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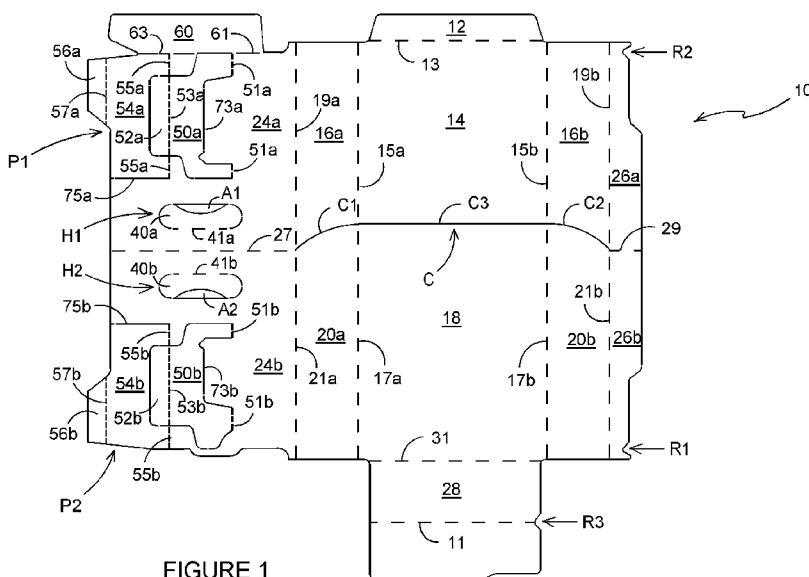
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(54) Title: ARTICLE CARRIER AND BLANK THEREFOR



(57) Abstract: The disclosure relates to an article carrier of the basket style wherein a medial partition divides the carrier into at least two cells, and wherein a front wall (14) and a rear wall (18) of the carrier have different heights.

ARTICLE CARRIER AND BLANK THEREFOR

TECHNICAL FIELD

The present invention relates to a carrier and to a blank for forming the carrier. More specifically, but not exclusively, the invention relates to a carrier of the basket style wherein a medial partition divides the carrier into at least two cells, and wherein a front wall and a rear wall of the carrier are dimensioned differently to one another.

BACKGROUND

In the field of packaging it is known to provide basket style article carriers for carrying multiple articles. Basket style article carriers are well known in the art and are useful for enabling consumers to transport, store and access a group of articles. These carriers typically have a handle on top, such that the carrier mimics a conventional basket, and typically include a riser or medial partition from which the handle is fashioned. Such carriers are often used for the sale of high-end bottled beverages, such as premium beers and lagers.

In the highly competitive consumer market it is essential that the packaging of products, and especially premium products, is designed to attract consumers and promote sales. It is therefore increasingly important to configure packaging such that it is aesthetically pleasing, eye catching and in synergy with advertising graphics, indicia and themes being presented upon the packaging itself. For cost and environmental considerations, such cartons or carriers still need to be formed from as little material as possible and cause as little wastage in the materials from which they are formed as possible. Further considerations are the strength of the carrier; its suitability for holding and transporting large weights of articles; and the ease with which the assembly and loading of the carrier can be automated by existing machinery. Significant deviation from current folding and assembly operations could give rise to the need for significant machinery modifications or replacement which would not be cost effective.

The present invention seeks to provide an improvement in the field of basket style article carriers, typically formed from paperboard or the like.

SUMMARY

According to a first aspect of the present invention there is provided an article carrier comprising:

a tubular structure having a plurality of outer walls including oppositely disposed front and rear walls, the tubular structure defining an interior volume for receiving one or more articles;

a medial partition structure coupled to the tubular structure and positioned between the front and rear walls; and

a carrying handle formed in the medial partition structure, wherein the maximum height of the rear wall is greater than the maximum height of the front wall.

Optionally, an upper edge of the front wall and upper edge of the rear wall; and an upper edge of a first composite end wall; and an upper edge of a second composite end wall, are each defined and provided by a single cut line.

Optionally, the single cut line has a series of three contiguous parts which form the single cut line C, and wherein a first part defines the upper edge of the first composite end wall; wherein a second part defines the upper edge of the second composite end wall; and wherein the third part defines the upper edges of both of the front and rear walls.

Optionally, the shape of the first part of the single cut line is selected from the group comprising: straight shaped, curve shaped and curvilinear shaped.

Optionally, the shape of the second part of the single cut line is selected from the group comprising: straight shaped, curve shaped and curvilinear shaped.

Optionally, the third cut line is positioned closer to a bottom edge of the front wall than it is to a bottom edge of the rear wall, such that the maximum height of the rear wall is greater than the maximum height of the front wall.

Optionally, the medial partition structure is arranged to divide the interior of the carrier into at least two cells.

Optionally, the carrier comprises partition structures and wherein the interior volume is divided into separate cells created by the partition structures, which partition structures mitigate against the articles contained within the carrier from colliding into one another.

Optionally, the carrying handle comprises one or more cushioning flaps foldably connected to the carrying handle and wherein at least one cushioning flap is foldably connected along an engaging edge to provide a cushion against which a user's fingers more comfortably contact the carrying handle when the carrying handle is deployed.

According to a second aspect of the present invention there is provided a blank for forming an article carrier, the blank comprising:

a plurality of panels for forming a plurality of outer walls of a tubular structure of the carrier, the plurality of panels including: a first end panel; a rear panel; a second end panel; a third end panel; a front panel; and a fourth end panel;

one or more internal panels for forming a medial partition structure, which one or more internal panels are configured and arranged such that once the blank is assembled into a carrier, the medial partition structure is connected to the tubular structure;

a first elongated section comprising at least three panels for forming said outer walls and at least one internal panel; and

a second elongated section comprising at least a further three panels for forming outer walls, and at least one further internal panel;

the first and second elongated sections being coextensively disposed next to each other, the at least three panels of the first elongated section being separated from the at least three further panels of the second external section by a cut line that is not entirely straight and that is not entirely parallel with a notional line running through a bottom edge of the rear panel, said cut line defining respective upper edges of the at least three panels and of the at least three further panels of the first and second elongated sections, and the first and second elongated sections being hingedly connected via the at least one internal panel of the first elongated section and that of the second elongated section.

Optionally, the at least three panels for forming said outer walls of the first elongated section include a first end panel, a rear panel and a second end panel.

Optionally, the at least three further panels for forming said outer walls of the second elongated section include a third end panel, a front panel and a fourth end panel.

Within the scope of this application it is envisaged and intended that the various aspects, embodiments, examples, features and alternatives set out in the preceding paragraphs, in the claims and/or in the following description and drawings may be taken independently or in any combination thereof. For example, features described in connection with one embodiment are applicable to all embodiments unless there is incompatibility of features.

BRIEF DESCRIPTION OF THE DRAWINGS

Exemplary embodiments of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 is a plan view from above of a blank for forming a carrier according to a first embodiment;

Figures 2A and 2B are plan views from above of the folded and part assembled blank during sequential stages of construction of the blank of Figure 1 into a carrier;

5 Figure 3 is a perspective view from above of a front wall and a first end of a carrier formed from the blank of Figure 1;

Figure 4 is a plan view from above of a blank for forming a carrier according to a further embodiment;

10 Figure 5 is a perspective view from above of a front wall and a first end of a carrier formed from the blank of Figure 4;

Figure 6 is a plan view from above of a blank for forming a carrier according to a further embodiment; and

Figure 7 is a perspective view from above of a front wall and a first end of a carrier formed from the blank of Figure 6.

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DETAILED DESCRIPTION OF EMBODIMENTS

Detailed descriptions of specific embodiments of the package, blanks and cartons are disclosed herein. It will be understood that the disclosed embodiments are merely examples of the way in which certain aspects of the invention can be implemented and do not represent an exhaustive list of all of the ways the invention may be embodied. As used herein, the word “exemplary” is used expansively to refer to embodiments that serve as illustrations, specimens, models, or patterns. Indeed, it will be understood that the packages, blanks and cartons described herein may be embodied in various and alternative forms. The Figures are not necessarily to scale and some features may be exaggerated or minimised to show details of particular components. Well-known components, materials or methods are not necessarily described in great detail in order to avoid obscuring the present disclosure. Any specific structural and functional details disclosed herein are not to be interpreted as limiting, but merely as a basis for the claims and as a representative basis for teaching one skilled in the art to variously employ the invention.

