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(54) **Primary and secondary package combination, the secondary package and blank for forming the secondary package**

(57) A combination package for a product, such as foodstuffs or beverages, includes at least one primary package in which naked product is directly contained. The at least one primary package includes a hollow structure having side walls and a pair of first and second opposed ends. The first end is closed by a base wall. The

second end is open. The at least one primary package is placed in a secondary package such as a carton. The secondary package comprises a base wall, opposing side walls and a top wall. The top wall provides an end closure for the open end of the at least one primary package.

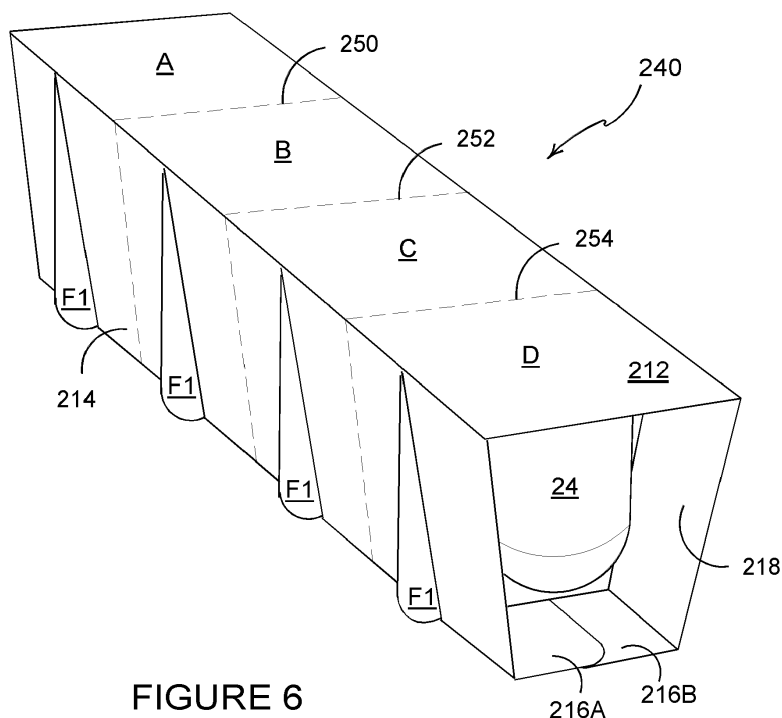


FIGURE 6

Description

FIELD OF THE INVENTION

[0001] The present invention relates to a combination of a primary package and a secondary package and more specifically, but not exclusively, to a combination in which an end closure of at least one primary package is provided by the secondary package. The present invention also relates to a carton that provides a secondary package and a blank for forming the secondary package.

BACKGROUND OF THE INVENTION

[0002] In the field of packaging, it is often required to provide consumers with a package comprising multiple primary product containers (i.e., primary packages) contained in an outer container (i.e., a secondary package). Such packages, or multi-packs, are desirable for shipping and distribution and for display of promotional information. For cost and environmental considerations, such packages 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. Another consideration is the strength of the packaging and its suitability for holding and transporting large weights of articles.

[0003] It is therefore desirable to provide a carton which forms a secondary package, which can accommodate one or more primary packages.

[0004] It is desirable for the carton to provide a portion which completes formation of one or more primary packages.

SUMMARY OF INVENTION

[0005] The present invention seeks to overcome or at least mitigate the problems of the prior art.

[0006] The term "primary package" as used herein refers to a primary container such as a cup, can, bottle, jar, carton, box, carrier, bag or any other container in which a naked product such as a foodstuff or beverage is directly received, such that such a naked product is in direct contact with the inside surface of the primary container.

[0007] The term "secondary package", as used herein, refers to a secondary container such as a cup, can, jar, carton, box, carrier, bag or any other container in which one or more primary packages are received, such that the one or more primary packages are in direct contact with the inside surface of the secondary container.

[0008] According to a first aspect of the present invention, there is provided a combination package for a product such as foodstuffs or beverages, wherein the combination package comprises at least one primary package containing a product such as a foodstuff or beverage. The at least one primary package comprises a hollow structure closed at one end thereof by a base wall and having side walls and an open end opposing the closed end, the at least one primary package being placed in a

secondary package which comprises a base wall, opposing side walls and a top wall, the top wall of the secondary package providing an end closure for the open end of the at least one primary package.

[0009] Preferably, the at least one primary package comprises two or more primary packages, and the secondary package comprises one or more severable connections at the top wall between the end closures of the two or more primary packages so as to allow an individual primary package to be separated from the remainder of the two or more primary packages.

[0010] According to a second aspect of the present invention there is provided a package for a product such as foodstuffs or beverages wherein the package comprises a plurality of vessels containing the product, the vessels comprising a tubular structure closed at one end thereof by a base wall and having side walls and an open end opposing the first end for facilitating loading of product, the package further comprises a carton having a plurality of panels including a base wall, opposing side walls and a top wall, wherein the plurality of panels form a sleeve structure about the plurality of vessels and the top wall of the carton provides an end closure for the open end of each of the plurality of vessels.

[0011] Preferably, the carton comprises one or more severable connections at the top wall between the end closures so as to allow an individual vessel to be separated from the package.

[0012] According to a third aspect of the present invention there is provided a blank for forming a secondary package, comprising panels for forming side walls, a top wall and a base wall, the top wall being sized and arranged to form at least one lid of a primary package, for sealing a product within the primary package.

[0013] Preferably, the at least one lid comprises two or more lids, wherein the top wall comprises at least one weakened line of severance which defines the two or more lids, each of the two or more lids being severable from the remainder of the two or more lids along the at least one weakened line of severance.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Exemplary embodiments of the invention will now be described with reference to the accompanying drawings, in which:

FIGURE 1A is a perspective view from above of an exemplary part-formed primary package for forming a combination package of the present invention;

FIGURE 1B is a side view of an exemplary primary package for forming a combination package of the present invention;

FIGURE 1C is an end view of the primary package of Figure 1B;

- FIGURE 1D is a top view of the primary package of Figure 1B;
- FIGURE 1E is a perspective view of the primary package of Figure 1B;
- FIGURE 2 is a plan view from above of a blank for forming a secondary package according to a first embodiment;
- FIGURE 3 is a perspective view from above of a stage of assembly of the combination package according to the first embodiment;
- FIGURE 4 is a perspective view from above of the combination package according to the first embodiment;
- FIGURE 5 is a plan view from above of a blank of a secondary package for the combination package of a second embodiment;
- FIGURE 6 is a perspective view from above of the combination package according to the second embodiment;
- FIGURE 7 is a plan view from above of a blank for forming a secondary package according to a third embodiment; and
- FIGURE 8 is a perspective view from above of a combination package according to the third embodiment.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS OF THE PRESENT INVENTION

[0015] Detailed descriptions of specific embodiments of the combination packages, secondary packages, blanks for forming the secondary packages and primary packages 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. Indeed, it will be understood that the combination packages, secondary packages, blanks for forming the secondary packages and primary packages 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.

