(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 578 672 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
02.04.2008 Bulletin 2008/14

(21) Application number: **03775590.7**

(22) Date of filing: **19.11.2003**

(51) Int Cl.:
B65D 5/24 *(2006.01)* ***B65D 5/68*** *(2006.01)*
B65D 81/26 *(2006.01)* ***B65D 81/28*** *(2006.01)*

(86) International application number:
PCT/GB2003/005040

(87) International publication number:
WO 2004/045971 (03.06.2004 Gazette 2004/23)

(54) **CONTAINER**

BEHÄLTER

CONTENANT

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

(30) Priority: **20.11.2002 GB 0227120**
28.01.2003 GB 0301951
29.04.2003 GB 0309768
30.05.2003 GB 0312438

(43) Date of publication of application:
28.09.2005 Bulletin 2005/39

(73) Proprietor: **DS Smith (UK) Limited**
Launceston
Cornwall PL15 9HN (GB)

(72) Inventor: **WONNACOTT, Roger, Joseph**
Launceston, Cornwall PL15 9EQ (GB)

(74) Representative: **Hanson, William Bennett et al**
Bromhead Johnson
19 Buckingham Street
London WC2N 6EF (GB)

(56) References cited:
EP-A- 1 122 177
GB-A- 453 180
GB-A- 1 593 730
US-A- 2 495 807
US-A- 5 752 648
US-A1- 2002 079 238
WO-A-98/52745
GB-A- 614 444
NL-C- 1 019 538
US-A- 3 876 131
US-A- 6 145 175
US-B1- 6 695 138

EP 1 578 672 B1

Printed by Jouve, 75001 PARIS (FR)

Description

Background to the Invention

[0001] This invention relates to a container comprising a base and lid, each made of stiff yet foldable sheet material, e.g. corrugated material. The container is particularly, but not exclusively, suitable for containing food produce such as, for example, fresh fish. The invention also relates to a blank of stiff yet foldable sheet material, e.g. corrugated material, which is erectable into a base of a container and to a packaging method.

[0002] Conventionally fish boxes, i.e. boxes used for the packing, storage and dispatch of fish, have been made from wood or plastics material. Such boxes are often filled on board deep-sea trawlers and take up valuable deck and storage space when not in use. These known fish boxes are relatively expensive and, as such, are re-used after being cleaned. However, it is difficult effectively to clean such fish boxes to the required hygienic standards.

[0003] It is desirable for fish boxes to have good thermally insulating properties so that fresh fish stored within the boxes do not become too hot It is difficult to provide relatively cheap, thermally insulating fish boxes made of wood or plastics material.

[0004] It has been proposed in US-A-3,937,390 to manufacture a fish box from corrugated board provided with a water-repellent impregnation. In particular, blanks of such impregnated corrugated board can be stored on board a trawler and erected when required into fish boxes having single thickness walls of the corrugated board. However although such a known fish box overcomes many of the disadvantages of fish boxes made of wood or plastics material, the thermally insulating properties of a fish box having walls of single thickness corrugated board could be improved.

Summary of the Invention

[0005] It is an aim of the present invention to provide an easily erectable container comprising a base and a top or lid having walls made of stiff yet foldable sheet material and possessing improved thermally insulating properties. It is also an aim of the invention to provide a container base erectable from a blank of stiff yet foldable sheet material.

[0006] According to one aspect of the present invention there is provided a blank made of stiff yet foldable sheet material according to claim 1.

Background art EP-A-1 122 177, NL-A-1 019 538 and GB-A-614 444 relate to a blank of stiff yet foldable sheet of material and an open-topped container erected from such a blank, comprising a rectangular bottom, double thickness side walls extending upwardly from said bottom, double thickness end walls extending upwardly from said bottom, and a gusset at each corner of the container.

[0007] A blank according to the invention enables a container base to be erected having double thickness side and end walls thereby enhancing the thermally insulating properties of the container base.

[0008] Conveniently, the second side wall panels are folded downwardly outside the first side wall panels in the erected container in which case the second end wall panels are also folded outside the first end wall panels. However it is also possible for the second side wall panels to be folded downwardly inside the first side wall panels and in this case the second end wall panels would be folded downwardly inside the corresponding first end wall panels.

[0009] In an embodiment of the invention more suitable for erection by a machine, each end flap is shaped so as to overlap the other end flap of the pair when the blank is erected into as container base.

[0010] The blank has adhesive means for connecting the second end wall panels to the underlying end flaps. Typically the adhesive means comprises double-sided adhesive strip or tape one side of which is adhered to the blank and the other side of which has a removable non-adhesive covering thereon. Suitably the adhesive strip or tape is provided on the second end wall panels although, alternatively, it could be provided on the end flaps.

[0011] Suitably the sheet material of the or each blank comprises corrugated material, e.g. corrugated fibreboard or cardboard. Corrugated material, with its cavities, has good thermally insulating properties and these thermally insulating properties are considerably enhanced in an erected container having walls of more than a single thickness. In the case of a fish box the provision of good thermal insulation is important since any ice added to the contents in use, e.g. whilst fish is being packed on a trawler, will thaw less quickly the better the thermally insulating properties of the walls of the fish box. Typically, the sheet material will be provided on both, sides with a water resistant coating, such as a plastics material and/or wax, or a laminated finish or may be impregnated with water-repellent material. By way of example only, water-repellent corrugated sheet material is described in US-A-5,626,945. The sheet material, at least for the blank of the container top, may have, on its side destined to form the outside of the container, a reflective foil covering for reflecting external heat and light radiation.

[0012] By using strips of adhesive material on the blanks to retain the erected containers in their erected condition, the containers can be erected onsite without the use of container erecting machinery.

[0013] At least one hole may be arranged in the blank to provide drainage in the erected base. For example, a hole in the stiff yet foldable sheet material may have at least one fluid resistant film applied over its periphery such as to allow fluid to flow through the hole without exposing the periphery to the fluid. In particular, a first layer of fluid resistant film may be applied to a first side of the blank and a second layer of fluid resistant film may be applied to a second side of the blank, the first and

second layers of film having mutually coincident apertures which allow fluid to flow through the hole.

[0014] According to another aspect of the present invention there is provided a container base erected from a blank according to said one aspect of the present invention.

[0015] A set of blanks according to a further aspect of the invention comprises a base blank as described above and a lid blank erectable to into a lid sized to fit the container base, the second end wall panel of each end wall panel means being arranged to be spaced from the first end wall panel in the erected base so as to engage an end panel of the lid when the latter is fitted to the erected base to keep the lid so fitted.

[0016] The second end wall panel of the base blank, and said end panel of the lid blank, may in particular be sized to pass fully past one another on fitting the erected lid to the erected base; said end panel of the lid blank then engaging below a bottom edge of said second end wall panel.

[0017] The container may be provided with an absorbent pad or member positioned inside the base on top of the bottom panel. The purpose of such an absorbent pad is to absorb liquid material, such as melted ice and blood from the stored contents, e.g. fish, inside the container base when the latter is in use. This is intended to prevent the stored contents from "floating" in the liquid material. Ideally, the absorbent member is intended to fit closely inside the container base, i.e. it will have substantially the same dimensions as the bottom panel so that there are gap or only small gaps between the positioned absorbent pad and the side walls of the container base. Typically, the absorbent pad comprises a liquid-impervious top layer and an absorbent bottom layer, which may itself be several layers thick. In particular the absorbent bottom layer may comprise corrugated cardboard material, layers, e.g. from 3 to 5, of paper. The pad may incorporate a bactericide or other substance for controlling possibly harmful bacteria, such as salmonella, listeria and leionella.

[0018] According to a still further aspect of the present invention there is provided a method of packaging products; such as food produce, comprising erecting .a container base from a blank according to said one aspect of the present invention, loading the container base with the products to be packaged, and closing the container base with a top formed from the said further blank. An absorbent member may be positioned in the container base after erection of the base and before loading the container base with products.

Brief Description of the Drawings

[0019] Embodiments of the invention will now be described, by way of example only, with particular reference to the accompanying drawings, in which:

Figure 1 is a plan of a first blank of stiff yet foldable sheet material which can be erected to form a base of a container according to the present invention;

Figure 2 is a plan of a second blank of stiff yet foldable sheet material for a top of a container according to the present invention;

Figures 3 to 7 are schematic views not drawn to scale showing various stages in the erection of the blanks shown in Figures 1 and 2 into a container;

Figure 8 is a plan of an alternative first blank of stiff yet foldable sheet material which can be erected to form a base of a container according to the present invention;

Figure 9 is a plan of an alternative second blank of stiff yet foldable sheet material for a top of a container according to the present invention;

Figure 10 is a schematic view showing the use of an absorbent member in the container base;

Figure 11 is a plan of a further alternative first blank;

Figure 12 is a plan of a further alternative second blank for use with the blank of Figure 11;

Figure 13 is a plan of yet a further alternative first blank;

Figure 14 is a plan of yet a further alternative second blank for use with the blank of Figure 13;

Figure 15 is a partially cut-away view of a container according to the invention having drainage holes; and

Figure 16 is a schematic sectional view of a drainage hole.

Detailed Description of Particular Embodiments

[0020] Figures 1 and 2 show container blanks, generally designated by the reference numerals 1 and 2, made of stiff yet foldable sheet material. Blank 1 is intended to be erected into a container base 3 and blank 2 is intended to form a container top 4 of a container 5; for example a fish box, shown in Figures 6 and 7.

[0021] A particularly suitable material for the blanks 1 and 2 which has good thermally insulating, properties is corrugated material, e.g. corrugated fibreboard or corrugated cardboard, having a pair of spaced apart flat parallel outer liner sheets and one or more fluted or corrugated sheets between these outer liner sheets. If more than one, e.g. two, fluted/corrugated sheets are provided they are separated by one or more intermediate flat sheets. In Figures 1 and 2 the blank is made from corru-

gated fibreboard comprising spaced apart outer liner sheets which are provided with a water-resistant or water-repellent coating or lamination sandwiching a single corrugated sheet, the flutes or corrugations of the corrugated sheets extending in the directions of doubleheaded arrow A. The blank 2 may be provided with a light and heat reflective layer on its lower face, i.e. the face destined to form the outside of the erected container. In the blanks 1 and 2 fold lines are represented by dashed and chain lines, the dashed lines representing folds upwardly out of the plane of the paper and the chain lines representing fold lines downwardly out of the plane of the paper. The fold lines are typically crease lines but may, for example, be full or partially perforated lines. Dotted portions of the blanks represent parts of the blank which are provided with adhesive means.

[0022] The blank 1 comprises a rectangular bottom panel 10 with a pair of side wall panel means and a pair of end wall panel means joined thereto. Each side wall panel means comprises a first side wall panel 11 (12) foldably connected to a side 13 (14) of the bottom panel 10 and a second side wall panel 15 (16) foldably connected to its associated first side wall panel 11 (12) along fold line 17 (18). Each second side wall panel 15 (16) has end flaps or panels 19 and 20 (21 and 22) foldably connected thereto about fold lines 23 and 24 (25 and 26), respectively.

[0023] Each end wall panel means comprises a first end wall panel 27 (28) foldably connected to an end 29 (30) of the bottom panel, and a second end wall panel 31 (32) foldably connected to the first end wall panel 27 (28) about a pair of closely spaced apart fold lines 33,34 (35,36). As can be seen in Figure 1, the second end wall panels 31 and 32 are divided along fold lines 39 and 40, respectively, into inner and outer portions 37a, 37b and 38a, 38b. The upper face (as viewed in Figure 1) of the blank 1 has double-sided self-adhesive strips 41 and 42 provided on the portions 37b and 38b, respectively. These self adhesive strips 41 and 42 are covered by removable non-adhesive release covering strips. Alternatively (not shown) it is possible not to divide the second panels 31 and 32 by the fold lines 39 and 40 but instead to provide the self-adhesive strips 41 and 42 on the underside of the blank 1 (as viewed in Figure 1).

[0024] At each of the four corners of the bottom panel there is a gusset means generally designated 43-46, respectively, only one (gusset means 43) of which will be described in detail hereinafter. The gusset means 43 comprises a pair of gusset panels 43a and 43b separated by a diagonal fold line 43c. Gusset panel 43a is foldably joined to the first end wall panel 27 about fold line 43d and gusset panel 43b is foldably connected to the first side wall panel 11 and the end panel 19 along fold lines 43e and 43f, respectively.