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Referring to Figure 1, there is shown a plan view of a blank 10 capable of forming a carton or carrier 90 having a centrally disposed carrying handle, as shown in Figure 3. The carrier 90 is for containing and carrying a group of primary products (not shown) such as, but not limited to, cans or bottles, hereinafter referred to as articles.

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In the embodiments detailed herein, the terms “carton” and “carrier” refer, for the non-limiting purpose of illustrating the various features of the invention, to a container for carrying

articles, such as product containers. It is contemplated that the teachings of the invention can be applied to various product containers, which may or may not be tapered and/or cylindrical. Exemplary containers include bottles (for example metallic, glass or plastics bottles), cans (for example aluminium cans), tins, pouches, packets and the like.

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The blank 10 is formed from a sheet of suitable substrate. It is to be understood that, as used herein, the term "suitable substrate" includes all manner of foldable sheet material such as paperboard, corrugated board, cardboard, plastic, combinations thereof, and the like. It should be recognised that one or other numbers of blanks may be employed, where suitable, for example, to provide the carrier structure described in more detail below.

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In the illustrated embodiment, the blank 10 is configured to form a carton or carrier 90 for packaging an exemplary arrangement of exemplary articles. In the illustrated embodiment, the arrangement is a 2 x 3 matrix or array and the articles, although not shown, are bottles. Alternatively, the blank 10 can be configured to form a carrier for packaging other types, number and size of articles and/or for packaging articles in a different arrangement or configuration.

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Referring to Figure 1, the blank 10 comprises a plurality of main panels 16b, 14, 16a, 20b, 18, 20a for forming outer walls of the basket style carrier 90 (see Figure 3). The plurality of main panels includes: a first side panel 18 (also referred to as a rear panel 18) and a second side panel 14 (also referred to as a front panel 14). The second side panel 14 is hinged at a first end to a second end panel 16b by a hinged connection such as a fold line 15b. The first side panel 18 is hinged at a first end to a first end panel 20b by a hinged connection such as a fold line 17b. The first side panel 18 is hinged at a second end to a third end panel 20a by a hinged connection such as a fold line 17a. The second side panel 14 is hinged at a second end to a fourth end panel 16a by a hinged connection such as a fold line 15a.

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The blank 10 comprises a base panel 28, optionally hinged to the first side panel 18 by a hinged connection such as a fold line 31. A securing panel 12 is hinged to the second side panel 14 by a hinged connection such as a fold line 13.

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The third end panel 20a and the fourth end panel 16a together form a first end wall of the carrier 90. The first end panel 20b and the second end panel 16b together form a second end wall of the carrier 90.

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The blank 10 comprises a first riser panel 26a hinged to the second end panel 16b by a hinged connection such as a fold line 19b. The blank 10 comprises a second riser panel 26b hinged to the first end panel 20b by a hinged connection such as a fold line 21b. The first riser panel 26a is hinged to the second riser panel 26b by a hinged connection such as a fold line 29. Together the first and second riser panels 26a, 26b assist in coupling the first end panel 20b to the second end panel 16b to form the second composite end wall 16b/20b when the blank 10 is assembled. The first riser panel 26a comprises a first recess R2 which is configured to form a hook-like projection on a side edge thereof. The second riser panel 26b comprises a second recess R1 which is configured to form a hook-like projection on a side edge thereof.

The base panel 28 comprises a hinged connection such as a fold line 11 which extends longitudinally thereacross so as to divide the base panel 28. The base panel 28 comprises a further recess R3 struck from a first end edge thereof; the fold line 11 extends from the further recess R3. The further recess R3 is configured to form a notch for interlocking with the hook-like projections formed in the first riser panel 26a and the second riser panel 26b.

A configuration control cut "C" is provided which advantageously allows a basket carrier 90 to be formed with one of the main walls 18 of the carrier 90 having a greater height than the other opposite main wall 14. This is achieved without increasing the overall layout footprint of the blank 10. This is also achieved by using a minimum of one configuration control cut "C" that defines the shape and position, i.e. the configuration of the full perimeter of the upper edges of the carrier 90. A single larger area panel can be created, thus providing more "billboard" space on the carrier 90, without actually adding any extra material. The single configuration control cut "C" may be fashioned into any shape to determine the final perimeter shape of the basket carrier's 90 top wall edge E1a/E1b, E3a, E2a/E2b, E3b. Beneficially, the use of just one single cut line "C" which stretches across the mid-section of the blank 10, allows the blank 10 to be split cleanly into two separate parts. This line may go across the halfway mark and create asymmetrical shapes and basket carriers with unusual looking perimeters.

The configuration control cut "C" is made up of three parts or three separate cut lines: C1, C2, C3. The cut lines C1, C2, C3 define the respective upper edges E1a, E1b; E2a, E2b; and E3a, E3b of the external main panels 16a/20a, 14, 16b/20b, 18.

The first and second side panels (rear and front panels) 18, 14 each have an upper edge (see E3a and E3b in Figure 3), which edges are defined by the third part C3 of the single

configuration control cut C, as shown in Figure 1. As such the first and second side panels (rear and front panels) 18, 14 in blank form are disposed "edge-to-edge" with no space between them.

- 5 Similarly, the third end panel 20a and the fourth end panel 16a are disposed "edge-to-edge" with no space in between them, and a common first part C1 of the configuration control cut-line C defines each of the upper edges (see E1a and E1b in Figure 3) of the first composite end wall 16a/20a. Additionally, the first end panel 20b and the second end panel 16b are disposed "edge-to-edge" with no space in between them, and a common second part C2 of the configuration control cut-line C defines the upper edge (see E2a and E2b in Figure 3) of the second composite end wall 16b/20b.

The blank 10 is effectively structured such that there is provided a first elongated section 16a/14/16b/26a comprising at least three external main panels of the carrier 90 (the fourth end wall panel 16a; second side panel 14; and second end panel 16b) and at least one internal panel (first riser panel 26a). Additionally, there is provided a second elongated section 20a/18/20b/26b comprising at least three external main panels of the carrier 90 (the first end wall panel 20a; first side panel 18; and third end panel 20b) and at least one internal panel (second riser panel 26b). The first elongated section 16a/14/16b/26a and the second elongated section 20a/18/20b/26b are coextensive and are disposed next to each other in an "edge-to-edge" arrangement. Three panels 16a, 14, 16b of the at least three external panels of the first elongated section 16a/14/16b/26a are separated from those of the second elongated section 20a/18/20b/26b by the configuration control cut "C".

- 25 The position and shape of the configuration control cut "C" determines the heights of and/or the shapes of the upper edges E1a/E1b; E3a, E3b, E2a/E2b of the first and second side panels 14, 18, the first composite end wall 16a/20a, and the second composite end wall 16b/20b. In the present embodiment, a first part C1 of the configuration control cut "C" determines the shape of the upper edges E1a, E1b of the first composite end wall 16a/20a.
- 30 A second part C2 of the configuration control cut "C" determines the shape of the upper edges E2a, E2b of the second composite end wall 16b/20b. A third part C3 of the configuration control cut "C" determines the shape of the upper edges E3a, E3b of the first and second side panels 18, 14.

- 35 Optionally, the first and second parts C1, C2 of the configuration control cut "C" are curved such that the upper edges E1a/E1b and E2a/E2b of the first composite end wall 16a/20a and the second composite end wall 16b/20b have a wavy or undulated shape. Optionally,

the third cut line C3 is disposed closer to the fold line 13 than to the fold line 31 and is linear and parallel with the fold lines 13 and 31. The resulting shaped carrier 90 is shown in Figure 3.

- 5 To provide a medial partition structure and a handle structure there is provided a first handle panel 24a and a second handle panel 24b. The first handle panel 24a is hinged to the second handle panel 24b along a hinged connection such as a fold line 27.