[0016] Figures 1A to 1E illustrate a primary package 24. Optionally, the primary package 24 is a cup or vessel formed by thermoforming a sheet of material, preferably paperboard. The primary package 24 is formed in two or more sections P1, P2, preferably two sections P1, P2. Each section P1, P2 comprises a first flange F1. The first flange F1 is provided for securing the sections P1, P2 of the primary package 24 together.

[0017] The method of forming the primary package and the primary package itself are the subject of co-pending European patent application to LeBras, application number EP12160673.5, entitled "Package and Method of Forming Same", filed on the same day as the present application by the same applicant, the contents of which are incorporated herein.

[0018] Optionally, each section of the primary package 24 comprises a part of a second flange F2. The second flange F2 facilitates securing a lid or cover to the primary package.

[0019] It is envisaged that the present invention may be utilised with primary packages which are formed as a unitary piece.

[0020] The primary package 24 comprises sidewalls 14, 18 and a base wall 20; base wall 20 is optionally dome shaped.

[0021] Preferably, the two sections P1, P2 of the primary package 24 are hinged together by a hinge connection 19.

[0022] The primary package 24 comprises an open end through which a product such as foodstuffs or beverages are loaded.

[0023] Turning now to Figures 2 to 4, there is shown a secondary package and blank 110 for forming the secondary package. A combination of the secondary package with one or more primary packages 24 forms a combination package 140 according to a first embodiment of the present invention. The blank 110 comprises panels for forming a top panel 112, first side panel 114, base panel 116, second side panel 118 and a glue flap 120.

[0024] In the illustrated embodiment in Figures 2 to 4, the blank 110 is shaped and arranged to accommodate four primary packages 24 arranged in a two by two array; in alternative embodiments the blank 110 may be arranged to accommodate a different number of primary packages or articles and/or a different array configuration.

[0025] The top panel 112 comprises four sections 112A, 112B, 112C, 112D, each section of which forms a lid of a respective primary package 24. The first section 112A is severable from each of second and third sections 112B and 112C by respective weakened lines of severance 117A, 113A. Second section 112B is severable from each of first and a fourth section 112A and 112D by respective weakened lines of severance 117A and 113B. Third section 112C is severable from fourth section 112D by weakened line of severance 117B. Top panel 112 is hinged to first side panel 114. First side panel 114 com-

prises a first part 114A and second part 114B which are separated from one another. In alternative embodiments, first part 114A and second part 114B may be coupled to one another by a weakened line of severance.

[0026] The first part 114A is hinged to the top panel 112 by a fold line 115A, which extends at least partially along a side edge of third section 112C.

[0027] The second part 114B is hinged to the top panel 112 by a fold line 115B which extends at least partially along a side edge of fourth section 112D. In alternative embodiments fold lines 115A and 115B may be continuous and/or may be formed from weakened lines of severance.

[0028] The first side wall 114 is hinged to the base panel 116.

[0029] The base panel 116 comprises a first component 116A and a second component 116B. The first and second components 116A, 116B are separate from one another; however it is envisaged that they could be coupled together by a weakened line of severance in alternative embodiments.

[0030] Each of the first and second components 116A, 116B provide a foot or stabiliser for a pair of primary packages 24. The first and second components 116A, 116B are substantially the same structure and will be described by reference to second component 116B.

[0031] Second component 116B comprises a series of panels 124, 126, 128, 130 joined one to the next in a linear series which extends along the tubular axis of the combination package 140. The first panel 124 is hingedly connected to second panel 126 along fold line 127; the second panel 126 is hingedly connected to the third panel 128 along fold line 129 and the third panel 128 is hingedly connected to fourth panel 130 along fold line 131.

[0032] The second and third panels 126, 128 are coupled to the first side wall, in particular to second part 114B via riser panel 122. Second panel 126 is coupled to riser panel 122 via fold line 123B. Third panel 128 is coupled to riser panel 122 via fold line 123A. Riser panel 122 is coupled to second part 114B via fold line 121. Fold lines 123A and 123B are disposed so as to be divergent towards fold line 121 and are disposed at opposed ends of fold line 121.

[0033] Fold lines 123A, 123B are convergent towards fold line 129. An arcuate outline 125 or weakened line of severance is interposed between fold lines 123A, 123B such that fold lines 123A, 123B and cut line 125 together form a V shape which converges at fold line 129. A second riser panel 132 is disposed at the opposite end of second and third panels 126, 128.

[0034] A weakened line of severance 135 bisects each of the first, second, third and fourth panels, 124, 126, 128, 130. A first slot S1 is disposed between riser panel 122 and weakened line 135, and a second slot S2 is disposed between weakened line 135 and riser panel 132.

[0035] Third and fourth slots S3, S4 are provided on first part 116A.

[0036] Each of slots S1 and S2 extend across the second and third panels 126, 128 parallel to the direction of the tubular axis. Base panel 116 is coupled to second side panel 118. Second side panel 118 comprises a first element 118A and a second element 118B coupled to respective ones of first or second components 116A, 116B forming base panel 116, by fold line 133.

[0037] First and second elements 118A, 118B are separate from one another. It is envisaged that in alternative embodiments they may be unitary or coupled by a weakened line of severance.

[0038] Second side panel 118 is coupled to glue panel 120. Glue panel 120 comprises glue flap 120A and glue flap 120B which are separate from one another. Glue flap 120A is coupled to first element 118A by fold line 111A and glue flap 120B is coupled to second element 118B by fold line 111B.

[0039] Turning now to the construction of the secondary package or carton as illustrated in Figures 2, 3 and 4, it is envisaged that the secondary package can be formed by a series of sequential folding operations in a straight line machine, so that the secondary package is not required to be rotated or inverted to complete its construction. The folding process is not limited to that described below and may be altered according to particular manufacturing requirements.

