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(54) **CARTON AND CARTON BLANK**

KARTON UND KARTONZUSCHNITT

CARTON ET DECOUPE DE CARTON

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Description

Background of the Invention

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

[0002] Such products are generally of high value and therefore, breakages during transit or sale are costly and hence undesirable to the manufacturer and seller. One way of combating breakages is to provide a space around the article within the carton which may crumple upon impact, thereby dissipating energy such that the article contained within remains intact. Furthermore, purchasers of such products generally expect that the packaging should be commensurate with the quality and value of the article, and that the article be attractively presented within the packaging.

[0003] One example is shown in US 2 835 428 to Herzog discloses an inner and outer carton arrangement, the inner carton being arranged to be spaced from the walls of the outer carton and having a separate lid section that engages within slots provided in the upper edges of the inner carton.

[0004] Herzog however fails to provide means for retaining articles within the inner carton and the risk of the articles breaking upon impact with a wall of the inner carton exists. In addition, a complex arrangement of spacers is required to maintain the inner carton in a central position in relation to the outer carton, which inevitably adds to the cost and complexity of manufacturing the carton.

[0005] DE-U-93 00 652.7 discloses a receptacle or cushion member having a platform and spacer means diverging to the intersection of walls of an outer carton. There is however no suggestion of providing a combination of lower and upper spacer members.

Summary of the Invention

[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 receptacle for packaging fragile articles comprising an article supporting platform, upper and lower spacer means being provided to space the platform from the base wall, top wall, side and end walls of an outer carton in which the receptacle is disposed. One or more of the upper and lower spacer means comprises a pair of members extending mutually divergently from the platform such that each of the members terminate at an intersection of a pair of walls of the outer carton.

[0008] According to an optional feature of this aspect of the invention, the upper and lower spacer means may comprise a pair of mutually divergently extending mem-

bers, the corresponding upper and lower members being hingedly connected to the platform along laterally juxtaposed fold lines.

[0009] Preferably, the platform is a composite comprising upper and lower platform panels placed in face contacting relationship.

[0010] In one class of embodiments, top protection means is hingedly connected to the upper spacer means so as to protect the article to be placed in the receptacle. Optionally, the upper spacer means comprises a member hingedly connected to the platform, the top protection means being hingedly connected to the member along the upper edge thereof.

[0011] One or more spacer means may be provided with an aperture to receive a portion of the article to retain the article in position on the platform.

[0012] According to another optional feature of this aspect of the invention, spacer members are provided in adjacent positions and are hingedly interconnected to the platform along substantially perpendicularly arranged fold lines.

[0013] The side edges of the adjacent spacer members may be interconnected by one or more gusset arrangements. Optionally, the gusset arrangement(s) are arranged to project outwardly of the receptacle. Preferably, the gusset arrangement(s) engage a corner of the outer carton defined by an intersection of the adjacent side and end walls thereof.

[0014] According to a further optional feature of this aspect of the invention, at least one of the upper and lower spacer means comprises a pair of trapezoidal flaps each adapted to be engaged with at least two adjacent side walls of the outer carton.

[0015] A second aspect of the invention provides a cushion member for placement into an outer carton comprising an article supporting platform having upper and lower spacer flaps extending upwardly and downwardly from the platform to be engaged respectively with the top and bottom walls of the outer carton, wherein the upper and lower spacer flaps are hinged to the platform along registered fold lines respectively. Optionally, the fold lines hingedly connecting the upper and lower spacer flaps to the platform are juxtaposed.

[0016] A third aspect of the invention provides a blank for forming a receptacle for packaging fragile articles comprising a retention panel having an article supporting platform, upper and lower spacer means being provided to space the platform from the base, top and sides of an outer carton in which the receptacle is disposed, wherein one or more of the upper and lower spacer means comprises a pair of flaps extending mutually divergently from the platform such that each of the flaps terminate at an intersection of a pair of walls of the outer carton in a set up condition. ,

[0017] According to an optional feature of the third aspect of the invention, the upper and lower spacer means comprise a pair of mutually divergently extending flaps, the corresponding upper and lower flaps being hingedly

connected to the platform along laterally juxtaposed fold lines.

[0018] Preferably, a top protection panel is hingedly connected to the upper spacer flap. More preferably, upper spacer means comprises a flap hingedly connected to the platform, the top protection means being hingedly connected to the flap along the upper edge thereof.

[0019] At least one spacer means is provided with an aperture to receive a portion of the article in a set up condition. Spacer flaps may be provided in adjacent positions that are hingedly interconnected to the platform along substantially perpendicularly arranged fold lines.

[0020] According to an optional feature of the third aspect of the invention, the side edges of the adjacent spacer flaps may be interconnected by one or more gusset arrangements. Optionally, the gusset arrangements are arranged to project outwardly of the receptacle in a set up condition.

Brief Description of the Drawings

[0021] Exemplary embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings in which: -

FIGURE 1 is a plan view of a blank for forming an outer carton according to a first embodiment of the invention;

FIGURE 2 is a plan view of a blank for forming an article receptacle according to a first embodiment of the invention;

FIGURE 3 is a plan view of the receptacle blank shown prior to the first stage of construction;

FIGURE 4 is a plan view of the blank in a partially folded state;

FIGURE 5 is a perspective view of the receptacle when ready to receive an article;

FIGURE 6 is an end view of the receptacle with the article in place;

FIGURE 7 is a view from above of the receptacle with the article in place;

FIGURE 8 is a perspective view of the receptacle positioned inside the carton in an erected and set up condition ready to receive an article;

FIGURE 9 is a partial cross-sectional view through the receptacle and outer carton shown in Figure 8 in a set up and loaded condition;

Detailed Description of the Preferred Embodiment

[0022] Referring to the drawings and in particular Figure 1 there is shown a blank 10 for forming an outer carton made from paperboard or other like foldable sheet material. The outer carton is formed from side and end panels 12, 14, 16 and 18 all hingedly connected together in series along fold lines 20, 22 and 24. There further comprises top panel 26 and base panel 28 hingedly connected to opposing end panels 14 and 18 respectively along fold lines 32 and 30. Preferably, there also comprises end support flaps 34 hingedly connected to side panels 16 and 12 along fold lines 36 used to provide additional support for the outer carton. A glue flap 38 is hingedly connected to side panel 12 along fold line 40 and top and base panels 26 and 28 may further comprise a tuck-in flap 42 hingedly connected along fold line 44.

[0023] Turning to the cushion member or receptacle shown in Figure 2, there further comprises a blank 50 also made from paperboard or other like foldable sheet material. The receptacle is adapted to be placed in an outer carton, one example of which is illustrated in Figure 1. The blank 50 comprises an article supporting platform 64, 70, upper and lower spacer means being provided to space the platform from the base panel 28, top panel 26 and side and end panels 12, 14, 16, 18 of an outer carton in which the receptacle is disposed, wherein one or more of the upper and lower spacer means comprises a pair of members 78, 80 extending mutually divergently from the platform such that each of the members terminate at an intersection of a pair of walls of the outer carton.

