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(54) **CARTON AND CARTON BLANK**

KARTONBEHÄLTER UND ZUSCHNITT

CARTONNAGE ET D COUPES DE CARTONNAGE

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(56) References cited:
EP-A- 0 699 588
WO-A-99/29577
US-A- 4 438 848
US-A- 5 680 930

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EP 1 237 790 B1

Description

Background of the Invention

[0001] The present invention relates to a carton and a carton blank for forming said carton. More particularly, the invention relates to a carton and blank for packaging fragile articles such as bottles of perfume, for example.

[0002] It is known to provide an inner support structure for fragile items. For example, US 3,693,866 to Struble discloses a tubular carton comprising an inner and outer sections, the inner section having frangibly interconnected panels which may be separated in order to accommodate an article therebetween.

[0003] Another example is shown in US 2,732,123 to Bolding which discloses a shock resistant tubular carton having inner and outer sections, the inner section being adapted to accommodate a vacuum type valve, and having a cut-away section provided therein.

[0004] EP699588 to CD illustrates a carton for packaging articles comprising an outer carton and a pair of inner article support structures. Each article support structure is hingedly connected to a side panel forming the outer carton and is secured to that side panel. Thus the article retention structures are not secured together.

[0005] A further problem with known carriers is that the inner section and outer sleeve need to be constructed and erected at the time of loading the article. This is undesirable for modem packaging machines as it limits the machine speeds. Accordingly, the present invention seeks to overcome this problem by providing a collapsible carrier.

[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 accommodating a fragile article of value, such as a perfume bottle. The carton comprises an outer sleeve and an inner article receiving structure, the inner article receiving structure being formed so as to hold an article out of contact with the sides of the outer sleeve. The inner article receiving structure comprises an inner sleeve having a first pair of opposed side walls secured to a first pair of opposed side walls of the outer sleeve and a second pair of opposed side walls spaced apart from a second pair of opposed side walls of the outer sleeve. The second pair of side walls of the inner structure having apertures to receive and support portions of the article. The inner structure further comprises a first closure panel hingedly connected to one end of the inner sleeve for movement between an open position where the closure panel allows the inner and outer sleeves to collapse into a flat form and a closed position where the closure panel forms a brace structure extending between the first and second pairs of side walls of the inner structure and provides resistance to collapse of the inner and outer sleeves.

[0008] These structures provide a degree of support but for fragile items it is desirable to support the product from above and below as well as from all sides.

[0009] Optionally, the first bridging closure panel may be hingedly connected to one of the second pair side walls of the inner structure, the bridging closure panel being disposed in the plane of said one second pair side wall when in the open position and extending between the second pair side walls of the inner structure when in the closed position. Preferably, the first bridging closure panel comprises a recess panel hingedly connected to the one second pair side wall, and a bridging panel hingedly connected to the recess panel, the recess panel may overlie the one second pair side wall when the bridging closure panel is in the closed position and the bridging panel extends from the recess panel to the other second pair side wall of the inner structure when the bridging closure panel is in the closed position.

[0010] According to an optional feature of this aspect of the present invention, the inner structure further comprises a second bridging closure panel hingedly connected to at least one of the second pair side walls of the inner structure for movement between an open position where the second bridging closure panels allow the inner and outer sleeves to collapse into a flat form and a closed position where the second bridging closure panel forms an article receiving platform extending between the one second pair side wall of the inner structure and an adjacent one of the second pair side walls of the outer sleeve and provides resistance to collapse of the inner and outer sleeves.

[0011] Preferably the second bridging closure panel is secured to the outer sleeve. Alternatively an edge of the second bridging closure panel abuts a panel of the outer sleeve.

[0012] According to a further optional feature of this aspect of the present invention, the outer sleeve includes an end closure structure wherein the brace structure further comprises a bevelled portion formed in the inner sleeve such that a securing flap of the end closure structure of the outer sleeve may be guided into a gap between the brace structure and the outer sleeve.

[0013] According to an optional feature of this aspect of the present invention a first blank is provided for the outer sleeve, and a second blank is provided for the inner sleeve.

[0014] According to a second aspect of the present invention provides a blank for accommodating a fragile article of value, such as a perfume bottle, which blank comprises a plurality of panels for forming an outer sleeve including opposed side and end wall panels hingedly connected together in series, and a second blank comprising a plurality of panels for forming an inner article receiving structure. The inner article receiving blank comprises an inner sleeve having a first pair of opposed side walls and a second pair of opposed side walls hingedly connected together, said second pair of side walls of the inner structure having apertures to receive and support portions of the article in a set up con-

dition. The inner structure further comprises a first bridging closure panel hingedly connected to one end of the inner sleeve panels for movement between an open position and a closed position when the carton is set up where the bridging closure panel forms a brace structure extending between the first and second pairs of side walls of the inner structure.

Optionally, the first bridging closure panel may be hingedly connected to one of the second pair of side walls of the inner structure, and extending between the second pair side walls of the inner structure when in the closed position.

[0015] Preferably the first bridging closure panel may comprise a recess panel hingedly connected to the one second pair side wall, and a bridging panel hingedly connected to the recess panel, the recess panel overlies the one second pair side wall when the bridging closure panel is in the closed position and the bridging panel extends from the recess panel to the other second pair side wall of the inner structure when the bridging closure panel is in the closed position.

[0016] According to an optional feature of the second aspect of the present invention, the inner structure may further comprise a second bridging closure panel hingedly connected to at least one of the second pair side walls of the inner structure where the second bridging closure panel forms an article receiving platform extending between the one second pair side wall of the inner structure and an adjacent one of the second pair side walls of the outer sleeve in a set up carton.

Brief Description of the Drawings

[0017] Exemplary embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings in which:

FIGURE1 is a plan view of a blank according to one embodiment of the invention;

FIGURE 1A illustrates the blank of Figure 1 part-constructed in a flat collapsed condition;

FIGURE 2 is a perspective view from below of the blank of Figure 1 when partially erected to form a carton;

FIGURE 3 is a perspective view of the blank at a later stage of the erection process than illustrated in Figure 2;

FIGURE 4 is a perspective view from above of the blank of Figure 1 when partially erected to form a carton;

FIGURE 5 is a perspective view from above of the carton ready to receive an article;

FIGURE 6 is a cross-sectional view of the carton with an article in place viewed from the side thereof;

FIGURES 7A and 7B are plan views of a two part blank according to a second embodiment of the invention;

FIGURE 8 is a plan view of a blank according to a third embodiment of the invention;

FIGURE 9 is a perspective view from below of the blank of Figure 8 when partially erected to form a carton;

FIGURE 9A is a perspective view of the blank at a later stage of the erection process than illustrated in Figure 9;

FIGURE 10 is a perspective view from above of the blank of Figure 8 when partially erected to form a carton;

FIGURE 10A is a perspective view from above of the carton ready to receive an article;

FIGURE 11 is a perspective view from above the carton in a loaded and set up condition; and

FIGURE 11A is a cross-sectional view through X-Y of the carton shown in Figure 11.

Detailed Description of the Preferred Embodiments

[0018] Referring to the drawings and in particular Figure 1, a carton is formed from a single blank 10 of paperboard or similar foldable sheet material adapted to accommodate an article such as a bottle, particularly a fragile article such as a bottle of perfume, for example. Of course, it is envisaged that one or more blanks could be used, one example of which is shown in Figures 7A and 7B, described in more detail below.

[0019] The blank comprises two portions, outer sleeve 10b, and inner sleeve 10a. Turning first to outer sleeve 10b, there comprises a first side wall panel 12, first end wall panel 14, second side wall panel 16 and second end wall panel 18 are hingedly interconnected in series along fold lines 64, 66 and 68 respectively. A base wall panel 26 is provided that is preferably hingedly connected to first side wall panel 12 along fold line 72. A securing flap 34 is hingedly connected to base wall panel 20 along fold line 74. First and second base end flaps 28 and 30 complete a base wall structure and are preferably hingedly interconnected to first and second end wall panels 14 and 18 along fold lines 76 and 78 respectively.

[0020] Top wall structure preferably comprises a top wall panel 22 hingedly interconnected to second side wall panel 16 along fold line 82, and top end flaps 20

and 24 hingedly connected to first and second end wall panels along fold lines 86 and 80 respectively. A securing flap 32 is, in this embodiment, hingedly connected to top wall panel 22 along fold line 84. It should be recognised that in alternative classes of embodiment other known top and base closure structures may be employed.

[0021] Turning to inner sleeve portion 10a, there is provided in series first securing panel 62, first article receiving structure 36, second securing panel 52, second article receiving structure 38, and third securing panel 54, hingedly interconnected along fold lines 88, 90, 92 and 94 respectively. First securing panel 62 is further hingedly connected to second side panel 18 of the outer sleeve 10a along fold line 70.

[0022] Second article receiving structure 38 is, in this embodiment, essentially identical to the first article receiving structure. Therefore, only first receiving structure 36 is described in greater detail. Structure 36 preferably comprises central bridging panel 40, recessing panel 42, main receiving panel 44, transverse receiving panel 46 and end wall contacting panel 48 hingedly interconnected in series along fold lines 96, 98, 100 and 102 respectively. Advantageously, the corners of recessing panel 42 and main receiving panel 44 are bevelled adjacent fold line 98 for reasons explained below.

[0023] In addition, an elongate aperture 50 is provided in main receiving panels 44 for receiving the article A, once the blank has been erected to form a carton. Preferably, the aperture 50 extends into transverse receiving panel 46. Naturally, the size and shape of the aperture may be altered to receive differing articles.

[0024] An inner cover panel 56 is preferably hingedly connected to third securing panel 54 along fold line 104. A securing flap 58 is further advantageously hingedly connected to inner cover panel 56 along fold line 106.

[0025] It is envisaged that the carton of the first, second or third embodiments 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.

[0026] Turning to Figure 1A and Figure 2, glue is preferably first applied to securing panels 52, 54. Of course, it is envisaged that other known securing means could be employed without departing from the scope of protection.

[0027] The securing panels, together with article receiving structures 36 and 38 are then, in this embodiment, folded along fold lines 88, 90, 92 and 94 such that the receiving structures 36, 38 are placed in mutually opposed substantially parallel relationship, and second and third securing panels 52 and 54 are similarly placed in mutually opposed parallel relationship with the faces to which glue G has been applied facing outwardly. Free edge 108 of third securing panel 54 is now adjacent fold line 88, first and third securing panels 62, 54 being coplanar with the glued faces effectively now facing in the same direction.

[0028] Outer sleeve panels 12, 14, 16 and 18 are folded out of mutual alignment so as to form an open ended tubular structure enclosing the partially erected inner sleeve 10b. First securing panel 62 secures the outer sleeve, and the panels of the inner sleeve are dimensioned such that second securing panel is brought into face contacting relationship with second side panel 16, and is secured thereto by glue G. Third side panel 54 is likewise brought into face contacting relationship with first side panel 12, and is secured thereto by glue G. The carton is now in the partially erected form as illustrated in Figure 2.

[0029] An alternate form of carton construction can be employed whereby the inner sleeve 10a is folded towards outer sleeve 10b along fold line 70 and securing panel 52 is secured to side wall panel 16 by glue or other suitable means known in the art. Thereafter, article receiving structure 38 and third securing panel 54 are folded out of alignment with second securing panel 52 along fold line 92 and into face contacting relationship with second securing panel and first article receiving structure 36, whereby the end edge 108 abuts fold line 88 to provide a contiguous face. End wall panel 14 is folded along fold line 66 so as to be placed in overlapping arrangement with second receiving structure 38 and first side wall panel 12 is brought into face contacting arrangement with the outer surface of third securing panel 54 and first securing panel 62 to be secured therewith.

[0030] At this stage of construction, the carton remains collapsible, and may optionally be supplied to the customer in collapsed form, shown in Figure 1A, for subsequent complete erection on the customer's premises, thereby minimising space required during transport, and hence reducing costs.

[0031] In order to complete construction of the carton, by reference to Figure 2 and Figure 3, recess panel 42 is then tolded inwardly along fold line 98 through substantially 180° as illustrated by arrow X so as to partially overlie main receiving panel 44. Central bridging panel 40 is folded through substantially 90° in the opposite direction relative to recess panel 42, so as to be positioned substantially perpendicular to main receiving panel 44, spanning the space between the corresponding main bridging panel of he opposed receiving structure 38. A similar operation is carried out with the corresponding panels of receiving structure 38 such that bridging panels 40 and 110 are in substantially face contacting relationship as is shown in Figure 3. The bridging panels 40, 110 may optionally be secured together using glue or other suitable means known in the art.

[0032] The base of the carton C is closed by folding base end flaps 28, 30 and base wall panel 26 inwardly out of alignment with corresponding end and side wall panels 12, 16 and 18. Securing flap 34 may be sandwiched between second side panel 16 and the non-

glued portion of second securing panel 52. The bevelled portions 43, 45 of main receiving panel 44 and recessing panel 42 help to guide the flaps 34 between inner part and outer sleeves the location of the flap 34.