[0025] Figures 3 to 6 show various stages in the erection of an open-topped container from the blank 1. Figure 3 shows initial stages of the folding of one of the side wall panel means and one of the end wall panel means relative to the bottom panel 10. In Figure 4 it can be seen how the second side wall panels 15 and 16 are folded outwardly back against first side wall panels 11 and 12, respectively to form double thickness side walls. From Figures 4 to 6 it can be seen how the end flaps or panels 19-22 and gusset means 43-46 are folded flat against the outside of the respective first end wall panels 27 and 28 to form at least double thickness end walls for the open-topped container. In the final stage of the erection of the open-topped container; the release covering strips are removed from the self-adhesive strips 41 and 42, the outer portions 37b and 38b of the end wall panels 31 and 32 are folded back against the inner portions 37a and 38a, respectively, of the end wall panels 131 and 32 and the folded over panels 31, 37 and 32, 38 are pressed against the underlying end panels 19, 21 and 20, 22 to be adhered thereto by the self-adhesive strips 41 and 42 (see Figure 6).

[0026] The blank 2 comprises a rectangular top panel 50 having side panels 51 and 52 foldably joined to the top panel along sides 53 and 54, respectively, and end panels 55 and 56 foldably joined to the top panel along ends 57 and 58, respectively. End flaps 59, 60 and 61, 62 are foldably joined to opposite ends of the end panels 55 and 56, respectively. Double-sided adhesive tape is adhered to opposite side regions of the blank 2 to provide parallel adhesive strips 63 and 64 on side panels 51 and 52, respectively, and parallel adhesive strips 65-68 on end flaps 59-62, respectively. As with blank 1, the outer adhesive layer is covered by a suitable removable covering strip.

[0027] In order to close the open-topped container 3, the top 4 is erected from the blank 2. Suitably the top is not pre-erected but instead is positioned with the top panel 50 over the top of the open topped container. The end panels are then folded downwardly against the end walls of the container, the covering strip is removed from the adhesive strips 65-67 and the flaps 59-62 are folded against, and adhered to, the side walls of the container. Finally, the removable covering strips are removed from the adhesive strips 63 and 64 and the side panels 51 and 52 are folded downwardly against, and adhered to, the side walls of the container (see Figure 7).

[0028] Figures 8 and 9 show alternative first and second blanks respectively. Reference numerals in Figures 8 and 9 correspond to those in Figures 1 to 7 but with the addition of 100.

[0029] Figure 8 shows an alternative first blank 101, which is largely similar to the first blank 1 of Figure 1. The main difference is that the end flaps 119 to 122 of the alternative first blank 101 are elongated in the longitudinal direction of the blank. This means that when the blank is erected into a container, end flaps 119 and 121 overlap and end flaps 120 and 122 overlap. This provides additional strength to the ends of the container and helps in preventing buckling of the ends when the full container is pulled in a longitudinal direction.

[0030] Figure 9 shows an alternative second blank 102

which comprises a rectangular top panel 150 having side panels 151 and 152 foldably joined to the top panel along sides 153 and 154, respectively, and end panels 155 and 156 foldably joined to the top panel along ends 157 and 158, respectively. End flaps 159,160 and 161, 162 are foldably joined to opposite ends of the side panels 151 and 152 respectively. Double-sided adhesive tape is adhered to opposite side regions of the blank 102 to provide an adhesive strip 163 running along side panel 151 and end flaps 159, 161, and a parallel adhesive strip 164 running along side panel 152 and end flaps 160, 162. As with blank 101, the outer adhesive layer is covered by a suitable removable covering strip.

[0031] In order to close an open-topped container erected from the blank 102, a top is erected from the blank 102. Either the top may be pre-erected or the blank 102 may be positioned with the top panel 150 over the top of the open topped container. The end panels 155,156 are then folded downwardly against the end walls of the container. The covering strip is removed from the adhesive strips 163, 164 and the side panels 151, 152 are folded downwardly against, and adhered to, the side walls of the container. The end flaps 159-162 are then folded against, and adhered to, the end panels 155,156.

[0032] In the closed container according to the invention the side and end walls provided by the open-topped container and the lid or top each have at least three thicknesses of blank material to provide good thermal insulation to any contents of the container. Typically, in use, the open topped container would be packed with suitable products, such as fresh fish and optionally also ice, and would be closed by the'top erected from the blank 2 or 102. If used onsite on a trawler or the like, the blanks 1 and 2 or 101 and 102 can be kept in their unerected flat storage condition until a container is required to be used. Storage space is therefore not taken up by erected, non-filled containers.

[0033] One particular advantage of the erected open-topped container is that the construction is intended to protect any open ended flutes of the corrugated sheet material from contact/exposure to ice or water when it is being packed. Normally during packing ice is thrown in on top of the packed contents in a haphazard manner. However, as can be seen in the drawings, there is a minimum of exposure of the edge fluting with inner and outer protective layers throughout the design. In particular, none of the upper edges of the upstanding walls has exposed edge fluting.

[0034] Conveniently, an absorbent member 70 (see Figure 10) may be positioned in the bottom of the erected open-topped container before the container is filled with products. The absorbent member 70 has a liquid-impervious, e.g. plastics, top layer 71 and an absorbent bottom layer 72 typically comprising a number, e.g. from 3 to 5, layers of paper, one or more layers of corrugated cardboard or other absorbent material. The purpose of the absorbent member 70 is to provide an absorbent pad at the bottom of the container for absorbing liquids, e.g. melted ice and blood from stored produce such as fish, to prevent the stored product from "swimming" in fluid. Ideally, the absorbent member 70 is sized to be similar to the bottom of the container so that there are no gaps, or only small gaps, between the edge of the absorbent pad and the walls of the container. The liquid-impervious top layer 71 provides a virtually dry surface or barrier on which the product to be packaged is supported. The absorbent member or "pad" may incorporate a bactericide for controlling possible harmful bacteria, such as salmonella, listeria, and leionella. The bactericide or other substance may be impregnated in the paper or incorporated in glue or other material of the absorbent pad.

[0035] Figure 11 shows a further alternative first blank 201, which is largely similar to the blank 101 of Figure 8. However second end wall panels 231, 232 of the blank of Figure 11 are wider than the corresponding second end wall panels of Figure 8. Additionally tabs 280, 281 are provided at the centre of the free edges of the second end wall panels 231, 232 respectively. When the container base is erected tab 280 is tucked underneath the overlapping bottom edges of end flaps 220 and 222 and tab 281 is tucked underneath the overlapping bottom edges of end flaps 219 and 221 to secure the second end wall panels in place.

[0036] Figure 12 shows a further alternative lid blank 202. This has panels which correspond to those of the lid blank 102 of Figure 9 (and designated by reference numerals with the addition of 100). However in the lid blank of Figure 12, triangular corner pieces 285 connect end panels 255, 256 to end flaps 259-262. Also, the end flaps 259-262 are elongated. End tabs 290, 291 are provided on second end wall panels 292, 293 of the lid blank which are connected by crease lines to the first end wall panels 255, 256 respectively.

[0037] In erecting a lid from the lid blank 202, the side wall panels 251, 252 and the end wall panels 255, 256 are folded downwardly from the top panel 250. The end flaps 259-262 and triangular pieces 285 are folded to create gusseted corners thus preventing leakage even when the closed container is inverted. In contrast to the end flaps 219-222 of the base which are folded outside the first end wall panels thereof, the end flaps 259-262 of the lid blank are folded inside the first end wall panels 255,256; Second end wall panels 292, 293 are then folded inwardly and upwardly over the end flaps 259-262 and tabs 290, 291 are tucked over and behind the end flaps.

[0038] On fitting a lid erected from the blank 202 to a base erected from the blank, the second end wall panels 231, 232 of the base press against the second end wall panels 292, 293 of the lid and provide a tight fit

[0039] Figures 13 and 14 show base and lid blanks respectively having an enhanced engagement between the lid and base when erected. In this embodiment of the invention the second end wall panels 331, 332 of the base and the second end wall panels 392, 393 of the lid are narrower than the corresponding panels shown in

Figures 11 and 12. Also the base end flaps 319-322, and the outermost parts of the lid end flaps 359-362 are narrower so that tabs 380, 381, 390, 391, can still be tucked therebehind respectively.

[0040] A lid erected from the blank of Figure 14 has its second end wall panels 392, 393 extending upwardly inside the first end panels 355, 356 over only a part, for example about half, of the height thereof. Similarly a base erected from the blank of Figure 13 has its second end wall panels 331, 332 extending upwardly inside the first end panels 355, 356 over only a part, of the height thereof, preferably about the same extent as the part of lid first end panels 355, 356 which are not covered by lid second end wall panels 331, 332. Thus, when the lid is fitted to the blank, there is a positive latching between the second end wall panels 331, 332 of the base, and the second end wall panels 392, 393 of the lid as the former move into the space above the latter and vice versa.

[0041] In machine-erectable versions (not shown) of the blanks 201, 202, 301 and 302 the end tabs 280, 281, 290, 291, 380, 381, 390, 391 are omitted and securing of the second end wall panels could be achieved solely by adhesive means.

[0042] It is often desirable to allow drainage of fluid, such as melt-water resulting from ice packed around produce in the container. To this end drainage holes may be provided. For example, as shown in Figure 15, drainage holes 95 can be provided at the crease between the bottom panel and the walls (here the end walls) of the container base. Simply providing a hole in the corrugated sheet material may be unacceptable because of the possible ingress of fluid into the flutes of the material. Thus, water resistant films, preferably in the form of adhesive patches 96 having drainage apertures 97, are applied to the holes. As shown in Figure 16, the patches 96 are applied to both sides of the blank and prevent fluid reaching the edges of the holes 95 that would otherwise be exposed.

[0043] If desired additional flat, rectangular thermally insulating blanks (not shown) may be positioned in the bottom of the erected open-topped container before the latter is filled with products and on top of the filled container just before the lid is fitted over the container. In this way, additional thermally insulating layers can be provided on the bottom and top of the container.

[0044] The provision of a light and heat reflective layer, at least on the surface of the blank 2, 102, 202 or 302 destined to form the outside of the lid or top, improves the thermal insulating properties of the top.

[0045] Although corrugated fibreboard/cardboard is the presently preferred material for the enclosure it may be made, for example, of double skinned fluted polypropylene copolymer or of other stiff yet foldable sheet material which may or may not be corrugated or fluted and which may comprise plastics materials, e.g. EVA (ethylene vinyl acetate), EPS (polyform) or PVC.

[0046] According to a further aspect of the invention there is provided an absorbent pad for inclusion in a fish box or other food product box and incorporating a bactericide.

Claims

1. A blank (1, 101, 201) made of stiff yet foldable sheet material erectable into a container base, comprising:

a rectangular bottom panel (10,110);
a pair of side wall panel means each comprising a first side wall panel (11,12,111,112) foldably connected to an associated side of the bottom wall panel so as to be foldable upwardly therefrom to provide one layer of a side wall, a second side wall panel (15,16,15,116) foldably connected to the first side wall panel so as to be foldable over against the latter to provide a second layer of the side wall, and end flaps (19, 20, 21, 22, 119,120,121,122, 219, 220, 221, 222, 319, 320, 321, 322) foldably connected to opposite ends of the second side wall panel;
a pair of end wall panel means each comprising a first end wall panel (27, 28, 127, 128, 327, 328) foldably connected to an associated end of the bottom wall panel (10, 110) so as to be foldable upwardly therefrom to provide one layer of an end wall, and a second end wall panel (31, 32, 131, 132, 231, 331, 332) foldably connected to the first end wall panel; and
foldable gusset means (43, 44, 45, 46,143,144,145,146) at each corner of the bottom panel (10, 110) connecting opposite ends of each side wall panel means to opposite ones of said end wall panel means;

whereby in the erected container base the two end flaps (19, 20, 21, 22,119, 220, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) associated with each end of the blank are folded against the associated first end wall panel (27, 28, 127, 128, 327, 328) to provide a second layer of the end wall and the second end wall panel (31, 32, 131, 132, 231, 331, 332) of each end wall panel means is folded over, for connection to, the underlying end flaps (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322);
characterised by adhesive means (41, 42, 141, 142) for adhering the second end wall panels (31, 32, 131, 132, 231, 331, 332) to the underlying end flaps (19, 20, 21, 22,119,120,121,122, 219, 220, 221, 222, 319, 320, 321, 322).

2. A blank according to claim 1, wherein each end flap (19,20,21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) is shaped so as to overlap the other end flap of the pair when the blank is erected into a container base.

3. A blank according to claim 1 or 2, wherein the adhesive means comprises a double-sided adhesive strip (41, 42, 141, 142) one side of which is adhered to the blank (1, 101, 201) and the other side of which has a removable non-adhesive covering thereon.

4. A blank according to claim 1, 2 or 3, in which the adhesive means (41, 42, 141, 142) is provided on the said second end wall panels (31, 32, 131,132,231,331,332).

