panel.

[0046] It will be seen from Figure 2 that two article receiving arrangements 194a and 194c are provided in re-

taining panel 184a and extend partially into the adjacent gusset arrangement. Two further receiving arrangements 194b and 194d are provided in the corresponding opposing retaining panel 184b. Each arrangement is substantially identical and therefore only arrangement 194a is discussed in further detail. Each arrangement comprises an aperture 191 defined by cut line 199. A tab 195 extends into aperture 191 and is hingedly connected to retaining panel 184a by fold line 197. When the blank is erected to form a carton, tab 195 is folded out of the plane of retaining panel 184a and the aperture of 191 is shaped so as to receive an end portion of the article to be packaged. It should be understood that the size and shape of the aperture may be adjusted according to the article to be packaged.

[0047] In this embodiment tabs 195 are sized so that they correspond in height to spacer panels 182, 186 and also function as spacer panels whereby the upper edges of tabs 195 abut top panel 118.

[0048] Turning to the construction of the carton from the blanks of the first or second embodiments it is envisaged that the carton of the present invention can be formed by a series of sequential folding and gluing operations in a straight line machine so that the carton is not required to be rotated or inverted to complete its construction. The folding process is not limited to that described below and may be altered according to particular manufacturing requirements.

[0049] Turning now in particular to Figure 3, there is shown the first stage of the construction process of the carton of the first embodiment from the blanks of Figures 1A and 1B. It can be seen from Figure 3 that in order to receive the articles A, spacer panels 82 and 86 are folded upwardly and out of alignment with retaining panel 84. As tabs 96 of article receiving arrangement 94a are formed integrally with corresponding spacer panels 82, 86 they are folded downwardly out of the plane of retaining panel 84 thereby revealing article receiving apertures 91. Tabs 95 are folded upwardly, in this embodiment, to provide additional support to maintain the space between the top wall panel 18 and retaining panel 84, whereby the upper edges of tabs (or spacer panels) 95 abut the top panel 18. Of course, in other embodiments tabs 95 are used to prevent direct contact of adjacent articles, so as to provide additional protection. Articles A may then be loaded into the article retention structure from below. In other classes of embodiment, depending upon the shape of the articles to be loaded, it is possible to load the articles A from above with the loading operation also causing tabs 95 and 96 to be folded downwardly in a single operation.

[0050] Referring now to Figure 4, blank 10 is introduced onto the article retention structure such that protruding elements 92a, 92b, 92c and 92d engage with apertures 52a, 52b, 52c and 52d provided on blank 10. In those embodiments with an interference type locking arrangement the male part is engaged with the side edges of the apertures. First and second upper side panels

16 and 20 are then folded downwardly out of the plane of top panel 18 along fold lines 32 and 34 respectively to be placed in face contacting relationship with spacer panels 82 and 86 respectively. Tabs 96 (Figure 3) are also, preferably, in face contacting relationship with the side wall panels 16, 20 to improve stability of article retention structure within the outer carton. In some embodiments glue can be applied to those surfaces of the outer carton in face contacting relationship with the article retention structure.

[0051] To complete the construction of the carton, lower side panels 14 and 22 and base panels 12 and 24 are folded inwardly about fold lines 30, 36 and 28, 38 respectively.

[0052] In those embodiments with keel structures, keel panel 26 is caused to be automatically deployed, by folding upwardly out of the plane of base panel 24 along fold line 40 and keel structures 60a, 60b and 60c are set up such that riser panel 64 is folded out of alignment with base panel 24 along fold line 69 so as to be arranged in substantially spaced parallel relationship with keel panel 26. Likewise, spacer (or keel) panel 62 is folded out of alignment with keel panel 26 about fold/cut line 66 so as to be in substantially parallel spaced relationship with base panel 24. The keel structures 60a, 60b and 60c are introduced between pairs of adjacent articles A as illustrated in Figure 5 and are arranged to maintain the desired space in-between the articles such that the articles are held securely.

[0053] First base panel 12 is secured to second base panel 24 by locking tabs 42a and 42b being secured in locking apertures 58a and 58b as is well known in the art. It should be understood that in other classes of embodiment glue or other known securing means may be used to secure base panels 12 and 24 together. The carton is then in a set up and loaded condition as illustrated in Figure 5. In order to access the contents of the carton, the end user may remove tear strip 46a or 46b thereby enabling the articles A to be removed easily.

[0054] Turning now to the construction of the carton of the second embodiment as illustrated in Figures 6 to 9, it will be seen from Figure 6 that the retention means 230 and 232 are folded downwardly and inwardly about fold lines 222 and 224 respectively, as illustrated by arrows X such that side end flaps 200, 202 and 204, 206 are placed in substantially face contacting relationship with corresponding upper side panels 116 and 120 respectively.

[0055] As shown in Figure 7, upper side panels 116 and 120 are folded downwardly out of the plane of top panel 118 along fold lines 132 and 134 respectively as illustrated by arrows Y.

[0056] The downward folding movement simultaneously causes the article retention structures to be set up. More specifically, gusset panels 214 and 216 are folded back through substantially 180° so as to overlie corresponding side end flap 200 thereby bringing gusset panel 182 into substantially face contacting relationship

with gusset panels 214 and 216 as well as upper side panel 116 and side end flap 200. A similar folding process takes place with retention structure 212c. This movement further causes spacer panel 208 to be folded outwardly out of face contacting relationship with top panel 118 and into an acute angle or substantially perpendicular relationship therewith. Retaining panel 184a is thereby moved from a position in face contacting relationship with top panel 118 to be in spaced substantially parallel relationship therewith.

[0057] Likewise, the opposing retention structure 232 is the same manner as shown in Figure 7.

[0058] Articles A may then be introduced into the partially constructed carton as illustrated in Figure 8. In this embodiment the outer articles are located in the article receiving apertures 194a, 194b, 194c and 194d, and the inner articles are located in a gap between the two retaining panels 184a and 184b. The introduction of articles A into the apertures causes the corresponding tab 195 to be folded about fold line 197 so as to span the gap between retaining panel 184a and top panel 118 thus giving more support to the retaining panel.