[0040] The first and second components 116A, 116B are constructed such that second and third panels 126, 128 form inverted V shapes; riser panels 122 and 132 are folded out of the plane of the blank 110 to be disposed at an angle thereto. The second and third panels 126, 128 are folded upwardly out of the plane of the blank 110. First and fourth panels 124, 130 form a base upon which the secondary package may rest.

[0041] A group of primary packages 24 are received on each of the first and second components 116A, 116B. Slots S1, S2 each receive a flange F1 of a primary package 24 which flange F1 extends downward of the base of the primary packages 24.

[0042] The first and second side panels 114, 118 are folded about the sides of the group of primary packages 24.

[0043] The top panel 112 is folded to overlay the open ends 9 of the primary packages 24. The primary packages 24 may be filled with a product prior to placement on the base panel 116 or prior to folding the top panel 112 about the open ends of the primary packages 24.

[0044] Adhesive or sealant may be applied either to the flanges F2 or to the top panel 112 prior to folding the top panel 112 about the open ends 9 of the primary packages 24; in this way the top panel 112 can be secured or sealed to the primary packages 24.

[0045] The glue panel 120 may then be folded about the top panel 112 to secure the panels of the blank in a tubular structure about the primary packages 24. In some embodiments the glue panel 120 may be folded about the primary packages 24 before folding the top panel 120.

[0046] Figure 4 illustrates the assembled combination

package 140. Each of the primary packages 24 may be separated from the combination package 140 by severing the respective severance lines 113A, 113B, 117A, 117B, 135 as shown in Figure 4, where an individual primary package 24 has been separated from the remaining primary packages 24.

[0047] Referring now to Figures 5 to 8, there are shown alternative embodiments of the present invention. In the second and third illustrated embodiment, like numerals have, where possible, been used to denote like parts, albeit with the addition of the prefix "200" or "300" and so on to indicate that these features belong to the second embodiment. The alternative embodiments share many common features with the first embodiment and therefore only the differences from the embodiment illustrated in Figures 1 to 4 will be described in any greater detail.

[0048] Figure 5 illustrates a blank 210 for forming the combination package 240 illustrated in Figure 6.

[0049] Blank 210 comprises a top panel 212 first hinged to first side panel 214 along fold line 215 and to second side panel 218 along fold line 213. First side panel 214 is hinged to first base panel 216A along fold line 217. Second side panel 218 is hinged to second base panel 216B along fold line 211. First side panel 214 comprises four slots S1, S2, S3, S4 extending between the top panel 212 and the first base panel 216A. Second side panel 218 comprises four slots S1, S2, S3, S4 extending between top panels 212 and second base panel 216B. Slots S1, S2, S3, S4 in second side panel 218 are co-linear with slots S1, S2, S3, S4 in first side panel 214.

[0050] Blank 210 comprises a first weakened line of severance 250 extending across the first base panel 216A, first side panel 214, top panel 212, second side panel 218 and second base panel 216B. First line of severance 250 is disposed between first slot S1 and second slot S2.

[0051] A second line of severance 252 extends across blank 210 from a free edge of first base panel 216A to a free edge of second base panel 216B; second line of severance 252 is disposed between slots S2 and slots S3.

[0052] A third weakened line of severance 254 extends across the blank 210 from a free edge of first base panel 216A to a free edge of second base panel 216B and is disposed between slots S3 and S4.

[0053] First, second and third weakened lines of severance 250, 252, 254 dissect the blank 210 and combination package 240 into four sections A, B, C, D as can be seen in Figure 6.

[0054] The combination package 240 of Figure 6 is constructed by wrapping the blank 210 about a group of primary packages 24. In the illustrated embodiment the combination package 240 accommodates four primary packages 24 arranged in a four by one array. Top panel 212 provides a lid for open ends of each of the primary packages 24. The slots S1, S2, S3, S4 receive at least a portion of a flange F1 of a respective one of the primary packages 24.

[0055] First and second base panels 216A, 216B are placed in overlapping relationship with one another and secured together using adhesive or a mechanical locking device.

[0056] Each of the primary packages 24 may be separated from the combination package 240 by severing the respective one of the first, second and third weakened lines of severance 250, 252, 254.

[0057] It is envisaged that the primary package 24 may not comprise the first flange F1 in which case the slots S1, S2, S3, S4 may be omitted.

[0058] Referring now to Figures 7 and 8 there is shown a blank 310 for forming a combination package 340. The blank 310 comprises a series of panels hinged one to the next in a linear series and includes a top panel 314 hinged to a first side panel 312 on a first side edge and to a second side panel 316 on a second side edge. First side panel 312 is hinged to a glue flap 320. Second side panel 316 is hinged to base panel 318.

[0059] Top panel 314 and base panel 318 each comprise four circularly shaped weakened lines of severance 360.

[0060] Each of the weakened lines of severance 360 defines a respective portion of the top or base panels 314, 318, each of which forms a lid for a respective primary package 24. The weakened lines of severance 360 in each of the top and base panels 314, 318 are arranged in a two by two array.

[0061] The combination package 340 is formed by grouping together four primary packages 24, filling the primary packages 24 with a product, and placing the base panel 318 over the open ends 9 of each of the primary packages 24 such that the weakened lines of severance 360 are in registry with outer periphery of the primary packages 24; which in the illustrated embodiment is defined by the circumferential edge of second flange F2. A second group of four primary packages 24, arranged in a two by two array, is placed upon the base panel 318 to form a second or upper tier of primary packages 24. They may be filled with a product prior to placement on base panel 318, or once the primary packages 24 are placed upon the base panel 318.

[0062] The second side panel 316 is folded about the side of the group of primary packages 24. The top panel 314 is then folded to overlay the open ends of the upper tier of primary packages 24 such that the weakened lines of severance 360 are placed in registry with the open ends of the primary packages 24. The first side panel 312 is then folded about the opposing side of the group of primary packages 24. Glue flap 320 is then secured to a lowermost surface of the base panel 318.

[0063] It can be appreciated that various changes may be made within the scope of the present invention. For example, the size and shape of the panels and apertures may be adjusted to accommodate articles of differing size or shape. In other embodiments of the invention it is envisaged that the primary packages may not be formed with a vertical flange. In such cases, the secondary pack-

ages may be adapted to remove those features such as slots which are adapted to accommodate the vertical flanges.