10 In the illustrated arrangement, the carrying handle structure H optionally comprises a first handle aperture A1 struck from the first handle panel 24a; and a second handle aperture A2 struck from the second handle panel 24b. Additionally, cushioning flaps 40a, 40b are hinged to the first and second handle panels 24a, 24b by hinged connections such as fold lines 41a, 41b and are formed about the first handle aperture A1 and the second handle aperture A2 respectively. The first and second handle apertures A2, A2 with their associated cushioning
15 flaps 40a, 40b provide outermost handle apertures 'H1', 'H2' of the carrying handle structure 'H'.

The blank 10 further comprises two partition structures P1, P2. The partition structures P1, P2 are provided to divide the interior of the basket carrier 90 into separate cells. The cells
20 may or may not be of a uniform size and, optionally in the present arrangement, the partition structures P1, P2 divide the interior of the basket carrier 90 into six cells arranged in two rows of three cells each. The partition structures P1, P2, together with the first and second handle panels 24a, 24b and the first and second riser panels 26a, 26b, form a medial partition structure 'M' (see Figure 3).

25 Referring again to Figure 1, the first partition structure P1 comprises a first partition panel 50a that is struck from material that would otherwise form part of the first handle panel 24a, and is hinged thereto by a hinged connection such as an interrupted fold line 51a. Fold line 51a is interrupted by a cut line 73a. The first partition structure P1 comprises a securing flap
30 52a that is hinged to the first partition panel 50a by a hinged connection such as fold line 53a. A hinged connection such as interrupted fold line 55a foldably connects the first handle panel 24a to a third partition panel 54a. The securing flap 52a is struck from material that would otherwise form part of the third partition panel 54a and is provided to affix the first partition panel 50a to the second side panel 14. The first partition structure P1 comprises a
35 third partition panel 54a which is hinged by the fold line 55a to the first handle panel 24a. The first partition structure P1 comprises a third securing panel 56a, which is hinged to the third partition panel 54a by a hinged connection such as fold line 57a. A cut line 75a

separates the third partition panel 54a from the first handle panel 24a, such that the third partition panel 54a can be moved out of the plane of the first handle panel 24a in order to form a cell wall.

5 The second partition structure P2 comprises a second partition panel 50b that is struck from material that would otherwise form part of the second handle panel 24b and is hinged thereto by a hinged connection such as an interrupted fold line 51b. Fold line 51b is interrupted by a cut line 73b. The second partition structure P2 comprises a securing flap 52b that is hinged to the second partition panel 50b by a hinged connection such as a fold
10 line 53b. A hinged connection such as interrupted fold line 55b foldably connects the second handle panel 24b to a fourth partition panel 54b. The securing flap 52b is struck from material that would otherwise form part of the fourth partition panel 54b and is provided to affix the second partition panel 50b to the first side panel 18. The second partition structure P2 comprises the fourth partition panel 54b which is hinged by the fold line 55b to the
15 second handle panel 24b. The second partition structure P2 comprises a fourth securing panel 56b, which is hinged to the fourth partition panel 54b by a hinged connection such as an interrupted fold line 57b. The fourth partition panel 54b is separated from the second handle panel 24b by a cut line 75b such that the fourth partition panel 54b can be moved out of the plane of the second handle panel 24b in order to form a cell wall.

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A fifth securing panel 60 is hinged by a hinged connection such as a fold line 61 to a bottom edge of the first handle panel 24a; and is separated by a cut line 63 from the third partition panel 54a.

25 Turning to the construction of the carrier 90 from the blank 10, glue or other adhesive treatment is applied in two regions on each of the inside surfaces of the first and second side panels 18, 14 respectively. The regions correspond to locations that the first securing panel 52a, second securing panel 52b, third securing panel 56a and fourth securing panel 56b will occupy once the blank 10 is folded.

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The blank 10 is then folded about the fold lines 19a, 21a in the direction as indicated by arrow F1 in Figure 2A, to bring the first and second handle panels 24a, 24b into face contacting relationship with the third and fourth end panels 20a, 16a. At the same time the partition structures P1, P2 are manipulated such that the first and third partition panels 50a,
35 54a overlay the fourth end panel 16a and the securing flaps 52a and 56a are affixed to the second side panel 14. Similarly, the second and fourth partition panels 50b, 54b overlay the third end panel 20a and the securing flaps 52b, 56b are affixed to the first side panel 18.

Glue or other adhesive treatment is applied to the upwardly facing surface of the first handle panel 24a, proximate to the fold line 61, and either side of first partition panel 50a. The fifth securing panel 60 is then folded, as shown by direction arrow F2 in Figure 2A, about the fold line 61 to bring the fifth securing panel 60 into overlapping relationship with the first handle panel 24a and part of the first and third partition panels 50a, 54a. In this way, the fifth securing flap 60 is secured only to the first handle panel 24a.

Glue or other adhesive treatment is appropriately applied such that when the first and second end panels 20b, 16b, together with the first and second riser panels 26a, 26b are folded, as indicated by arrow F3, about fold lines 17b, 15b, the first and second riser panels 26a, 26b are affixed to the first and second handle panels 24a, 24b. First riser panel 26a is also affixed to a portion of the fifth securing panel 60.

Glue or other adhesive treatment is then applied to the fifth securing panel 60 in readiness for affixing the fifth securing panel 60 to the second handle panel 24b.

Glue or other adhesive treatment is then applied to first and/or second handle panel 24a, 24b, in the area around the first and second handle apertures A1, A2 of the first handle panel 24a and second handle panel 24b. Additionally, adhesive may be applied to one or both of the handle flaps 40a, 40b.

Additional glue may optionally be applied to exposed parts of the second handle panel 24b and to the second riser panel 26b. The blank 10 is then folded, as shown by arrow F4, about fold line 27 (fold line 27 hinges the first and second handle panels 24a, 24b together). Once the blank 10 is folded the first and second handle panels 24a, 24b are attached, thus forming the medial partition structure 'M'.

To complete the construction of the blank 10, glue or adhesive treatment is applied to securing panel 12 and the bottom panel 28 is folded about fold line 11 in direction F5 (see Figure 2B), such that the securing panel 12 is attached to the bottom panel 28. The flat collapsed carrier thereby formed can be opened into a basket style article carrier 90 by separating the first and second side panels 18, 14. The partition structures are automatically erected when the flat collapsed carrier is opened out.

Once the carton 90 is erected, the first and second handle panels 24a, 24b (along with first and second riser panels 26a, 26b) form a medial partition structure 'M' that is disposed

medially and substantially within the interior of the carrier 90 formed by the outer shell panels 18, 20b, 16b, 14, 16a, 20a. The medial partition structure 'M' divides the interior of the carrier 90 into two separate cells.

5 As can be seen from Figure 3, the basket carrier 90 comprises a pair of opposed (first and second) side panels 18, 14, and a carrying handle structure H1, H2 is disposed between the first and second side panels 18, 14. Due to the provision of the "off-centre" location of the cut line C3, a maximum height D2 of the first side panel 18 is greater than a maximum height D1 of the second side panel 14. The first side panel 18, having a greater height, provides a rear
10 wall 18 of the carrier 90 in normal use; the shorter dimensioned second side panel 14 provides a front wall 14 of the carrier 90 in normal use. The shapes of the upper edges E3a, E3b of the rear and front walls 18, 14 are formed by the common cut line C3 and as such the shapes of the upper edges E3a, E3b of the rear and front walls 18, 14 are formed in a complementary or matching manner. Optionally in this arrangement, the shapes of the upper
15 edges E3a, E3b are both flat, straight edges due to cut line C3 being a straight line. However in other embodiments, the shapes of the upper edges E3a, E3b, as well as the maximum heights D2, D1 of the rear and front walls 18, 14 can be tailored in a straightforward manner. The invention provides a blank 10, wherein the cut line C3 can be adjusted to very simply effect a change in the height of the rear and front walls 18, 14 and/or shapes of the upper
20 edges E3a, E3b. By configuring the blank 10 in this way, bespoke carriers 90 can be created with little re-design of the general structure of the blank 10 being required and, perhaps more importantly, without any additional material being needed.