[0059] It should be understood that in other classes of embodiments alternative arrangements of article receiving apertures may be used. For example, a central row of receiving apertures may be provided with half of each aperture being formed from retaining panels 184a and 184b, or an entire additional row of apertures being formed on retaining panel 184a or 184b.

[0060] Turning now to Figure 9, the carton is illustrated in a fully set up and loaded condition. It can be seen that, as in the first embodiment, lower side panels 114 and 122 and base panels 112 and 124 have been folded inwardly such that base panel 112 is secured to base panel 124 using locking tabs and cooperating locking apertures. In addition, the keel structure is set up in a similar manner to the keel structure of the first embodiment. It should be understood that alternative securing means may be used to secure base panel 12 to base panel 124 such as glue. Other known types of keel structures may be used, or the keel structure may be dispensed with entirely. The carton of the second embodiment may be provided with one or more tear strips similar to the carton in the first embodiment.

[0061] It can be seen that the cartons of both embodiments provide secure and "user-friendly" packaging for one or more articles without requiring the use of glue, which can slow down the manufacturing process.

[0062] It will be recognized that as used herein directional references such as "top", "base", "end" and "side" do not limit the respective panels to such orientation but merely serve to distinguish these panels from one another. Specifically, it is envisaged that the anchoring means and/or article retention means could be employed at the bottom of the carton in addition to or instead of at the top of the carton as illustrated in the aforementioned embodiments.

[0063] Any reference to hinged connection should not

be construed as necessarily referring to a single fold line only: indeed it is envisaged that the hinged connection can be formed from one or more of the following: a score line, frangible connection or a fold line without departing from the scope of invention.

[0064] It will be understood that numerous changes may be made within the scope of the invention. For example, article retention structures 230, 232 may be provided adjacent both the top and base of the carton, or the base only. In other embodiments, the retention structure may be provided adjacent one or more of the side walls. The spacer panels 208 of the second embodiment may be dispensed with, as may the triangular gusset panels 216.

Claims

1. A carton for encircling one or more articles, for example bottles, comprising a plurality of panels for forming a tubular structure including a first wall panel and an adjacent second wall panel, the carton being provided with an article retention structure arranged in spaced, substantially parallel relationship with the first wall and further comprising one or more apertures for receiving at least one of the articles, wherein spacer means is provided to maintain spaced relationship between the first wall and the retention structure and anchor means is provided to substantially prevent lateral and/or transverse movement of the retention structure relative to the first wall.
2. A carton according to claim 1 wherein the spacer means comprises a spacer panel arranged so as to extend between the retention structure and the first wall.
3. A carton according to claim 2 wherein the spacer panel extends to an intersection between the first wall and the second wall of the tubular structure.
4. A carton according to claim 2 or claim 3 wherein the anchoring means comprises a protruding element provided on the edge of the spacer means engaging the first wall, the protruding element being so arranged as to engage a corresponding aperture provided in the first wall thereby preventing lateral movement of the retaining structure relative to the first wall.
5. A carton according to any one of claims 2 to 4 wherein a tab is struck from the article receiving aperture and is formed integrally with the spacer panel such that folding the tab out of the plane of the article receiving aperture causes the spacer panel to simultaneously be folded.
6. A carton according to any preceding claim wherein the retention structure is formed from a separate blank to the carton.
7. A carton according to claim 1 or claim 2 wherein the anchoring means comprises a panel disposed in substantially face contacting relationship with the second wall of the tubular structure which panel is connected to the retention structure.
8. A carton according to claim 7 wherein the face contacting panel is positioned intermediate said second wall and the article contained in the carton.
9. A carton according to claim 8 wherein a gusset structure hingedly interconnects the anchoring means to the retention structure.
10. A carton according to claim 8 wherein the gusset structure comprises a pair of hinged gusset panels hingedly interconnecting the face contacting panel and the retention structure.
11. A carton according to any of claims 7 to 9 wherein a spacer panel hingedly interconnects the article retention structure to the first wall.
12. A carton according to any one of claims 7 to 11 wherein the article retention structure is hingedly connected to the carton by the anchoring means.
13. A carton according to any one of claims 7 to 12 wherein a spacer tab is struck from one or more of the article receiving apertures and is arranged so as to reinforce the spacing between the retention structure and first wall.
14. An article retention structure for retaining articles in a carton including a plurality of panels including a first wall panel interconnected for forming a tubular structure, for example, the retention structure comprising one or more article receiving apertures, and being spaced from the first wall by spacer means in substantially parallel relationship thereto, and wherein anchor means is provided to substantially prevent relative transverse and/or lateral movement between the retention structure and the first wall.
15. A blank for forming a carton for encircling one or more articles, for example bottles, comprising a base wall panel, first wall panel, top wall panel and a second side wall panel interconnected in series, the blank being provided with an article retaining structure for retaining one or more articles, the retaining structure comprising in series a spacer panel and an article retaining panel and further comprising one or more apertures struck from the re-

retaining panel for receiving one or more of the articles, and anchor means arranged so as to cooperate with an aperture provided on the top wall of side carton.

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16. A blank according to claim 15 wherein the aperture is provided adjacent the fold line interconnecting the top wall with one of said side walls.

17. A blank according to claim 15 or claim 16 wherein the anchoring means comprises a protruding element provided on the edge of the spacer panel. 10

18. A blank according to any one of claims 15 to 17 wherein a tab is struck from the article receiving aperture and is formed integrally with the spacer panel. 15

19. A blank according to any one of claims 15 to 18 wherein a second spacer panel is hingedly connected to an opposing edge of the retaining panel relative to the first spacer panel. 20

20. A blank according to any one of claims 15 to 19 wherein base, side and top wall panels are formed from a first blank and the retaining structure is formed from a second blank. 25

21. A blank for forming a carton for encircling one or more articles for example bottles, comprising a base wall panel, first side wall panel, top wall panel and second side wall panel interconnected in series, a retaining panel hingedly interconnected to an end edge of one of the wall panels, and one or more apertures for receiving one or more articles, wherein anchoring means comprising a flap hingedly connected to a further end edge of the blank, and interconnected to the retaining panel by a gusset structure is provided. 30 35

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22. A blank according to claim 21 wherein a spacer panel hingedly interconnects the retaining panel to the end edge of one of the wall panels.