[0064] It will be recognised that as used herein, directional references such as "top", "bottom", "front", "back", "end", "side", "inner", "outer", "upper" and "lower" do not limit the respective panels to such orientation, but merely serve to distinguish these panels from one another. Any reference to hinged connection should not be construed as necessarily referring to a single fold line only; indeed it is envisaged that hinged connection can be formed from one or more of the following: a short slit, a frangible line or a fold line without departing from the scope of the invention.

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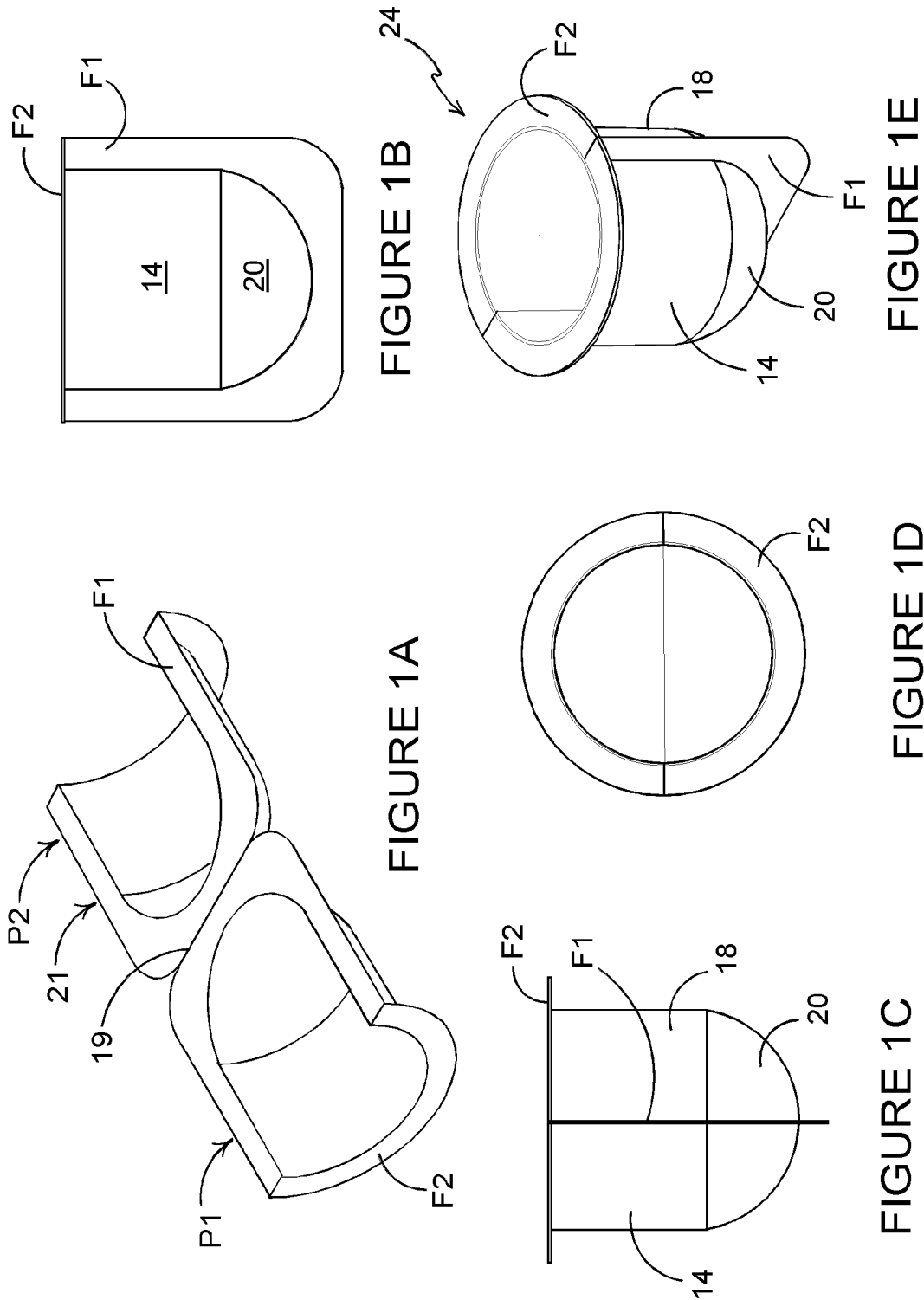
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Claims

1. A combination comprising at least one primary package containing a product such as a foodstuff or beverage, the at least one primary package comprising a hollow structure closed at one end thereof by a base wall and having side walls and an open end opposing the closed end, the at least one primary package being placed in a secondary package which comprises a base wall, opposing side walls and a top wall, said top wall of the secondary package providing an end closure for the open end of the at least one primary package. 20
2. A combination according to claim 1 wherein the at least one primary package comprises two or more primary packages, and the secondary package comprises one or more severable connections at the top wall between the end closures of the two or more primary packages so as to allow an individual primary package to be separated from the remainder of the two or more primary packages. 25 30
3. A package for a product such as foodstuffs or beverages wherein the package comprises a plurality of vessels containing the product, the vessels comprising a tubular structure closed at one end thereof by a base wall and having side walls and an open end opposing the first end for facilitating loading of the product, the package further comprising a carton having a plurality of panels including a base wall, opposing side walls and a top wall, wherein the plurality of panels form a sleeve structure about the plurality of vessels and said top wall of the carton provides an end closure for the open end of each of said plurality of vessels. 35 40 45 50
4. A package according to claim 3 wherein the carton comprises one or more severable connections at the top wall between the end closures so as to allow an individual vessel to be separated from the package. 55

5. A blank for forming a secondary package comprising panels for forming side walls, a top wall and a base wall, the top wall being sized and arranged to form at least one lid of a primary package, for sealing a product within the primary package.

6. A blank according to claim 5 wherein said at least one lid comprises two or more lids wherein the top wall comprises at least one weakened line of severance which defines the two or more lids, each of the two or more lids being severable from the remainder of the two or more lids along the at least one weakened line of severance.



