(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 August 2015 (27.08.2015)

WIPO | PCT

(10) International Publication Number
WO 2015/127213 A1

(51) International Patent Classification:
B65D 71/06 (2006.01)

(21) International Application Number:
PCT/US2015/016833

(22) International Filing Date:
20 February 2015 (20.02.2015)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/943,254 21 February 2014 (21.02.2014) US

(71) Applicant: **EXOPACK, LLC** [US/US]; 3070 Southport Road, Spartanburg, South Carolina 29302 (US).

(72) Inventors: **HOWELLS, Scott Douglas**; 3070 Southport Road, Spartanburg, South Carolina 29302 (US). **LEE, Thomas R.**; 3070 Southport Road, Spartanburg, South Carolina 29302 (US).

(74) Agent: **OLSEN, Jordan B.**; STOEL RIVES LLP, 201 So. Main Street Suite 1100, One Utah Center, Salt Lake City, Utah 84111 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(54) Title: MULTIPACK PACKAGING ASSEMBLIES

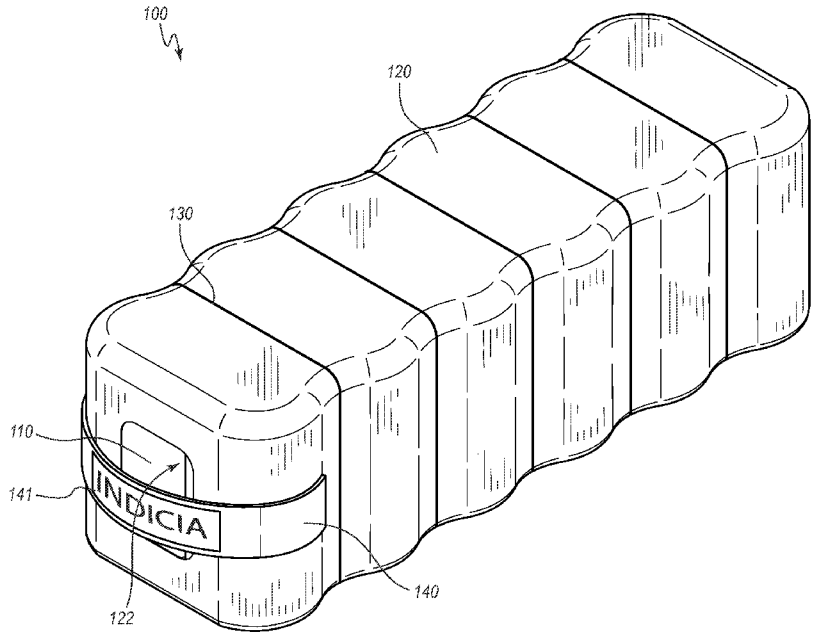


FIG. 1

(57) Abstract: A packaging assembly can include a plurality of containers and a film. The packaging assembly can further include one or more tear lines disposed between adjacent containers, or between adjacent rows of containers. The tear lines can include scored tear lines or perforated tear lines. The scores or perforations can be formed by a laser, blade, or other implement. One or more containers can be removed from the packaging assembly by tearing the film along the tear line.

WO 2015/127213 A1

MULTIPACK PACKAGING ASSEMBLIES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This patent application claims priority to U.S. Provisional Patent Application No. 61/943,254 entitled MULTIPACK PACKAGING ASSEMBLIES, filed on February 21, 2014, which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The present disclosure relates generally to multipack packaging assemblies, and more particularly to packaging assemblies that include a plurality of containers retained by a film.

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] The written disclosure herein describes illustrative embodiments that are non-limiting and non-exhaustive. Reference is made to certain of such illustrative embodiments that are depicted in the figures, in which:

[0004] FIG. 1 is a perspective view of an embodiment of a packaging assembly;

[0005] FIG. 2 is another perspective view of the packaging assembly of FIG. 1, depicting a plurality of containers in phantom;

[0006] FIG. 3 is a perspective view of a portion of the packaging assembly of FIG. 1, depicting the packaging assembly after the removal of a plurality of containers and a segment or portion of the assembly;

[0007] FIG. 4 is a plan view of the packaging assembly of FIGS. 1 and 2;

[0008] FIG. 5 is cross-sectional view of the packaging assembly of FIG. 4, taken along the view line 5-5 in FIG. 4;

[0009] FIG. 6A is a cross-sectional view of an embodiment of the packaging assembly of FIG. 4, taken along the view line 6A-6A in FIG. 4;

[0010] FIG. 6B is a cross-sectional view of another embodiment of the packaging assembly of FIG. 4, taken along the view line 6A-6A in FIG. 4; and

[0011] FIG. 7 is a plan view of another embodiment of a packaging assembly.