23. A blank according to claim 21 or claim 22 wherein a spacer tab is struck from one or more of the article receiving apertures. 45

24. A blank according to any one of claims 21 to 23 wherein the gusset structure comprises a first gusset panel hingedly connected to the retaining panel and a second gusset panel hingedly connected to the first gusset panel and the end edge flap. 50

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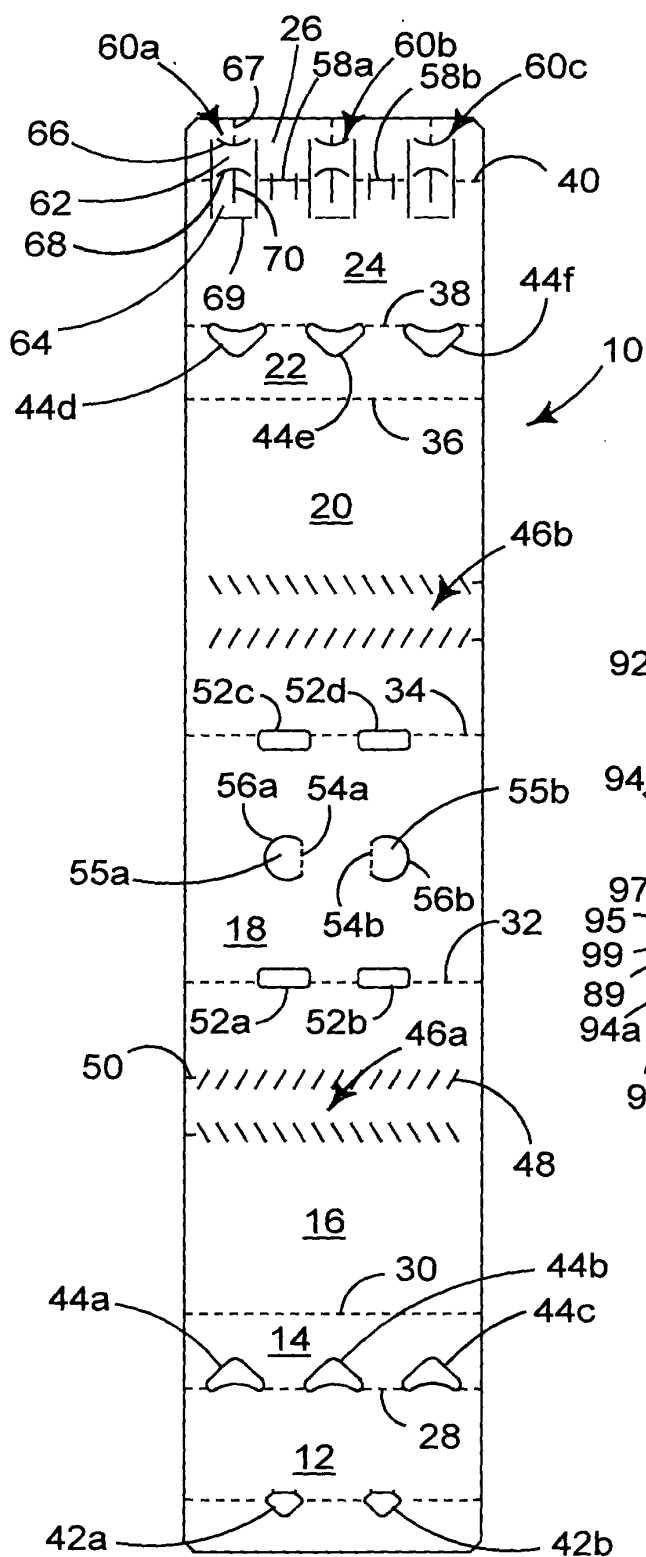