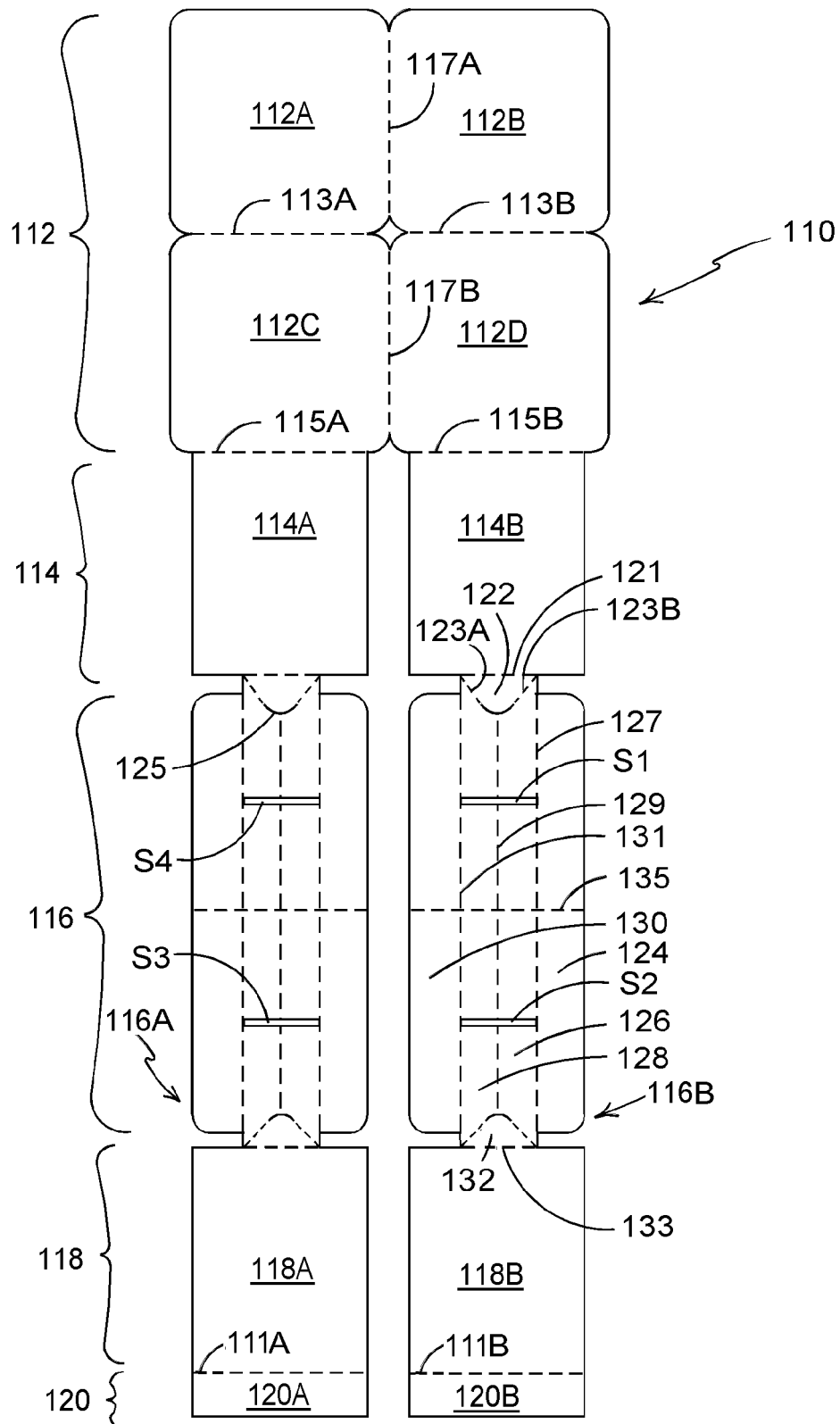
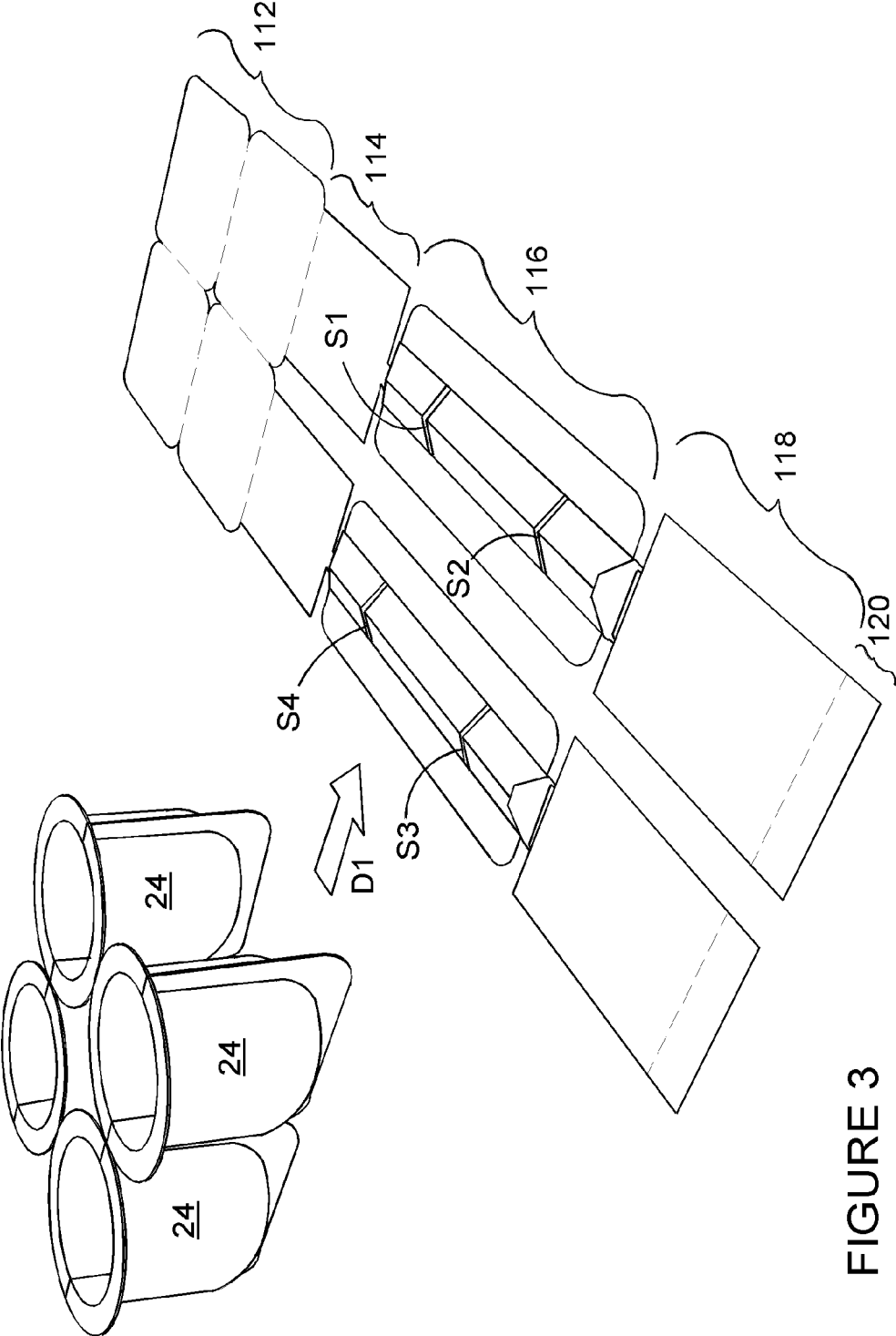