[0033] As can be seen perhaps most clearly from Figure 6, the bridging panels 40, 110 impart rigidity to the carton whilst establishing an enclosed space between the bottom of Article A and the base of the carton.

[0034] Turning now to the construction of the upper portion of the inner sleeve 10a, as illustrated in Figures 4 and 5, transverse receiving panel 46 is folded outwardly along fold line 100, whilst end wall contacting panel 48 is, preferably, simultaneously folded in the opposite direction, the combination of both operations being represented by arrow Y. Thus, panel 48 is placed in a face contacting relationship with end wall panel 18, and transverse panel 46 spans the gap between main receiving panel 44 and end wall panel 18. By spanning the gap, the panel 48 acts as a brace to provide additional support to panel 44, thereby reducing unwanted internal movement.

[0035] In the particularly preferred embodiment illustrated, transverse panel 46 is dimensioned such that when panel 48 is brought into face contacting relationship with panel 18, transverse panel 44 is substantially perpendicular to both main receiving panel 44, and end wall contacting panel 48. This allows both panels 46 and 48 to be mechanically maintained in their desired position without the need for additional securing means.

[0036] In alternative classes of embodiment however, transverse panel may be dimensioned differently such that an acute or obtuse angle would exist between main receiving panel 44 and transverse receiving panel 46. In these embodiments, it would be preferable for glue or other securing means known in the art to be provided between panel 48 and end wall panel 18, so as to maintain the article receiving structure 36 in its set up condition.

[0037] Article receiving structure 38 is also set up in a similar manner, as is illustrated in Figure 5.

[0038] The article A is then loaded into the carton C, and is held by the apertures 50, 50a provided in the article receiving structures 36, 38. Inner cover panel 56 is then folded inwardly along fold line 104 so as to overlie the top of article A. Securing flap 58 is folded along fold line 106 so as to be brought into face contacting relationship with second side panel 16. The carton is then closed by folding top end flaps 20 and 24, and top wall panel 22 inwardly along their respective fold lines 86, 80, 82 in a similar manner to the base wall panel end flaps of the base wall structure, as described above. Securing flap 32 is preferably held between an unsecured portion of third securing panel 54, and first side panel 12. Bevelled comer portions (not shown) similar to those described above could be included to guide securing flap 32 to the desired position.

[0039] Figure 6 illustrates in cross sectional view the fully erected carton with article A loaded therein. It should be understood that the base and sides of the article A are spaced from the adjacent walls of the carton 12, 14, 16, 18, 26, but are held snugly such that substantially no movement of the article A within the carton is possible. It should be appreciated that the article receiving structures 36 and 38 provide one or more "crumple zone(s)" which may be deformed if there is an impact between the carton and another body, thus substantially absorbing the energy of such an impact without damaging the article A within. For example, the crumple zones may be provided by panels 42/44; 46 or 48. In order to adjust the deformation characteristics of the article receiving structures 36 and 38, the caliper of the paperboard or like materials may be changed and/or the dimension of the panels and apertures adjusted such that a greater or lesser distance between the article and the walls of the carton may be provided.

[0040] Referring now to Figures 7A and 7B, there is shown an alternative embodiment of the invention in which like parts have been annotated with like numerals but with the addition of the prefix "1". Therefore, only the differences will be described in any greater detail. Figure 7A illustrates the inner sleeve 110a of a two part blank and Figure 7B illustrates the outer sleeve 110b of a two part blank.

[0041] Inner sleeve 110a is erected in a similar manner to inner sleeve 10a of the first embodiment however, glue G is applied to the same face of first support panel 162 as it is to second support panel 152 and third support panel 154. As the inner sleeve 110a is folded along fold lines 188, 190, 192 and 194 so as to form a tubular structure in which article receiving structures 136 and 138 are placed in mutually opposing relationship, first securing panel 162 is folded such that its free edge is brought into contact with the cut-away portion of third securing panel 154 as is defined by free edge 108 thereof. The shape of the cut-away portion, and first support panel may be altered within the scope of the invention.

[0042] Outer sleeve 110b is erected in a similar manner to outer sleeve 10b of the first embodiment, the only difference being that an additional securing flap 119 is provided, being hingedly interconnected with second end panel 118 along fold 170. As the outer sleeve is folded so as to form a tubular structure, glue or other suitable means known in the art secures flap 119 to first side panel 112. The use of a two part blank, allows the inner sleeve to be made from a differing grade and/or caliper of paperboard or like material from the outer sleeve, and furthermore simplifies the application of glue to the inner sleeve, as glue needs to be applied to one face of the blank only.

[0043] Referring to Figure 8, there is shown another embodiment of the invention in which a carton is formed from a single blank 210 of paperboard or similar foldable sheet material adapted to accommodate an article such as a bottle, particularly a fragile article such as a bottle of perfume, for example. Again, it is envisaged that the blank could be two parts.

[0044] In this embodiment, the blank comprises two portions, outer sleeve 210b, and inner sleeve 210a. Turning first to outer sleeve 210b, the panels correspond substantially to the first embodiment and like references have been used with the prefix "2". Thus, there comprises a first side wall panel 212, first end wall panel 214, second side wall panel 216 and second end wall panel 218 are hingedly interconnected in series along fold lines 264, 266 and 268 respectively. A top wall and base wall structure are provided that in this embodiment correspond substantially to the first embodiment and are not therefore described in any greater detail. It should be recognised that in alternative classes of embodiment other known end closure structures may be employed.

[0045] Turning to inner sleeve portion 210a, there is provided a plurality of panels for forming an article support structure. In this embodiment, there is a first securing panel 262, first article receiving structure 236, first intermediate panel 254, second article receiving structure 238, and second intermediate panel 252, hingedly interconnected in series along fold lines 288, 290, 292 and 294 respectively. First securing panel 262 is further hingedly connected to second side panel 218 of the outer sleeve 210a along fold line 270.

[0046] Second article receiving structure 238 is, in this embodiment, substantially identical to the first article receiving structure except that in this embodiment structure 238 does not include an equivalent of bridging panel 240. Like panels are designated with the same numeral with the addition of the letter "a". Therefore, only the first article receiving structure 236 is described in greater detail. Structure 236 preferably comprises central bridging panel 240, article receiving panel 244, transverse receiving panel 246 and upper panel 248 hingedly interconnected in series along fold lines 296, 298 and 200 respectively.

[0047] In addition, an aperture 250 is provided in main receiving panels 244 for receiving the article A, once the blank has been erected to form a carton. Preferably, the aperture 250 extends into transverse receiving panel 246. Naturally, the size and shape of the aperture may be altered to receive differing articles.

[0048] There may further comprise a platform panel 251 formed from one of the panels forming the article retention structure. In this embodiment the platform panel 251 is struck from one or more of the main and transverse panels 244, 246. Figure 8 illustrates panel 251 is hingedly connected to an edge of aperture 250. Optionally, platform panel 251 conforms to the shape of a portion of the article.

[0049] It is envisaged that a platform panel could be incorporated into the first or second embodiments.

[0050] An inner cover panel 256 may be provided that is hingedly connected to intermediate panel 254. Securing flap 258 is further advantageously hingedly connected to inner cover panel 256 along fold line 306. There may also comprise spacer panel 255 hingedly connected to intermediate panel 254 along fold line 302 and to inner cover panel 256 along opposing fold line 304.

[0051] Turning now to the construction of the carton illustrated in Figures 9, 9A, 10 and 10A. In some embodiments, glue is first applied to securing panel 262, to intermediate panels 252 and 254, and optionally to spacer panel 255.

[0052] The inner sleeve is formed in like manner described above, whereby the panels forming the receiving structures are folded out of alignment to be placed in mutually opposed substantially parallel relationship, and first and second intermediate panels 254 and 252 are similarly placed in mutually opposed parallel relationship with the faces to which glue G has been applied facing outwardly. Thereafter, the outer sleeve panels 212, 214, 216 and 218 are now preferably folded out of mutual alignment so as to form an open ended tubular structure enclosing the partially erected inner sleeve 210b and is secured to the inner sleeve in like manner described above.

[0053] Of course, the alternative approach can be used described above whereby the panels of the inner sleeve are folded into face contacting arrangement with the outer panels of the sleeve to provide a flap collapsed carton, similar to the embodiment of Figure 1.

[0054] Like the first and second embodiments, the carton of this embodiment remains collapsible, and may optionally be supplied to the customer in collapsed form for subsequent complete erection on the customer's premises.

[0055] The carton is then in a part-erected form shown in Figure 9, the base structure is formed by folding central bridging panel 240 inwardly along fold line 296 through substantially 90° as illustrated by arrow Y so as to be positioned substantially perpendicular to main receiving panel 244, spanning the space between the opposed receiving structures 236, 238. The bridging panel 240 may optionally be secured to main receiving panel 244a using glue or other suitable means known in the art. In such embodiments, bridging panel 240 is advantageously provided with a securing flap that may be brought into contact with panel 244a. The base of the carton is illustrated in Figure 9A.

[0056] The base of the carton is closed by folding base end flaps 228, 230 and base wall panel 226 inwardly out of alignment with corresponding end and side wall panels 214, 216 and 218 whereby panel 234 is sandwiched between first side panel 212 and a non-glued portion of second intermediate panel 252. Bevelled portions of main receiving panel 244 and recessing panel 242 may be provided to guide the flap 234 into position.

[0057] Bridging panel 240 may advantageously be reduced in width so as not to engage first side panel 212, thereby assisting the function of the bevelled portions. As can be seen perhaps most clearly from Figure 9A, the bridging panel 240 imparts rigidity to the carton.

[0058] Turning to the construction of the upper portion of the inner sleeve 210a, as illustrated in Figures 10 and

10A, transverse receiving panel 46 is folded outwardly along fold line 298, whilst upper panel 248 is preferably simultaneously folded in the opposite direction, the combination of both operations being represented by arrow Z. Upper panel 248 is placed in a face contacting relationship with end wall panel 218, and transverse panel 246 spans the gap between main receiving panel 244 and end wall panel 218 to provide a brace, similar to the first embodiment.

[0059] In the particularly preferred embodiment illustrated, transverse panel 246 is dimensioned such that when panel 248 is brought into face contacting relationship with side panel 218, transverse panel 246 is substantially perpendicular to both main receiving panel 244, and end wall contacting panel 248. This allows both panels 246 and 248 to be mechanically maintained in their desired position without the need for additional securing means.

[0060] In alternative classes of embodiment however, transverse panel may be dimensioned differently such that an acute or obtuse angle would exist between main receiving panel 244 and transverse receiving panel 246. In these embodiments, it would be preferable for glue or other securing means known in the art to be provided between upper panel 248 and end wall panel 218, so as to maintain the article receiving structure 236 in its set up condition.

[0061] Article receiving structure 238 is also set up in a similar manner, as is illustrated in Figure 10A.

[0062] The article A (Figure 11) is loaded into the carton, and is held by the apertures 250, 250a provided in the article receiving structures. Platform panels 251 and 251a are folded along fold lines 249 and 249a respectively into a substantially horizontal plane to define a platform P upon which the article A rests, shown in Figure 11. In some embodiments, the panels 252 and 251a abut the adjacent side wall to be engaged therewith by suitable means. The platform P provides additional rigidity to prevent unwanted movement of the side walls and main receiving panels, and also substantially prevents the unprinted inner faces of the base, end and side wall panels being visible to the end user of the carton, when viewed from above.

[0063] To complete construction of the carton, inner cover panel 256 is then preferably folded inwardly along fold line 204 so as to overlie the top of article A. Flap 258 is folded along fold line 206 so as to be brought into face contacting relationship with first side panel 216. The carton is then closed by folding top end flaps 220 and 224, and top wall panel 222 inwardly along their respective fold lines 286, 280, 282 in a similar manner to the base wall panel end flaps of the base wall structure, as described above. Tab 232 is preferably held between an unglued portion of spacer panel 255 or first intermediate panel 254, and first side panel 212 to complete the carton as shown in Figure 11.

[0064] Figure 11A illustrates in cross sectional view the fully erected carton with article A loaded therein. It should be understood that the base and sides of the article A are spaced from the adjacent walls of the carton 212, 214, 216, 218, 226, but are held snugly such that substantially no movement of the article A within the carton is possible. It should be appreciated that the article receiving structures 236 and 238 provide a "crumple zone" which may be deformed if there is an impact between the carton and another body, thus substantially absorbing the energy of such an impact without damaging the article A within. In order to adjust the deformation characteristics of the article receiving structures 236 and 238, the caliper of the paperboard or like materials may be changed and/or the dimension of the panels and apertures adjusted such that a greater or lesser distance between the article and the walls of the carton may be provided.

[0065] It will be recognised that as used herein, directional references such as "top", "base", "end", and "side", "inner", "outer", "upper" and "lower" do not limit the respective panels to such orientation, but merely serve to distinguish these panels from one another. Any reference to hinged connection should not be construed as necessarily referring to a single fold line only: indeed it is envisaged that hinged connection can be formed from one or more of one of the following, a score line, a frangible line or a fold line, without departing from the scope of invention.