FIGURE 1A

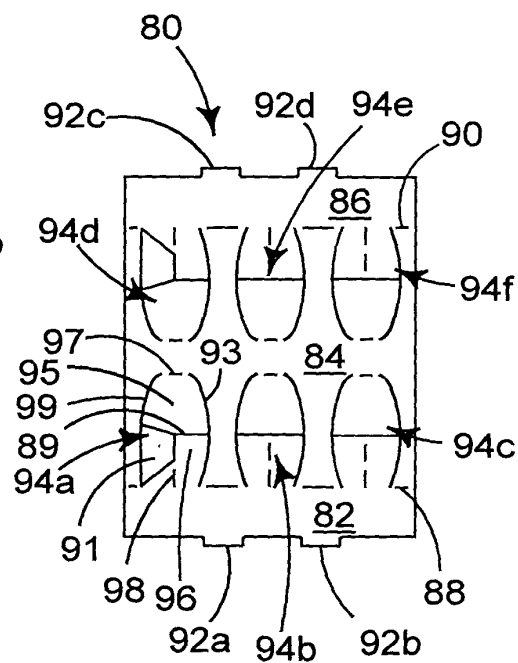


FIGURE 1B

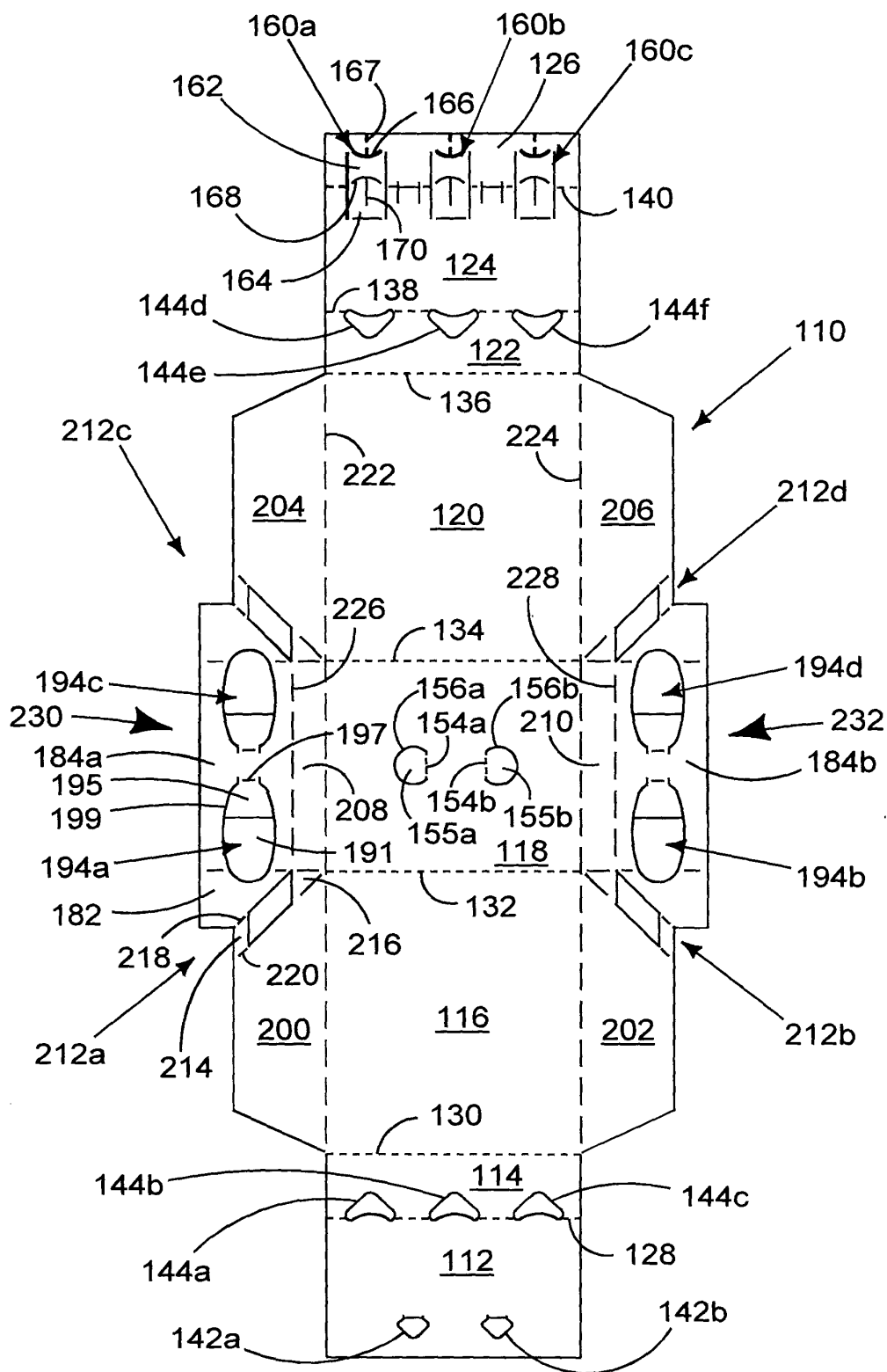