5. A blank according to any one of the preceding claims, in which the sheet material comprises corrugated material.

6. A blank according to claim 5, wherein said corrugated material comprises corrugated fibreboard or cardboard.

7. A blank according to any one of the preceding claims, wherein the sheet material is provided on both sides with a water resistant coating or a laminated finish or is impregnated with water-repellent material.

8. A blank according to any one of the preceding claims, including at least one hole (95) arranged to provide drainage in the erected base.

9. A blank according to claim 8, wherein the at least one hole (95) comprises a hole in the stiff yet foldable sheet material and at least one fluid resistant film (96) applied over a periphery of the hole in the stiff yet foldable sheet material such as to allow fluid to flow through the hole (95) without exposing said periphery to the fluid.

10. A blank according to claim 9, wherein the at least one hole (95) has a first layer of fluid resistant film (96) applied to a first side of the blank and a second layer of fluid resistant film (96) applied to a second side of the blank, the first and second layers of film having mutually coincident apertures (97) which allow fluid to flow through the hole (95).

11. A set of blanks made of stiff yet foldable sheet material comprising a blank (1, 101, 201) according to any preceding claim, erectable into a container base (3), and a lid blank (2,102) erectable to into a lid (4) sized to fit the container base, the second end wall panel (31, 32, 131, 132, 231, 331, 332) of each end wall panel means being arranged to be spaced from the first end wall panel (27, 28,127,128, 327, 328) in the erected base so as to engage an end panel (55, 56, 155, 156, 255, 256, 355, 356) of the lid (4) when the latter is fitted to the erected base (3) to keep the lid so fitted.

12. A set of blanks according to claim 11, wherein the second end wall panel (331, 332) of the blank erectable into the base, and said end panel (355, 356) of the lid blank, are sized to pass fully past one another on fitting the erected lid to the erected base, said end panel of the lid blank then engaging below a bottom edge of said second end wall panel (331, 332).

13. An open-topped container (3) erected from a blank (1, 101, 201) according to any one of claims 1 to 10, comprising a rectangular bottom (10, 110), double thickness side walls extending upwardly from said bottom, double thickness end walls extending upwardly from said bottom panel (10, 110), a gusset (43, 44, 45, 46, 143, 144, 145, 146) at each corner of the container connecting opposite ends of each side wall to opposite ones of said end walls, end flaps (19, 20, 21, 22,119,120,121,122, 219, 220, 221, 222, 319, 320, 321, 322) connected to opposite ends of each side wall and folded with the gusset means against the end walls, and connection means (41, 42, 141, 142), typically adhesive means, connecting the end flaps to the end walls.

14. A container according to claim 13 having a lid (4).

15. A container according to claim 14, wherein said lid comprises a rectangular top panel (250), lid side walls (251, 252) extending downwardly from said top panel, double thickness lid end walls (255, 292, 256, 293, 355, 392, 356, 393) extending downwardly from said top panel (250), a lid gusset means (285) at each corner of the lid connecting opposite ends of each lid side wall (251, 252) to opposite ones of said lid end walls, lid end flaps (259, 260, 261, 262, 359, 260, 361, 362) connected to opposite ends of each lid side wall and folded with the lid gusset means (285) against the lid end walls (255, 292, 256, 293, 355, 392, 356, 393), and lid connection means (290, 291, 390, 391) connecting the end flaps to the end walls.

16. A container according to claim 15, wherein the second end wall panel (231, 331, 332) of each end wall panel means of the base is spaced from the first end wall panel so as to engage a lid end panel (255, 292, 256, 293, 355, 392, 356, 393) forming part of the lid end wall when the latter is fitted to the base to keep the lid so fitted.

17. A container according to claim 16, wherein the second end wall panel (331, 332) of the base, and said lid end panel (355, 392, 356, 393) are sized to pass fully past one another on fitting the lid to the base, said end panel of the lid blank then engaging below a bottom edge of said second end wall panel of the base.

18. A container according to claim 14, 15, 16 or 17,

wherein said lid (4) is adhesively joined to said side walls and/or said end walls.

19. A container according to any one of claims 14 to 18, wherein said lid (4) has a reflective foil covering for reflecting external heat and light radiation.

20. A container according to any one of claims 13 to 19, and an absorbent member (70) for positioning inside the base (3) on top of the bottom panel (10,110).

21. A container according to claim 20, in which the absorbent member (70) has the same dimensions as the bottom panel (10, 110) of the container.

22. A container according to claim 20 or 21, in which the absorbent member (70) has a liquid-impervious top layer (71) and an absorbent bottom layer (72).

23. A container according to any one of claims 20 to 22, in which the absorbent member (70) includes a bactericide.

24. A method of packaging products, such as food produce, comprising erecting a container base (3) from a blank (1, 101, 201) according to any one of claims 1 to 10, loading the container base with the products to be packaged, and closing the container base (3) with a top (4) formed from a further blank (2,102).

Patentansprüche

1. Zuschnitt (1, 101, 201), hergestellt aus einem steifen, jedoch faltbaren Blattmaterial, aufrichtbar zu einer Behälterbasis, umfassend:

ein rechtwinkliges Bodenfeld (10, 110);
ein Paar von Seitenwandfeldmitteln, die jeweils ein erstes Seitenwandfeld (11, 12, 111, 112), das mit einer zugehörigen Seite des Bodenwandfelds so faltbar verbunden ist, dass es davon nach oben faltbar ist, um eine Lage einer Seitenwand bereitzustellen, ein zweites Seitenwandfeld (15, 16, 15, 116), das so mit dem ersten Seitenwandfeld faltbar verbunden ist, dass es über letzteres und dagegen faltbar ist, um eine zweite Lage der Seitenwand bereitzustellen, und Endlaschen (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) umfassen, die mit den gegenüber liegenden Enden des zweiten Seitenwandfeldes faltbar verbunden sind;
ein Paar von Endwandfeldmitteln, die jeweils ein erstes Endwandfeld (27, 28, 127, 128, 327, 328), das mit einem zugehörigen Ende des Bodenwandfeldes (10, 110) so faltbar verbunden ist, dass es davon nach oben faltbar ist, um eine Lage einer Endwand bereitzustellen, und ein zweites Endwandfeld (31, 32, 131, 132, 231, 331, 332), das mit dem ersten Endwandfeld faltbar verbunden ist, umfassen; und
faltbare Verstärkungsmittel (43, 44, 45, 46, 143, 144, 145, 146) an jeder Ecke des Bodenfelds (10, 110), die gegenüberliegende Enden jedes Seitenwandfeldmittels mit den gegenüber liegenden Enden der Endwandfeldmittel verbinden;

wodurch in der aufgerichteten Behälterbasis die zwei Endlaschen (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322), die jedem Ende des Zuschnitts zugehörig sind, gegen das zugehörige erste Endwandfeld (27, 28, 127, 128, 327, 328) gefaltet sind, um eine zweite Lage der Endwand bereitzustellen, und das zweite Endwandfeld (31, 32, 131, 132, 231, 331, 332) jedes Endwandfeldmittels über die darunter liegenden Endlaschen (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) zur Verbindung damit gefaltet ist;
gekennzeichnet durch Klebemittel (41, 42, 141, 142), damit die zweiten Endwandfelder (31: 32, 131, 132, 231, 331, 332) an den darunter liegenden Endlaschen (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222,319,320,321,322)haften.

2. Zuschnitt gemäß Anspruch 1, worin jede Endlasche (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) so ausgestaltet ist, dass sie die andere Endlasche des Paares überlappt, wenn der Zuschnitt zu einer Behälterbasis aufgerichtet wird.

3. Zuschnitt gemäß Anspruch 1 oder 2, worin das Klebemittel einen doppelseitigen Klebestreifen (41, 42, 141, 142) umfasst, dessen eine Seite auf dem Zuschnitt (1, 101, 201) haftet und dessen andere Seite eine entfernbare, nicht haftende Abdeckung darauf aufweist.

4. Zuschnitt gemäß Anspruch 1, 2 oder 3, bei dem das Klebemittel (41, 42, 141, 142) auf den zweiten Endwandfeldern (31, 32, 131, 132, 231, 331, 332) vorgesehen ist.

5. Zuschnitt gemäß einem der vorhergehenden Ansprüche, bei dem das Blattmaterial gewelltes Material aufweist.

6. Zuschnitt gemäß Anspruch 5, worin das gewellte Material gewellte Pappe oder Karton aufweist.

7. Zuschnitt gemäß einem der vorhergehenden Ansprüche, worin das Blattmaterial auf beiden Seiten mit einer wasserresistenten Beschichtung oder einer geschichteten Versiegelung versehen ist oder mit ei-

nem wasserabweisenden Material imprägniert ist.

8. Zuschnitt gemäß einem der vorhergehenden Ansprüche, der wenigstens ein Loch (95) beinhaltet, das angeordnet ist, einen Ablauf in der aufgerichteten Basis bereitzustellen.

9. Zuschnitt gemäß Anspruch 8, worin das wenigstens eine Loch (95) ein Loch in dem steifen, jedoch faltbaren Blattmaterial und wenigstens eine flüssigkeitsresistente Folie (96) aufweist, die über einen Randbereich des Loches in dem steifen, jedoch faltbaren Blattmaterial so aufgebracht ist, das es der Flüssigkeit gestattet ist, durch das Loch (95) zu strömen, ohne den Randbereich der Flüssigkeit auszusetzen.

10. Zuschnitt gemäß Anspruch 9, worin das wenigstens eine Loch (95) eine erste Lage aus dem flüssigkeitsresistenten Film (96), der auf eine erste Seite des Zuschnitts aufgebracht ist, und eine zweite Lage aus dem flüssigkeitsresistenten Film (96), der auf eine zweite Seite des Zuschnitts aufgebracht ist, aufweist, wobei die erste und zweite Lage der Folie wechselseitig zusammenfallende Öffnungen (97) aufweisen, die es der Flüssigkeit gestatten, durch das Loch (95) zu strömen.

11. Ein Satz von Zuschnitten, hergestellt aus einem steifen, jedoch faltbaren Blattmaterial, umfassend einen Zuschnitt (1,101, 201) gemäß einem der vorhergehenden Ansprüche, aufrichtbar zu einer Behälterbasis (3), und einen Deckelzuschnitt (2,102), aufrichtbar zu einem Dekkel (4), der so bemessen ist, dass er auf die Behälterbasis passt, wobei das zweite Endwandfeld (31, 32, 131, 132, 231, 331, 332) jedes Endwandfeldmittels so angeordnet ist, dass es von dem ersten Endwandfeld (27, 28, 127, 128, 327, 328) in der aufgerichteten Basis beabstandet ist, um so in Eingriff mit einem Endfeld (55, 56, 155, 156, 255, 256, 355, 356) des Deckels (4) zu stehen, wenn der letztere auf die aufgerichtete Basis (3) aufgesetzt ist, um den Deckel so aufgesetzt zu halten.

12. Ein Satz von Zuschnitten gemäß Anspruch 11, worin das zweite Endwandfeld (331, 332) des Zuschnitts, der zur Basis aufrichtbar ist und das Endfeld (355, 356) des Deckelzuschnitts so bemessen sind, dass sie mit dem Aufsetzen des aufgerichteten Deckels auf die aufgerichtete Basis vollständig aneinander vorbeigeführt werden, das Endfeld des Deckelzuschnitts dann unter einen Bodenrand des zweiten Endwandfeldes (331, 332) eingreift.

13. Oben offener Behälter (3), aufgerichtet aus einem Zuschnitt (1, 101, 201) gemäß einem der Ansprüche 1 bis 10, umfassend einen rechtwinkligen Boden (10, 110), Seitenwände mit doppelter Dicke, die sich von dem Boden nach oben erstrecken, Endwände mit doppelter Dikke, die sich von dem Bodenfeld (10, 110) nach oben erstrecken, eine Verstärkung (43, 44, 45, 46, 143, 144, 145, 146) an jeder Ecke des Behälters, die gegenüber liegende Enden jeder Seitenwand mit gegenüber liegenden Enden der Endwände verbinden, Endlaschen (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322), die mit gegenüber liegenden Enden jeder Seitenwand verbunden sind und mit den Verstärkungsmitteln gegen die Endwände gefaltet sind, und Verbindungsmittel (41, 42, 141, 142), typischerweise Klebemittel, die die Endlaschen mit den Endwänden verbinden.