Similarly, the first composite end wall 16a/20a, and the second composite end wall 16b/20b
25 have shaped upper edges E1a/E1b; E2a/E2b. The shapes of the upper edges E1a/E1b; E2a/E2b are determined by the shape of cut lines C1, C2. Optionally, in this arrangement, the cut lines C1, C2 are each similarly shaped and similarly positioned such that the height of the composite end walls 16a/20a; 16b/20b and the shape of the upper edges E1a/E1b; E2a/E2b are similar to one another. However in other arrangements, the shape of the upper
30 edge E1a/E1b of the first composite end wall 16a/20a may differ from the shape of the upper edge E1a/E1b of the second composite end wall 16b/20b. Again, it is a marked benefit of the blank of the present disclosure that significant design features that determine the overall appearance of the carrier 90 can be easily adjusted, and adjusted without requiring the addition of material.

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Typically, carriers are designed such that a desire to increase the size of a panel would require the addition of more material. However, the present disclosure provides a blank that

allows for the height and/or the shape of the upper edges of the main carrier panels to be easily changed and controlled. This provides a blank and carrier that focuses the packaging on brand building and adds significantly more value to the finished product, by creating a package that supports the brand's values and helps the brand stand out from its competitors.

5 Additionally, the package is robust, easy and comfortable to carry using the carrying handle H1, H2 disposed in the medial partition structure 'M', thus further appealing to the consumer.

To further illustrate the flexibility of the blank and carrier disclosed herein, a further two embodiments of the invention are shown in Figures 4 and 5; and Figures 6 and 7
10 respectively. In the second and third illustrated embodiments like numerals have, where possible, been used to denote like parts, albeit with the addition of the prefix "100" or "200" to indicate that these features belong to the second and third embodiments. Since the additional embodiments share many common features with the first embodiment only the differences from the embodiment illustrated in Figures 1 to 3 will be described.

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Referring now to Figures 4 and 5, it can be seen that the shape of the upper edges of the composite end walls 120a/116a, 120b/116b is different to the first embodiment and cut lines C1' and C2' are straight and similarly angled. As such, the composite end walls 120a/116a, 120b/116b are similarly shaped and dimensioned and are mirror images of one another.
20 Again, the front wall 114 is shorter in maximum height D1' than the rear wall 118, which has a maximum height D2'.

As is the very essence of the invention disclosed herein, it can be appreciated that various changes may be made to the blanks 10, 110 which will result in differently configured
25 carriers 90 and that advantageously a wide range of carrier configurations can be easily created by simply changing the shape and or position of the cut "C" or its constituent parts C1, C2, C3, C1', C2', C3'.

Referring now to Figures 6 and 7, it can be seen that the configuration control cut C''
30 comprises a plurality of cut lines C1'', C3'', C2'', C4'', C5'' and C6''. The configuration control cut C'' defines an aperture A3' that is disposed between the first elongated section 216a/214/216b/226a, comprising the at least three external main panels 216a, 214, 216b of the carrier 290, and the second elongated section 220a/218/220b/226b, which comprises the at least three further external main panels 220a, 218, 220b of the carrier 290. The
35 aperture A3' is optionally not disposed halfway between fold line 213 and fold line 231 and this enables the rear wall 218 of the carrier 290 to have a greater maximum height D2'', than the maximum height D1'' of the front wall 214 (see Figure 7). In other words, cut line C3''

that defines the upper edge E3a'' of the rear wall 218 is spaced at a first distance (D2'') from the fold line 231, which first distance (D2'') is greater than a second distance (D1'') between fold line 213 and the cut line C5''.

In the present arrangement, the provision of the aperture A3' allows the cut line C3'' that defines the upper edge E3a'' of the rear wall 218 to be spaced from the cut line C5'' that defines the upper edge E3b'' of the front wall 214, thus allowing for even further design flexibility regarding the shape and height of the front and rear walls 214, 218 of the carrier 290. Beneficially, this design flexibility comes without the need for adding extra material and without the necessity to significantly re-design the entire blank 210. By spacing the cut line C3'' that defines the upper edge E3a'' of the rear wall 218 and the cut line C5'' that defines the upper edge E3b'' of the front wall 214, the upper edges E3a'', E3b'' of the front and rear panels 214, 218 can each have a different shape. The sum of the maximum heights (D2'' + D1'') of the rear and front panels 218, 214, is not the same as the total distance between fold line 231 and fold line 213.

The third embodiment additionally provides the further option to independently shape and size the first and second end wall panels 220b, 216b with respect to one another. The third embodiment additionally provides the further option to independently shape and size the third and fourth end wall panels 220a, 216a with respect to one another. In the present arrangement, the cut lines C6'' and C4'' that define the upper edges E2b'', E1b'' of the second and fourth end wall panels 216b, 216a are longer and more steeply angled than the cut lines C2'' and C1'' that define the upper edges E2a'', E1a'' of the first and third end wall panels 220b, 220a. Optionally each of the cut lines C1'', C3'', C2'', C4'', C5'' and C6'' is straight, but in other arrangements one or more or any combination of the cut lines C1'', C3'', C2'', C4'', C5'' and C6'' may take a different shape or form compared to that shown, for example, but not limited to curved, arcuate, curvilinear, irregular, polygonal, trapezoidal and wavy. Together the cut lines C2''/C6'' and C1''/C4'' define the upper edges E2a''/E2b'', E1a''/E1b'' of the composite end walls 220b/216b, 220a/216a and optionally in the present embodiment the upper edges of both composite end walls 220b/216b, 220a/216a are the same shape, form and at the same height. Both upper edges E2a''/E2b'' and E1a''/E1b'' are double slopes which, from the front to the rear of the carrier 290, are of a shallower, then subsequently steeper, in slope.

It is within the scope of the present invention, that the size and shape of the panels and apertures may be adjusted to accommodate articles of differing size or shape. The carrier may be configured and arranged to package a different number of articles. In such

embodiments the carrier may comprise an alternative number of partition structures so as to separate adjacent articles.

5 In alternative embodiments, all or part of the configuration control cut may be formed from one or more weakened lines of severance that are frangible and upon being broken edges of the main outer panels of the carrier are formed. In some embodiments all or part of the configuration control cut may be formed from a series of shaped cut lines and/or it may define apertures, rather than being formed from just a single cut line.

10 It will be recognised that as used herein, directional references such as "top", "bottom", "base", "front", "back", "end", "side", "inner", "outer", "upper" and "lower" do not necessarily limit the respective panels to such orientation, but may merely serve to distinguish these panels from one another.

15 As used herein, the terms "hinged connection" and "fold line" refer to all manner of lines that define hinge features of the blank, facilitate folding portions of the blank with respect to one another, or otherwise indicate optimal panel folding locations for the blank. Any reference to "hinged connection" should not be construed as necessarily referring to a single fold line only; indeed a hinged connection can be formed from two or more fold lines wherein each of
20 the two or more fold lines may be either straight/linear or curved/curvilinear in shape. When linear fold lines form a hinged connection, they may be disposed parallel with each other or slightly angled with respect to each other. When curvilinear fold lines form a hinged connection, they may intersect each other to define a shaped panel within the area surrounded by the curvilinear fold lines. A typical example of such a hinged connection may
25 comprise a pair of arched or arcuate fold lines intersecting at two points such that they define an elliptical panel therebetween. A hinged connection may be formed from one or more linear fold lines and one or more curvilinear fold lines. A typical example of such a hinged connection may comprise a combination of a linear fold line and an arched or arcuate fold line which intersect at two points such that they define a half moon-shaped panel
30 therebetween.

As used herein, the term "fold line" may refer to one of the following: a scored line, an embossed line, a debossed line, a line of perforations, a line of short slits, a line of half-cuts, a single half-cut, an interrupted cut line, a line of aligned slits, a line of scores and any combination of the aforesaid options.