[0066] It should be understood that various changes may be made within the scope of the present invention, for example, the size and shape of the panels and apertures may be adjusted to accommodate articles of differing size or shape, alternative top and base closure structures may be used. A single article receiving structure may be provided in some embodiments, and in other embodiments a linear array of additional apertures may be provided in each of the article receiving structures such that the carton may accommodate more than one article. Additional panel(s) may be provided between the main and transverse article receiving panels so as to form a curved interface therebetween.

Claims

1. A carton for accommodating a fragile article of value, such as a perfume bottle, which (36, 38; 136, 138; 236, 238), the inner article receiving structure being formed so as to hold an article out of contact with the sides (12, 14, 16, 18; 112, 114, 116, 118; 212, 214, 216, 218) of the outer sleeve (10b; 110b; 210b), wherein the inner article receiving structure comprises an inner sleeve (10a; 110a; 210a) having a first pair of opposed side walls (52, 54; 152, 154; 252, 254) secured to a first pair of opposed side walls (16, 12; 116, 112; 216, 212) of the outer sleeve and a second pair of opposed side walls (44, 44a; 144; 244, 244a) spaced apart from a second pair of opposed side walls (18, 14; 118, 114; 218, 214) of

the outer sleeve, **characterised in that** the inner structure further comprises a first bridging closure panel (40; 140; 240) hingedly connected to one end (98; 198; 296) of the inner sleeve for movement between an open position where the bridging closure panel (40; 140; 240) allows the inner (10a; 110a; 210a) and outer (10b; 110b; 210b) sleeves to collapse into a flat form and a closed position where the bridging closure panel forms a brace structure extending between the first (52, 54; 152, 154; 252, 254) and second (44, 44a; 144; 244, 244a) pairs of side walls of the inner structure and provides resistance to collapse of the inner and outer sleeves.

2. The carton according to claim I wherein the first bridging closure panel (40; 140; 240) is hingedly connected to one (44; 144; 244) of the second pair side walls of the inner sleeve (10a; 110a; 210a), the bridging closure panel being disposed in the plane of said one second pair side wall when in the open position and extending between the second pair side walls of the inner sleeve (10a; 110a; 210a) when in the closed position.

3. The carton according to claim 2 wherein the first bridging closure panel (40; 140; 240) comprises a recess panel (42; 142) hingedly connected to the one (44; 144) second pair side wall, and a bridging panel (40; 140) hingedly connected to the recess panel (42; 142), the recess panel overlies the one (44; 144) second pair side wall when the bridging closure panel is in the closed position and the bridging panel extends from the recess panel to the other second pair side wall (44a) of the inner structure when the bridging closure panel is in the closed position.

4. The carton according to any of claims 1 and 2 wherein the inner structure (10a; 110a) further comprises a transverse panel (46; 146; 246) hingedly connected to at least one (44; 144; 244) of the second pair side walls of the inner structure for movement between an open position where the transverse panels (46; 146; 246) allow the inner (10a; 110a; 210a) and outer (10b; 110b; 210b) sleeves to collapse into a flat form and a closed position where the transverse panel (46; 146; 246) forms an article receiving platform (P) extending between the one second pair (44,; 144, 246) side wall of the inner structure (10a; 110a; 210a) and an adjacent one of the second pair (18, 118, 218) side walls of the outer sleeve (10b; 110b; 210b) and provides resistance to collapse of the inner and outer sleeves.

5. A carton according to claim 4 wherein transverse panel (46; 146; 246) is secured to the outer sleeve (10b; 110b; 210b).

6. A carton according to claim 4 wherein an edge of the transverse panel (46; 146; 246) abuts a panel (18; 118; 218) of the outer sleeve (10b; 110b; 210b).

7. A carton as claimed in any of claims 1 to 6 wherein the outer sleeve (10b) includes an end closure structure (26, 28, 30, 34) wherein the brace structure further comprises a bevelled portion (43) formed in the inner sleeve (10a) such that a securing flap (34) of the end closure structure of the outer sleeve (10b) may be guided into a gap between the brace structure and the outer sleeve.

8. A carton according to any of claims 1 to 7 wherein a first blank (110b) is provided for the outer sleeve, and a second blank (110a) is provided for the inner structure.

9. A blank (10; 110a, 110b; 210) for forming a carton as claimed in any one of claims 1 to 7.

10. A blank (10; 110a, 110b; 210) for accommodating a fragile article (A) of value, such as a perfume bottle, which blank comprises a plurality of panels for forming an outer sleeve (10b; 110b; 210b) including opposed side (12, 16; 112, 116; 212, 216) and end wall (14, 18; 114, 118; 214, 218) panels hingedly connected together in series, and a second blank (10a; 110a; 210a) comprising a plurality of panels for forming an inner article receiving structure (36, 38; 136, 138; 236, 238), wherein the inner article receiving blank comprises an inner sleeve (10a; 110a; 210a) having a first pair of opposed side walls (52, 54; 152, 154; 252, 254) and a second pair of opposed side walls (44, 44a; 144; 244, 244a) hingedly connected together, said second pair of side walls of the inner structure having apertures (50, 50a; 150; 250, 250a) to receive and support portions of the article (A) in a set up condition, **characterised in that** the inner sleeve (10a; 110a; 210a) further comprises a first bridging closure panel (40; 140; 240) hingedly connected to one end (98; 198; 296) of the inner sleeve panels for movement between an open position and a closed position when the carton is set up where the bridging closure panel (40; 140; 240) forms a brace structure extending between the first (52, 54; 152, 154; 252, 254) and second (44, 44a; 144; 244, 244a) pairs of side walls of the inner structure (36, 38; 136, 138; 236, 238).

11. The blank (10; 110a, 110b; 210) according to claim 10 wherein the first bridging closure panel (40; 140; 240) is hingedly connected to one (44; 144; 244) of the second pair of side walls of the inner sleeve (10a; 110a; 210a), and extending between the second pair side walls (44, 44a; 144; 244, 244a) of the inner structure when in the closed position.

12. The blank (10; 110a, 110b) according to claim 11 wherein the first bridging closure panel (40; 140) comprises a recess panel (42; 142) hingedly connected to the one (44; 144) second pair side wall, and the bridging closure panel (40; 140) hingedly connected to the recess panel (42; 142), the recess panel overlies the one (44; 144) second pair side wall when the bridging closure panel is in the closed position and the bridging closure panel extends from the recess panel to the other (44a; 54; 152, 154) second pair side wall of the inner sleeve (10a, 110a) when the bridging closure panel is in the closed position.

13. The blank (10; 110a, 110b) according to any of claims 10 and 11 wherein the inner structure (10a; 110a) further comprises a transverse panel (46; 146; 246) hingedly connected to at least one of the second pair side walls (44, 44a; 144, 144a; 244, 244a) of the inner structure where the transverse panel (46, 146; 246) forms an article receiving platform (P) extending between the one second pair side wall (44, 144, 244) of the inner sleeve (10a, 110a, 210a) and an adjacent one (18; 118; 218) of the second pair side walls of the outer sleeve (10b; 110b; 210b) in a set up carton.

14. A package comprising one or more articles (A) supported in a carton as claimed in any one of claims 1 to 8.

Patentansprüche

1. Schachtel zum Unterbringen eines zerbrechlichen Wertgegenstands, beispielsweise einer Parfumflasche, wobei die Schachtel einen äußeren Mantel (10b; 110b; 210b) sowie eine innere, gegenstandsaufnehmende Struktur (36, 38; 136, 138; 236, 238) umfasst, wobei die innere, gegenstandsaufnehmende Struktur derart geformt ist, einen Gegenstand außer Kontakt mit den Seiten (12, 14, 16, 18; 112, 114, 116, 118; 212, 214, 216, 218) des äußeren Mantels (10b; 110b; 210b) zu halten, wobei die innere, gegenstandsaufnehmende Struktur einen inneren Mantel (10a; 110a, 210a) mit einem ersten Paar von gegenüberliegenden Seitenwänden (52, 54; 152, 154; 252, 254) umfasst, das an ein erstes Paar von gegenüberliegenden Seitenwänden (16, 12; 116, 112; 216, 212) des äußeren Mantels befestigt ist, sowie ein zweites Paar von gegenüberliegenden Seitenwänden (44, 44a; 144; 244, 244a), das von einem zweiten Paar von gegenüberliegenden Seitenwänden (18, 14; 118, 114; 218, 214) des äußeren Mantels beabstandet ist, **dadurch gekennzeichnet, dass** die innere Struktur femer eine erste Überbrückungsverschlusswandfläche (40; 140; 240) umfasst, die gelenkig mit einem Ende (98; 198; 296) des inneren Mantels für eine Bewegung zwischen einer offenen Position, in der die Überbrückungsverschlusswandfläche (40; 140; 240) ermöglicht, dass der innere (10a; 110a; 210a) und der äußere (10b; 110b; 210b) Mantel in einen flache Form zusammenfallen, und einer geschlossenen Position verbunden ist, in der die Überbrückungsverschlusswandfläche eine Strebenstruktur ausbildet, die sich zwischen den ersten (52, 54; 152, 154; 252, 254) und zweiten (44, 44a; 144; 244, 244a) Paaren von Seitenwänden der inneren Struktur erstreckt und einen Widerstand gegen das Zusammenfallen des inneren und des äußeren Mantels bereitstellt.

2. Schachtel nach Anspruch 1, wobei die erste Überbrückungsverschlusswandfläche (40; 140; 240) gelenkig mit einer der Wände (44; 144; 244) des zweiten Paars von Seitenwänden des inneren Mantels (10a; 110a; 210a) verbunden ist, wobei die Überbrückungsverschlusswandfläche in der offenen Position in der Ebene der einen Wand des zweiten Paars von Seitenwänden angeordnet ist und sich die Überbrückungswandfläche in der geschlossenen Position zwischen dem zweiten Paar von Seitenwänden des inneren Mantels (10a; 110a; 210a) erstreckt.

3. Schachtel nach Anspruch 2, wobei die erste Überbrückungsverschlusswandfläche (40; 140; 240) eine Aussparungswandfläche (42; 142) umfasst, die gelenkig mit der einen Wand (44; 144) des zweiten Paars von Seitenwänden verbunden ist, sowie eine Oberbrückungswandfläche (40; 140), die gelenkig mit der Aussparungswandfläche (42; 142) verbunden ist, wobei die Aussparungswandfläche über der einen Wand (44; 144) des zweiten Paars von Seitenwänden liegt, wenn sich die Überbrückungsverschlusswandfläche in der geschlossenen Position befindet, und sich die Überbrückungswandfläche von der Aussparungswandfläche zu der anderen Wand (44a) des zweiten Paars von Seitenwänden der inneren Struktur erstreckt, wenn sich die Überbrückungsverschlusswandfläche in der geschlossenen Position befindet.

4. Schachtel nach einem der Ansprüche 1 und 2, wobei die innere Struktur (10a; 110a) ferner eine Querwandfläche (46; 146; 246) umfasst, die gelenkig mit wenigstens einer Wand (44; 144; 244) des zweiten Paars von Seitenwänden der inneren Struktur für eine Bewegung zwischen einen offen Position, in der die Querwandflächen (46; 146; 246) ermöglichen, dass der innere (10a; 110a; 210a) und der äußere (10b; 110b; 210b) Mantel in einen flachen Zustand zusammenfallen, und einer geschlossenen Position verbunden ist, in der die Querwandfläche (46; 146; 246) eine gegenstandsaufnehmende

Plattform (P) ausbildet, die sich zwischen der einen Wand (44; 144; 246) des zweiten Paars von Seitenwänden der inneren Struktur (10a; 110a; 210a) und einer angrenzenden Wand (18, 118, 218) des zweiten Paars von Seitenwänden des äußeren Mantels (10b; 110b; 210b) erstreckt, und Widerstand gegen ein Zusammenfallen des inneren Mantels und des äußeren Mantels bereitstellt.

5. Schachtel nach Anspruch 4, wobei die Querwandfläche (46; 146; 246) an den äußeren Mantel (10b; 110b; 210b) befestigt ist.

6. Schachtel nach Anspruch 4, wobei eine Kante der Querwandfläche (46; 146; 246) an eine Wandfläche (18; 118; 218) des äußeren Mantels (10b; 110b; 210b) anstößt.

7. Schachtel nach einem der Ansprüche 1 bis 6, wobei der äußere Mantel (10b) eine Endverschlussstruktur (26, 28, 30, 34) einschließt, wobei die Strebenstruktur ferner einen abgeschrägten Abschnitt (43) umfasst, der in dem inneren Mantel (10a) ausgebildet ist, so dass eine Befestigungsklappe (34) der Endverschlussstruktur des äußeren Mantels (10b) in eine Lücke zwischen der Strebenstruktur und dem äußeren Mantel geführt werden kann.

8. Schachtel nach einem der Ansprüche 1 bis 7, wobei ein erster Zuschnitt (110b) für den äußeren Mantel bereitgestellt ist und ein zweiter Zuschnitt (110a) für die innere Struktur bereitgestellt ist.