14. Behälter gemäß Anspruch 13 mit einem Deckel (4).

15. Behälter gemäß Anspruch 14, worin der Deckel Folgendes umfasst: ein rechtwinkliges oberes Feld (250), Deckelseitenwänden (251, 252), die sich von dem oberen Feld nach unten erstrecken, Deckelendwände mit doppelter Dicke (255, 292, 256, 293, 355, 392, 356, 393), die sich von dem oberen Feld (250) nach unten erstrekken, ein Deckelverstärkungsmittel (285) an jeder Ecke des Deckels, das gegenüber liegende Enden jeder Dekkelseitenwand (251, 252) mit gegenüber liegenden Enden der Deckelendwände verbindet, Deckelendlaschen (259, 260, 261, 262, 359, 260, 361, 362), die mit gegenüber liegenden Enden jeder Deckelseitenwand verbunden sind und mit den Deckelverstärkungsmitteln (285) gegen die Deckelendwände (255, 292, 256, 293, 355, 392, 356, 393) gefaltet sind, und Deckelverbindungsmittel (290, 291, 390, 391), die die Endlaschen mit den Endwänden verbinden.

16. Behälter gemäß Anspruch 15, worin das zweite Endwandfeld (231, 331, 332) jedes Endwandfeldmittels der Basis von dem ersten Endwandfeld so beabstandet ist, dass es in ein Deckelendfeld (255, 292, 256, 293, 355, 392, 356, 393) eingreift, das einen Teil der Deckelendwand bildet, wenn letztere auf die Basis aufgesetzt wird, um den Deckel so aufgesetzt zu halten.

17. Behälter gemäß Anspruch 16, worin das zweite Endwandfeld (331, 332) der Basis und das Deckelendfeld (355, 392, 356, 393) so bemessen sind, dass sie mit dem Aufsetzen des Deckels auf die Basis vollständig aneinander vorbeigeführt werden, wobei das Endfeld des Dekkelzuschnitts dann unter einen Bodenrand des zweiten Endwandfeldes der Basis eingreift.

18. Behälter gemäß Anspruch 14, 15, 16 oder 17, worin der Deckel (4) haftend mit den Seitenwänden und/oder den Endwänden verbunden ist.

19. Behälter gemäß einem der Ansprüche 14 bis 18, worin der Deckel (4) eine Reflexionsfolienabdekkung zur Reflexion von äußerer Wärme und Lichtbestrahlung aufweist.

20. Behälter gemäß einem der Ansprüche 13 bis 19, und einem Absorptionselement (70) zu Anordnung im Innern der Basis (3) oben auf das Bodenfeld (10, 110).

21. Behälter gemäß Anspruch 20, bei dem das Absorptionselement (70) dieselben Maße wie das Bodenfeld (10, 110) des Behälters aufweist.

22. Behälter gemäß Anspruch 20 oder 21, in welchem das Absorptionselement (70) eine flüssigkeitsundurchlässige, obere Schicht (71) und eine Absorptionsbodenschicht (72) aufweist.

23. Behälter gemäß einem der Ansprüche 20 bis 22, in welchem das Absorptionselement (70) ein Bakterizid beinhaltet.

24. Verfahren zur Verpackung von Produkten, wie von Nahrungsmittelprodukten, umfassend: Aufrichten einer Behälterbasis (3) aus einem Zuschnitt (1, 101, 201) gemäß einem der Ansprüche 1 bis 10, Befüllen der Behälterbasis mit den zu verpackenden Produkten und Verschließen der Behälterbasis (3) mit einem Oberteil (4), das aus einem weiteren Zuschnitt (2, 102) ausgebildet ist.

Revendications

1. Flan (1, 101, 201) fabriqué en matériau en feuille rigide mais pliable pouvant être dressé en un corps formant récipient, comprenant :

un panneau de fond rectangulaire (10, 110) ;
une paire de moyens formant panneaux de paroi latérale comprenant chacun un premier panneau de paroi latérale (11, 12, 111, 112) relié de manière pliable à un côté associé du panneau de paroi de fond de façon à pouvoir être plié vers le haut à partir de celui-ci pour constituer une couche d'une paroi latérale, un second panneau de paroi latérale (15, 16, 115, 116) relié de manière pliable au premier panneau de paroi latérale de façon à pouvoir être replié contre ce dernier pour constituer une seconde couche de la paroi latérale, et des rabats d'extrémité (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) reliés de manière pliable à des extrémités opposées du second panneau de paroi latérale ;
une paire de moyens formant panneaux de paroi d'extrémité comprenant chacun un premier panneau de paroi d'extrémité (27, 28, 127, 128, 327, 328) relié de manière pliable à une extrémité associée du panneau de paroi de fond (10, 110) de façon à pouvoir être plié vers le haut à partir de celui-ci pour constituer une couche d'une paroi d'extrémité, et un second panneau de paroi d'extrémité (31, 32, 131, 132, 231, 331, 332) relié de manière pliable au premier panneau de paroi d'extrémité ; et
des moyens formant soufflet pliable (43, 44, 45, 46, 143, 144, 145, 146) à chaque angle du panneau de fond (10, 110) reliant des extrémités opposées de chacun des moyens formant panneaux de paroi latérale à des extrémités opposées desdits moyens formant panneaux de paroi d'extrémité ;
moyennant quoi, dans le corps formant récipient dressé, les deux rabats d'extrémité (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) associés à chaque extrémité du flan sont pliés contre le premier panneau de paroi d'extrémité associé (27, 28, 127, 128, 327, 328) pour constituer une seconde couche de la paroi d'extrémité et le second panneau de paroi d'extrémité (31, 32, 131, 132, 231, 331, 332) de chacun des moyens formant panneaux de paroi d'extrémité est replié au-dessus des rabats d'extrémité sous-jacents (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) pour s'y rattacher ;

caractérisé par des moyens adhésifs (41, 42, 141, 142) destinés à coller les seconds panneaux de paroi d'extrémité (31, 32, 131, 132, 231, 331, 332) aux rabats d'extrémité sous-jacents (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322).

2. Flan selon la revendication 1, dans lequel chaque rabat d'extrémité (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) est formé de façon à recouvrir l'autre rabat d'extrémité de la paire quand le flan est dressé en un corps formant récipient.

3. Flan selon la revendication 1 ou 2, dans lequel les moyens adhésifs comprennent un ruban adhésif double-face (41, 42, 141, 142) dont une face est collée au flan (1, 101, 201) et l'autre face possède une pellicule non adhésive amovible.

4. Flan selon la revendication 1, 2 ou 3, dans lequel les moyens adhésifs (41, 42, 141, 142) sont ménagés sur lesdits seconds panneaux de paroi d'extrémité (31, 32, 131, 132, 231, 331, 332).

5. Flan selon l'une quelconque des revendications précédentes, dans lequel le matériau en feuille comprend un matériau ondulé.

6. Flan selon la revendication 5, dans lequel ledit matériau ondulé comprend du carton-fibre ou du carton ondulé.

7. Flan selon l'une quelconque des revendications précédentes, dans lequel le matériau en feuille est pourvu, sur ses deux faces, d'un revêtement résistant à l'eau ou d'un apprêt stratifié ou est imprégné d'une matière hydrophobe.

8. Flan selon l'une quelconque des revendications précédentes, comprenant au moins un trou (95) agencé pour permettre l'évacuation de fluide dans le corps dressé.

9. Flan selon la revendication 8, dans lequel ledit au moins un trou (95) comprend un trou dans le matériau en feuille rigide mais pliable et au moins un film résistant aux fluides (96) appliqué sur une périphérie du trou dans le matériau en feuille rigide mais pliable, de façon à permettre à un fluide de s'écouler par le trou (95) sans exposer ladite périphérie au fluide.

10. Flan selon la revendication 9, dans lequel ledit au moins un trou (95) a une première couche de film résistant aux fluides (96) appliquée sur une première face du flan et une seconde couche de film résistant aux fluides (96) appliquée sur une seconde face du flan, les première et seconde couches de film ayant des ouvertures qui coïncident mutuellement (97) et qui permettent à un fluide de s'écouler par le trou (95).

11. Jeu de flans fabriqués en matériau en feuille rigide mais pliable, comprenant un flan (1, 101, 201) selon une quelconque revendication précédente, pouvant être dressé en un corps formant récipient (3), et un flan de couvercle (2, 102) pouvant être dressé en un couvercle (4) dimensionné pour s'ajuster sur le corps formant récipient, le second panneau de paroi d'extrémité (31, 32, 131, 132, 231, 331, 332) de chacun des moyens formant panneaux de paroi d'extrémité étant agencé pour être espacé du premier panneau de paroi d'extrémité (27, 28, 127, 128, 327, 328) dans le corps dressé, de façon à venir en prise avec un panneau d'extrémité (55, 56, 155, 156, 255, 256, 355, 356) du couvercle (4) quand ce dernier est ajusté sur le corps dressé (3) afin de maintenir le couvercle ajusté de la sorte.

12. Jeu de flans selon la revendication 11, dans lequel le second panneau de paroi d'extrémité (331, 332) du flan pouvant être dressé en corps et ledit panneau d'extrémité (355, 356) du flan de couvercle sont dimensionnés pour passer totalement l'un devant l'autre lors de l'ajustement du couvercle dressé sur le corps dressé, ledit panneau d'extrémité du flan de couvercle venant ensuite en prise sous un bord inférieur dudit second panneau de paroi d'extrémité (331, 332).

13. Récipient ouvert en haut (3) dressé à partir d'un flan (1, 101, 201) selon l'une quelconque des revendications 1 à 10, comprenant un fond rectangulaire (10, 110), des parois latérales à double épaisseur s'étendant vers le haut à partir dudit fond, des parois d'extrémité à double épaisseur s'étendant vers le haut à partir dudit panneau de fond (10, 110), un soufflet (43, 44, 45, 46, 143, 144, 145, 146) à chaque angle du récipient reliant des extrémités opposées de chaque paroi latérale à des extrémités opposées des dites parois d'extrémité, des rabats d'extrémité (19, 20, 21, 22, 119, 120, 121, 122, 219, 220, 221, 222, 319, 320, 321, 322) reliés à des extrémités opposées de chaque paroi latérale et pliés avec les moyens formant soufflet contre les parois d'extrémité, et des moyens de liaison (41, 42, 141, 142), habituellement des moyens adhésifs, reliant les rabats d'extrémité aux parois d'extrémité.

14. Récipient selon la revendication 13, ayant un couvercle (4).

15. Récipient selon la revendication 14, dans lequel ledit couvercle comprend un panneau de dessus rectangulaire (250), des parois latérales de couvercle (251, 252) s'étendant vers le bas à partir dudit panneau de dessus, des parois d'extrémité de couvercle à double épaisseur (255, 292, 256, 293, 355, 392, 356, 393) s'étendant vers le bas à partir dudit panneau de dessus (250), des moyens formant soufflet de couvercle (285) à chaque angle du couvercle reliant des extrémités opposées de chaque paroi latérale de couvercle (251, 252) à des extrémités opposées des dites parois d'extrémité de couvercle, des rabats d'extrémité de couvercle (259, 260, 261, 262, 359, 360, 361, 362) reliés à des extrémités opposées de chaque paroi latérale de couvercle et pliés avec les moyens formant soufflet de couvercle (285) contre les parois d'extrémité de couvercle (255, 292, 256, 293, 355, 392, 356, 393), et des moyens de liaison de couvercle (290, 291, 390, 391) reliant les rabats d'extrémité aux parois d'extrémité.

16. Récipient selon la revendication 15, dans lequel le second panneau de paroi d'extrémité (231, 331, 332) de chacun des moyens formant panneaux de paroi d'extrémité du corps est espacé du premier panneau de paroi d'extrémité de façon à venir en prise avec un panneau d'extrémité de couvercle (255, 292, 256, 293, 355, 392, 356, 393) faisant partie de la paroi d'extrémité de couvercle quand cette dernière est ajustée sur le corps pour maintenir le couvercle ajusté de la sorte.

17. Récipient selon la revendication 16, dans lequel le

second panneau de paroi d'extrémité (331, 332) du corps et ledit panneau d'extrémité de couvercle (355, 392, 356, 393) sont dimensionnés pour passer totalement l'un devant l'autre lors de l'ajustement du couvercle sur le corps, ledit panneau d'extrémité du flan de couvercle venant alors en prise sous un bord inférieur dudit second panneau de paroi d'extrémité du corps.

18. Récipient selon la revendication 14, 15, 16 ou 17, dans lequel ledit couvercle (4) est assemblé de manière adhésive aux dites parois latérales et/ou aux dites parois d'extrémité.

19. Récipient selon l'une quelconque des revendications 14 à 18, dans lequel ledit couvercle (4) a une pellicule en feuille réfléchissante destinée à réfléchir les rayonnements de chaleur et de lumière extérieurs.