It should be understood that hinged connections and fold lines can each include elements that are formed in the substrate of the blank including perforations, a line of perforations, a line of short slits, a line of half-cuts, a single half-cut, a cut line, an interrupted cut line, slits, scores, any combination thereof, and the like. The elements can be dimensioned and
5 arranged to provide the desired functionality. For example, a line of perforations can be dimensioned or designed with degrees of weakness to define a fold line and/or a severance line. The line of perforations can be designed to facilitate folding and resist breaking, to facilitate folding and facilitate breaking with more effort, or to facilitate breaking with little effort.

CLAIMS

1. An article carrier, comprising:
 - a tubular structure having a plurality of outer walls including oppositely disposed front and rear walls, the tubular structure defining an interior volume for receiving one or more articles;
 - a medial partition structure coupled to the tubular structure and positioned between the front and rear walls; and
 - a carrying handle formed in the medial partition structure, wherein the maximum height (D2) of the rear wall (18) is greater than the maximum height (D1) of the front wall (14).
2. The article carrier according to claim 1 wherein an upper edge of the front wall and upper edge of the rear wall; and an upper edge of a first composite end wall; and an upper edge of a second composite end wall, are each defined and provided by a configuration control cut (C).
3. The article carrier according to claim 2 wherein the configuration control cut (C) has a series of three contiguous parts (C1, C2, C3) which form a single cut line C, and wherein a first part (C1) defines the upper edge of the first composite end wall; wherein a second part (C2) defines the upper edge of the second composite end wall; and wherein the third part (C3) defines the upper edges of both of the front and rear walls.
4. The article carrier according to claim 3 wherein the shape of the first part of the single cut line is selected from the group comprising: straight shaped, curve shaped and curvilinear shaped.
5. The article carrier according to claim 3 or 4 wherein the shape of the second part of the single cut line is selected from the group comprising: straight shaped, curve shaped and curvilinear shaped.
- 5 6. The article carrier according to any of claims 3, 4 or 5 wherein the third cut line is positioned closer to a bottom edge of the front wall than it is to a bottom edge of the rear wall, such that the maximum height (D2) of the rear wall (18) is greater than the maximum height (D1) of the front wall (14).

7. The article carrier according to any preceding claim wherein the medial partition structure is arranged to divide the interior of the carrier into at least two cells.
8. The article carrier according to any preceding claim wherein the carrier comprises partition structures and wherein the interior volume is divided into separate cells created by the partition structures, which partition structures mitigate against the articles contained within the carrier from colliding into one another.
9. The article carrier according to any preceding claim wherein the carrying handle comprises one or more cushioning flaps foldably connected to the carrying handle and wherein at least one cushioning flap is foldably connected along an engaging edge to provide a cushion against which a user's fingers more comfortably contact the carrying handle when the carrying handle is deployed.
10. The article carrier according to claim 2, wherein the configuration control cut (C) comprises a plurality of cut lines.
11. The article carrier according to claim 2, wherein the configuration control cut (C) defines one or more apertures.
12. A blank for forming an article carrier, the blank comprising:
 - (i) a plurality of panels for forming a plurality of outer walls of a tubular structure of the carrier, the plurality of panels including: a first end panel; a rear panel; a second end panel; a third end panel; a front panel; and a fourth end panel;
 - (ii) one or more internal panels for forming a medial partition structure, which one or more internal panels are configured and arranged such that once the blank is assembled into a carrier, the medial partition structure is connected to the tubular structure;
 - (iii) a first elongated section comprising at least three panels for forming said outer walls and at least one internal panel; and
 - (iv) a second elongated section comprising at least a further three panels for forming outer walls, and at least one further internal panel;the first and second elongated sections being coextensively disposed next to each other, the at least three panels of the first elongated section being separated from the at least three further panels of the second elongated section by a configuration control cut that is not entirely straight and that is not entirely parallel with a notional line running through a bottom edge of the rear panel, said configuration control cut

defining respective upper edges of the at least three panels and of the at least three further panels of the first and second elongated sections, and the first and second elongated sections being hingedly connected via the at least one internal panel of the first elongated section and that of the second elongated section.

13. The blank according to claim 12, wherein the at least three panels for forming said outer walls of the first elongated section include a first end panel, a rear panel and a second end panel.
14. The blank according to claim 12 or 13, wherein the at least three further panels for forming said outer walls of the second elongated section include a third end panel, a front panel and a fourth end panel.
15. The blank according to claim 12 wherein the configuration control cut (C) comprises a single cut line that is formed of a series of three contiguous parts (C1, C2, C3).
16. The blank according to claim 12, wherein the configuration control cut (C) comprises a plurality of cut lines.
17. The blank according to claim 12, wherein the configuration control cut (C) defines one or more apertures.