9. Zuschnitt (10; 100a, 110b; 210) zum Ausbilden einer Schachtel nach einem der Ansprüche 1 bis 7.

10. Zuschnitt (10; 110a, 110b; 210) zum Unterbringen eines zerbrechlichen Wertgegenstands (A), beispielsweise einer Parfumflasche, wobei der Zuschnitt eine Vielzahl von Wandflächen zum Ausbilden eines äußeren Mantels (10b; 110b; 210b) einschließlich gegenüberliegender Seitenwandflächen (12, 16; 112, 116; 212, 216) und Endwandflächen (14, 18; 114, 118; 214, 218) umfasst, die der Reihe nach gelenkig miteinander verbunden sind, sowie ein zweiter Zuschnitt (10a; 110a; 210a), der eine Vielzahl von Wandflächen zum Ausbilden einer inneren, gegenstandsaufnehmenden Struktur (36, 38; 136, 138; 236, 238) umfasst, wobei der innere, gegenstandsaufnehmende Zuschnitt einen inneren Mantel (10a; 110a; 210a) mit einem ersten Paar von gegenüberliegenden Seitenwänden (52, 54; 152, 154; 252, 254) und einem zweiten Paar von gegenüberliegenden Seitenwänden (44, 44a; 144; 244, 244a) umfasst, die gelenkig miteinander verbunden sind, wobei das zweite Paar von Seitenwänden der inneren Struktur Öffnungen (50, 50a; 150; 250, 250a) aufweist, um in einem aufgerichteten Zustand Abschnitte des Gegenstands (A) aufzunehmen und zu unterstützen, **dadurch gekennzeichnet, dass** der innere Mantel (10a; 110a; 210a) ferner eine erste Überbrückungsverschlusswandfläche (40; 140; 240) umfasst, die gelenkig mit einem Ende (98; 198; 296) der Wandflächen des inneren Mantels für eine Bewegung zwischen einer offenen Position und einer geschlossenen Position verbunden ist, wenn die Schachtel aufgerichtet ist, wobei die Überbrückungsverschlusswandfläche (40; 140; 240) eine Strebenstruktur ausbildet, die sich zwischen den ersten (52, 54; 152, 154; 252, 254) und zweiten (44, 44a; 144; 244, 244a) Paaren von Seitenwänden der inneren Struktur (36, 38; 136, 138; 236, 238) erstreckt.

11. Zuschnitt (10; 110a, 110b; 210) nach Anspruch 10, wobei die erste Überbrückungsverschlusswandfläche (40; 140; 240) gelenkig mit einer der Wände (44; 144; 244) des zweiten Paars von Seitenwänden des inneren Mantels (10a; 110a; 210a) verbunden ist, und sich die Überbrückungswandfläche in der geschlossenen Position zwischen dem zweiten Paar von Seitenwänden (44, 44a; 144; 244, 244a) der inneren Struktur erstreckt.

12. Zuschnitt (10; 110a, 100b) nach Anspruch 11, wobei die erste Überbrückungsverschlusswandfläche (40; 140) eine Aussparungswandfläche (42; 142) umfasst, die gelenkig mit der einen Wand (44; 144) des zweiten Paars von Seitenwänden verbunden ist, wobei die Überbrückungsverschlusswandfläche (40; 140) gelenkig mit der Aussparungswandfläche (42; 142) verbunden ist, wobei die Aussparungswandfläche über der einen Wand (44; 144) des zweiten Paars von Seitenwänden liegt, wenn sich die Überbrückungsverschlusswandfläche in der geschlossenen Position befindet, und sich die Überbrückungsverschlusswandfläche von der Aussparungswandfläche zu der anderen Wand (44a; 54; 152, 154) des zweiten Paars von Seitenwänden des inneren Mantels (10a, 110a) erstreckt, wenn sich die Überbrückungsverschlusswandfläche in der geschlossenen Position befindet.

13. Zuschnitt (10; 110a, 110b) nach einem der Ansprüche 10 oder 11, wobei die innere Struktur (10a; 110a) ferner eine Querwandfläche (46; 146; 246) umfasst, die gelenkig mit wenigstens einer Wand des zweiten Paars von Seitenwänden (44, 44a; 144, 144a; 244, 244a) der inneren Struktur verbunden ist, wobei die Querwandfläche (46; 146; 246) eine gegenstandsaufnehmende Plattform (P) ausbildet, die sich in einer aufgerichteten Schachtel zwischen der einen Wand (44; 144; 244) des zweiten Paars von Seitenwänden des inneren Mantels (10a; 110a; 210a) und einer angrenzenden Wand (18, 118, 218) des zweiten Paars von Seitenwän-

den des äußeren Mantels (10b; 110b; 210b) erstreckt.

14. Verpackung umfassend einen oder mehrere Gegenstände (A), die in einer Schachtel nach einem der Ansprüche 1 bis 8 getragen werden.

Revendications

1. Carton destiné à contenir un article fragile de valeur, comme une bouteille de parfum, lequel carton comprend un manchon extérieur et une structure intérieure (36, 38 ; 136, 138 ; 236, 238) de réception d'article, la structure intérieure de réception d'article étant formée de manière à tenir un article hors de contact avec les côtés (12, 14, 16, 18 ; 112, 114, 116, 118 ; 212, 214, 216, 218) du manchon extérieur (10b ; 110b ; 210b), dans lequel la structure intérieure de réception d'article comprend un manchon intérieur (10a ; 110a ; 210a) comportant une première paire de parois latérales opposées (52, 54 ; 152, 154 ; 252, 254) fixées à une première paire de parois latérales opposées (16, 12 ; 116, 112 ; 216, 212) du manchon extérieur et une deuxième paire de parois latérales opposées (44, 44a ; 144 ; 244, 244a) espacées par rapport à une deuxième paire de parois latérales opposées (18, 14 ; 118, 114; 218, 214) du manchon extérieur, **caractérisé en ce que** la structure intérieure comprend en outre un premier panneau de fermeture en pont (40 ; 140 ; 240) connecté de manière articulée à une extrémité (98 ; 198 ; 296) du manchon intérieur pour se déplacer entre une position ouverte où le panneau de fermeture en pont (40 ; 140 ; 240) permet aux manchons intérieur (10a ; 110a ; 210a) et extérieur (10b ; 110b ; 210b) de se replier sous une forme aplatie et une position fermée où le panneau de fermeture en pont forme une structure de croisillon qui s'étend entre les première (52, 54 ; 152, 154 ; 252, 254) et deuxième (44, 44a ; 144 ; 244, 244a) paires de parois latérales de la structure intérieure et fournit une résistance contre le pliage des manchons intérieur et extérieur.

2. Carton selon la revendication 1, dans lequel le premier panneau de fermeture en pont (40 ; 140 ; 240) est connecté de manière articulée à l'une des parois (44 ; 144 ; 244) de la deuxième paire de parois latérales du manchon intérieur (10a ; 110a ; 210a), le panneau de fermeture en pont étant disposé, en position ouverte, dans le plan de ladite une des parois de la deuxième paire de parois latérales et s'étendant, en position fermée, entre les parois de la deuxième paire de parois latérales du manchon intérieur (10a ; 110a ; 210a).

3. Carton selon la revendication 2, dans lequel le premier panneau de fermeture en pont (40 ; 140 ; 240) comprend un panneau d'évidement (42 ; 142) connecté de manière articulée à ladite une (44 ; 144) des parois de la deuxième paire de parois latérales, et un panneau en pont (40 ; 140) connecté de manière articulée au panneau d'évidement (42 ; 142), le panneau d'évidement recouvre ladite une (44 ; 144) des parois de la deuxième paire de parois latérales quand le panneau de fermeture en pont est en position fermée et le panneau en pont s'étend du panneau d'évidement à l'autre des parois de la deuxième paire de parois latérales (44a) de la structure intérieure quand le panneau de fermeture en pont est en position fermée.

4. Carton selon l'une quelconque des revendications 1 et 2, dans lequel la structure intérieure (10a ; 110a) comprend en outre un panneau transversal (46 ; 146 ; 246) connecté de manière articulée à au moins une paroi (44 ; 144 ; 244) de la deuxième paire de parois latérales de la structure intérieure pour se déplacer entre une position ouverte où les panneaux transversaux (46 ; 146 ; 246) permettent aux manchons intérieur (10a ; 110a ; 210a) et extérieur (10b ; 110b ; 210b) de se replier sous une forme aplatie et une position fermée où le panneau transversal (46 ; 146 ; 246) forme une plate-forme (P) de réception d'article qui s'étend entre ladite une (44 ; 144, 246) paroi de ladite deuxième paire de parois latérales de la structure intérieure (10a ; 110a ; 210a) et une paroi voisine (18, 118, 218) de la deuxième paire de parois latérales du manchon extérieur (10b ; 110b ; 210b) et fournit une résistance contre le pliage des manchons intérieur et extérieur.

5. Carton selon la revendication 4, dans lequel le panneau transversal (46 ; 146 ; 246) et fixé au manchon extérieur (10b ; 110b ; 210b).

6. Carton selon la revendication 4, dans lequel un bord du panneau transversal (46 ; 146 ; 246) vient en appui contre un panneau (11 ; 118 ; 218) du manchon extérieur (10b ; 110b ; 210b).

7. Carton selon l'une quelconque des revendications 1 à 6, dans lequel le manchon extérieur (10b) comprend une structure de fermeture (26, 28, 30, 34) d'extrémité où la structure de croisillon comprend en outre une partie biseautée (43) formée dans le manchon intérieur (10a) de manière telle qu'une patte de fixation (34) de la structure de fermeture d'extrémité du manchon extérieur (10b) peut être guidée dans un espace situé entre la structure de croisillon et le manchon extérieur.

8. Carton selon l'une quelconque des revendications 1 à 7, dans lequel une première découpe (110b) est prévue pour le manchon extérieur, et une deuxième

découpe (110a) est prévue pour la structure intérieure.

9. Découpe (10 ; 110a, 110b ; 210) pour former un carton conforme à l'une quelconque des revendications 1 à 7.

10. Découpe (10 ; 110a, 110b ; 210) destinée à contenir un article fragile (A) de valeur, comme une bouteille de parfum, laquelle découpe comprend une pluralité de panneaux destinés à former un manchon extérieur (10b ; 110b ; 210b) comprenant des panneaux latéraux (12, 16 ; 112, 116 ; 212, 216) et d'extrémité (14, 18 ; 114, 118 ; 214, 218) opposés connectés ensemble en série de manière articulée, et une deuxième découpe (10a ; 110a ; 210a) comprenant une pluralité de panneaux destinés à former une structure intérieure (36, 38 ; 136, 138 ; 236, 238) de réception d'article, où la découpe intérieure de réception d'article comprend un manchon intérieur (10a ; 110a ; 210a) comportant une première paire de parois latérales opposées (52, 54 ; 152, 154 ; 252, 254) et une deuxième paire de parois latérales opposées (44, 44a ; 144 ; 244, 244a) connectées ensemble de manière articulée, ladite deuxième paire de parois latérales de la structure intérieure comportant des ouvertures (50, 50a ; 150 ; 250, 250a) destinées à recevoir et supporter des parties de l'article (A) dans un état monté, **caractérisée en ce que** le manchon intérieur (10a ; 110a ; 210a) comprend en outre un premier panneau de fermeture en pont (40 ; 140 ; 240) connecté de manière articulée à une extrémité (98 ; 198 ; 296) des panneaux du manchon intérieur pour se déplacer entre une position ouverte et une position fermée lorsque le carton est monté où le panneau de fermeture en pont (40 ; 140 ; 240) forme une structure de croisillon qui s'étend entre les première (52, 54 ; 152, 154 ; 252, 254) et deuxième (44, 44a ; 144 ; 244, 244a) paires de parois latérales de la structure intérieure (36, 38 ; 136, 138 ; 236, 238).

11. Découpe (10 ; 110a, 110b ; 210) selon la revendication 10, dans laquelle le premier panneau de fermeture en pont (40 ; 140 ; 240) est connecté de manière articulée à l'une des parois (44 ; 144 ; 244) de la deuxième paire de parois latérales du manchon intérieur (10a ; 110a ; 210a), et s'étend, en position fermée, entre les parois (44, 44a ; 144 ; 244, 244a) de la deuxième paire de parois latérales de la structure intérieure.

12. Découpe (10 ; 110a, 110b) selon la revendication 11, dans laquelle le premier panneau de fermeture en pont (40 ; 140) comprend un panneau d'évidement (42 ; 142) connecté de manière articulée à ladite une (44 ; 144) des parois de la deuxième paire de parois latérales, et le panneau de fermeture en pont (40 ; 140) connecté de manière articulée au panneau d'évidement (42 ; 142), le panneau d'évidement recouvre ladite une (44 ; 144) des parois de la deuxième paire de parois latérales quand le panneau de fermeture en pont est en position fermée et le panneau de fermeture en pont s'étend du panneau d'évidement à l'autre (44a ; 54 ; 152, 154) des parois de la deuxième paire de parois latérales du manchon intérieur (10a, 110a) quand le panneau de fermeture en pont est en position fermée.