20. Récipient selon l'une quelconque des revendications 13 à 19, et un élément absorbant (70) destiné à être positionné à l'intérieur du corps (3) au-dessus du panneau de fond (10, 110).

21. Récipient selon la revendication 20, dans lequel l'élément absorbant (70) a les mêmes dimensions que le panneau de fond (10, 110) du récipient.

22. Récipient selon la revendication 20 ou 21, dans lequel l'élément absorbant (70) a une couche supérieure imperméable aux liquides (71) et une couche inférieure absorbante (72).

23. Récipient selon l'une quelconque des revendications 20 à 22, dans lequel l'élément absorbant (70) comprend un bactéricide.

24. Procédé d'emballage de produits tels que des denrées alimentaires, comprenant les étapes consistant à dresser un corps formant récipient (3) à partir d'un flan (1, 101, 201) selon l'une quelconque des revendications 1 à 10, charger le corps formant récipient avec les produits à emballer, et fermer le corps formant récipient (3) par un couvercle (4) formé à partir d'un autre flan (2, 102).

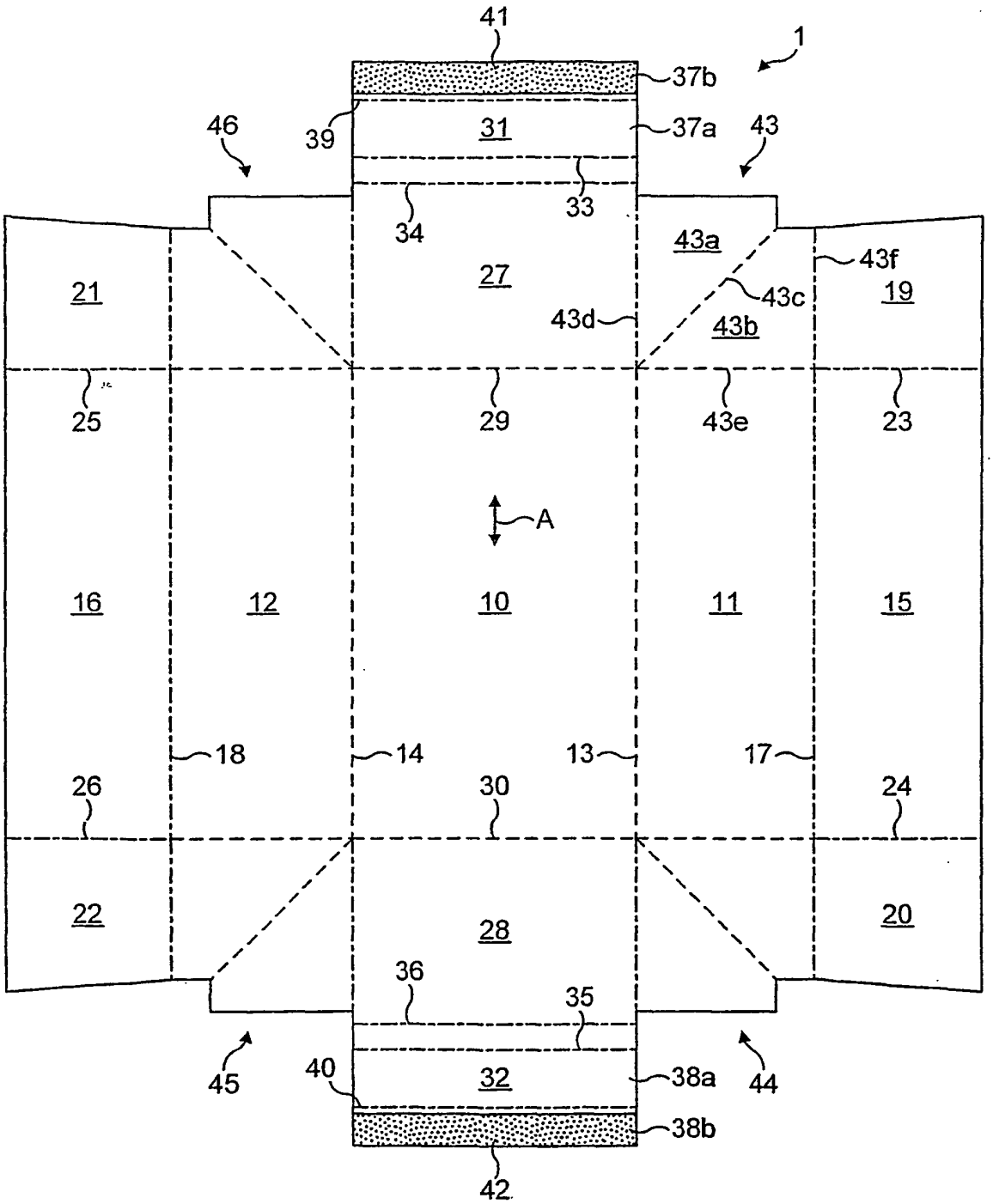
41
1
37b
46
39
31
37a
43
33
34
43a
43f
27
21
43c
19
43d
43b
25
29
43e
23
A
16
12
10
11
15
18
14
13
17
26
30
24
22
28
20
36
35
45
40
32
38a
44
38b
42