[0024] One example of a receptacle is formed from the blank 50 comprising in series a top protection panel 60, first upper spacer member 62, upper platform panel 64, second upper spacer member 66, connecting panel 68, lower platform panel 70 and first lower spacer member 72 hingedly interconnected along fold lines 92, 94, 96, 98, 100 and 102 respectively. The upper spacer means comprises, in this embodiment, the upper spacer members 62, 66. The upper spacer means preferably further comprises third and fourth upper spacer members 74 and 76 hingedly interconnected to opposed edges of upper platform panel 64 along fold lines 104 and 106 respectively. In this embodiment, lower spacer means comprises the lower spacer member 72.

[0025] Gusset structures 82, 84, 86 and 88 advantageously interconnect the side edges of adjacent upper spacer members 62, 66, 74, 76. Each gusset structure is substantially identical and therefore, only structure 82 will be described in further detail. The structure 82 preferably comprises a pair of triangular gusset panels 90 and 93. Panel 90 is hingedly interconnected to spacer member 62 along an extension of fold line 106 and panel 93 is hingedly interconnected to spacer member 76 along an extension of fold line 94. Gusset panels 90 and 93 are mutually interconnected along a fold line 112 that

preferably intersects with fold lines 94 and 106 at the corner of platform panel 64.

[0026] The gusset structures 82, 84, 86, 88 are preferably arranged such that once the receptacle is erected and placed in the outer carton, fold line 112 terminates proximate one of fold lines 20, 22, 24 or 40 of the outer carton thereby imparting additional rigidity to the carton.

[0027] In addition, the free edges of the gusset panels 90, 93 may advantageously be arranged to be substantially in contact with the respective side/end panels of the outer carton, thereby effectively closing the lower portion of the outer carton from view from above as described in more detail below. This may also impart additional rigidity to the carton, once erected, and furthermore enhances the presentation of the article within the carton. In alternative classes of embodiment, however, gusset panels may not be provided. In these embodiments, the upper spacer members may be trapezoidal in shape, which may again impart additional rigidity to the carton, as well as closing the lower portion of the carton from view.

[0028] The lower spacer means preferably further comprises second and third lower spacer members 78 and 80 hingedly interconnected to lower platform panel 70 along fold lines 108 and 110 respectively. Lower spacer panels 72, 78 and 80 are preferably substantially trapezoidal in shape such that when the receptacle is erected, the side edges thereof are placed in mutual contact as is perhaps best illustrated in Figures 6 and 9. This shape permits the spacer members to intersect with fold lines 20, 22, 24, 40 at the corners of the outer carton 10.

[0029] In order to positively retain the article A within the receptacle, upper spacer members 62, 66, 74 and 76 may be optionally provided with apertures H1, H3, H4 and H2 respectively. In this embodiment, these apertures are shown to be elongate in order to retain a protruding portion such as a lip or lid or a flange provided on the article. It should be understood however, that in other classes of embodiment, the shape of the apertures may be altered according to the shape of the article to be packaged. In addition, an aperture H3' is provided in connecting panel 68 such that once, as part of the receptacle erection process, panels 66 and 68 are brought into face contacting relationship, aperture H3' will be placed substantially in register with aperture H3.

[0030] Optionally, a cut-away portion 114 of top protection panel 60 is provided to enable the end user to more easily engage and lift the top protection panel 60 in order to gain access to the article once the receptacle is erected and loaded.

[0031] Turning to the construction and loading of the receptacle and carton as illustrated in Figures 3 to 9, it is envisaged that the carton of the present invention can be formed by a series of sequential folding and gluing operations which can be performed in a straight line machine so that the carton is not required to be rotated or inverted to complete its construction. The folding proc-

ess is not limited to that described below and can be altered according to particular manufacturing requirements.

[0032] Referring in particular to Figure 3, the article platform is first constructed whereby glue G is preferably applied to cross hatched areas of upper platform panel 64 and second upper spacer member 66. Alternatively, glue G may be applied to connecting panel 68 and lower platform panel 70. Connecting panel 68 is then folded about fold line 98 in a direction indicated by arrow X such that lower platform panel 70 overlies upper platform panel 64 and is secured thereto. Likewise, connecting panel 68 is secured to second upper spacer member 66 as illustrated in Figure 4. It is envisaged that alternative securing means known in the art may be used instead of glue.

[0033] Fold lines 94, 96, 104 and 106 are now in substantially juxtaposed parallel alignment with fold lines 102, 100, 108 and 100 respectively, although it is envisaged that in alternative embodiments this may not necessarily be the case. The blank may be supplied to a packaging plant in this flat collapsed form shown in Figure 4 for subsequent erection as outlined below.

[0034] To erect the receptacle to a point at which it may receive an article as illustrated in Figure 5, lower spacer members 72, 78 and 80 are folded downwardly out of alignment with lower platform panel 70 along fold lines 102, 108 and 110 respectively preferably such that the side edges of adjacent members are brought into substantial contact. Upper spacer members 62, 66, 74, 76 are similarly folded upwardly about fold lines 94, 96, 104 and 106 as illustrated in Figure 5 such that gusset structures 82, 84, 86 and 88 project outwardly thereof.

[0035] As shown in Figure 6, article A can then be introduced into the receptacle, and is preferably supported on composite platform panels 64 and 70. The edge of the article may be located in apertures H1, H2, H3 and H4 as can perhaps be most clearly seen in Figure 7. The platform and apertures may act together to substantially prevent any vertical or horizontal movement of the article. In other embodiments, one or more apertures may be dispensed with, or alternatively, the apertures may be configured differently such that the article A is lifted above the platform panels 64 and 70.

[0036] Turning now to Figure 8, once the receptacle has been folded as shown in Figure 5, it may be introduced into an outer carton formed from the blank as shown in Figure 1. To form a carton from the blank illustrated in Figure 1, side and end panels 12, 14, 16, 18 are folded out of mutual alignment along fold lines 20, 22 and 24 so as to form a tubular structure secured together by gluing, or otherwise securing flap 38 to panel 18. The receptacle may then be loaded into the outer carton either from above or below, and the base structure of the outer carton is completed by inwardly folding lower end support flaps 34 about fold lines 36 and base panel 28 about fold line 30. Tuck-in flap 42 of base panel 28 is folded about fold line 44 so as to be placed in face

contacting relationship with end panel 14. The carton is now as shown in Figure 8, and is ready for the article A to be loaded. In alternative loading/construction methods, the article A may be placed in the receptacle prior to the receptacle being loaded in the outer carton.

[0037] Once the article A has been loaded, top protection panel 60 is folded inwardly so as to overlie the top of the article. Top end support flaps 34 are folded inwardly so as to overlie protection panel 60, and finally top panel 26 and tuck-in flap 42 are folded inwardly such that flap 42 is placed in face contacting relationship with end panel 18, and the top panel 26 overlies end support flaps 34.

[0038] The carton is now in a fully erected and loaded state. A partial cross sectional view through the completed carton is illustrated in Figure 9. It can be seen that the receptacle spaces the article away from the side, end and base panels of the outer carton as well as preventing unwanted horizontal and vertical movement of an article within the carton. This minimises the risk of damage being caused to the article A. If necessary, the configuration of the receptacle may be adjusted such that a space is also provided above the article A.