13. Découpe (10 ; 110a, 110b) selon l'une quelconque des revendications 10 et 11, dans laquelle la structure intérieure (10a ; 110a) comprend en outre un panneau transversal (46 ; 146 ; 246) connecté de manière articulée à au moins une paroi de la deuxième paire de parois latérales (44, 44a ; 144, 144a; 244, 244a) de la structure intérieure où le panneau transversal (46 ; 146 ; 246) forme une plate-forme (P) de réception d'article qui s'étend entre ladite une (44 ; 144, 244) paroi de ladite deuxième paire de parois latérales du manchon intérieur (10a ; 110a ; 210a) et une paroi voisine (18 ; 118 ; 218) de la deuxième paire de parois latérales du manchon extérieur (10b ; 110b ; 210b) dans un carton monté.

14. Emballage comprenant un ou plusieurs article(s) (A) supporté(s) dans un carton conforme à l'une quelconque des revendications 1 à 8.

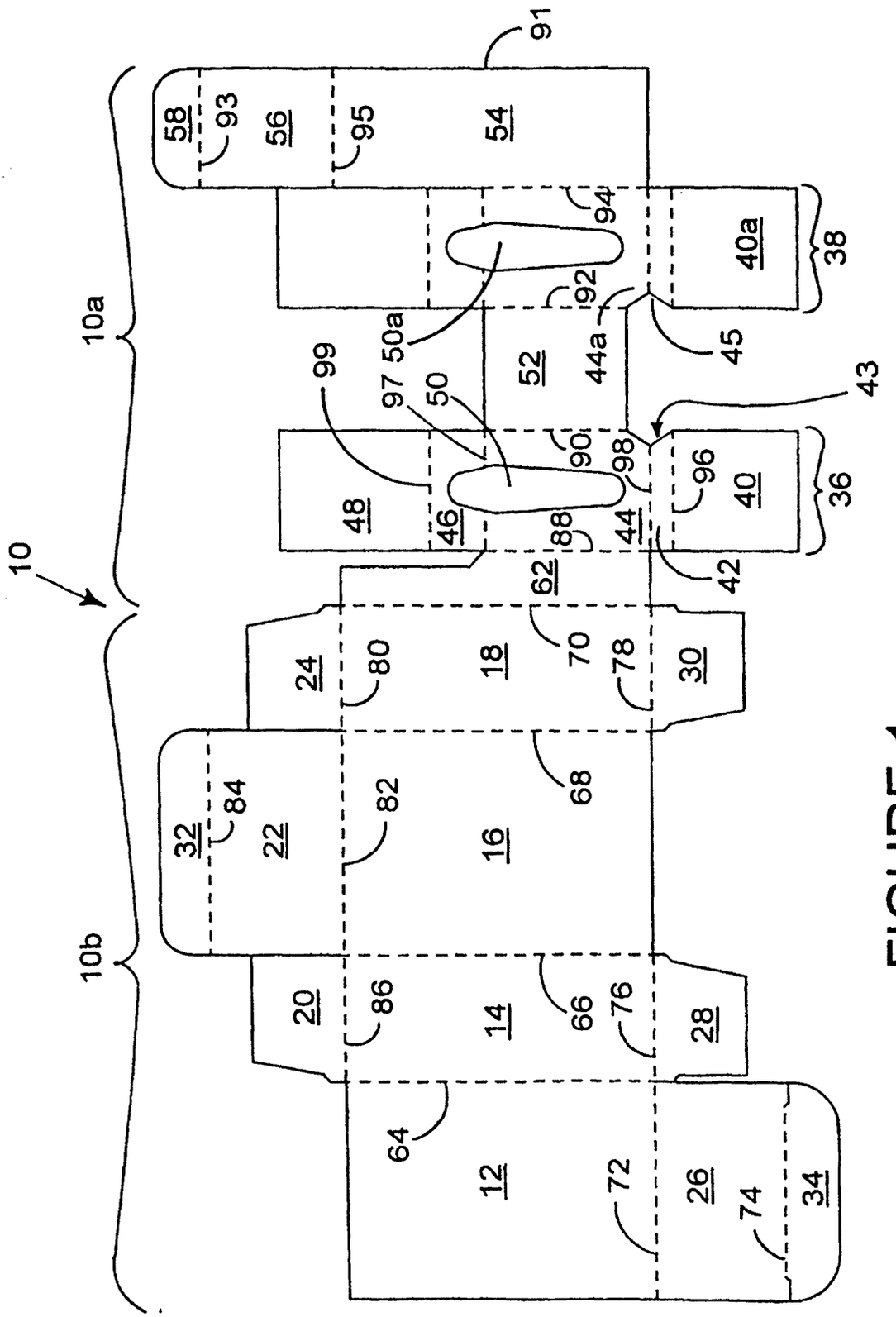