FIG. 1

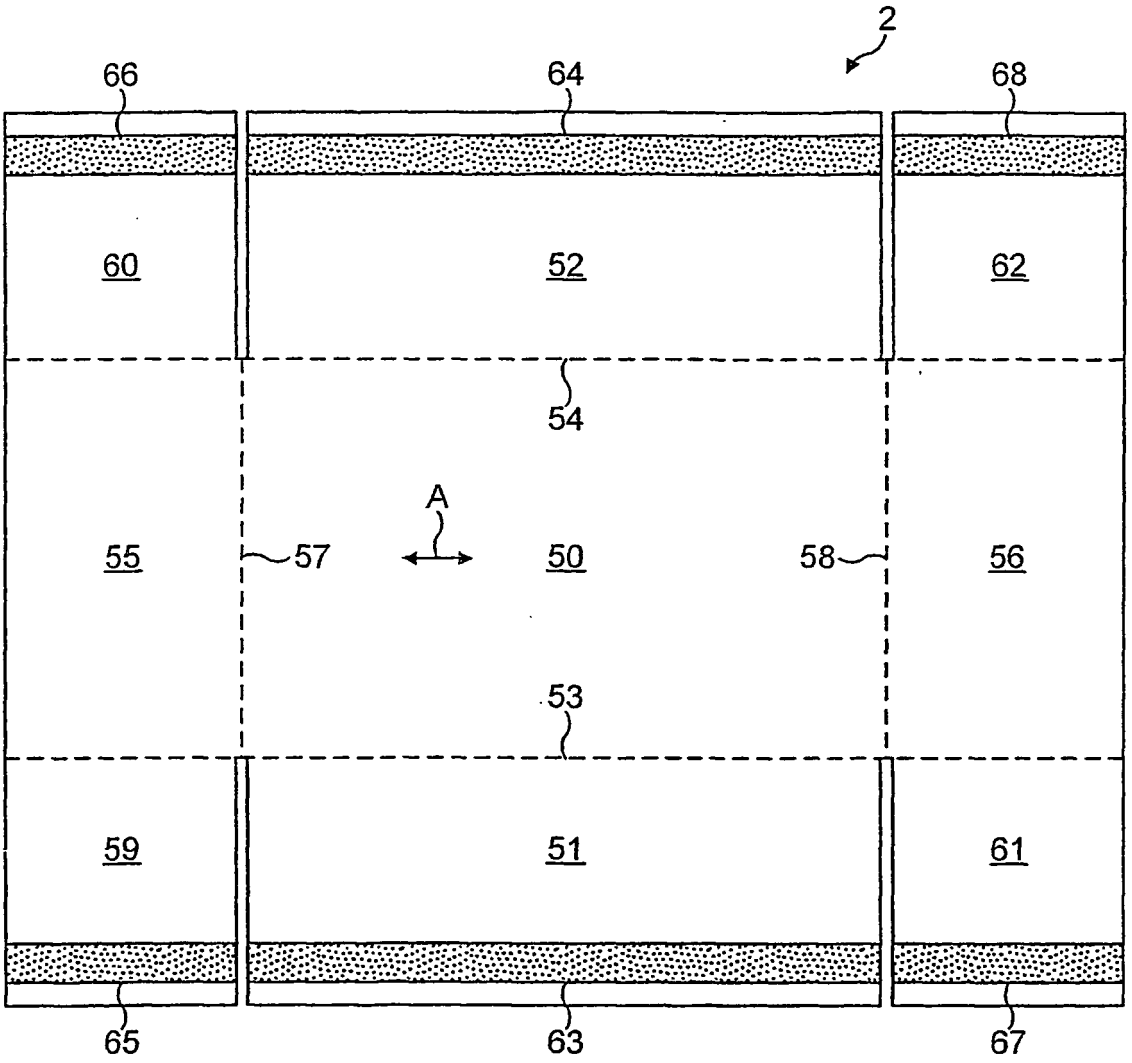

FIG. 2

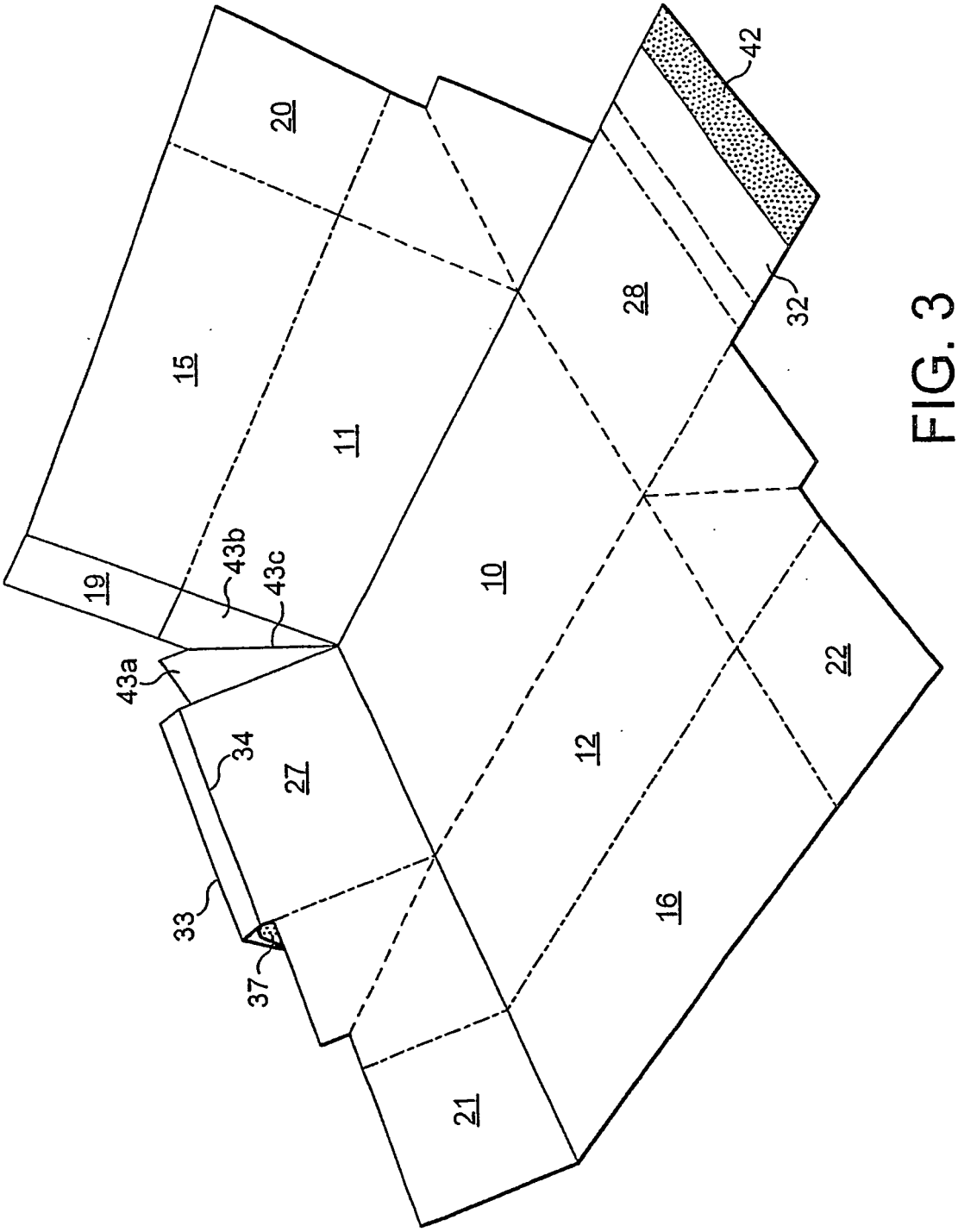

FIG. 3

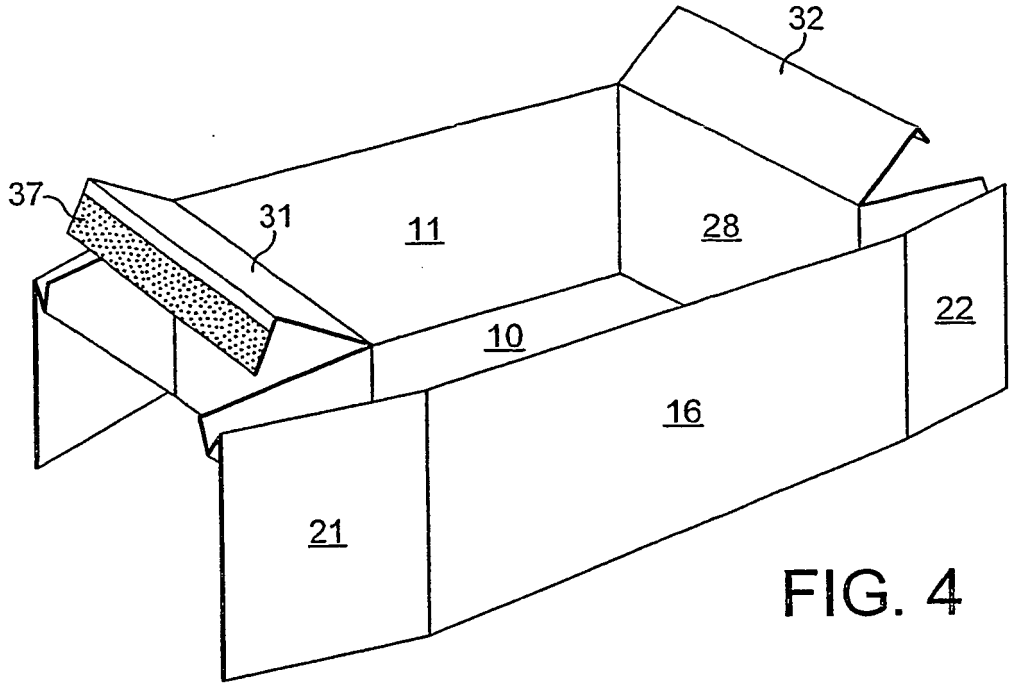

FIG. 4

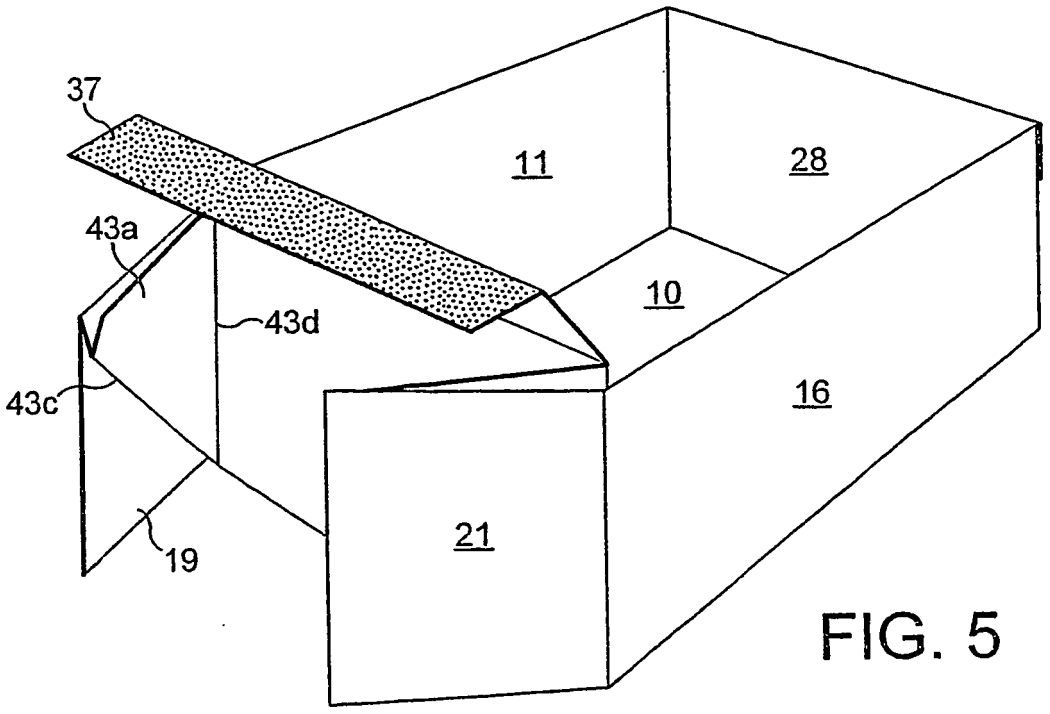

FIG. 5

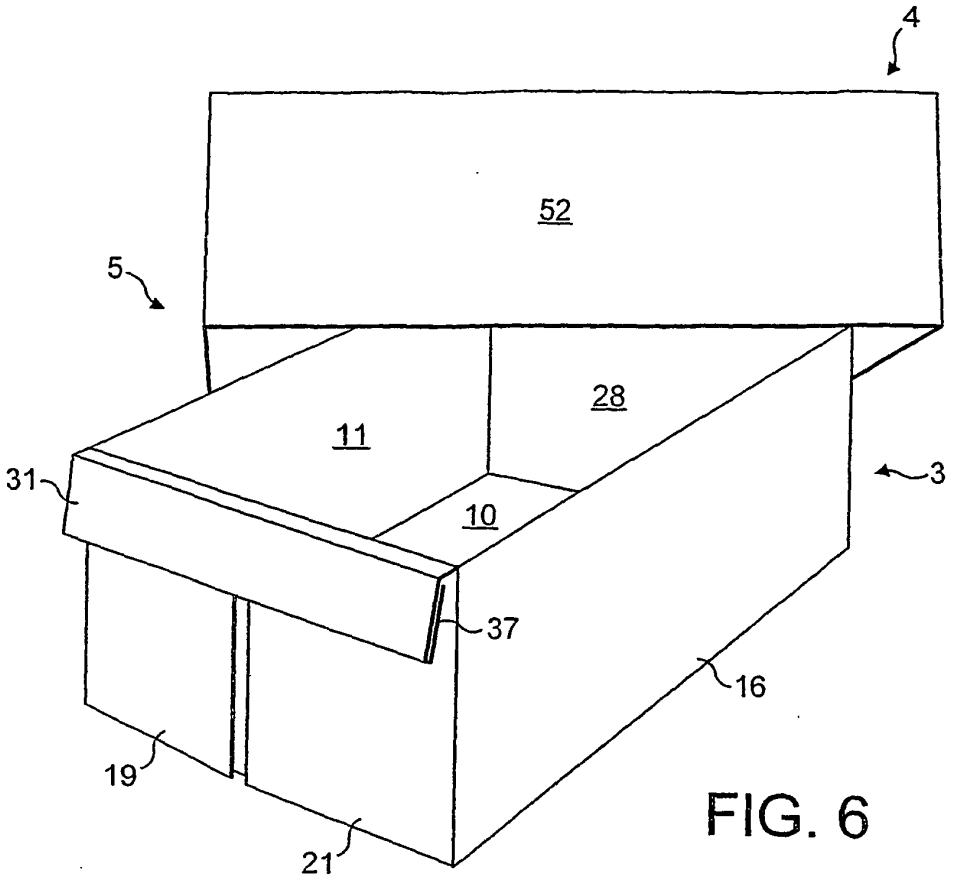

FIG. 6

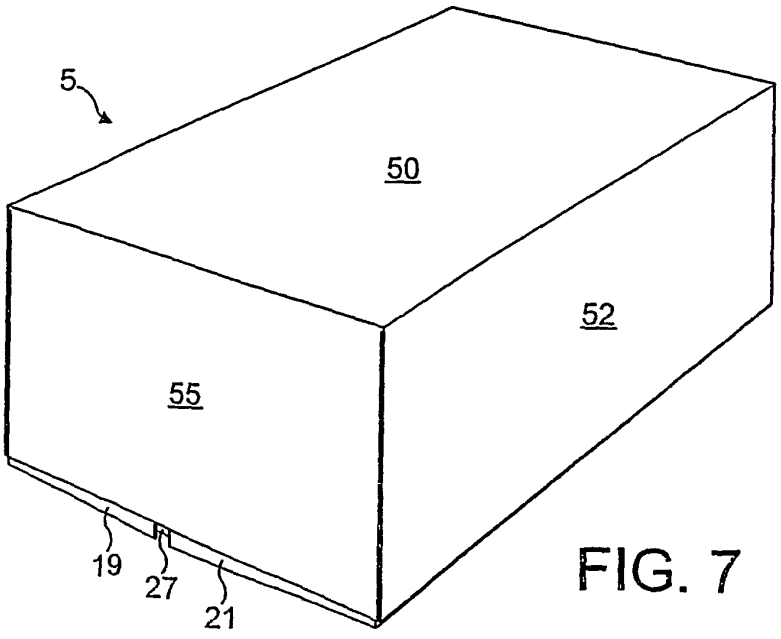

FIG. 7

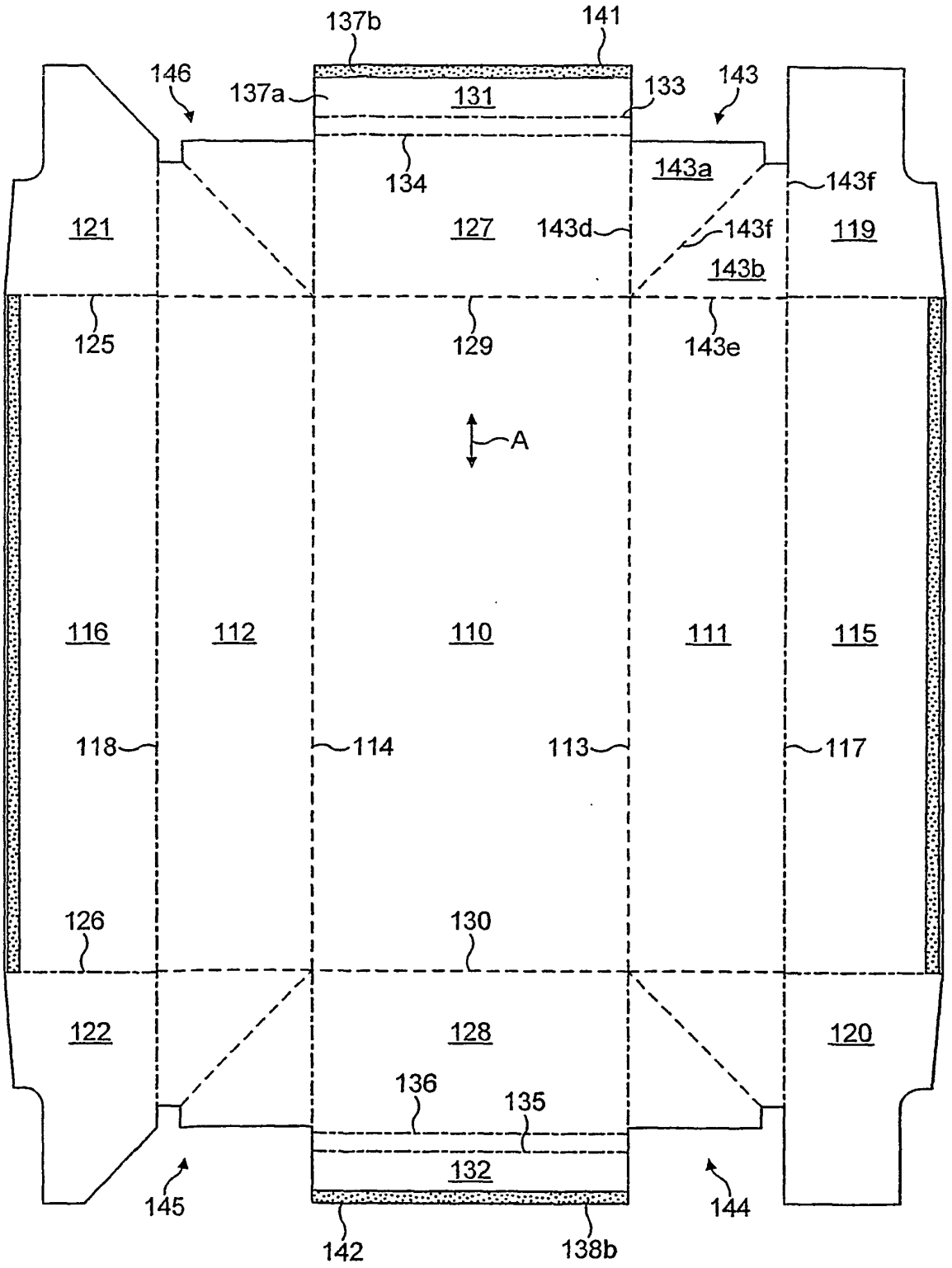
137b
141
146
137a
131
133
143
134
143a
143f
121
127
143d
143f
119
143b
125
129
143e
A
116
112
110
111
115
118
114
113
117
126
130
122
128
120
136
135
132
145
144
142
138b