[0039] To remove the article from the packaging, the end user opens top panel 26, top end support flaps 34 and top protection panel 60, and lifts the article from the platform 64, 70. Where the article is retained in apertures, it may be necessary to lift the receptacle relative to the outer carton, such that the upper spacer members 62, 66, 74, 76 have space to fold outwardly and release the article. Alternatively, the upper spacer members may be deformed towards the walls of the outer carton to enable release.

[0040] It is envisaged that the receptacle of the invention can be automatically erected so as to act as a spacer by employing configurations other than those described above, without departing from the scope of invention. For example, the platform need not be centrally positioned. The overall receptacle configuration strengthens the carton structure and assists in maintaining a tubular structure when for example the carton is stored on a supermarket shelf. The platform provides further support for the article contained within it.

[0041] It is envisaged that in alternative embodiments, a two part blank may be used to form the receptacle. In such embodiments, connecting panel 68 is dispensed with and may in some embodiments be replaced by a further lower spacer member. Alternatively, the outer carton and receptacle may be formed from a unitary blank, for example the top panel 26 may also be the cover panel 60.

[0042] Furthermore the supporting platform will tend to crumple in the event of excessive or sudden movement of the article within the carton or due to an impact with a foreign body for example during transit, thereby to dissipate the forces, and reduce the risk the article will be damaged.

[0043] It will be recognised that as used herein, direc-

tional references such as "top", "base", "end", "upper", "lower" and "side" 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.

[0044] The present invention and its preferred embodiments relate to a carton and/or receptacle which is shaped to provide satisfactory rigidity to hold fragile items such as bottles securely but with a degree of flexibility. The shape of the blank minimises the amount of paperboard required for the carton. The carton can be constructed from a flat collapsed condition to a position of use by hand or automatic machinery. The receptacle and carton may be adapted to package more than one article therein. The caliper and grade of paperboard may be adjusted according to the particular strength and deformation characteristics required.

Claims

1. A receptacle for packaging fragile articles comprising an article supporting platform (64, 70), **characterised by** upper and lower spacer means being provided to space the platform from the base wall (28), top wall (26), side and end walls (12, 14, 16, 18) of an outer carton in which the receptacle is disposed, wherein one or more of the upper and lower spacer means comprises a pair of members (78, 80) extending mutually divergently from the platform such that each of the members terminate at an intersection of a pair of walls of the outer carton.
2. A receptacle according to claim 1 wherein each of the upper and lower spacer means comprises a pair of mutually divergently extending members (74, 76) (78, 80), the corresponding upper and lower members (74, 78) (76, 80) being hingedly connected to the platform along laterally juxtaposed fold lines.
3. A receptacle according to claim 1 or claim 2 wherein the platform is a composite structure comprising upper and lower platform panels (64, 70) placed in face contacting relationship.
4. A receptacle according to claim 1 wherein top protection means (60) is hingedly connected to the upper spacer means so as to protect the article to be placed in the receptacle.
5. A receptacle according to claim 4 wherein the upper spacer means comprises said pair of members (62, 66) hingedly connected to the platform, the top protection means (60) being hingedly connected to one

of the members (62) of the upper spacer means along the upper edge thereof.

6. A receptacle according to any preceding claim wherein one or more of the spacer means (62, 66, 74, 76) is provided with an aperture (H1, H3, H4, H2) to receive a portion of the article to retain the article in position on the platform (64, 70).
7. A receptacle according to any preceding claim wherein said pair of members (62, 76) are provided in adjacent positions and are hingedly interconnected to the platform along substantially perpendicularly arranged fold lines (94, 106).
8. A receptacle according to claim 7 wherein the side edges of the adjacent members (62, 76) are interconnected by one or more gusset arrangements (82).
9. A receptacle according to claim 8 wherein the gusset arrangement(s) (82) are arranged to project outwardly of the receptacle.
10. A receptacle according to claim 9 wherein the gusset arrangement(s) (82) engage a corner of the outer carton defined by an intersection of the adjacent side and end walls (12, 18) thereof.
11. A receptacle as claimed in any preceding claim wherein at least one of the upper and lower spacer means comprises a pair of trapezoidal flaps (72, 78) each adapted to be engaged with at least two adjacent side walls of the outer carton.
12. A cushion member for placement into an outer carton comprising an article supporting platform (64, 70) **characterised by** having upper and lower spacer flaps (62, 66, 74, 76) (72, 78, 80) extending upwardly and downwardly from the platform to be engaged respectively with the top (26) and bottom (28) walls of the outer carton, wherein the upper and lower spacer flaps are hinged to the platform along registered fold lines (94, 96, 104, 106) (102, 108, 110) respectively.
13. A cushion member as claimed in claim 12 wherein the fold lines hingedly connecting the upper and lower spacer flaps to the platform are juxtaposed.
14. A blank (50) for forming a receptacle for packaging fragile articles comprising a retention panel having an article supporting platform (64, 70), **characterised by** upper and lower spacer means being provided to space the platform from the base (28), top (26) and sides (12, 14, 16, 18) of an outer carton in which the receptacle is disposed, wherein one or more of the upper and lower spacer means com-

prises a pair of flaps (78, 80) extending mutually divergently from the platform such that each of the flaps terminate at an intersection of a pair of walls of the outer carton in a set up condition.

15. A blank according to claim 14 wherein each of the upper and lower spacer means comprise a pair of mutually divergently extending flaps (74, 76) (78, 80), the corresponding upper and lower flaps (74, 78) (76, 80) being hingedly connected to the platform along laterally juxtaposed fold lines.
16. A blank according to claim 14 or claim 15 wherein the upper spacer means comprises said pair of flaps (62, 66), and a top protection panel (60) is hingedly connected to one of the upper flaps (62).
17. A blank according to claim 16 wherein said upper flaps (62, 66) are hingedly connected to the platform (64), the top protection means (60) being hingedly connected to one of the upper flaps (62) along the upper edge thereof.
18. A blank according to any one of claims 14 to 17 wherein at least one of said spacer means (62, 66, 74, 76) is provided with an aperture (H1, H3, H4, H2) to receive a portion of the article in a set up condition.
19. A blank according to any one of claims 14 to 18 wherein said pair of flaps (62, 76) are provided in adjacent positions and are hingedly interconnected to the platform along substantially perpendicularly arranged fold lines (94, 106).
20. A blank according to claim 19 wherein the side edges of the adjacent flaps (62, 76) are interconnected by one or more gusset arrangements (82).
21. A blank according to claim 20 wherein the gusset arrangements (82) are arranged to project outwardly of the receptacle in a set up condition.
22. A blank for forming a receptacle as claimed in any of claims 1 to 11 or a cushion member as claimed in claim 12 or claim 13.
23. A package comprising an outer carton having a top (26), base (28) and opposed side and end walls (12, 14, 16, 18), a receptacle as claimed in any of claims 1 to 11 and an article.