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FIGURE 1

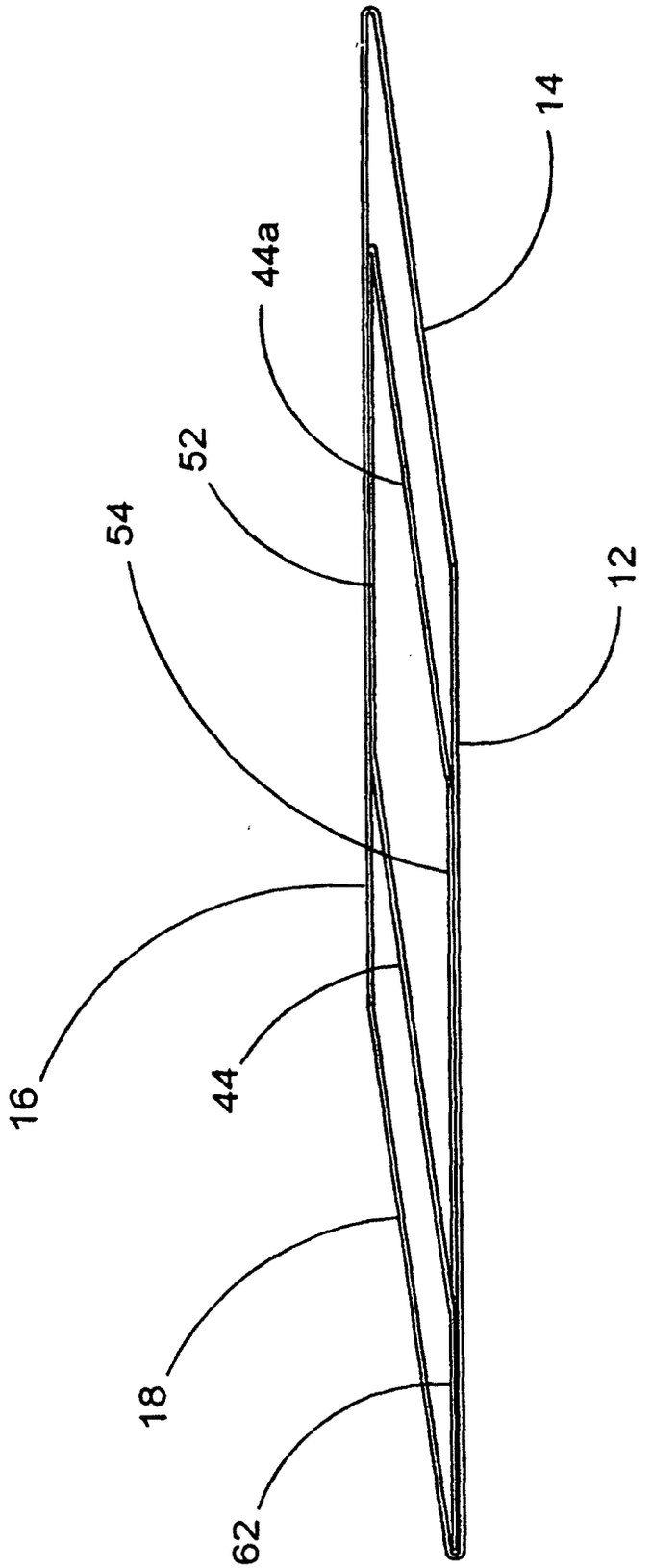


FIGURE 1A

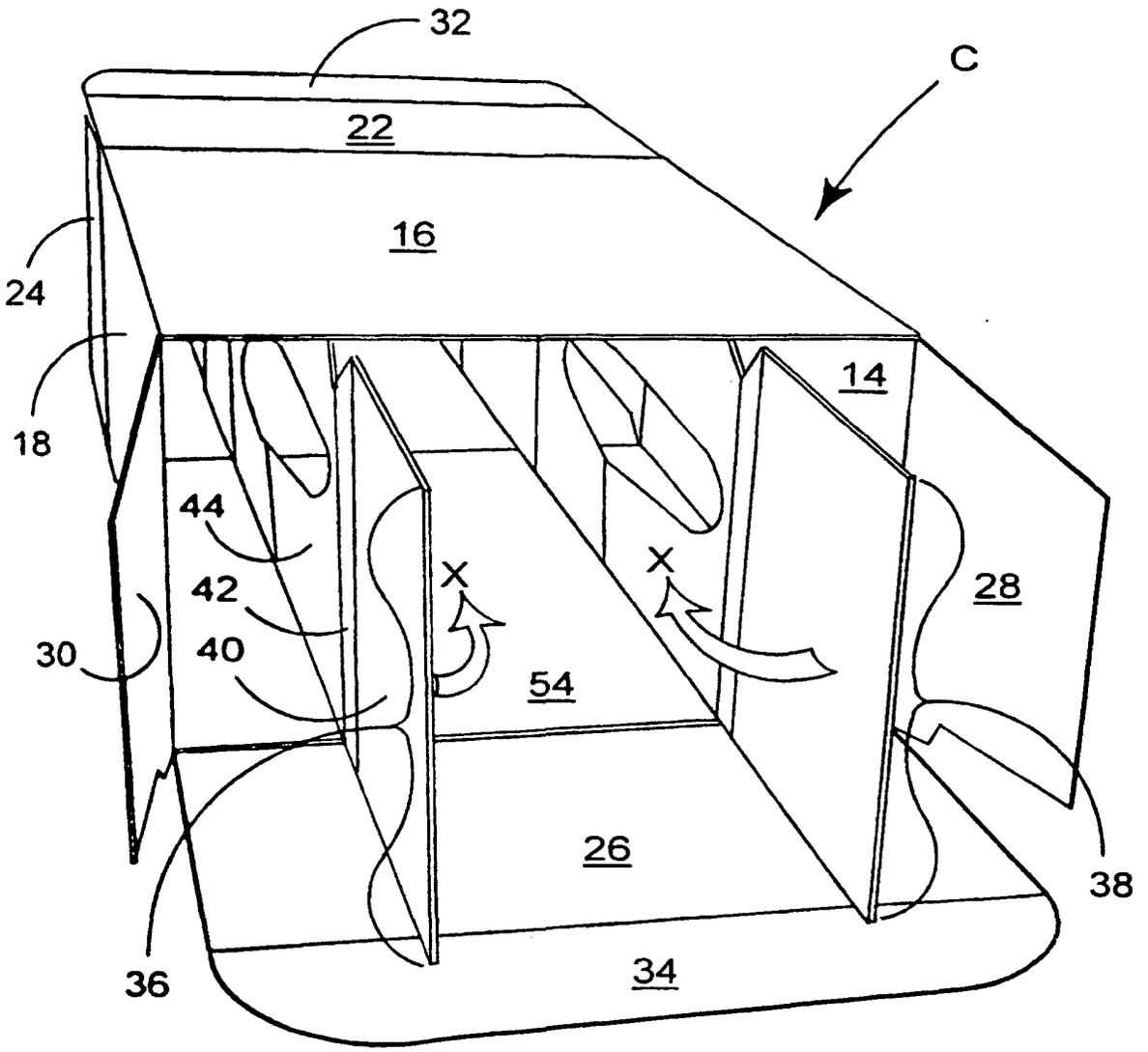


FIGURE 2

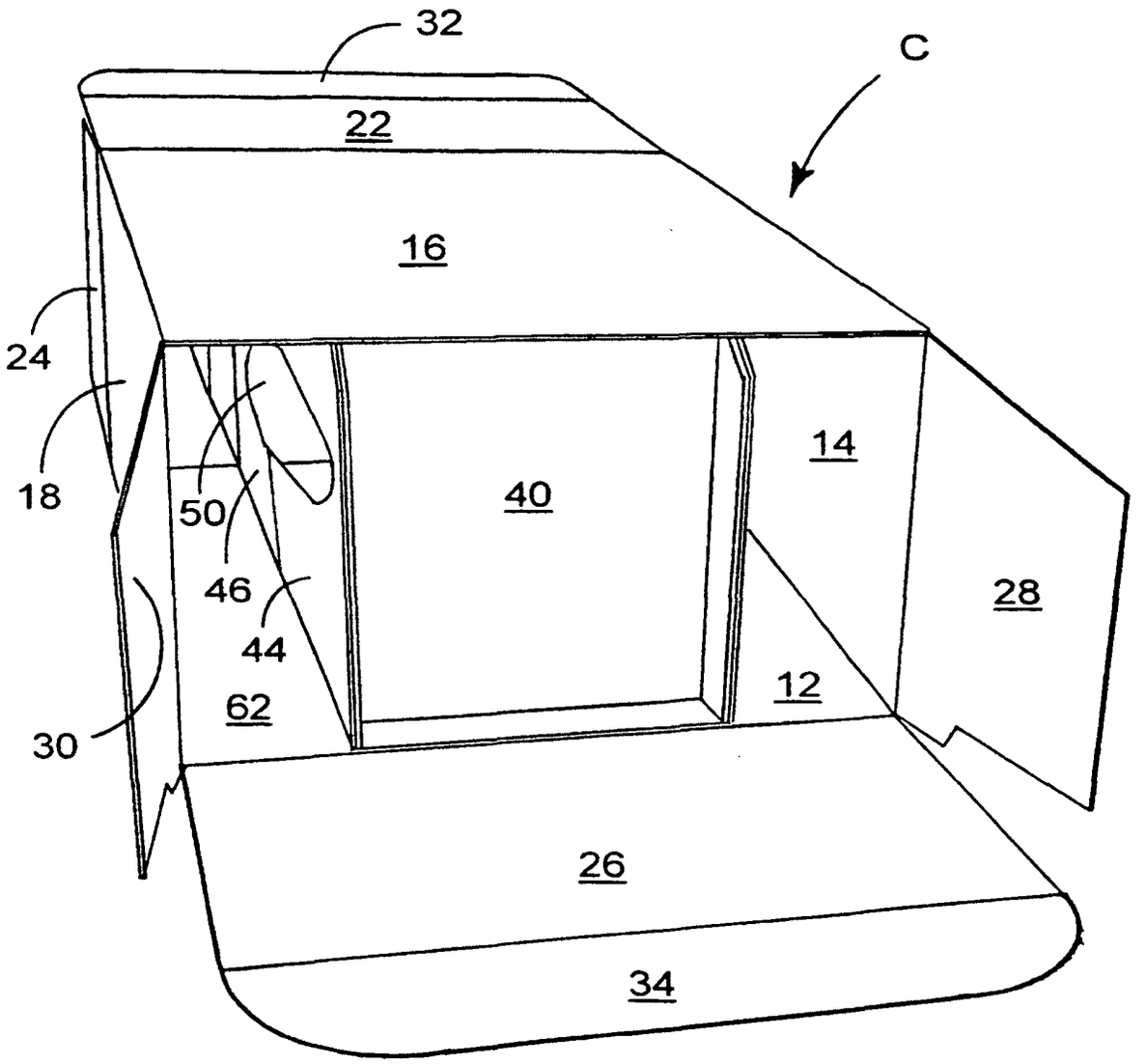


FIGURE 3

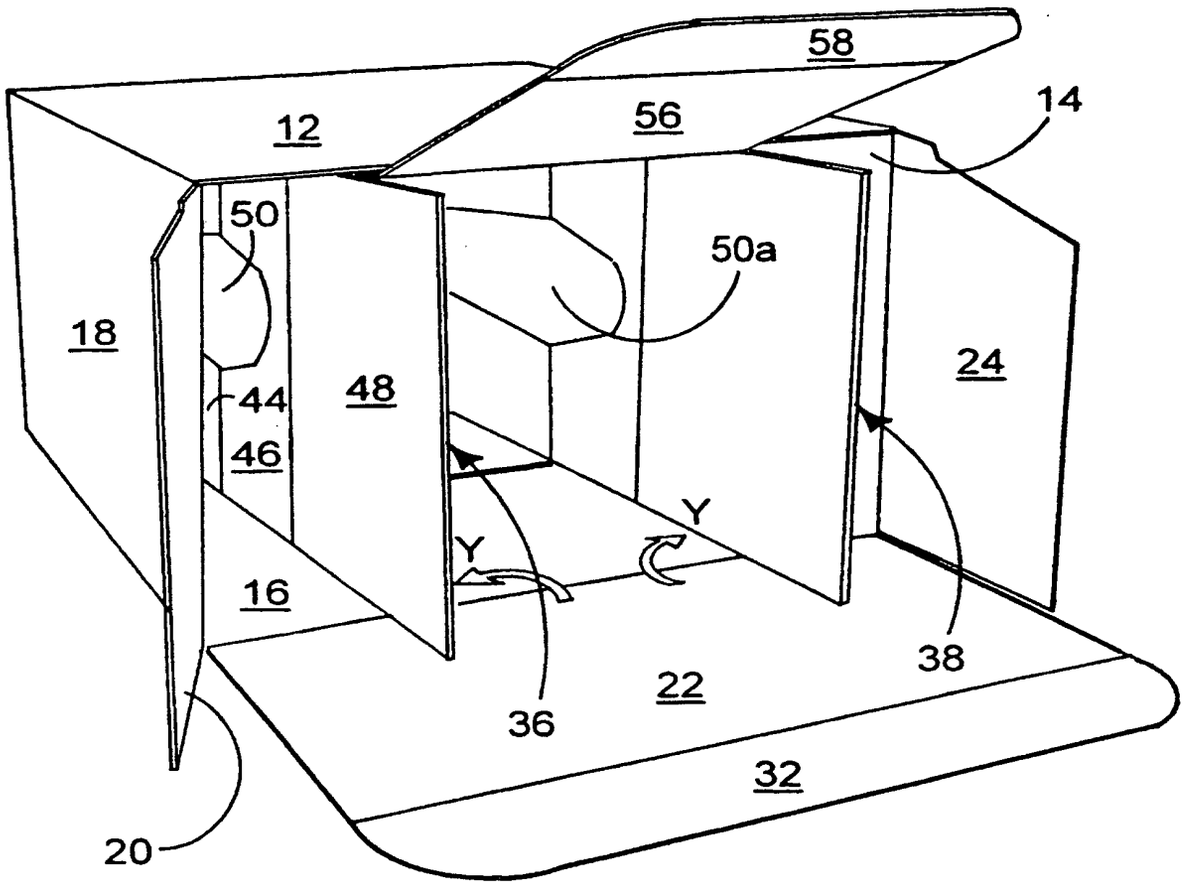


FIGURE 4

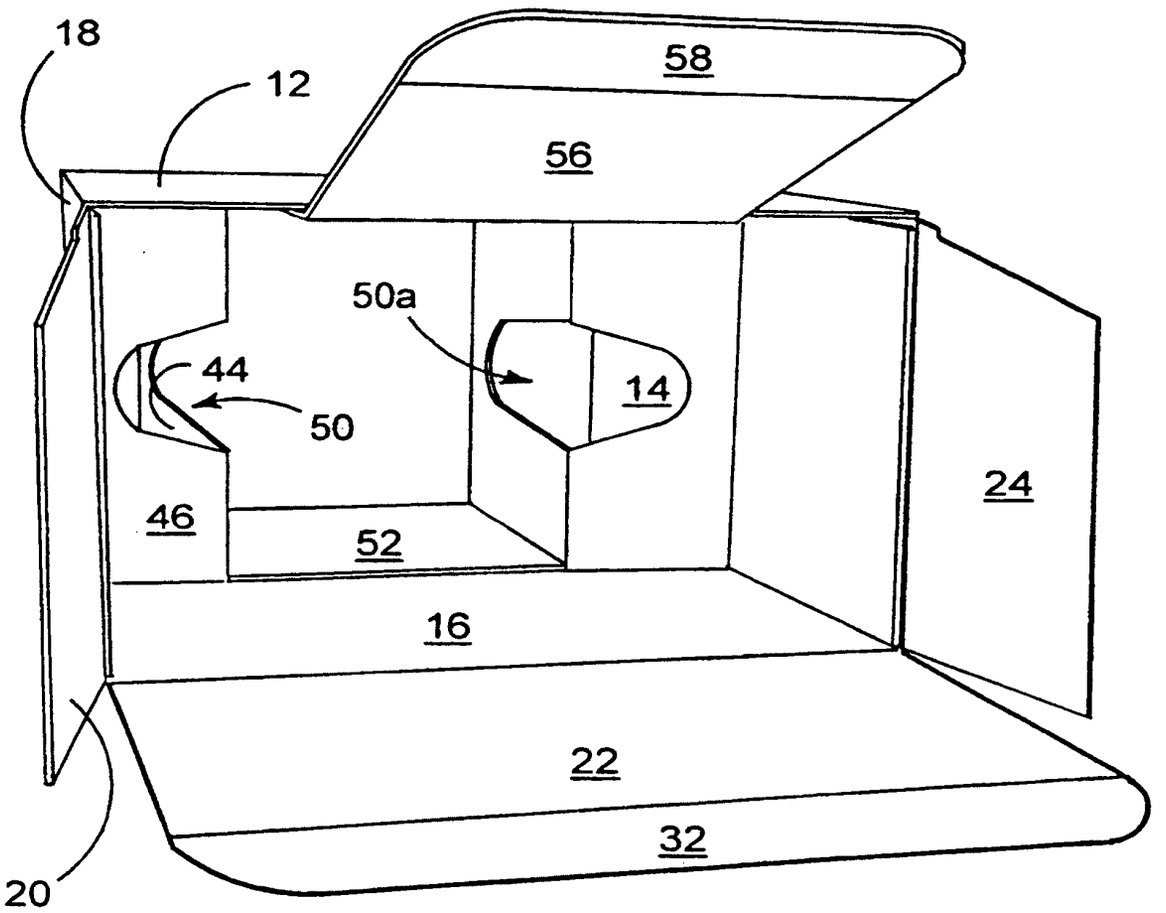


FIGURE 5

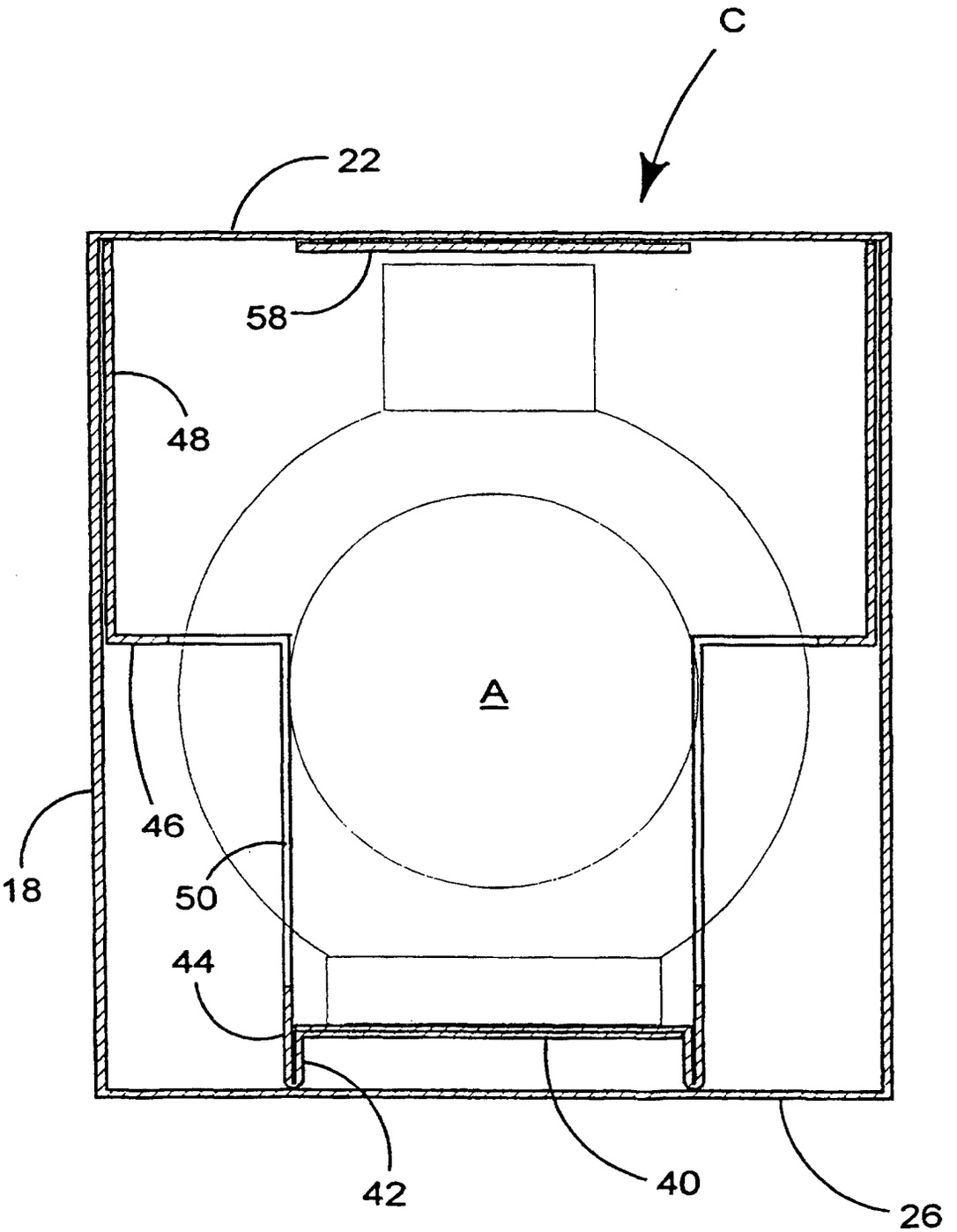


FIGURE 6

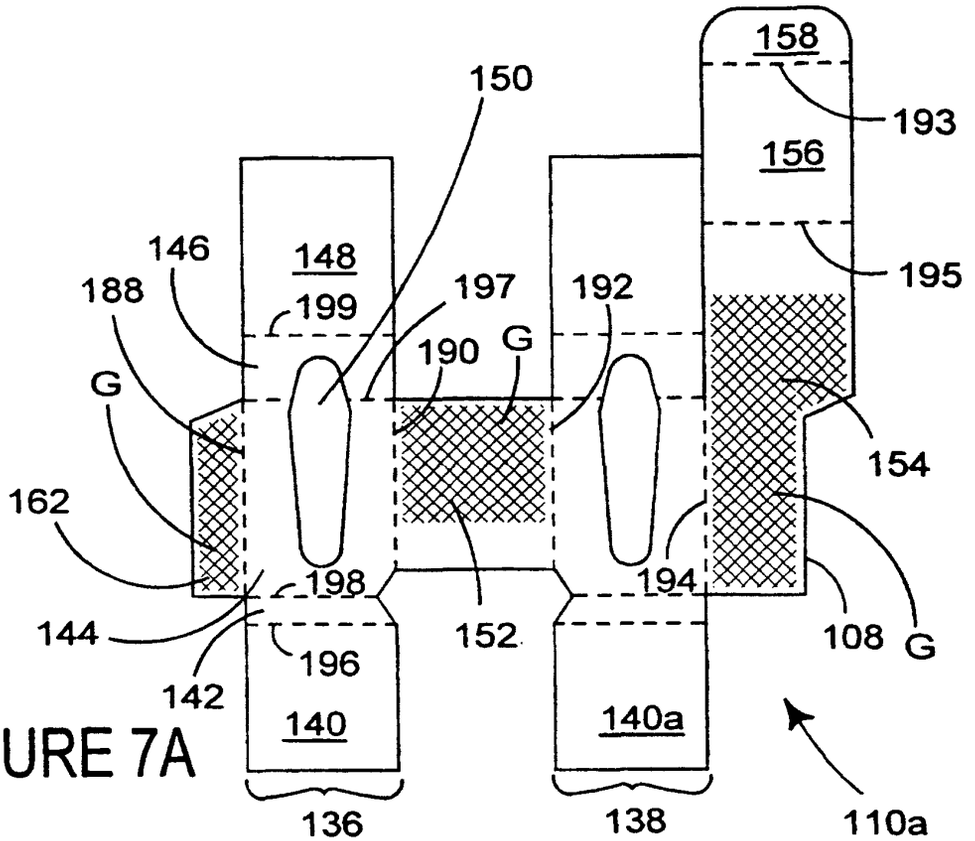


FIGURE 7A

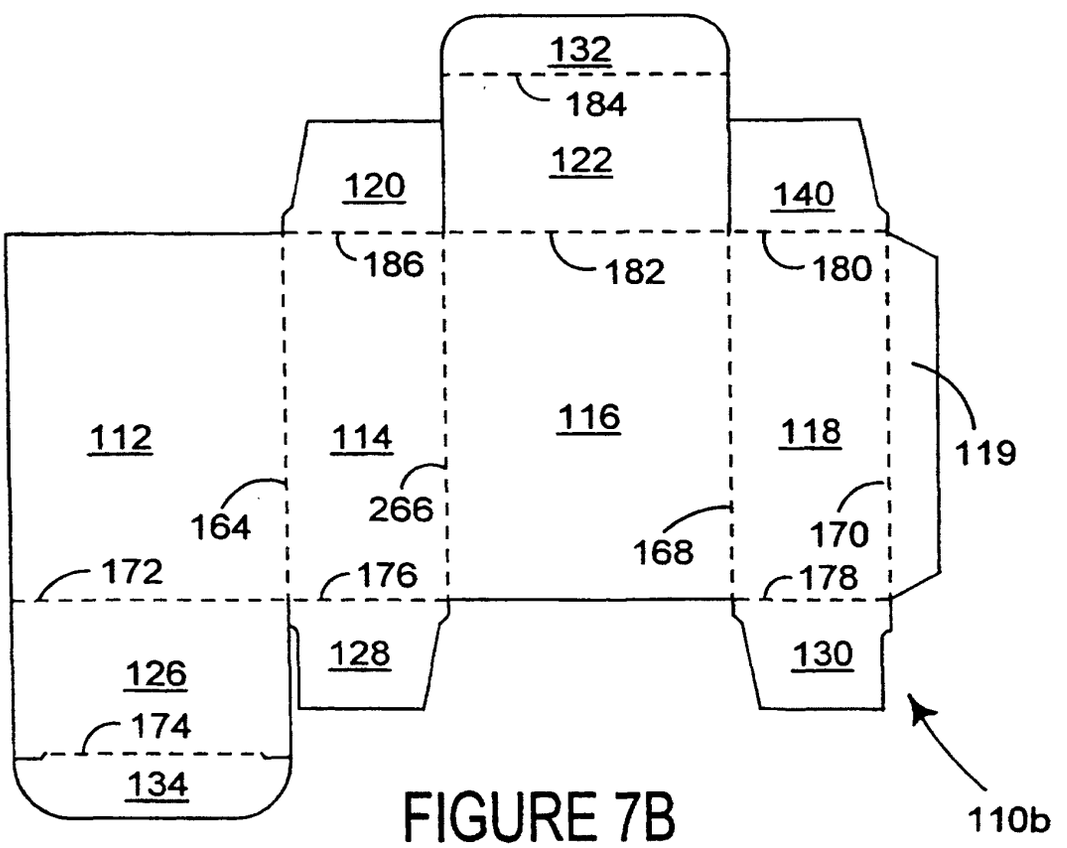