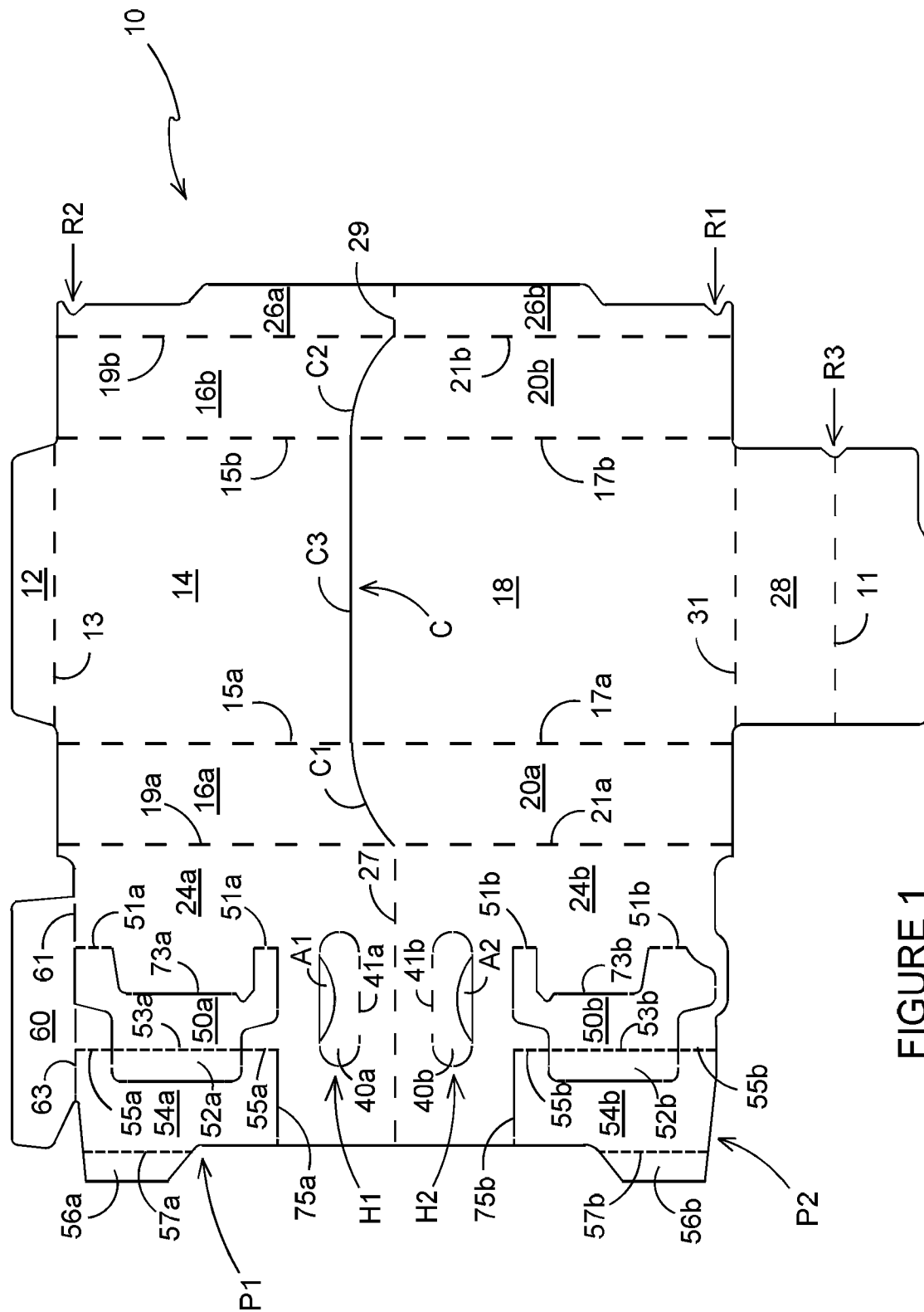
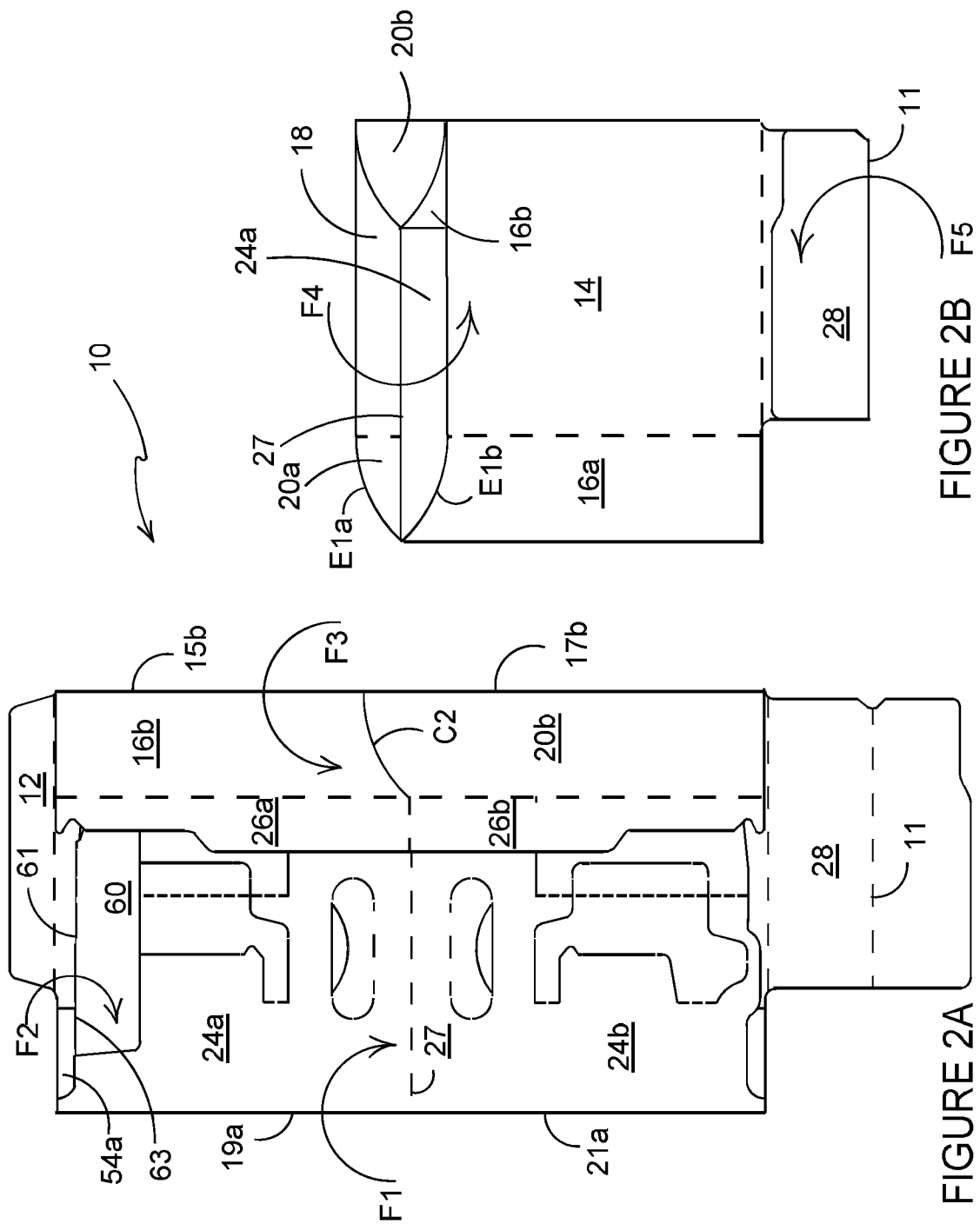