DETAILED DESCRIPTION

[0012] Embodiments may be best understood by reference to the drawings, wherein like parts are designated by like numerals throughout. It will be readily understood that the components of the present disclosure, as generally described and illustrated in the drawings herein, could be arranged and designed in a wide variety of different configurations. Thus, the following more detailed description of

the embodiments of the apparatus is not intended to limit the scope of the disclosure, but is merely representative of possible embodiments of the disclosure. In some cases, well-known structures, materials, or operations are not shown or described in detail. While the various aspects of the embodiments are presented in drawings, the drawings are not necessarily drawn to scale unless specifically indicated.

[0013] FIGS. 1-2 depict an embodiment of a packaging assembly 100, according to the present disclosure. More specifically, FIG. 1 is a perspective view of the packaging assembly 100; and FIG. 2 is another perspective view of the packaging assembly 100, depicting a plurality of containers 110 in phantom. As shown in FIGS. 1-2, the packaging assembly 100 comprises a plurality of containers 110 and a film 120. The packaging assembly 100 further comprises one or more tear lines 130. In some embodiments, the packaging assembly 100 further comprises a handle 140.

[0014] As shown in FIGS. 1-2, the film 120 is configured to retain the plurality of containers 110 within the packaging assembly 100. In some embodiments, the film 120 retains the plurality of containers 110 in a substantially fixed position within the packaging assembly 100. In other words, the plurality of containers 110 can be retained by the film 120 such that they are not free to move about or exit the interior region 122 of the packaging assembly 100. In some embodiments, the packaging assembly 100 can be referred to as a multipack packaging assembly 100.

[0015] The film 120 can retain the plurality of containers 110 in various ways. For example, in some embodiments, the film 120 is wrapped or otherwise disposed around the plurality of containers 110. In other embodiments, the film 120 is wrapped or otherwise disposed around at least a portion of the plurality of containers 110. Further, in some embodiments, the film 120 is shrink wrapped around the plurality of containers 110. For example, the film 120 can be wrapped or otherwise disposed around the plurality of containers 110, and then, using any suitable shrink wrap process and equipment, the film 120 can be made to shrink around the plurality of containers 110. In some embodiments, shrinking the film 120 around the plurality of containers 110 can cause the film 120 to substantially conform to the shape of the plurality of containers 110, minimizing the amount of excess space within the packaging assembly 100.

[0016] Various types of films 120 can be used. For example, in some embodiments, the film 120 comprises plastic and/or other polymeric materials. Exemplary plastic and/or polymeric materials that can be used include, but are not

limited to, polyolefin polymers and copolymers, polyvinyl chloride (PVC) polymers and copolymers, polyethylene polymers and copolymers, polypropylene polymers and copolymers, and mixtures thereof. In some embodiments, the film 120 comprises one or more thermoplastic materials or resins. In some embodiments, the film 120 comprises a shrinkable film.

[0017] As can be appreciated, the use of a film 120 packaging material is advantageous in many ways. For example, film 120 packaging materials offer significant cost savings as compared to traditional paperboard packaging materials. In some instances, the cost of film 120 packaging materials can be up to 75% less than the cost of paperboard packaging materials.

[0018] Film 120 packaging materials are also advantageous when placing the packaging assembly 100 in a cooler or other environment with ice and/or water. For example, in contrast to traditional paperboard packaging materials, the film 120 disclosed herein is not substantially affected by ice or the water derived therefrom. Other advantages of using film 120 packaging materials are also contemplated.

[0019] With continued reference to FIGS. 1-2, the packaging assembly 100 further comprises one or more tear lines 130. In some embodiments, the tear lines 130 are disposed in the machine direction of the film 120. Various types of tear lines 130 can be used, including, but not limited to, scored tear lines and perforated tear lines. For example, in some embodiments, the tear lines 130 can be laser scored or laser perforated tear lines. Other mechanical means can also be used to create the scored or perforated tear lines, including blades or other implements. Scored tear lines, including laser scored tear lines, can extend partially through the film 120. For example, a laser, blade, or other implement, can be used to create a taper, or channel, along a surface of the film 120. Perforated tear lines can extend completely through the film 120. For example, a laser, blade, or other implement can be used to create a series of perforations that extend completely through the film 120.