Patentansprüche

1. Behältnis zum Verpacken zerbrechlicher Gegenstände, wobei das Behältnis eine Gegenstandsstützplattform (64, 70) umfasst, die durch obere und

untere Beabstandungsmittel **gekennzeichnet** ist, die bereitgestellt sind, um die Plattform von der Bodenwand (28), der Deckenwand (26), den Seitenwänden und den Endwänden (12, 14, 16, 18) einer Außenschachtel zu beabstanden, in der das Behältnis angeordnet ist, wobei eines oder mehrere der oberen und unteren Beabstandungsmittel ein Paar von Elementen (78, 80) umfasst, die sich zueinander divergierend von der Plattform erstrecken, so dass jedes der Elemente an einer Überschneidung eines Paares von Wänden der Außenschachtel endet.

2. Behältnis nach Anspruch 1, wobei jedes der oberen und unteren Beabstandungsmittel ein Paar von sich zueinander divergierend erstreckenden Elementen (74, 76) (78, 80) umfasst, wobei die jeweiligen oberen und unteren Elemente (74, 78) (76, 80) entlang lateral gegenüberliegender Faltlinien gelenkig mit der Plattform verbunden sind.
3. Behältnis nach Anspruch 1 oder 2, wobei die Plattform eine Verbundstruktur ist, die obere und untere Plattformwandflächen (64, 70) umfasst, die in flächenberührender Beziehung angeordnet sind.
4. Behältnis nach Anspruch 1, wobei eine Deckenschutzeinrichtung (60) gelenkig mit den oberen Beabstandungsmitteln verbunden ist, um den im Behältnis anzuordnenden Gegenstand zu schützen.
5. Behältnis nach Anspruch 4, wobei die oberen Beabstandungsmittel das Paar von Elementen (62, 66) umfasst, das gelenkig mit der Plattform verbunden ist, wobei die Deckenschutzeinrichtung (60) gelenkig mit einem der Elemente (62) der oberen Beabstandungsmittel entlang dessen oberer Kante verbunden ist.
6. Behältnis nach einem der vorstehenden Ansprüche, wobei eines oder mehrere der Beabstandungsmittel (62, 66, 74, 76) mit einer Öffnung (H1, H3, H4, H2) bereitgestellt ist, um einen Abschnitt des Gegenstands aufzunehmen, um den Gegenstand auf der Plattform (64, 70) in Position zu haften.
7. Behältnis nach einem der vorstehenden Ansprüche, wobei das Paar von Elementen (62, 76) in angrenzenden Positionen bereitgestellt ist und entlang im Wesentlichen senkrecht angeordneter Faltlinien (94, 106) mit der Plattform gelenkig verbunden ist.
8. Behältnis nach Anspruch 7, wobei die Seitenkanten der angrenzenden Elemente (62, 76) mittels einer oder mehrerer Zwickelanordnungen (82) miteinander verbunden sind.

9. Behältnis nach Anspruch 8, wobei die Zwickelanordnung bzw. die Zwickelanordnungen (82) angeordnet ist bzw. sind, von dem Behältnis nach außen abzustehen.

10. Behältnis nach Anspruch 9, wobei die Zwickelanordnung bzw. die Zwickelanordnungen (82) eine Ecke der Außenschachtel in Eingriff nehmen, die durch eine Überschneidung der angrenzenden Seiten- und Endwände (12, 18) von dieser definiert wird bzw. werden.

11. Behältnis nach einem der vorstehenden Ansprüche, wobei wenigstens eines der oberen und unteren Beabstandungsmittel ein Paar von trapezförmigen Klappen (72, 78) umfasst, die jeweils angepasst sind, von wenigstens zwei angrenzenden Seitenwänden der Außenschachtel in Eingriff genommen zu werden.

12. Kisselement für die Platzierung in einer Außenschachtel umfassend eine Gegenstandsstützplattform (64, 70), die dadurch charakterisiert ist, dass sie obere und untere Beabstandungsklappen (62, 66, 74, 76) (72, 78, 80) aufweist, die sich von der Plattform nach oben und nach unten erstrecken, um jeweils von der Deckenwand (26) und der Bodenwand (28) der Außenschachtel in Eingriff genommen zu werden, wobei die oberen und unteren Beabstandungsklappen jeweils entlang passender Faltlinien (94, 96, 104, 106) (102, 108, 110) gelenkig mit der Plattform verbunden sind.

13. Kisselement nach Anspruch 12, wobei sich die Faltlinien, die gelenkig die oberen und unteren Beabstandungsklappen mit der Plattform verbinden, gegenüberliegen.

14. Zuschnitt (50) zum Ausbilden eines Behältnisses zum Verpacken von zerbrechlichen Gegenständen, wobei der Zuschnitt eine Rückhaltewandfläche mit einer Gegenstandsstützplattform (64, 70) umfasst, die durch obere und untere Beabstandungsmittel **gekennzeichnet** ist, die bereitgestellt sind, um die Plattform von dem Boden (28), der Decke (26) und den Seiten (12, 14, 16, 18) einer Außenschachtel zu beabstanden, in der der Gegenstand angeordnet ist, wobei eines oder mehrere der oberen und unteren Beabstandungsmittel ein Paar von Klappen (78, 80) umfasst, die sich zueinander divergierend von der Plattform erstrecken, so dass im aufgerichteten Zustand jede der Klappen an einer Überschneidung eines Paares von Wänden der Außenschachtel enden.

15. Zuschnitt nach Anspruch 14, wobei jedes der oberen und unteren Beabstandungsmittel ein Paar von sich zueinander divergierend erstreckenden Klappen

pen (74, 76) (78, 80) umfasst, wobei die jeweiligen oberen und unteren Klappen (74, 78) (76, 80) entlang lateral gegenüberliegender Faltlinien gelenkig mit der Plattform verbunden sind.

16. Zuschnitt nach Anspruch 14 oder 15, wobei die oberen Beabstandungsmittel das Paar von Klappen (62, 66) umfassen und wobei eine Deckenschutzwandfläche (60) gelenkig mit einer der oberen Klappen (62) verbunden ist.

17. Zuschnitt nach Anspruch 16, wobei die oberen Klappen (62, 66) gelenkig mit der Plattform (64) verbunden sind, wobei die Deckenschutzeinrichtung (60) gelenkig mit einer der oberen Klappen (62) entlang deren oberer Kante verbunden ist.

18. Zuschnitt nach einem der Ansprüche 14 bis 17, wobei wenigstens eines der Beabstandungsmittel (62, 66, 74, 76) mit einer Öffnung (H1, H3, H4, H2) bereitgestellt ist, um im aufgerichteten Zustand einen Abschnitt des Gegenstands aufzunehmen,

19. Zuschnitt nach einem der Ansprüche 14 bis 18, wobei das Paar von Klappen (62, 76) in angrenzenden Positionen bereitgestellt ist und entlang im Wesentlichen senkrecht angeordneter Faltlinien (94, 106) mit der Plattform verbunden ist.

20. Zuschnitt nach Anspruch 19, wobei die Seitenkanten der angrenzenden Klappen (62, 76) mittels einer oder mehrerer Zwickelanordnungen (82) miteinander verbunden sind.