FIGURE 1



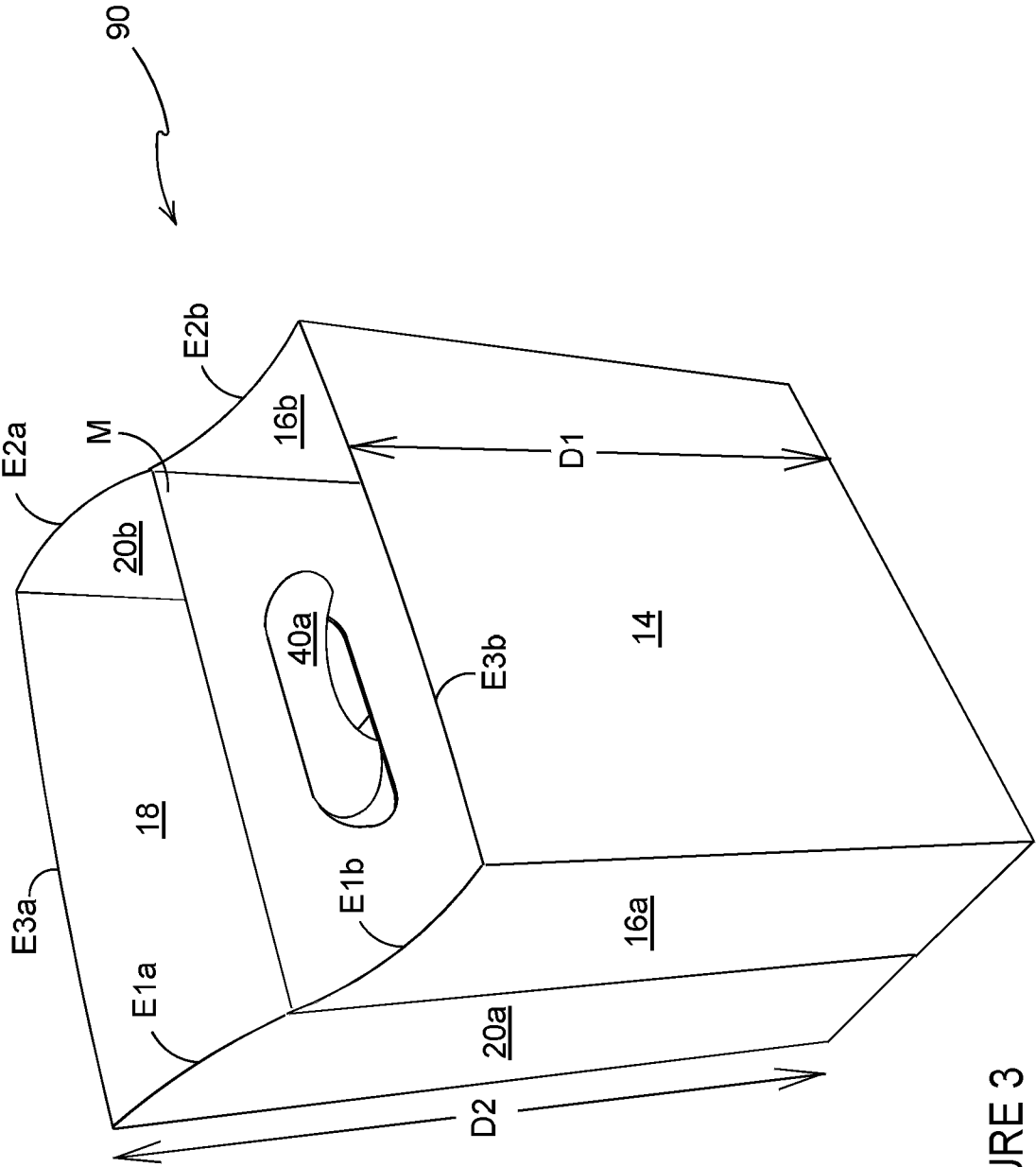


FIGURE 3

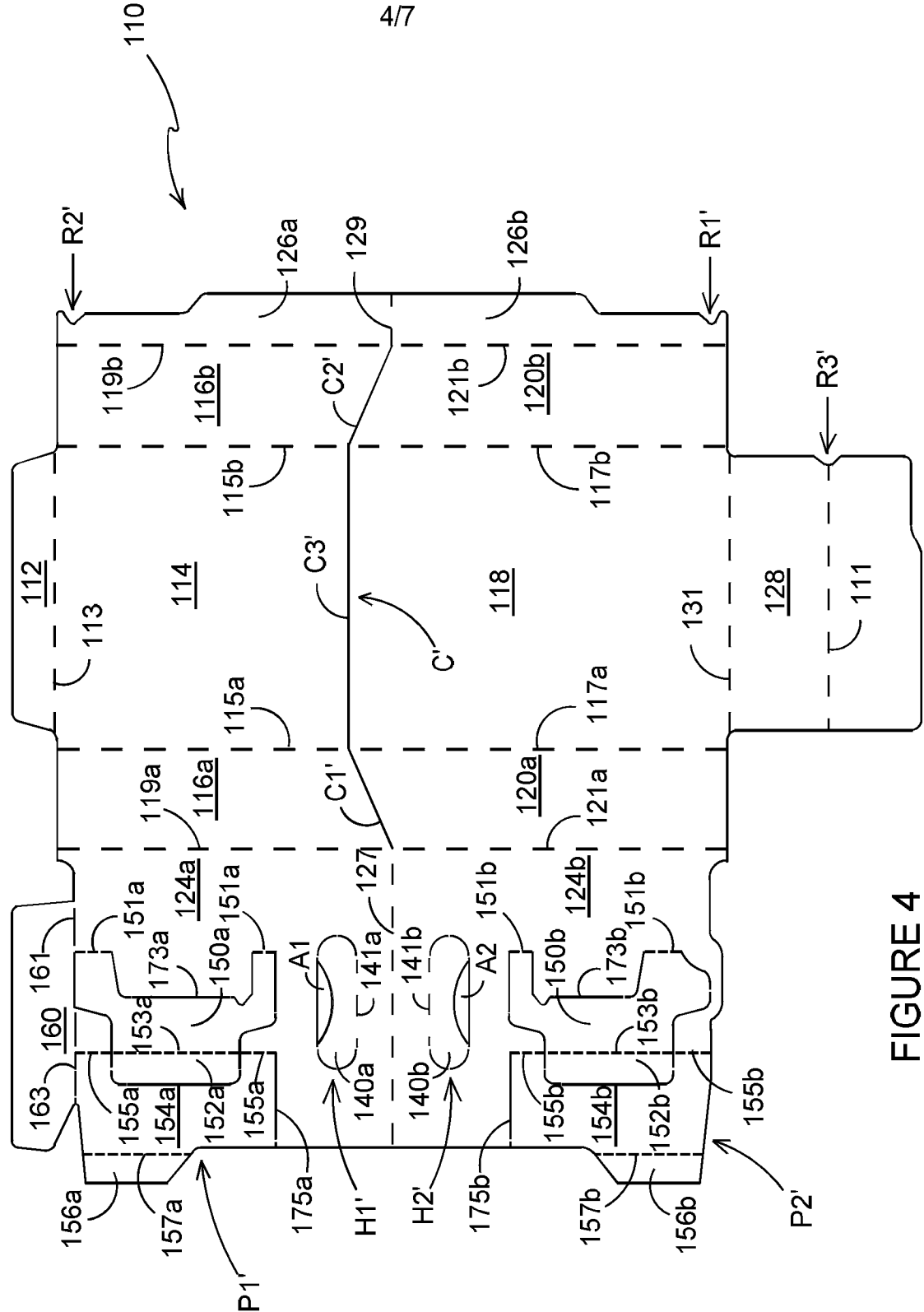
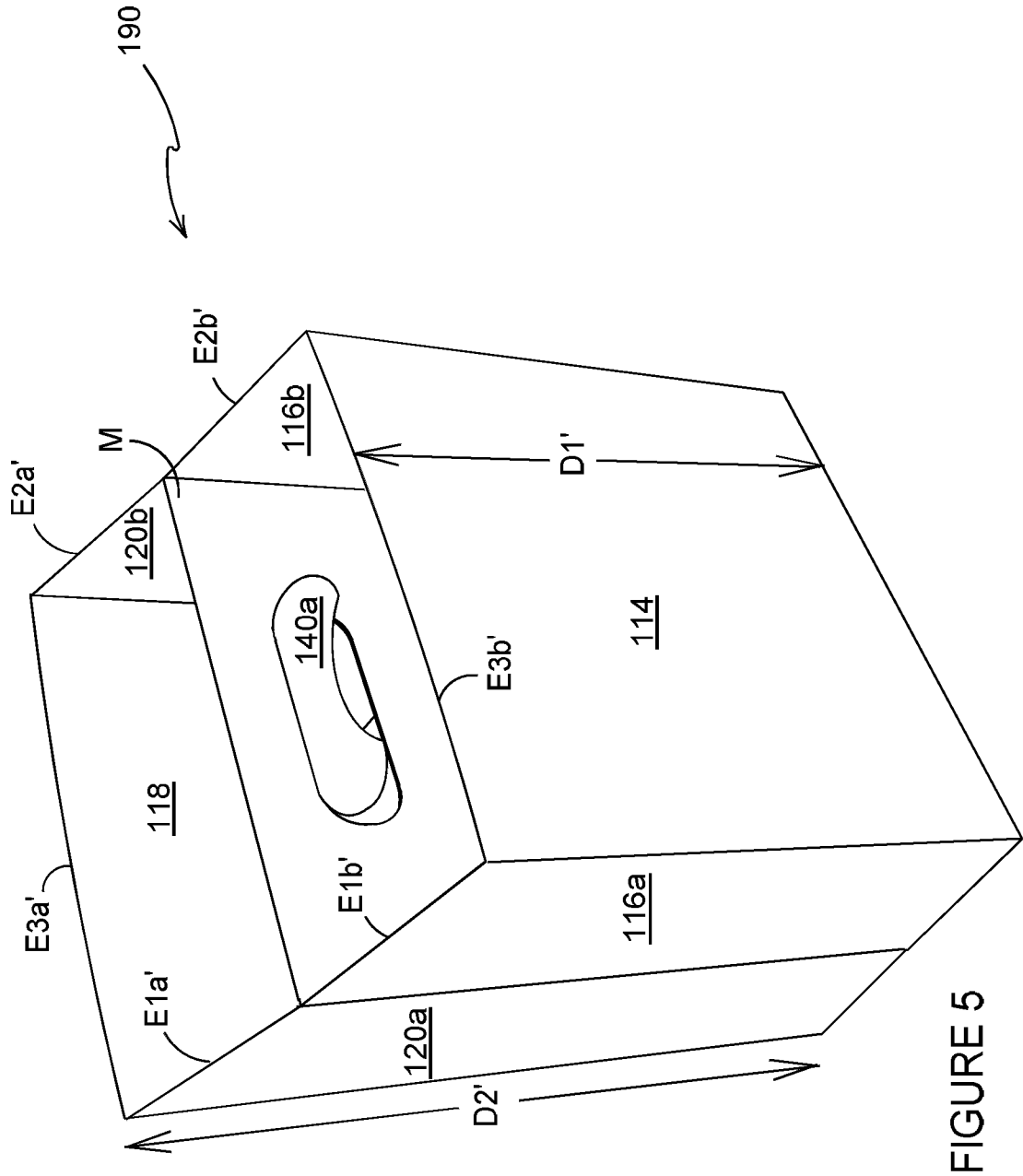
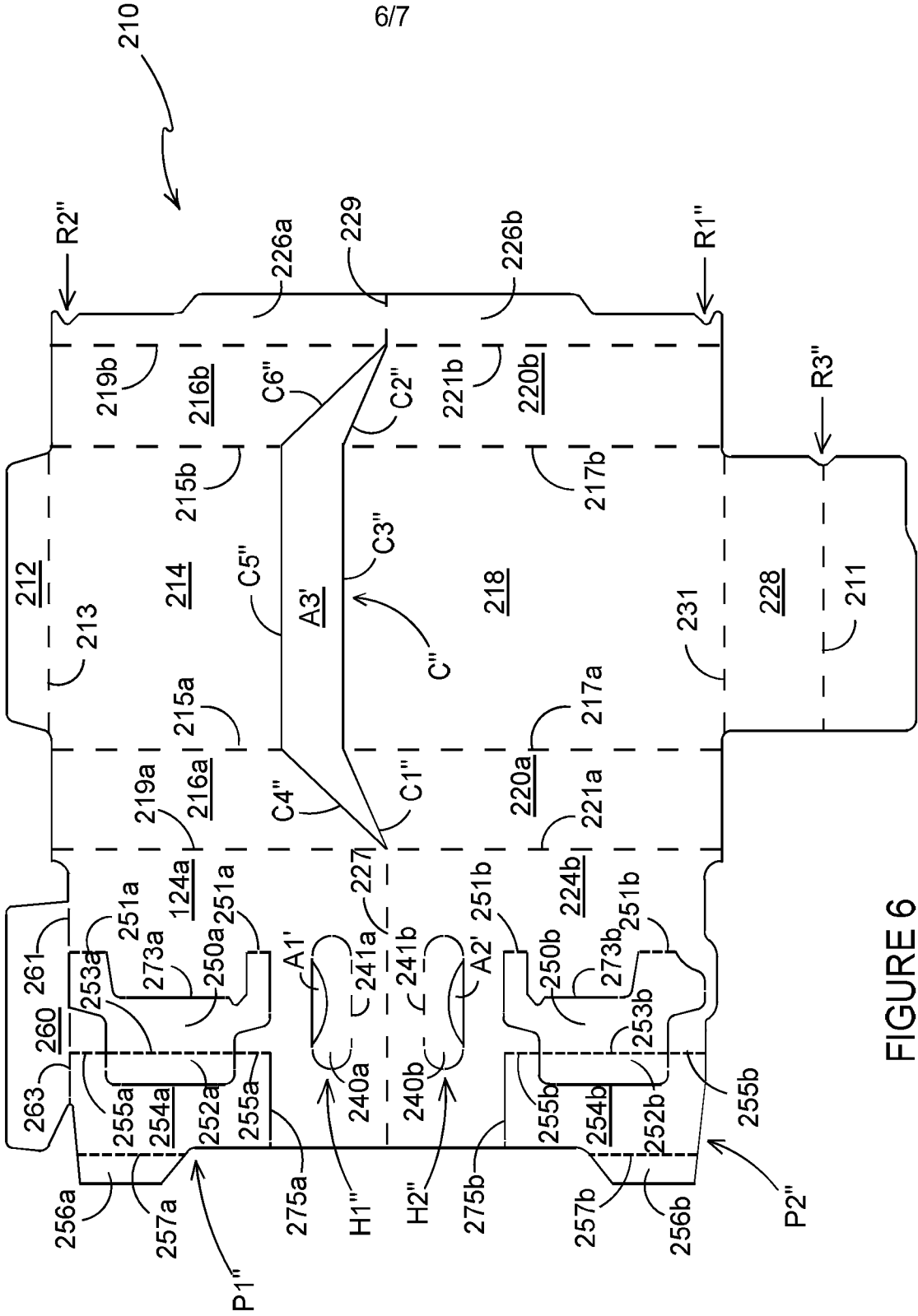