FIGURE 2

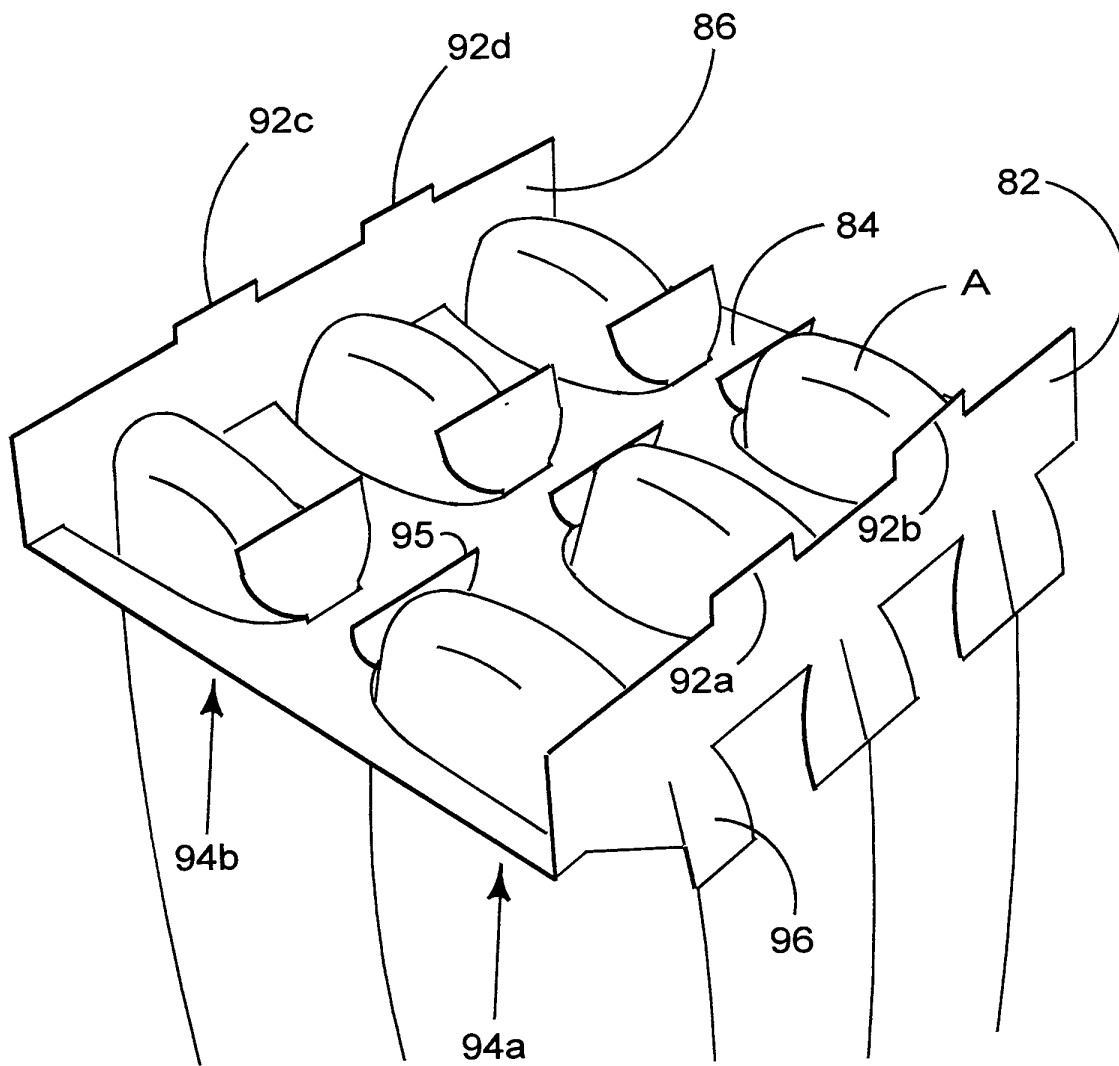


FIGURE 3

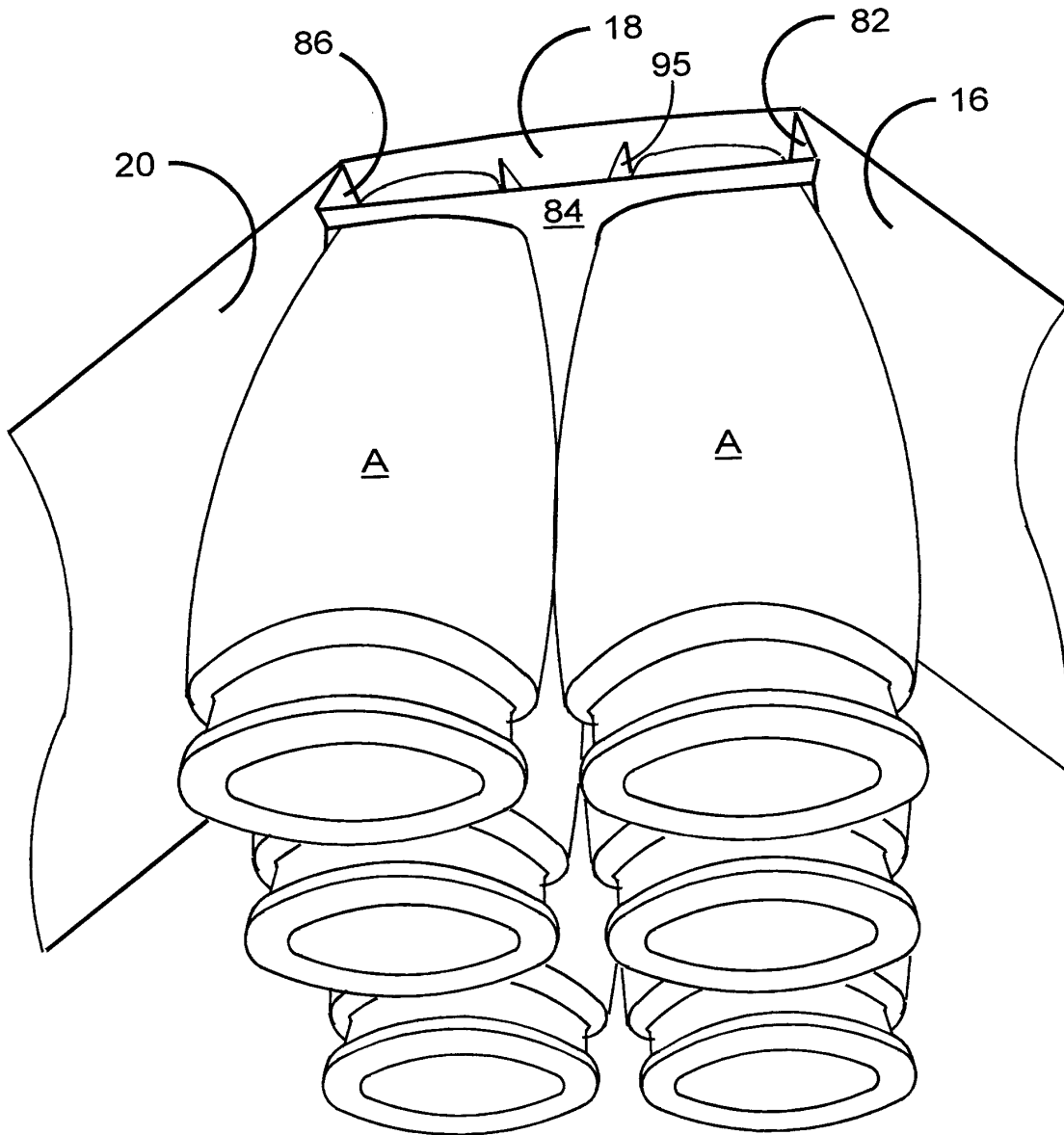