FIGURE 2



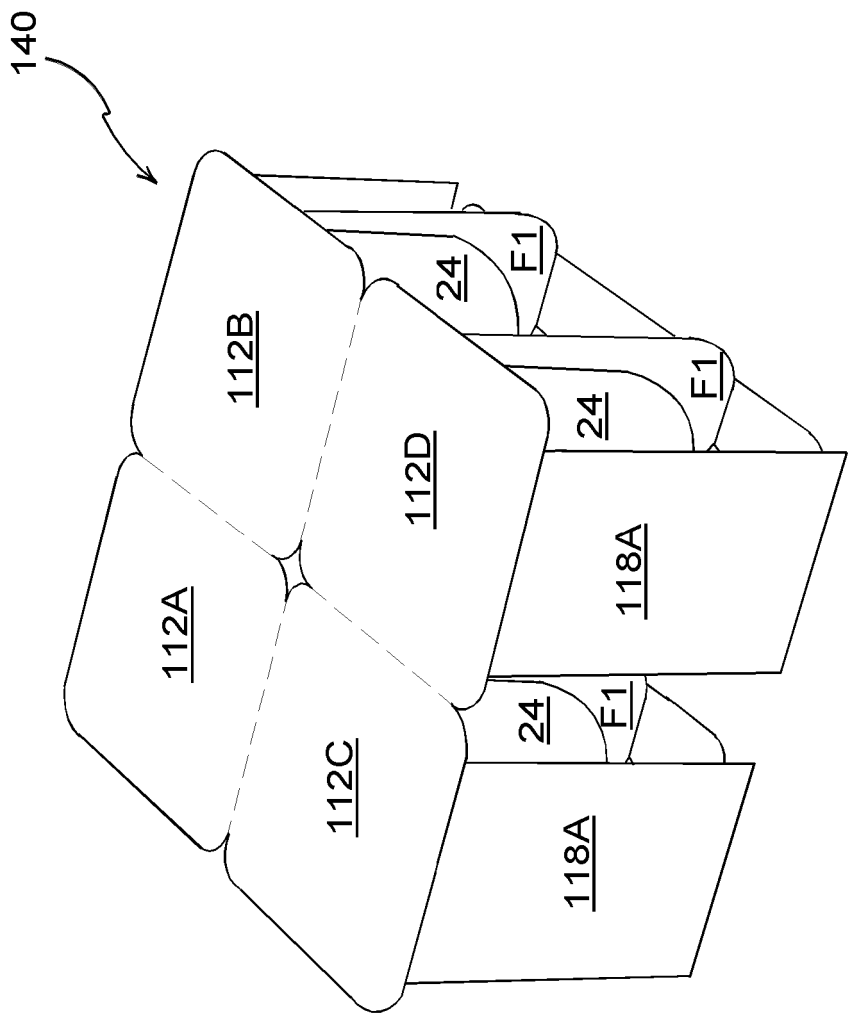


FIGURE 4

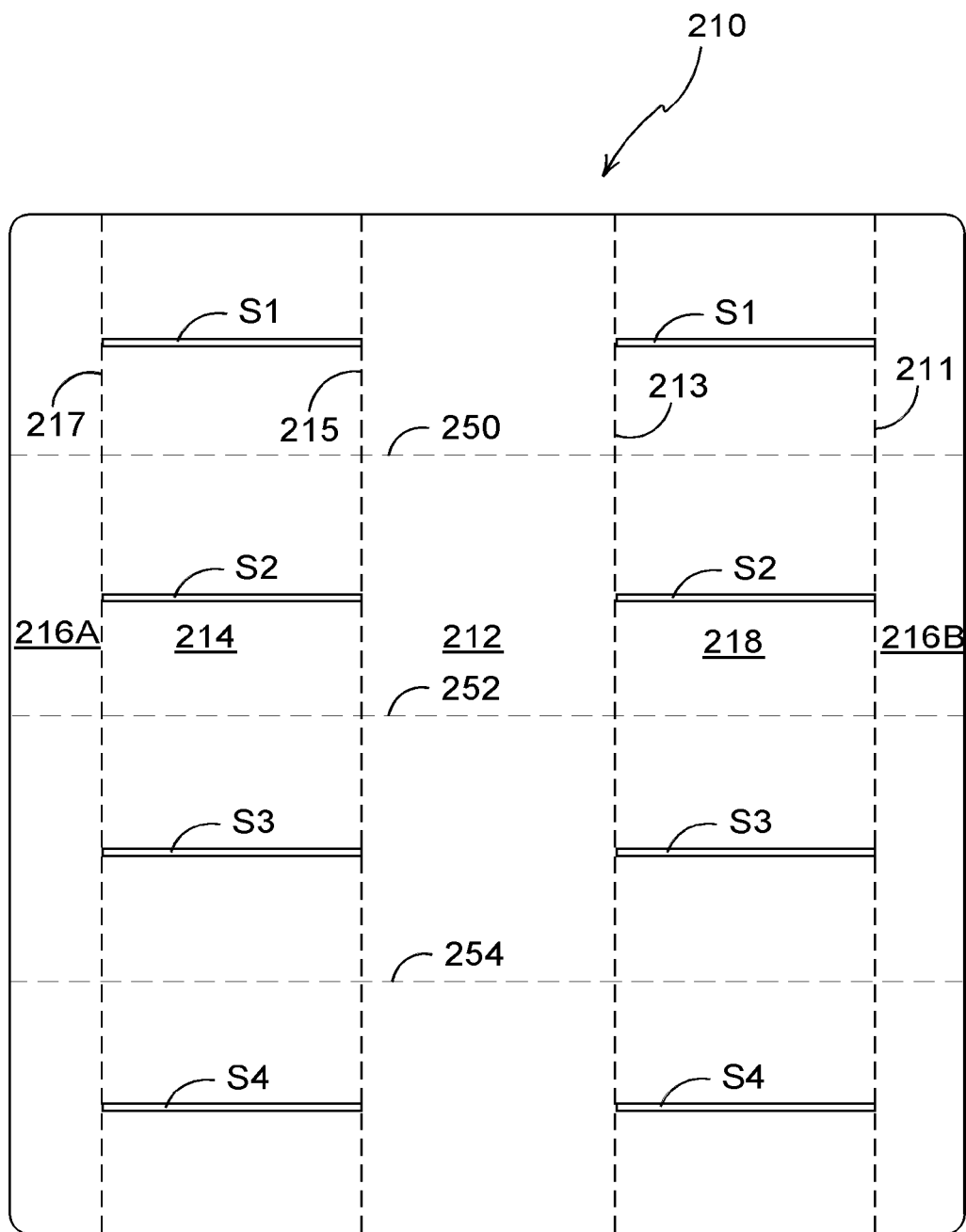


FIGURE 5

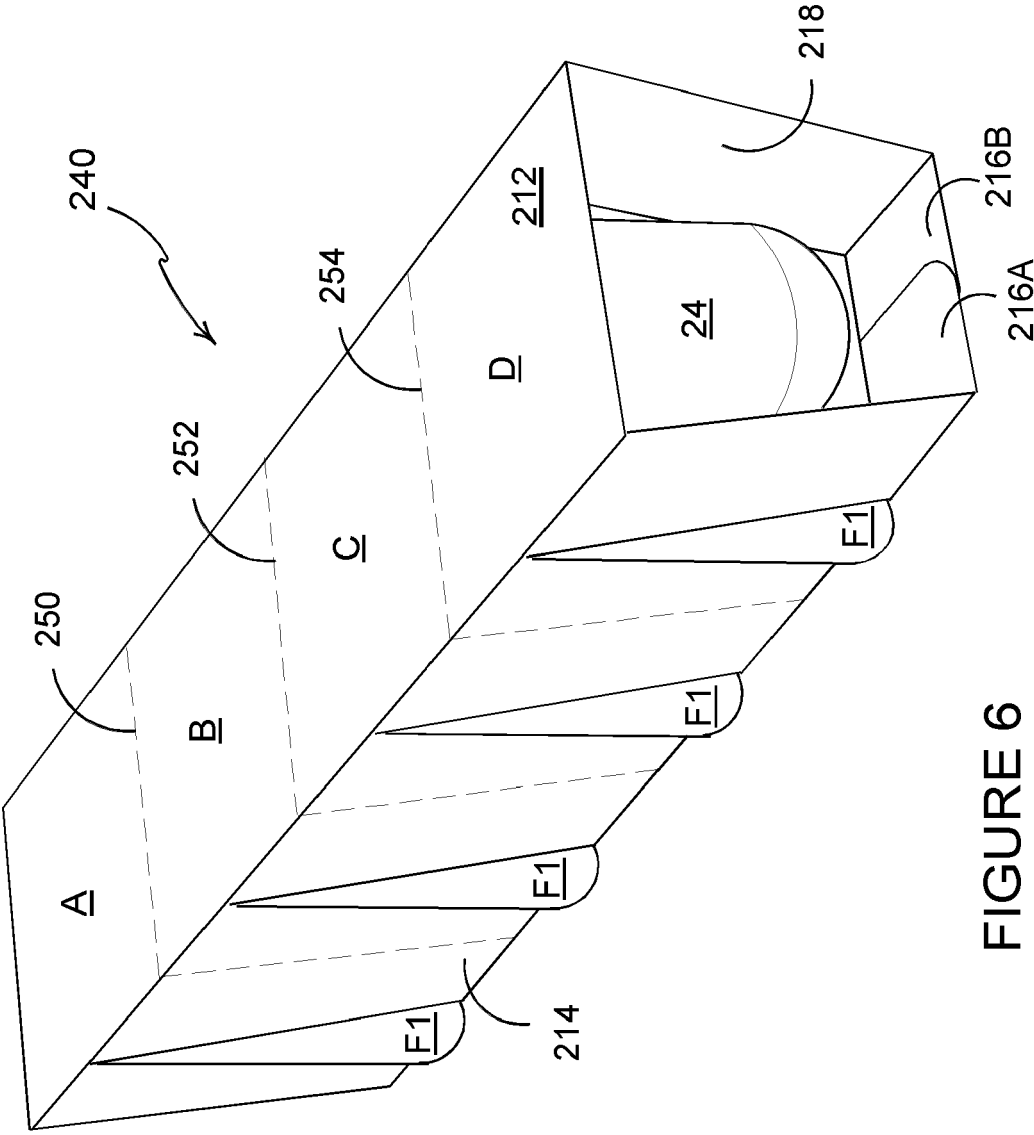


FIGURE 6

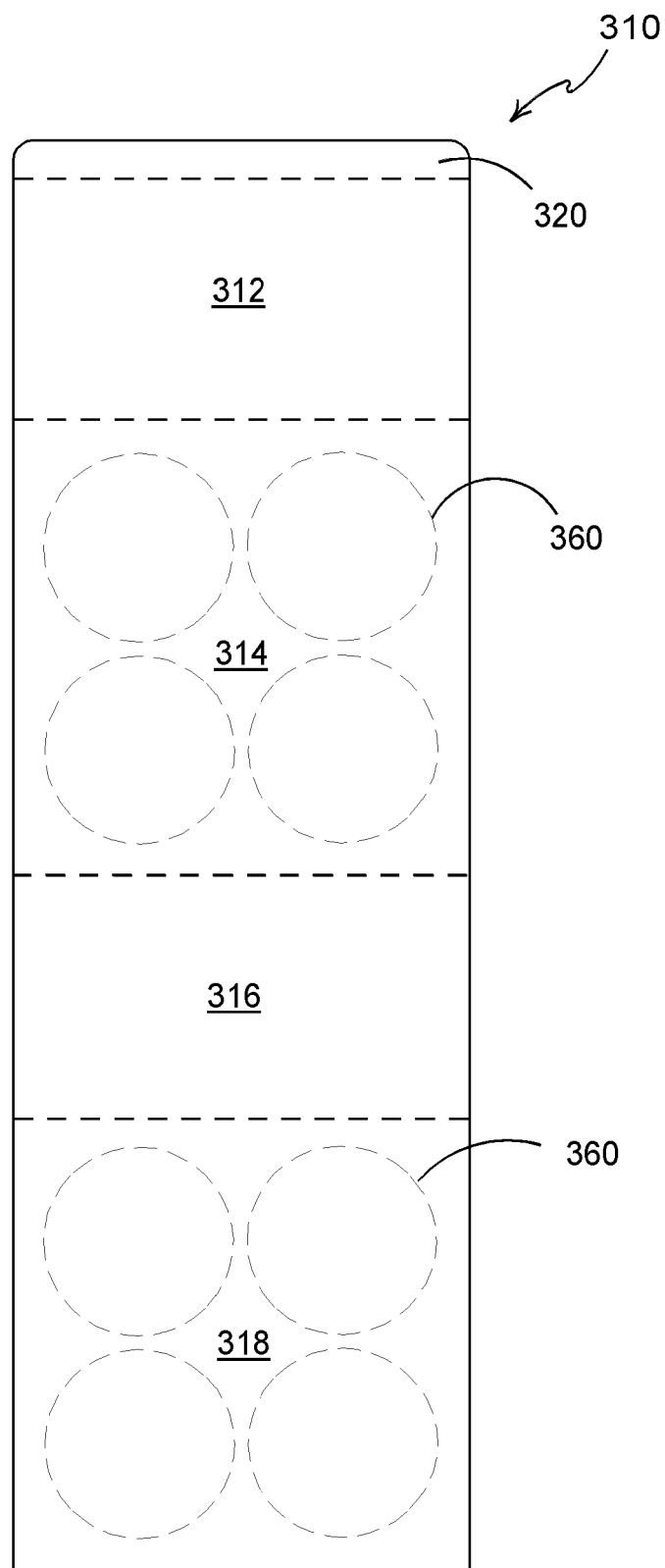


FIGURE 7

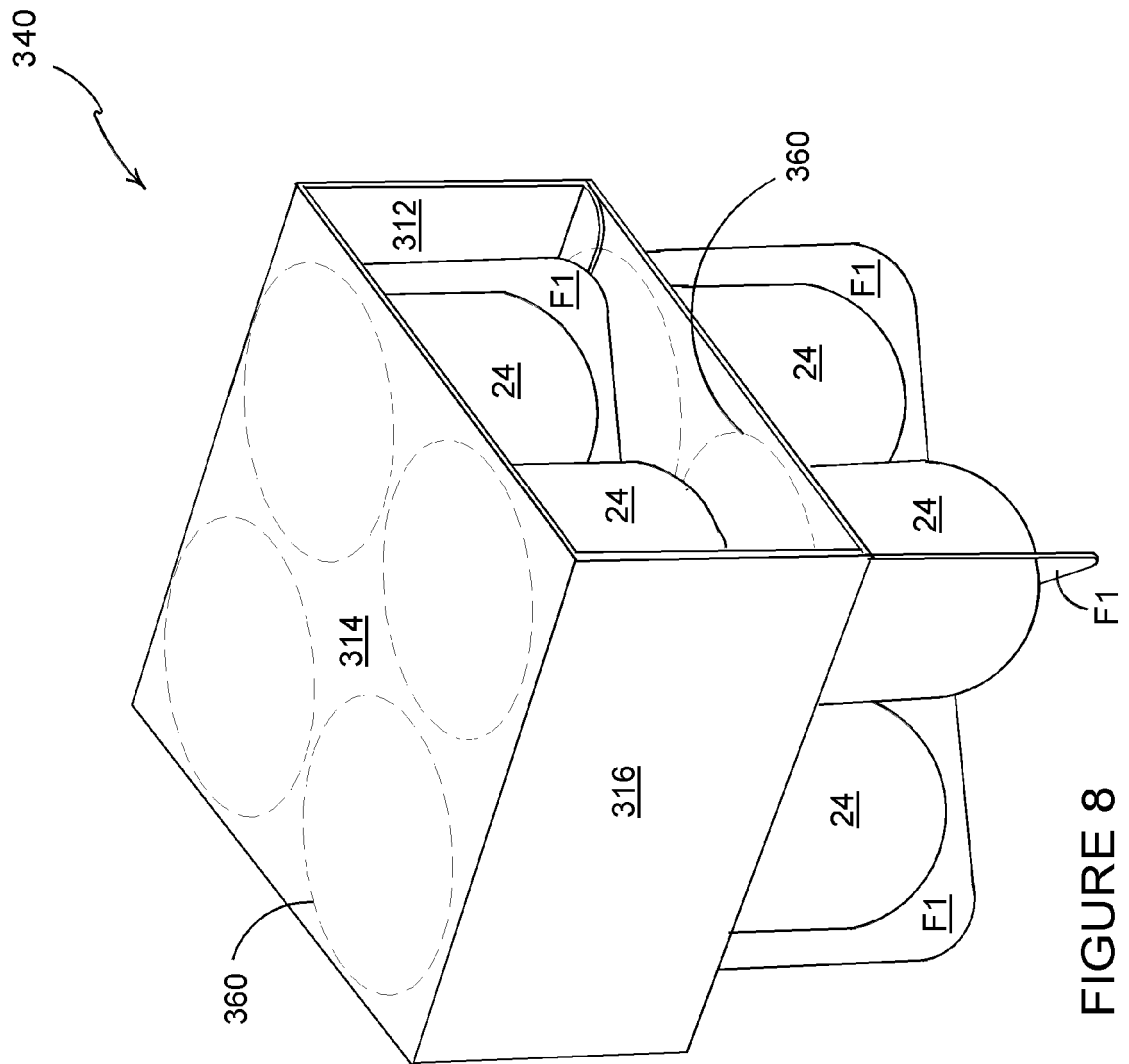


FIGURE 8



EUROPEAN SEARCH REPORT

Application Number
EP 12 16 0696

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 3 168 193 A (ALFRED SCHECHTER) 2 February 1965 (1965-02-02) * column 2, line 33 - column 3, line 67; figures 1-4 *	1-6	INV. B65D17/50 B65D71/42 B65D77/04 B65D71/14
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Y	----- FR 2 444 624 A1 (ETU TECH REALISA APPLIQ CENTRE) 18 July 1980 (1980-07-18) * page 4, lines 10-27; figures 1-4 *	2,4,6	
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			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 8 June 2012	Examiner Grondin, David
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 16 0696

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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08-06-2012

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REFERENCES CITED IN THE DESCRIPTION

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