FIG. 8

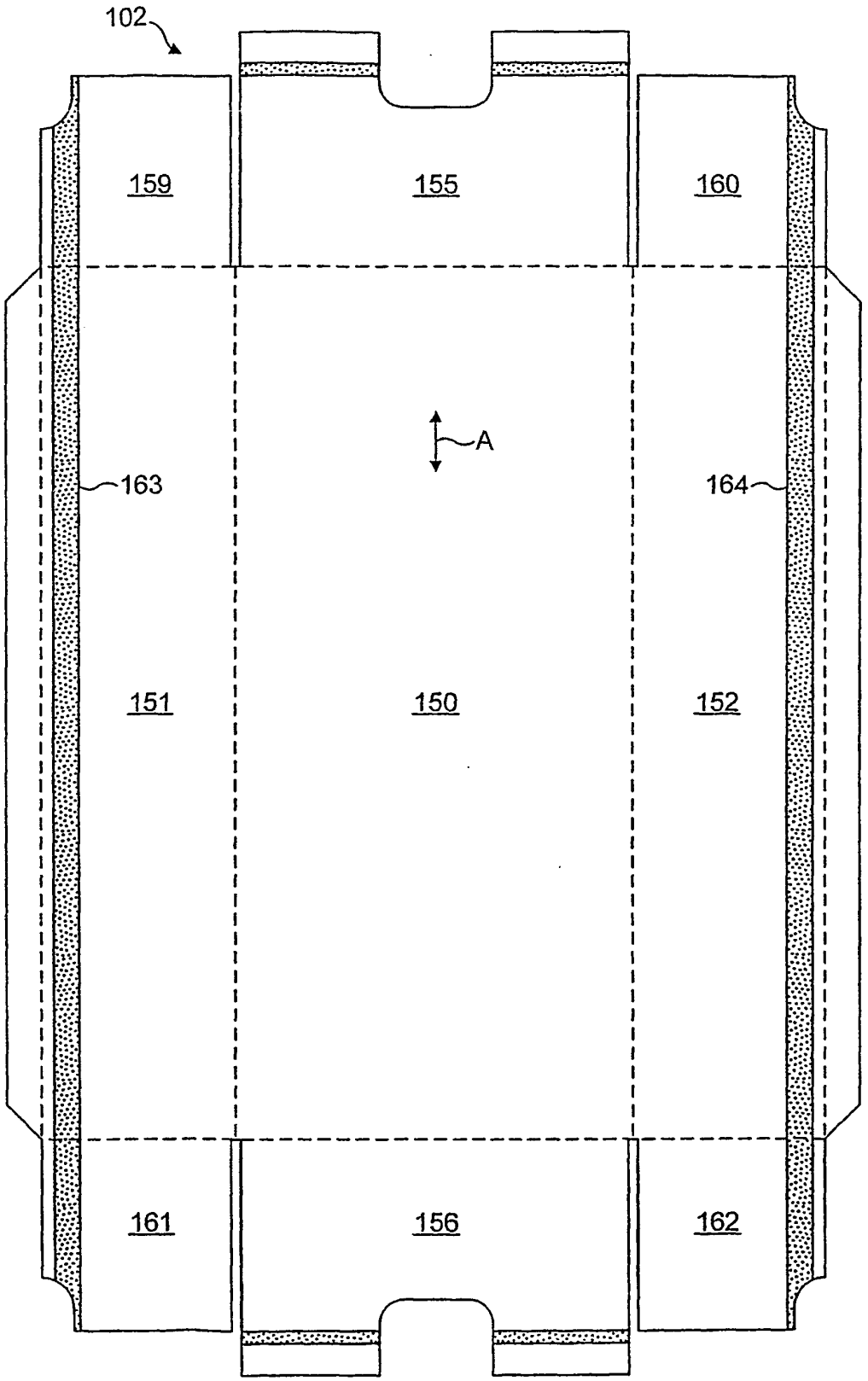

FIG. 9

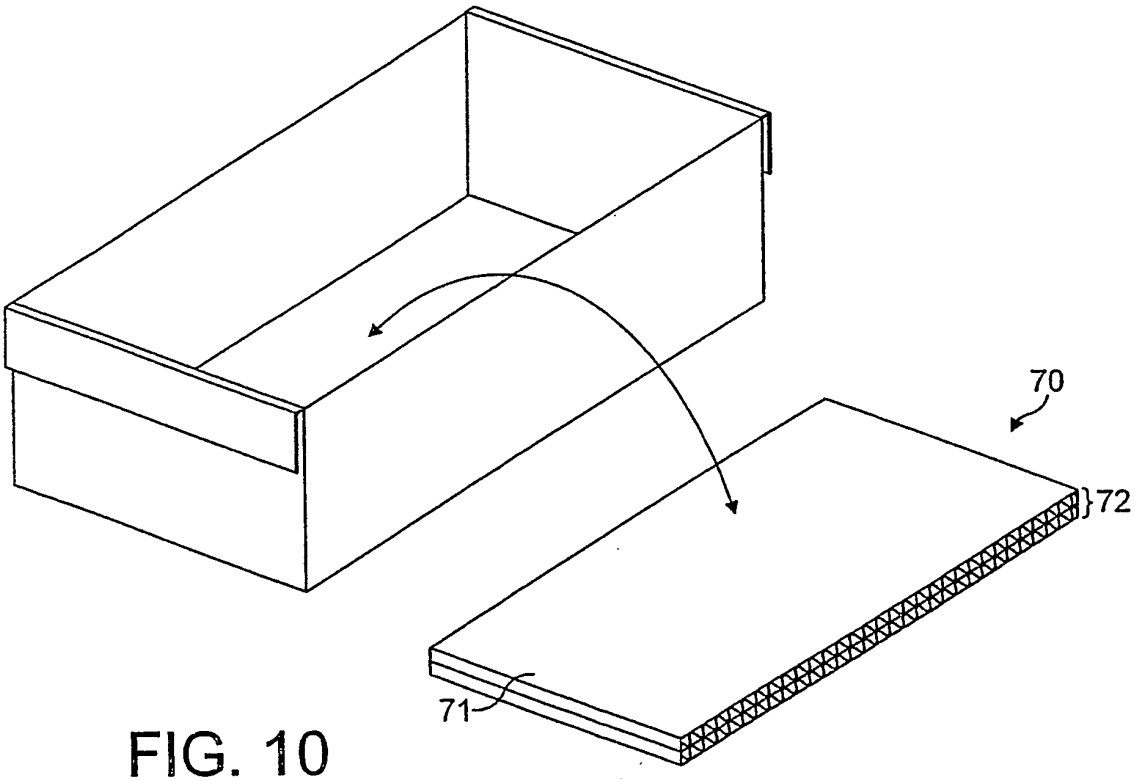

FIG. 10

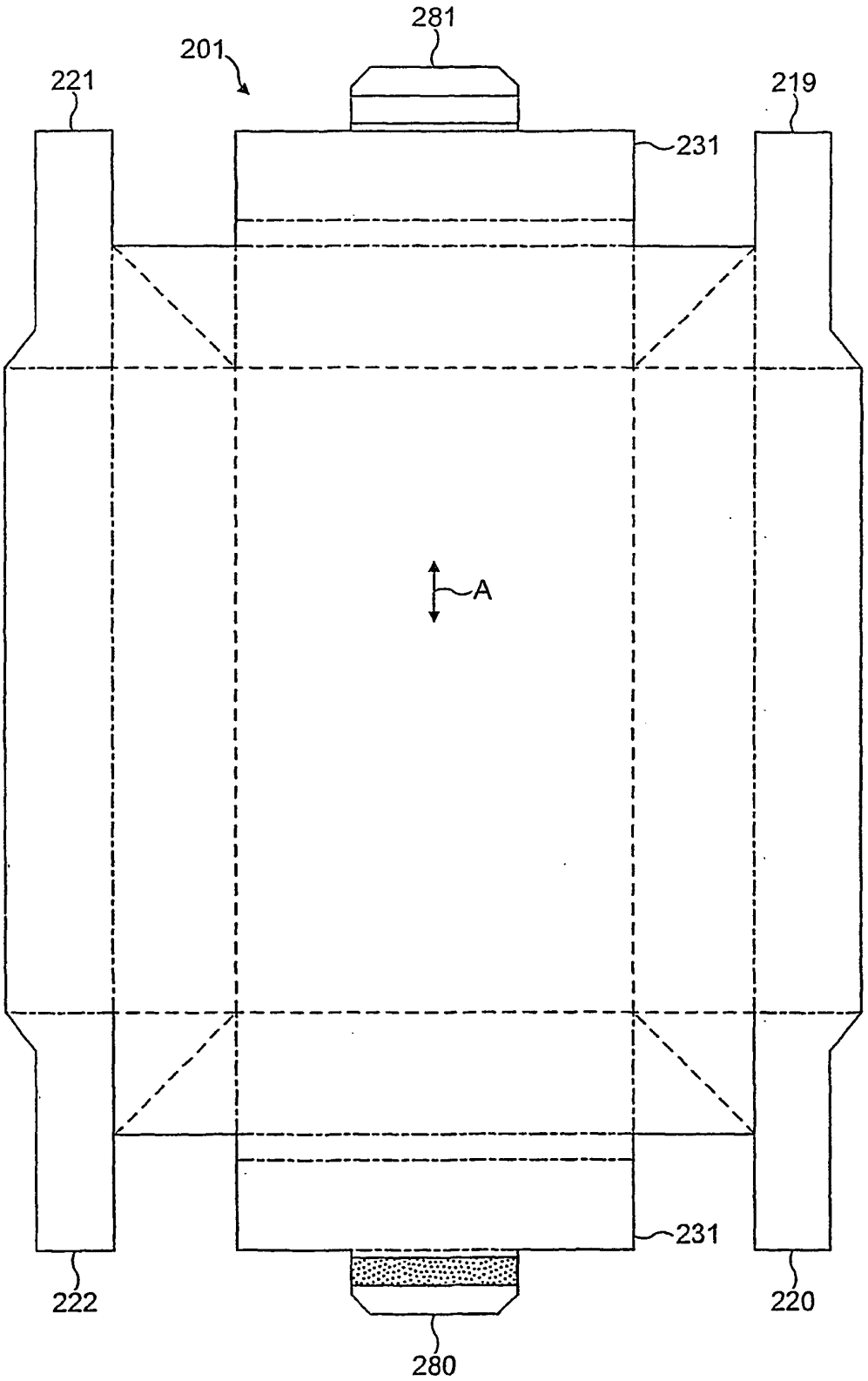

FIG. 11

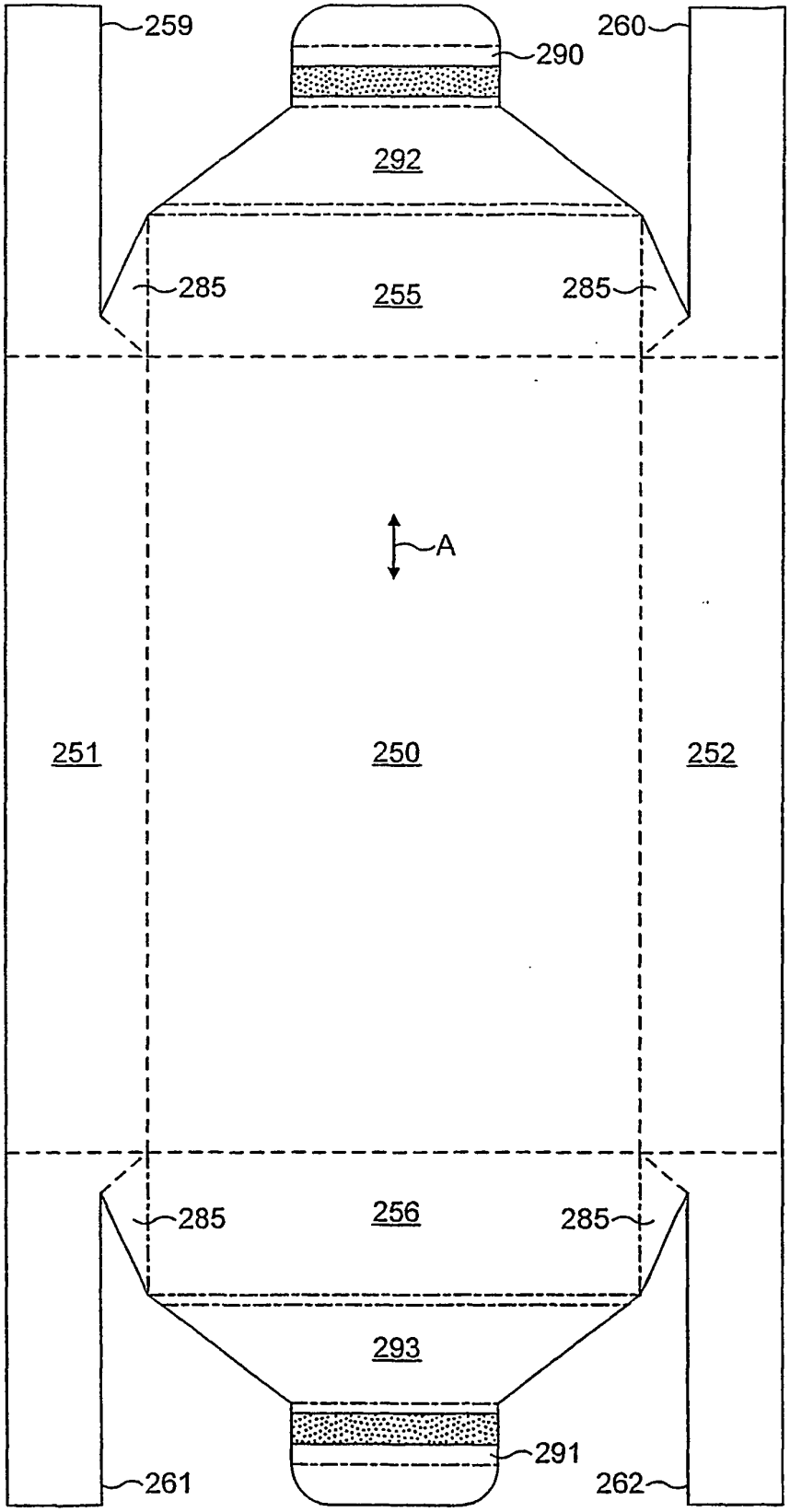
259
260
290
292
285
255
285
A
251
250
252
285
256
285
293
291
261
262

FIG. 12

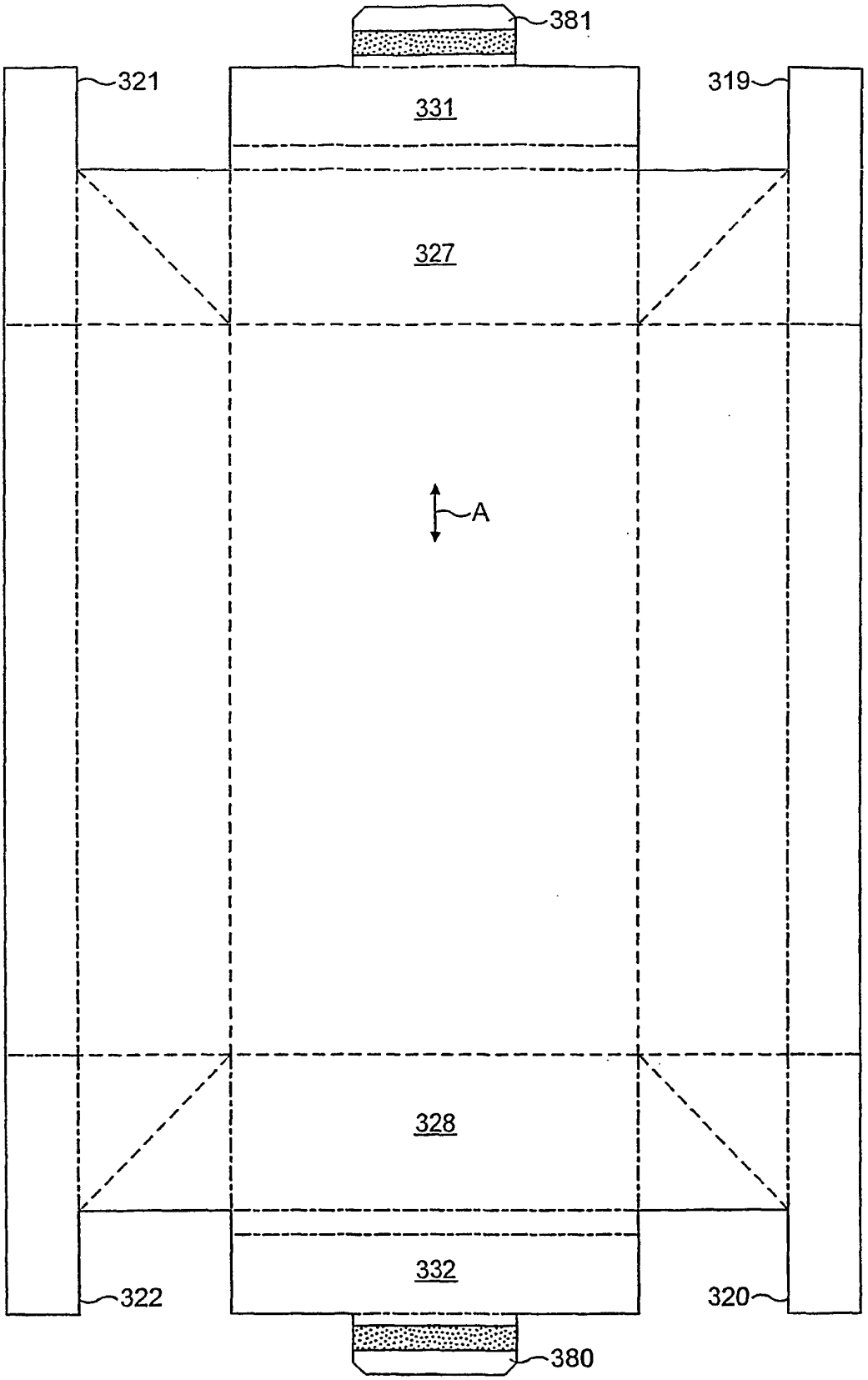

FIG. 13