FIGURE 4

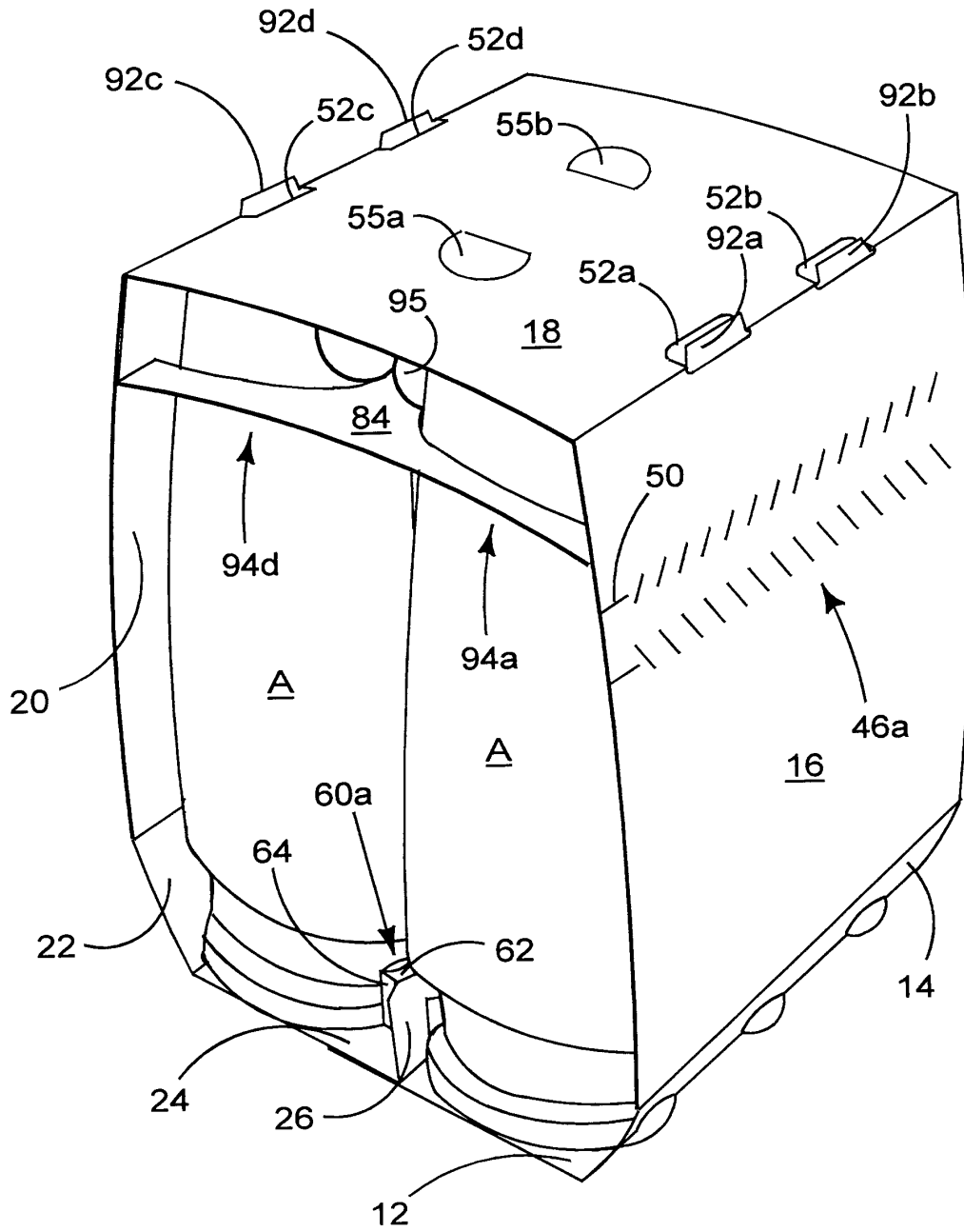


FIGURE 5