21. Zuschnitt nach Anspruch 10, wobei die Zwickelanordnung bzw. die Zwickelanordnungen (82) angeordnet ist bzw. sind, im aufgerichteten Zustand von dem Behältnis nach außen abzustehen.

22. Zuschnitt zum Ausbilden eines Behältnisses nach einem der Ansprüche 1 bis 11 oder eines Kissen-elementes nach Anspruch 12 oder 13.

23. Verpackung umfassend eine Außenschachtel mit einer Decke (26), einem Boden (28) und gegenüberliegenden Seitenwänden und Endwänden (12, 14, 16, 18), ein Behältnis nach einem der Ansprüche 1 bis 11 sowie einen Gegenstand

Revendications

1. Récipient pour l'emballage d'articles fragiles comprenant une plate-forme (64, 70) de support d'article, **caractérisé par** des moyens d'espacement supérieurs et inférieurs ménagés de manière à espacer la plate-forme de la paroi de base (28), de la paroi supérieure (26) et des parois latérales et d'ex-

trémité (12, 14, 16, 18) d'un carton extérieur dans lequel est disposé le réceptacle, un ou plusieurs des moyens d'espacement supérieurs et inférieurs comprend, ou comprennent, une paire d'éléments (78, 80) qui s'étendent en s'écartant l'un de l'autre depuis la plate forme de façon telle que chacun des éléments se termine à une intersection d'une paire de parois du carton extérieur.

2. Récipient selon la revendication 1, dans lequel chacun des moyens d'espacement comprend une paire d'éléments (74, 76) (78, 80) qui s'étendent en s'écartant l'un de l'autre, les éléments supérieurs et inférieurs correspondants (74, 78) (76, 80) étant connectés de façon articulée à la plate-forme le long de lignes de pliage juxtaposées latéralement.

3. Récipient selon la revendication 1 ou 2, dans lequel la plate-forme est une structure composite comprenant des panneaux de plate-forme supérieur et inférieur (64, 70) disposés en relation de contact face contre face.

4. Récipient selon la revendication 1, dans lequel un moyen de protection supérieur (60) est connecté de manière articulée au moyen d'espacement supérieur de façon à protéger l'article qui doit être mis en place dans le récipient.

5. Récipient selon la revendication 4, dans lequel le moyen d'espacement supérieur comprend ladite paire d'éléments (62, 66) connectés de manière articulée à l'un des éléments (62) du moyen d'espacement supérieur le long de son bord supérieur.

6. Récipient selon l'une quelconque des revendications qui précèdent, dans lequel un ou plusieurs des moyens d'espacement (62, 66, 74, 76) est muni, ou sont munis, d'une ouverture (H₁, H₃, H₄, H₂) destinée à recevoir une partie de l'article afin de maintenir l'article en place sur la plate-forme.

7. Récipient selon l'une quelconque des revendications qui précèdent, dans lequel ladite paire d'éléments (62, 76) sont ménagés à des emplacements adjacents et sont interconnectés de manière articulée avec la plate-forme le long de lignes de pliage (94, 106) agencées sensiblement perpendiculairement.

8. Récipient selon la revendication 7, dans lequel les bords latéraux des éléments adjacents (62, 76) sont interconnectés par un ou plusieurs agencements comportant un soufflet (82).

9. Récipient selon la revendication 8, dans lequel les agencements comportant un soufflet (82) sont agencés de manière à faire saillie vers l'extérieur

du récipient.

10. Récipient selon la revendication 9, dans lequel les agencements comportant un soufflet (82) sont en prise avec un coin du carton extérieur défini par une intersection de ses parois latérales et d'extrémité (12,18).

11. Récipient selon l'une quelconque des revendications qui précèdent, dans lequel au moins un des moyens d'espacement supérieurs et inférieurs comprend une paire de rabats trapézoïdaux (72, 78) qui sont chacun aptes à être mis en prise avec au moins deux parois latérales adjacentes du carton extérieur.

12. Élément amortisseur destiné à être mis en place dans un carton extérieur comprenant une plate-forme (64, 70) de support d'article, **caractérisé par le fait qu'il** comprend des rabats d'espacement supérieurs et inférieurs (62, 66, 74, 76) (72, 78, 80) qui s'étendent vers le haut et vers le bas depuis la plate-forme et qui sont destinés à être respectivement mis en prise avec les parois supérieure (26) et inférieure (28) du carton extérieur, dans lequel les rabats d'espacement supérieur et inférieur sont respectivement mis en prise de manière articulée avec la plate-forme le long de lignes de pliage (94, 96, 104, 106) (102, 108, 110) en alignement.

13. Élément amortisseur selon la revendication 12, dans lequel les lignes de pliage connectant à la plate-forme de manière articulée les rabats d'espacement supérieur et inférieur sont juxtaposées.

14. Découpe (50) destinée à réaliser un récipient destiné à l'emballage d'articles fragiles comprenant un panneau de maintien comportant une plate-forme de support d'article (64, 70), **caractérisé par** des moyens d'espacement supérieur et inférieur qui sont ménagés afin d'espacer la plate-forme de la base (28), du sommet (26) et des côtés (12, 14, 16, 18) d'un carton extérieur dans lequel le récipient est disposé, plate-forme dans laquelle un ou plusieurs des moyens d'espacement supérieurs et inférieurs comprend, ou comprennent, une paire de rabats (78, 80) qui s'étendent en s'écartant l'un de l'autre depuis la plate-forme de telle manière que chacun des rabats se termine à une intersection d'une paire de parois du carton extérieur à l'état monté.

15. Découpe selon la revendication 14, dans laquelle les moyens d'espacement supérieurs et inférieurs comprennent une paire de rabats (74, 76) (78, 80) qui s'étendent en s'écartant l'un de l'autre, les rabats supérieurs et inférieurs correspondants (74, 78) (76, 80) étant connectés à la plate-forme de manière articulée le long de lignes de pliage juxtapo-

sées latéralement.

16. Découpe selon la revendication 14 ou la revendication 15, dans laquelle le moyen d'espacement supérieur comprend ladite paire de rabats (62, 66), et un panneau de protection supérieur (60) est connecté de manière articulée à l'un des rabats supérieurs (62).

17. Découpe selon la revendication 16, dans laquelle lesdits rabats supérieurs (62, 66) sont connectés de manière articulée à la plate-forme (64), le moyen de protection supérieur (60) étant connecté de manière articulée à l'un des rabats supérieurs (62) le long de son bord supérieur.

18. Découpe selon l'une quelconque des revendications 14 à 17, dans laquelle au moins l'un desdits moyens d'espacement (62, 66, 74, 76) est muni d'une ouverture (H_1 , H_3 , H_4 , H_2) afin de recevoir une partie de l'article à l'état monté.

19. Découpe selon l'une quelconque des revendications 14 à 18, dans laquelle ladite paire de rabats (62, 76) sont ménagés à des emplacements adjacents et sont interconnectés avec la plate-forme de manière articulée le long de lignes de pliage (94, 106) agencées sensiblement perpendiculairement.