FIGURE 4





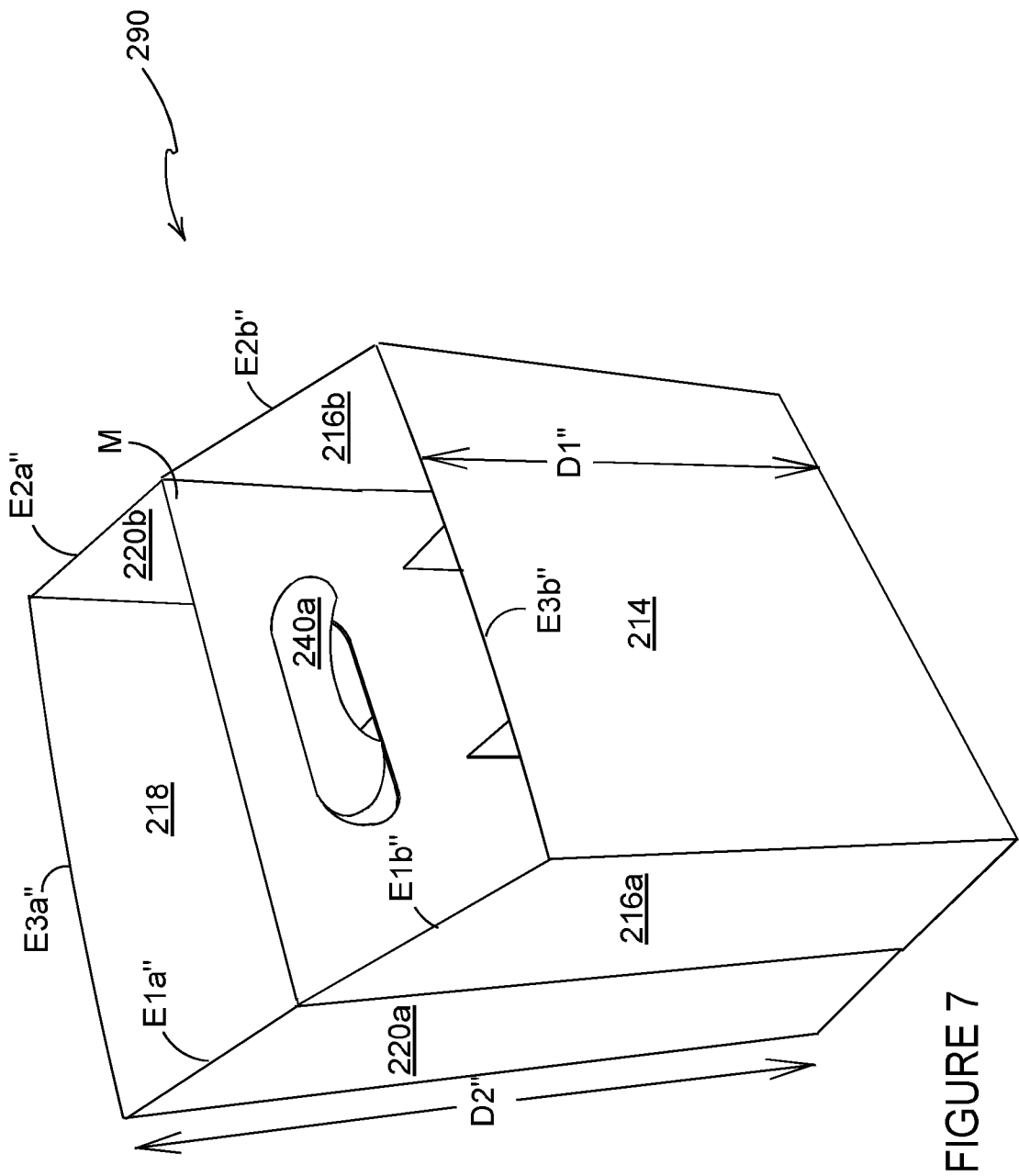


FIGURE 7

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2016/054621

A. CLASSIFICATION OF SUBJECT MATTER
 INV. B65D71/58
 ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 010 604 A (ARNESON EDWIN L) 28 November 1961 (1961-11-28) column 1, line 14 - line 24; figure 1 -----	1,7-9
X	US 2 774 512 A (DUNNING ROBERT M) 18 December 1956 (1956-12-18) figure 2 -----	12-14, 16,17
A	US 3 236 413 A (SCHUSTER RICHARD L) 22 February 1966 (1966-02-22) figure 1 -----	2,12



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

6 December 2016

Date of mailing of the international search report

14/12/2016

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2016/054621

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3010604	A	28-11-1961	NONE	
US 2774512	A	18-12-1956	NONE	
US 3236413	A	22-02-1966	NONE	