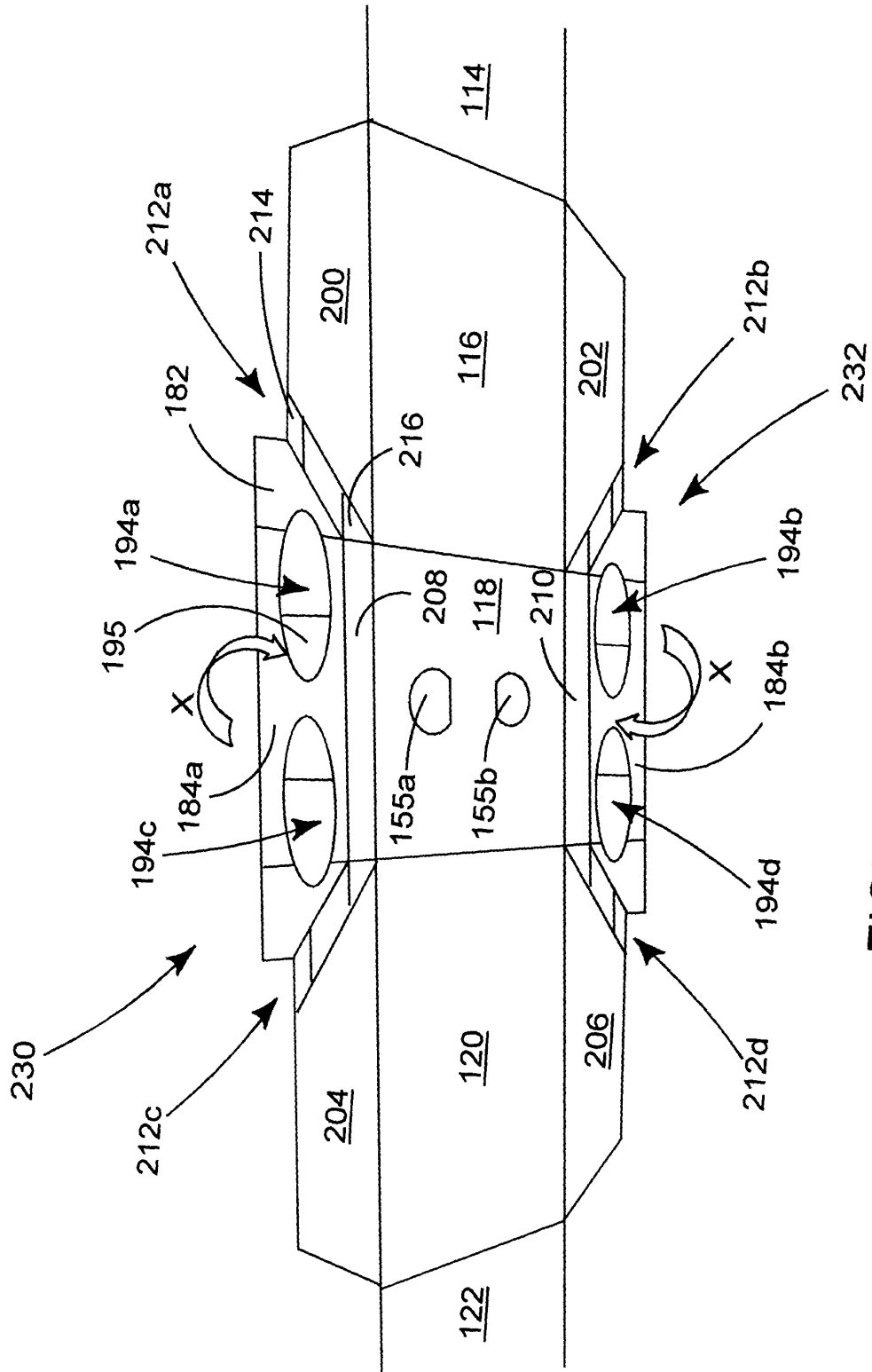


FIGURE 6

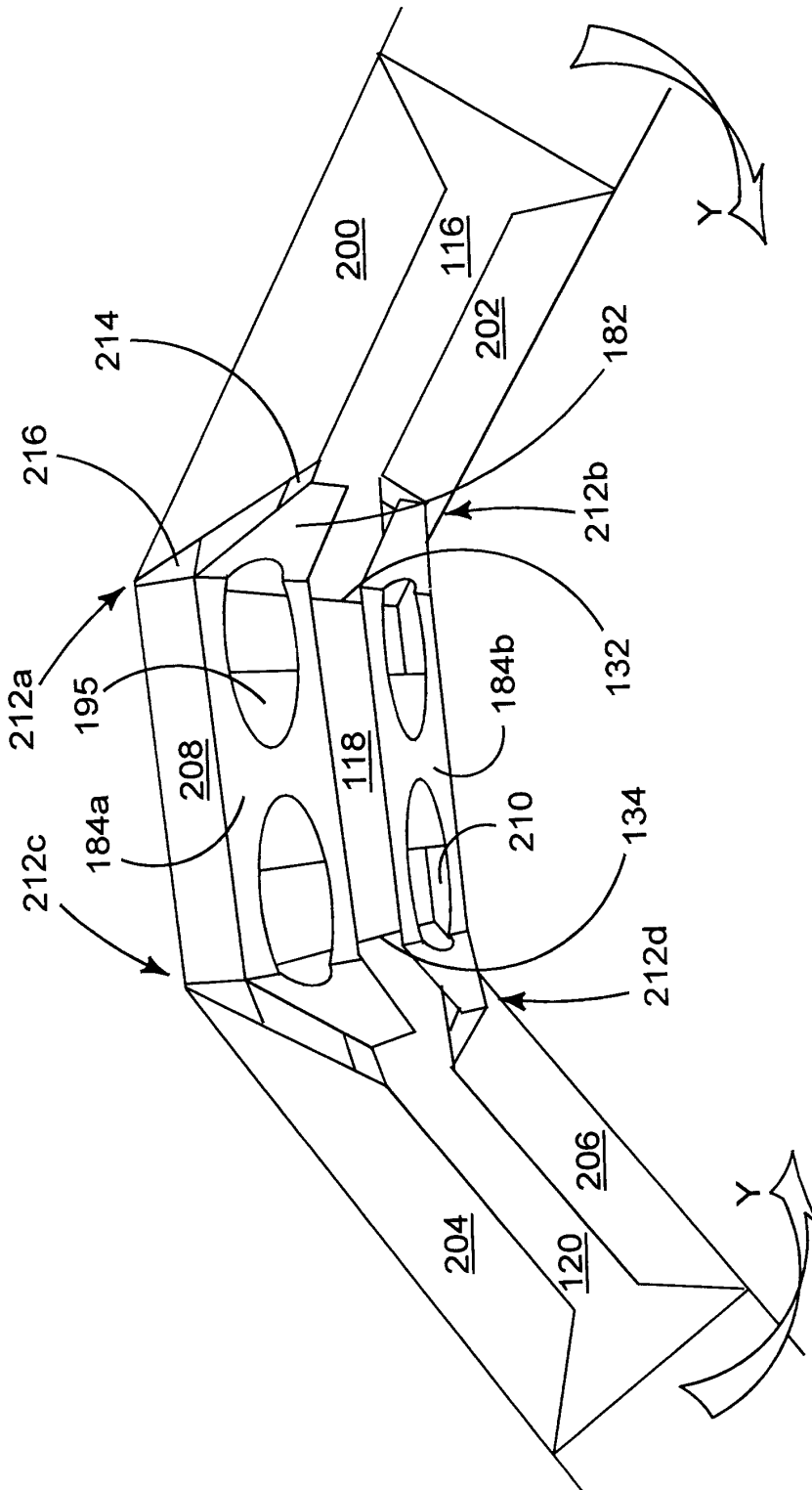


FIGURE 7