FIGURE 7B

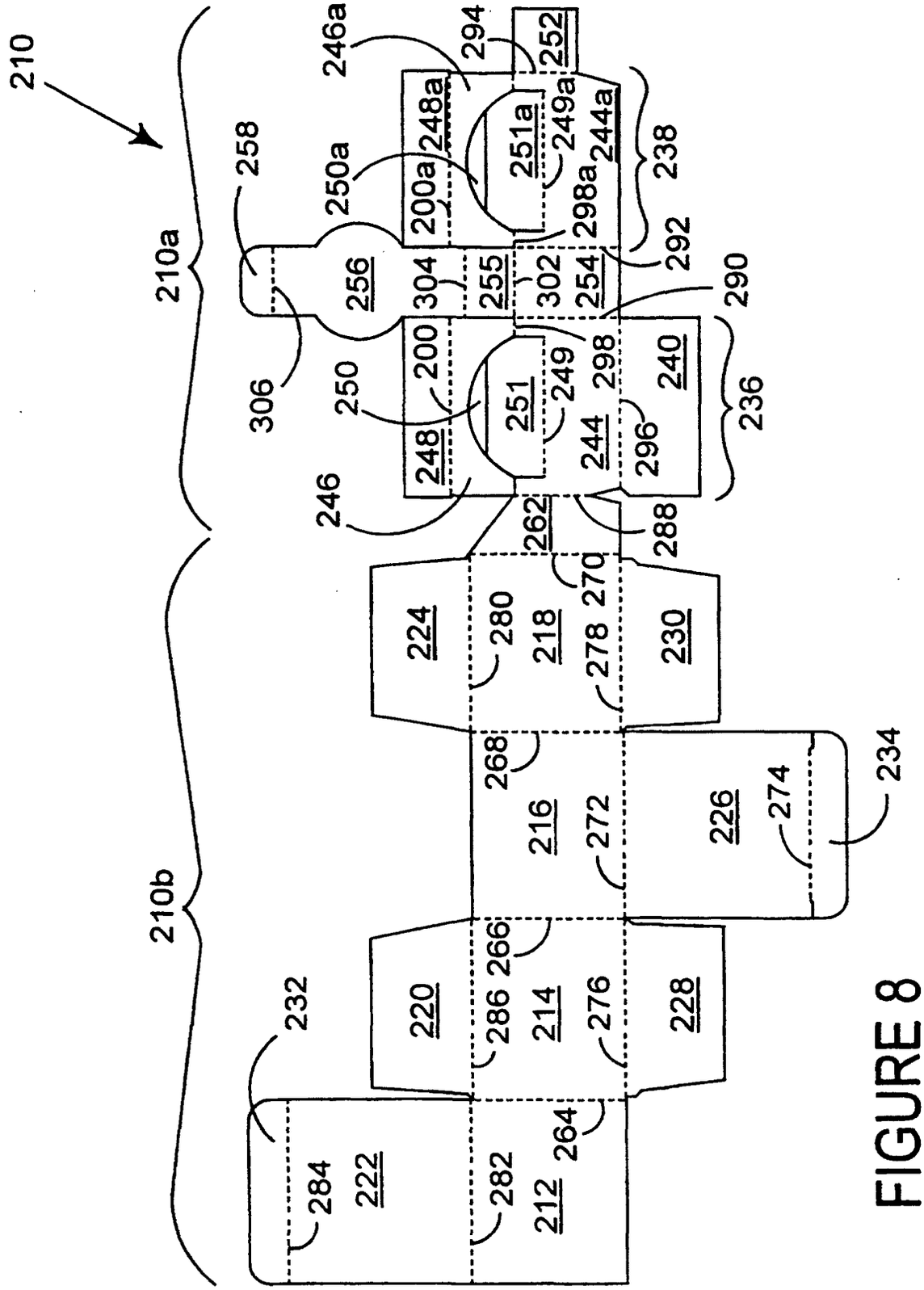

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FIGURE 8

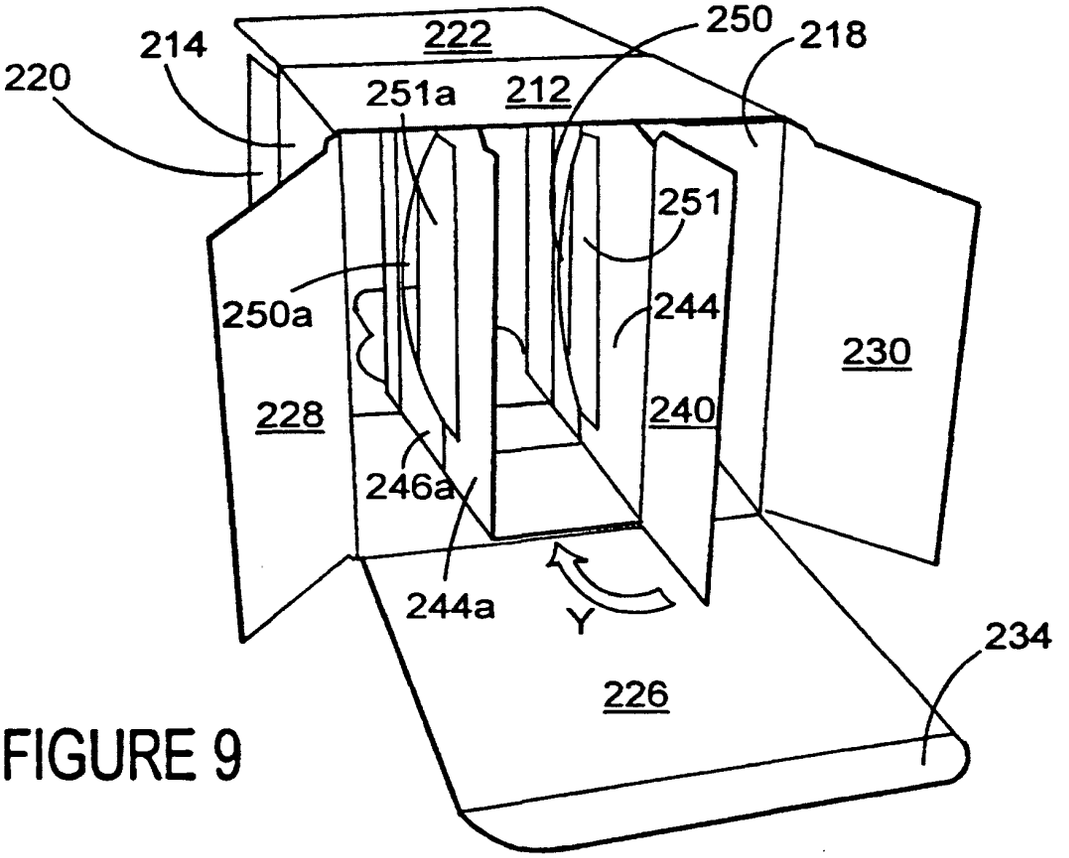


FIGURE 9

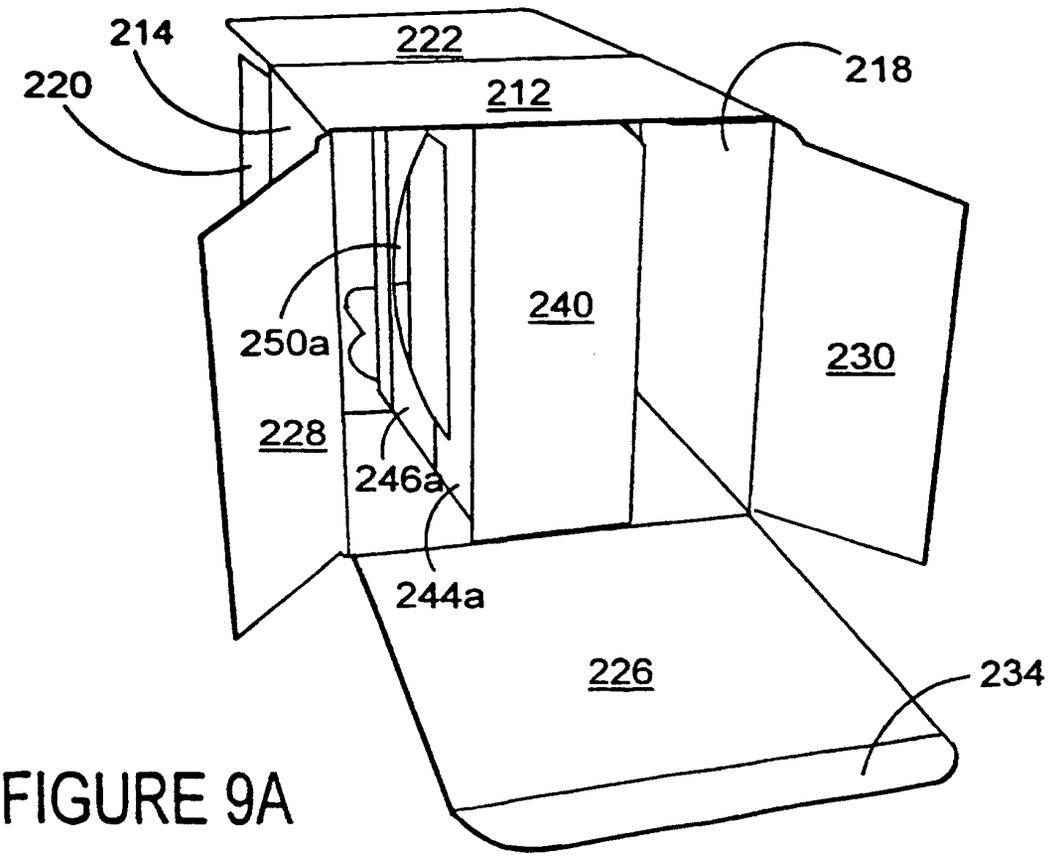


FIGURE 9A

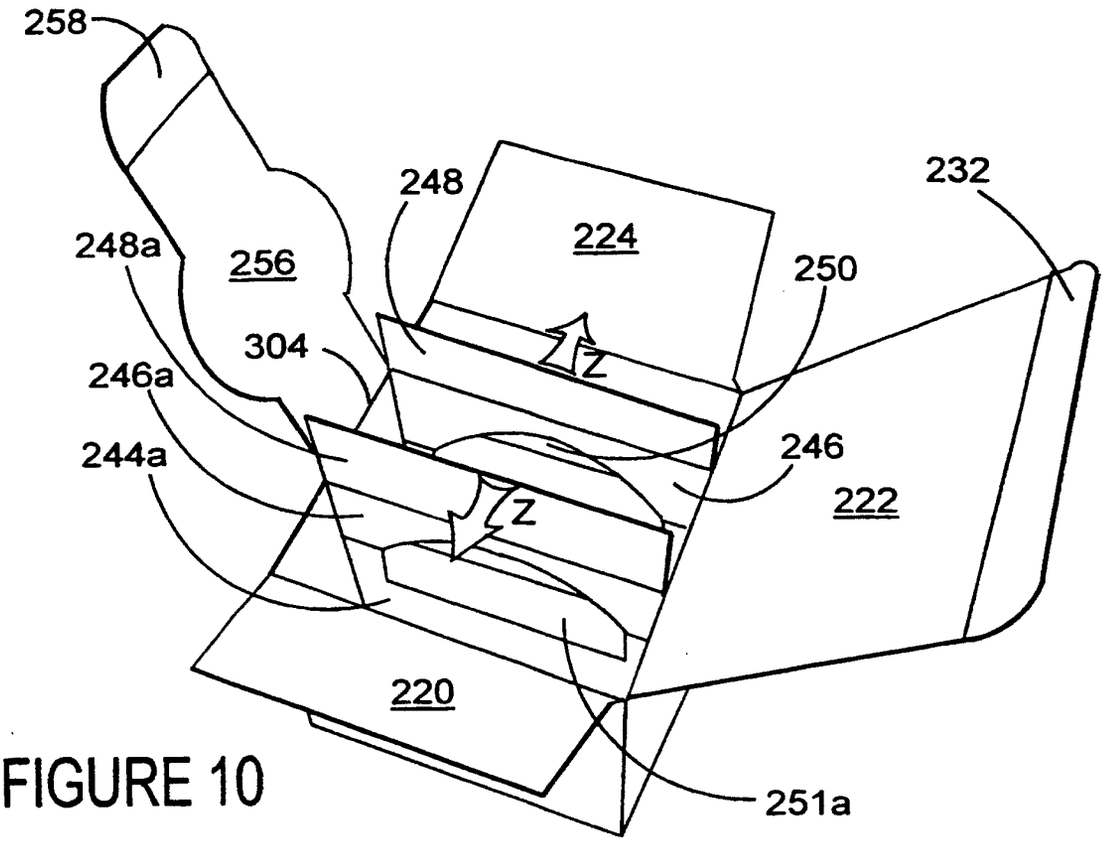


FIGURE 10

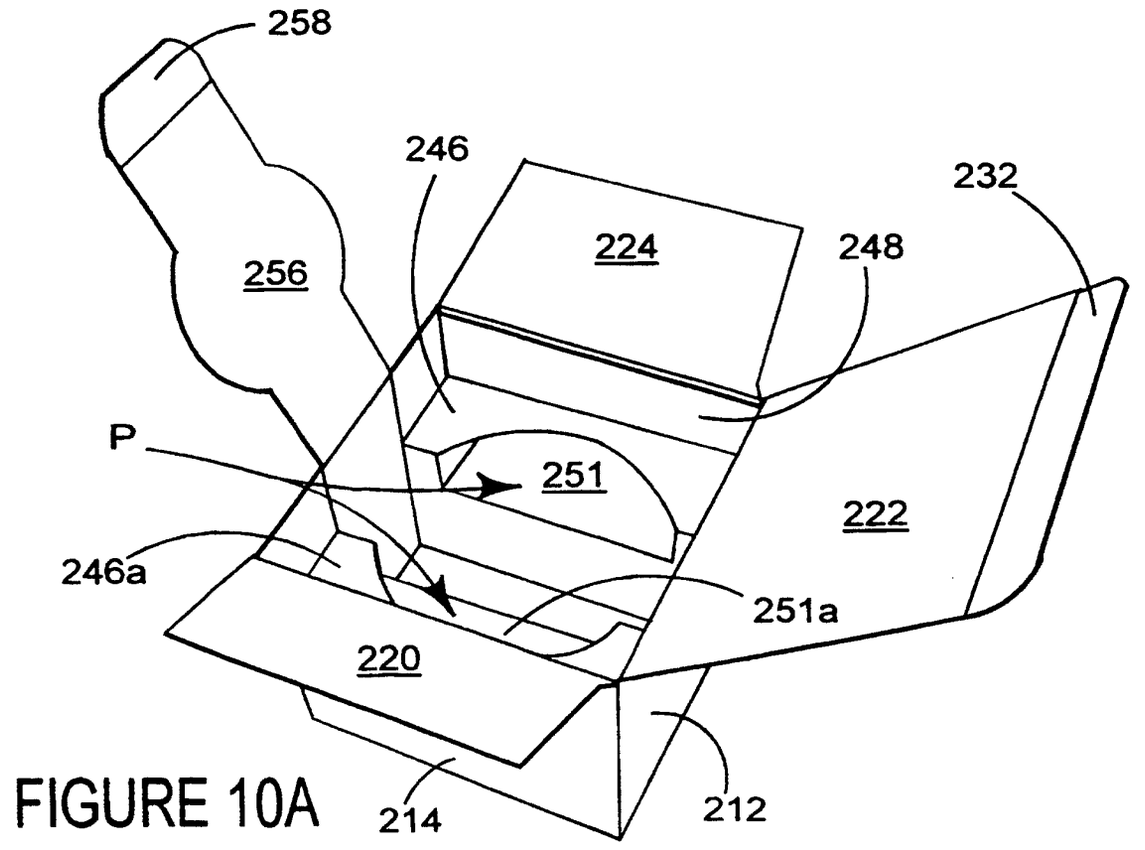


FIGURE 10A

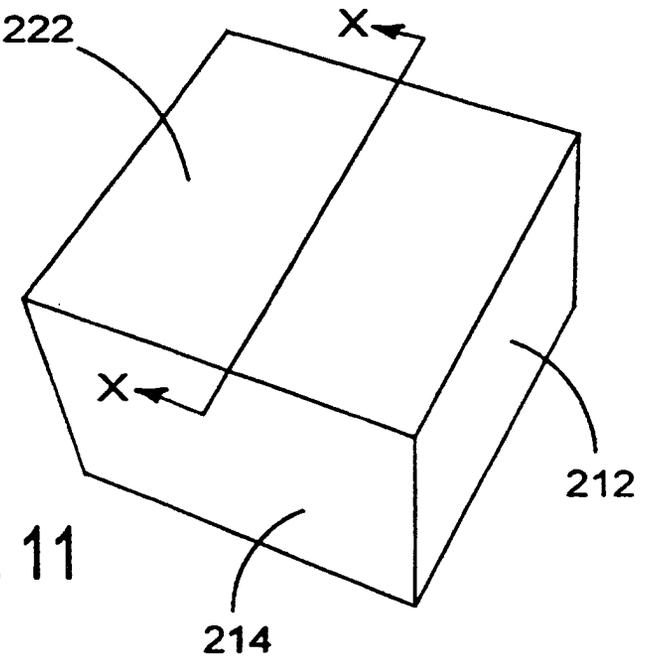


FIGURE 11

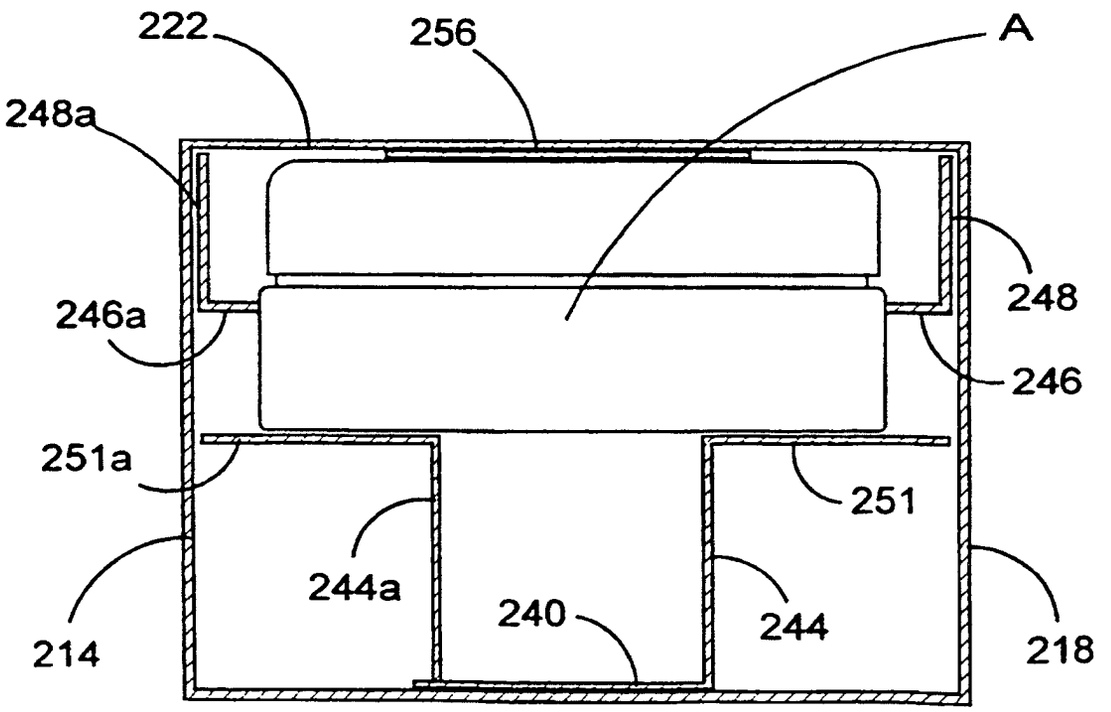


FIGURE 11A