20. Découpe selon la revendication 19, dans laquelle les côtés latéraux des rabats adjacents (62, 76) sont interconnectés par un ou plusieurs agencements comportant un soufflet (82).

21. Découpe selon la revendication 20, dans laquelle l'agencement (les agencements) (82) sont agencés de manière à faire saillie vers l'extérieur du récipient à l'état monté.

22. Découpe destinée à réaliser un récipient, comme revendiqué dans l'une quelconque des revendications 1 à 11, ou bien un élément amortisseur comme revendiqué dans la revendication 12 ou la revendication 13.

23. Emballage comprenant un carton extérieur comportant un sommet (26), une base (28) et des parois latérales et d'extrémité opposées (12, 14, 16, 18), un récipient comme revendiqué dans l'une quelconque des revendications 1 à 11, ainsi qu'un article.

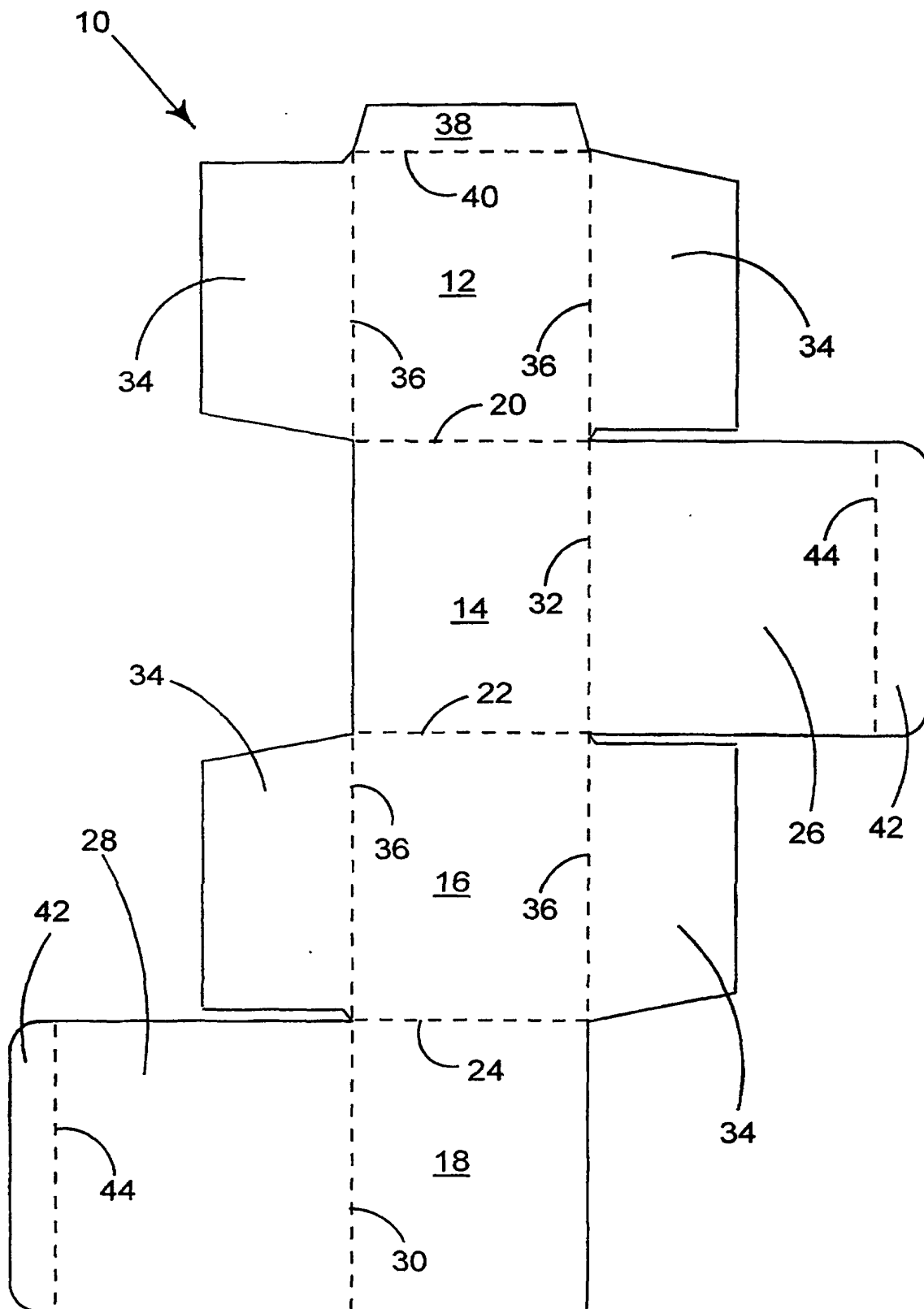


FIGURE 1

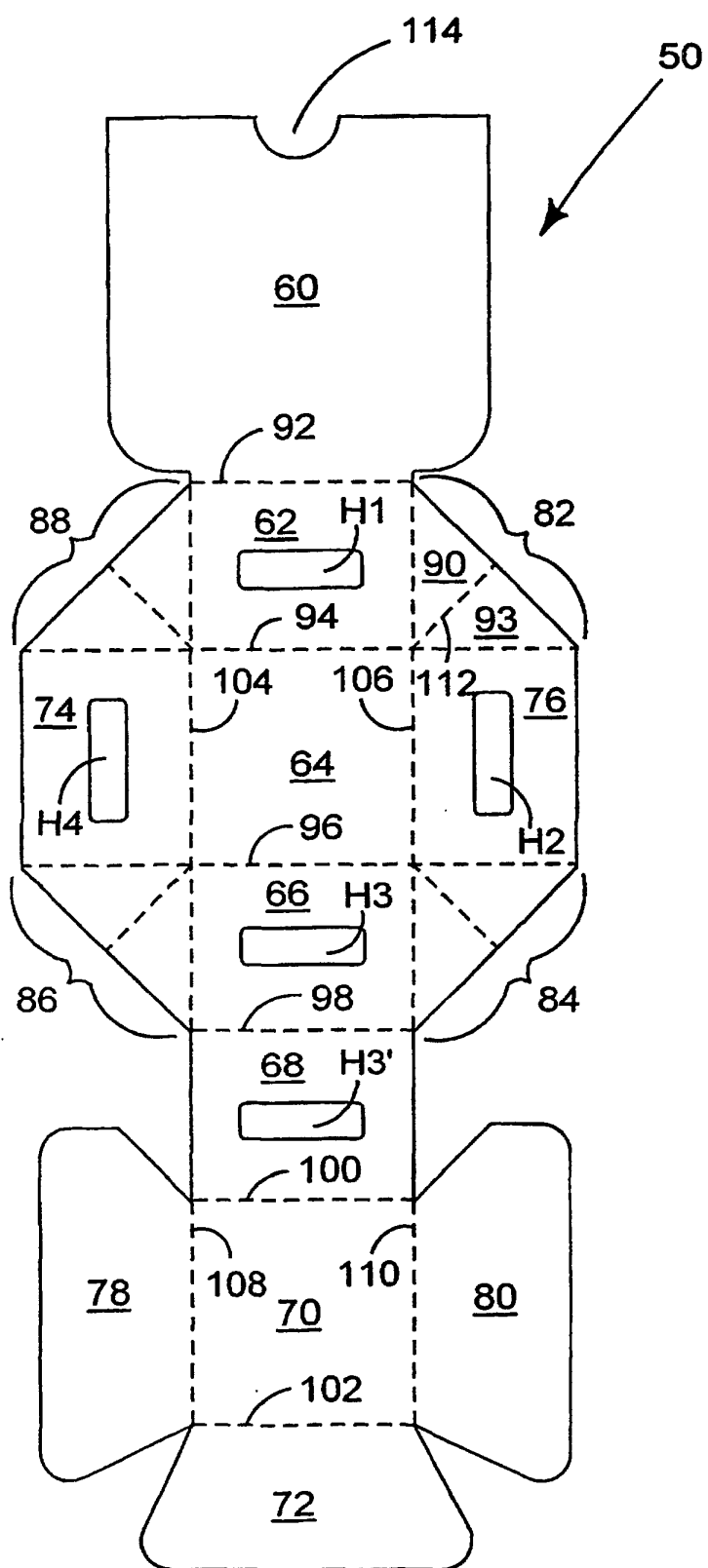


FIGURE 2

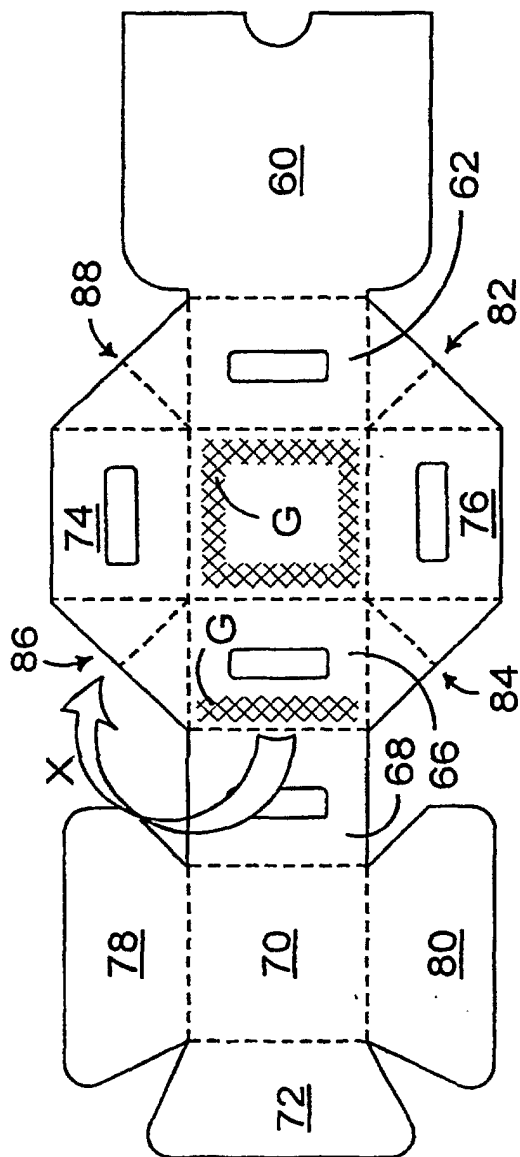


FIGURE 3

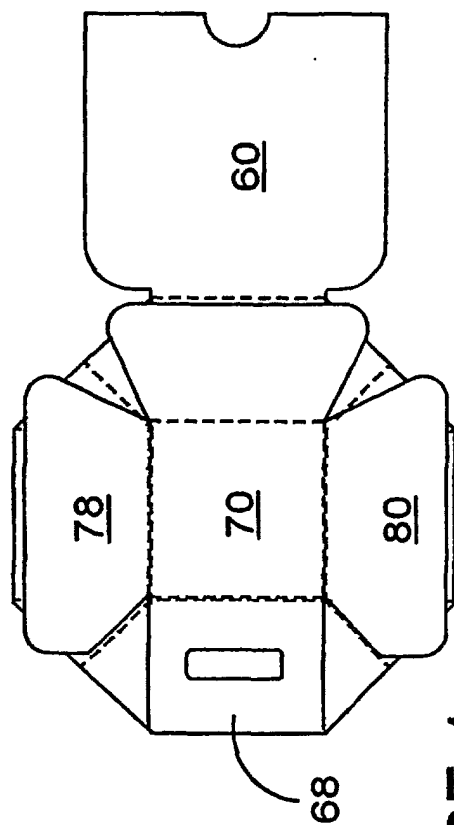
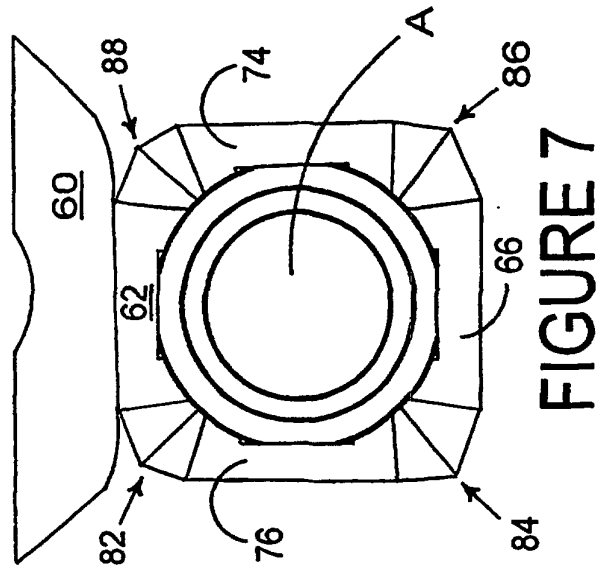
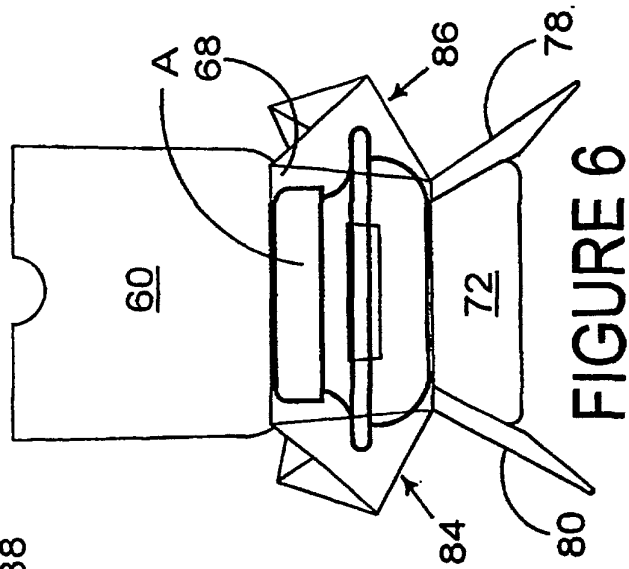
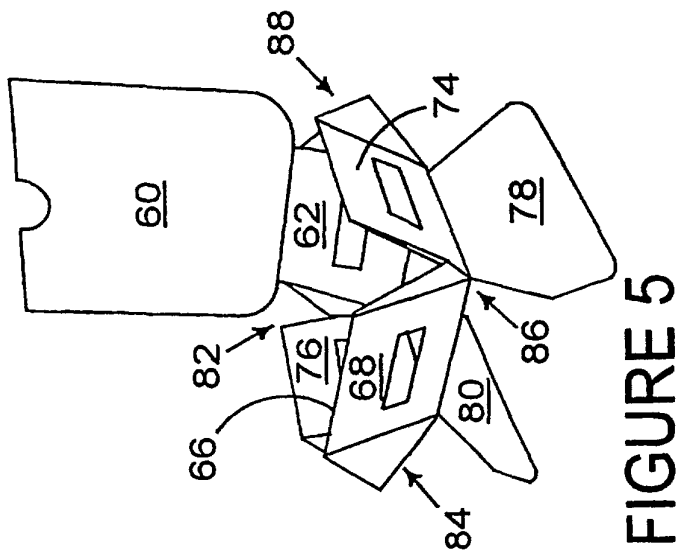