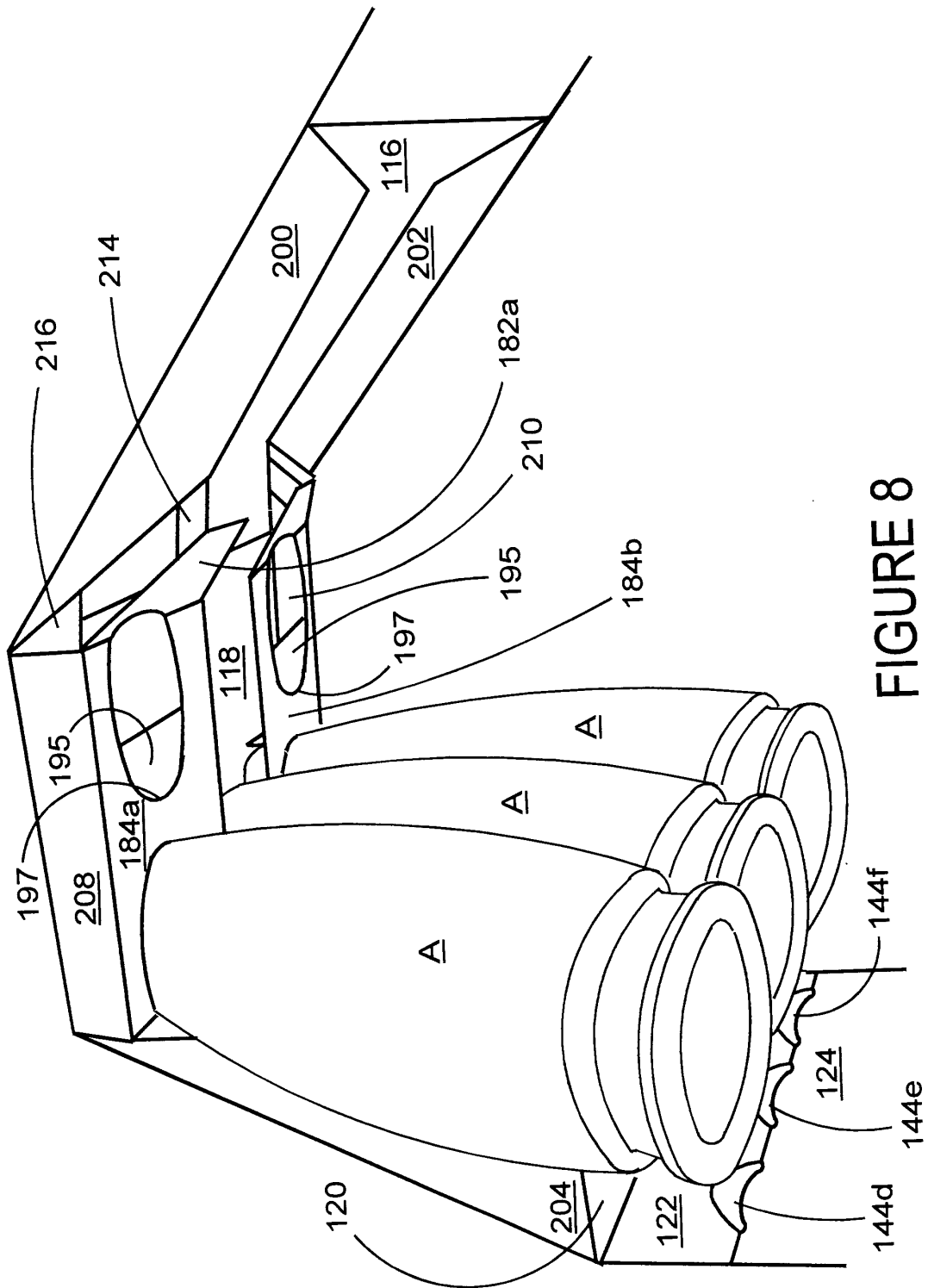


FIGURE 8

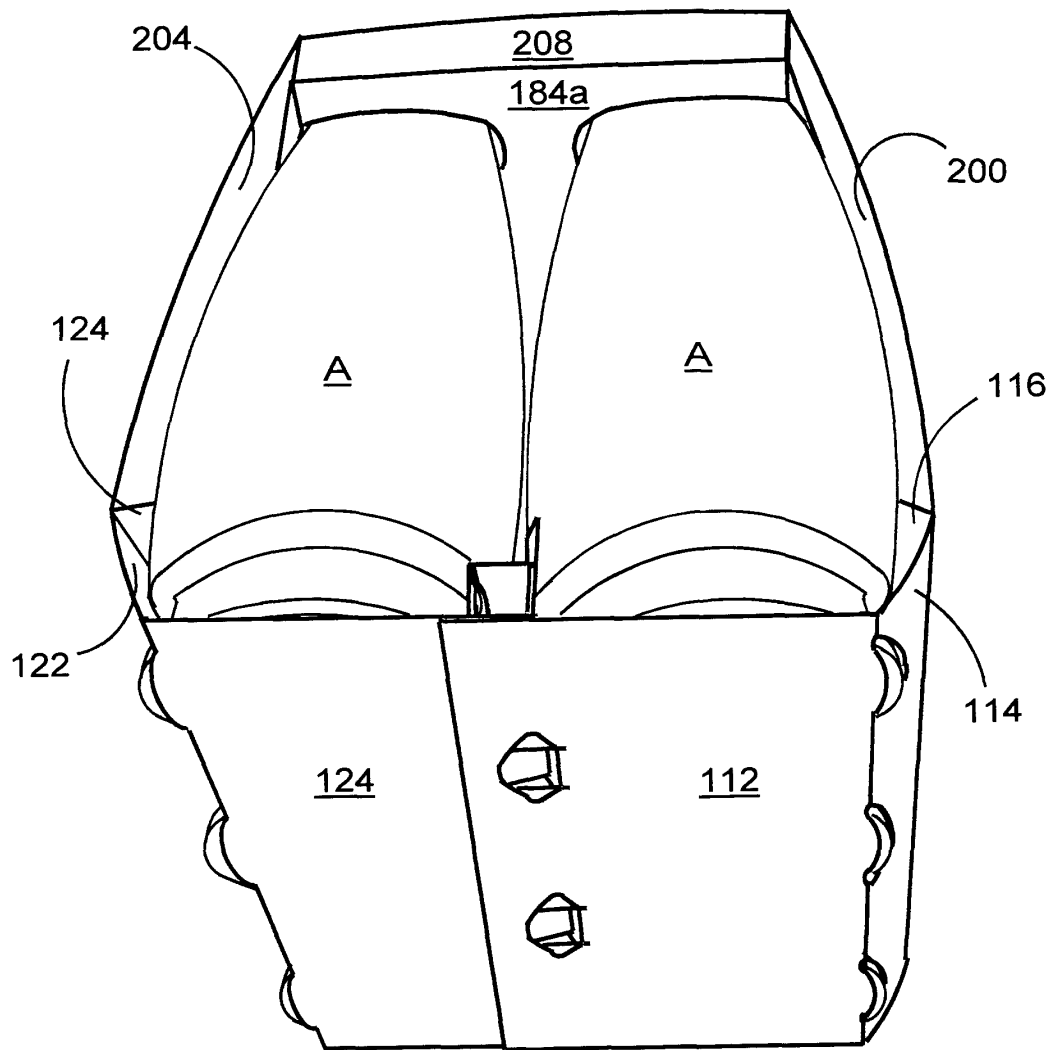


FIGURE 9