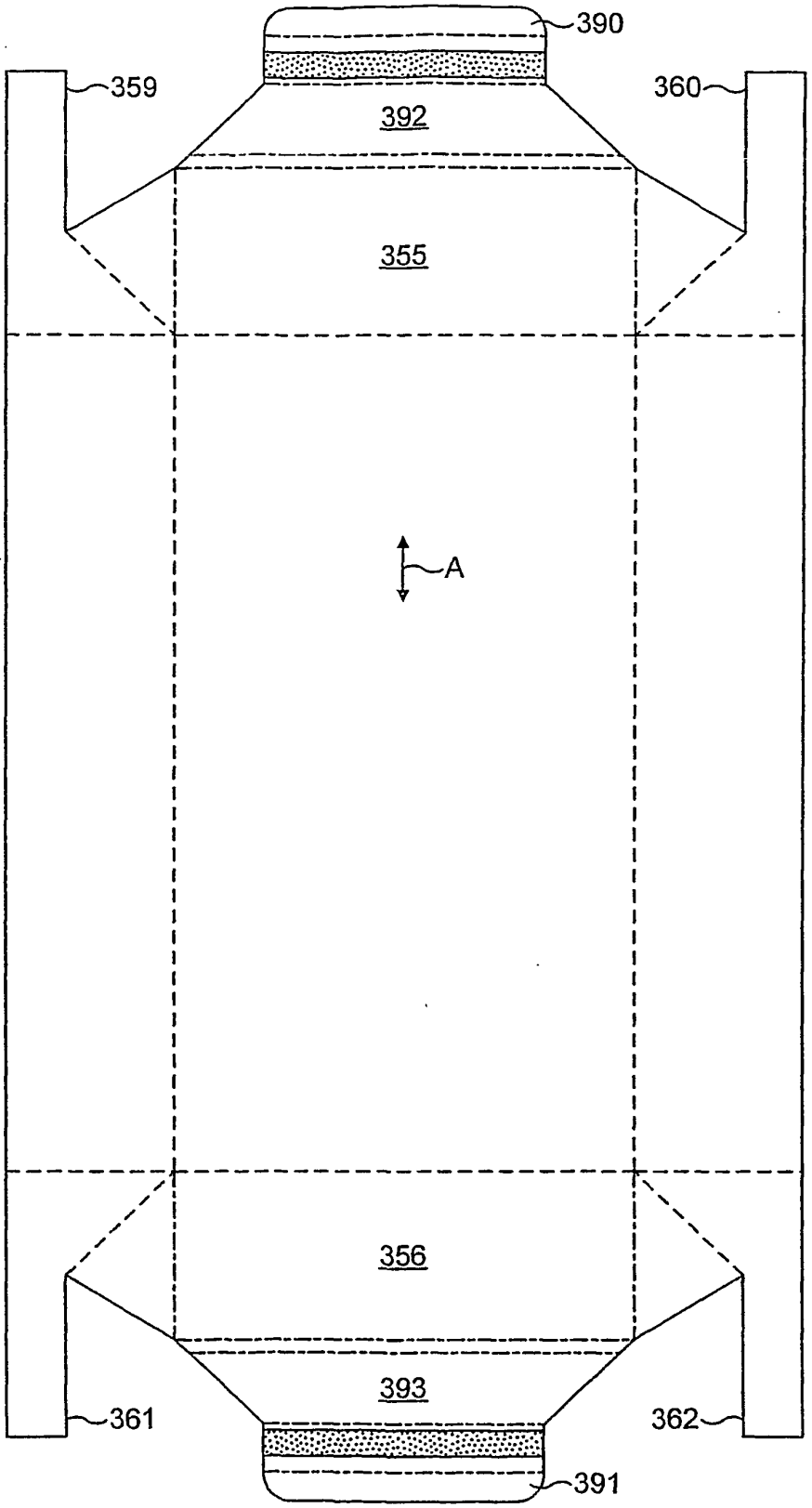

FIG. 14

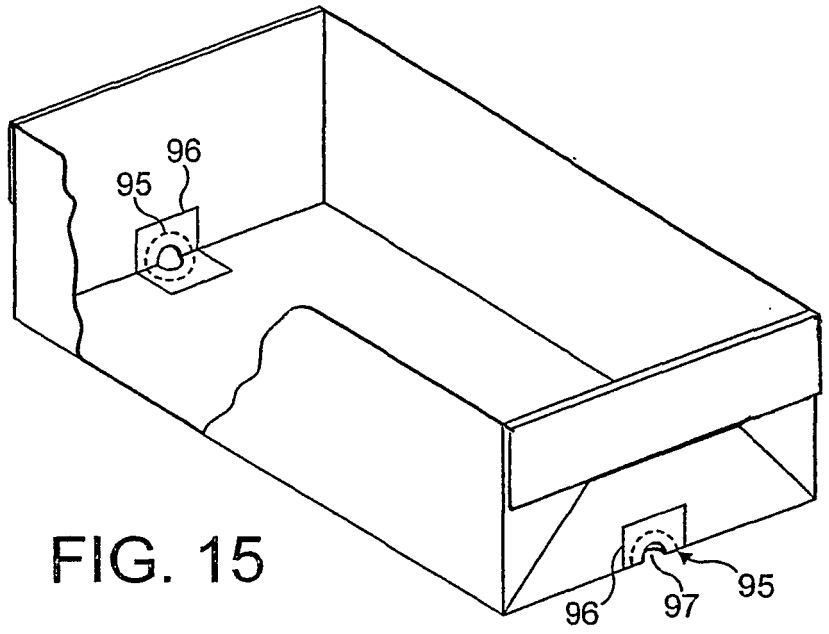

FIG. 15

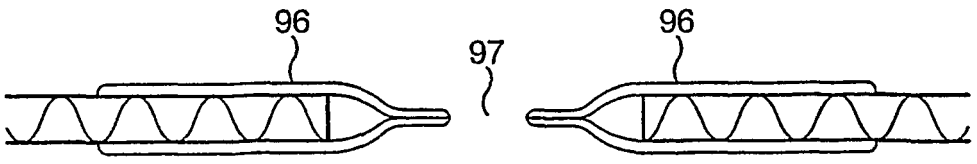

FIG. 16

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 3937390 A **[0004]**
- EP 1122177 A **[0006]**
- NL 1019538 A **[0006]**
- GB 614444 A **[0006]**
- US 5626945 A **[0011]**