FIGURE 4



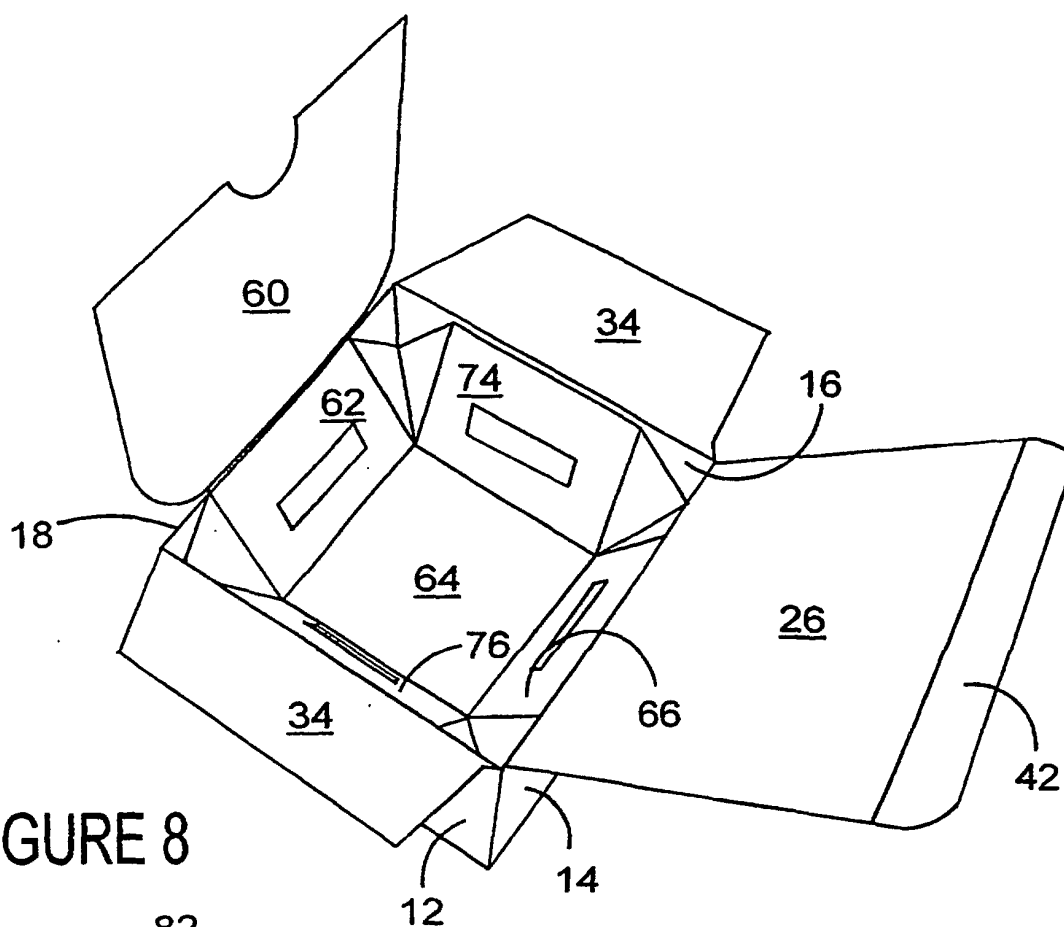


FIGURE 8

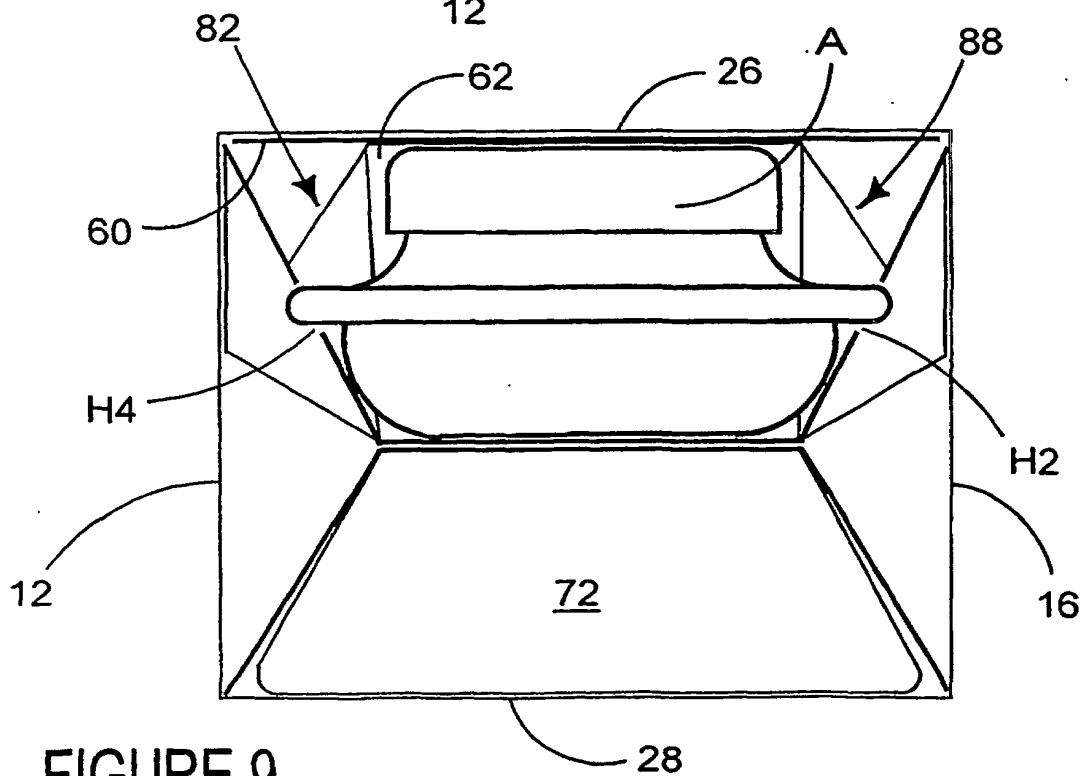


FIGURE 9