[0020] The tear lines 130 can be disposed on the film 120 in one or more locations. As shown in the illustrated embodiment, for example, one or more tear lines 130 can be disposed between adjacent containers 110 (e.g., between a first container and a second container). In further embodiments, one or more tear lines 130 can be disposed between adjacent rows of containers 110 (e.g., between a first row of containers and a second row of containers).

[0021] In some embodiments, the tear lines 130 are disposed around a perimeter of the film 120. For example, the tear lines 130 can substantially extend around a perimeter of the film 120 (i.e., about 360° around the perimeter). In other embodiments, the tear lines 130 can extend around a portion of the perimeter of the film 120. For example, the tear lines 130 can extend for about 120°, about 180°, about 240° (or more or less as desired) around a perimeter of the film 120. The tear lines 130 can also extend continuously or discontinuously. For example, discontinuous tear lines 130 can include one or more tear lines 130 that are spaced apart from each other along the perimeter of the film 120.

[0022] The tear lines 130 can facilitate removal of one or more containers 110 from the packaging assembly 100. For example, a user can puncture the film 120 (e.g., via insertion of one or more fingers) at a tear line 130. The user can then grasp the one or more containers 110 to be removed (including the portion of the film 120 disposed around them), and pull them away from the remainder of the packaging assembly 100. As the one or more containers 110 (including the portion of the film 120 disposed around them) are pulled away from the remainder of the packaging assembly 100, the film 120 is torn along the tear line 130 until the one or more containers 110 to be removed (including the portion of the film 120 disposed around them) are separated from the remainder of the packaging assembly 100. An illustrative packaging assembly 100 depicted after the removal of one or more containers (including the portion of the film 120 disposed around them) is depicted in FIG. 3 and further discussed below.

[0023] FIG. 3 depicts a perspective view of a portion of the packaging assembly 100 of FIG. 1, depicting the packaging assembly 100 after the removal of one or more of containers 110 therefrom. As shown in FIG. 3, the film 120 has been torn along a first tear line 130a and one or more containers 110 (including the portion of the film 120 disposed around them) have been removed from the packaging assembly 100. Further, the film 120 has been torn along a substantially controlled path located at the tear line 130a. The remainder of the film 120 and packaging assembly 100 is left substantially unaffected. Further, the remainder of the containers 100 is retained in the interior region 122 of the packaging assembly 100. At a later time (e.g., at the user's discretion), one or more additional containers 110 can be removed from the packaging assembly 100 by tearing the film 120 along another tear line 130, such as tear line 130b or 130c. For example, two containers

110 can be removed by grasping and tearing the film 120 at tear line 130b, while four containers 110 can be removed by grasping and tearing the film 120 at tear line 130c. The user can thus remove any number of containers 110 at their discretion by grasping and tearing the film 120 at a desired location. Further, in some embodiments, the film 120 can comprise printed indicia to indicate the location of the tear lines 130 if desired.

[0024] As can be appreciated, the size or footprint of the packaging assembly 100 can be decreased by selectively removing the containers 110 from the packaging assembly 100 via tearing the film 120 along the tear lines 130. This is advantageous in many ways. For example, traditional paperboard packaging remains the same size regardless of how many containers have been removed from the packaging. This can be inconvenient when there are only a few containers remaining within the packaging. In contrast, the packaging assemblies 100 disclosed herein become smaller as the containers 110 are removed. For example, a portion of the film 120 of the packaging assembly 100 can be torn and removed from the packaging assembly 100 along with the containers 110. The size of the remaining portion of the packaging assembly 100 can thus correspond to the number of containers 110 being retained therein.

[0025] FIG. 4 is a plan view of the packaging assembly 100 of FIGS. 1-2. As shown in FIG. 4, the packaging assembly 100 comprises a plurality of containers 110 and a film 120. The packaging assembly 100 further comprises one or more tear lines 130. The packaging assembly 100 further comprises a handle 140.

[0026] As shown in FIG. 4, the tear lines 130 are disposed between several of the containers 110. For example, a tear line 130d is disposed between a first container 110a and a second container 110b. As previously discussed, the first container 110a can be removed from the packaging assembly 100 by tearing the film 120 along the tear line 130d.

[0027] Any number of containers 110 can be retained within the packaging assembly 110. Further, in some embodiments, the containers 110 can be arranged within the packaging assembly 100 in a predetermined format. For example, the containers 110 can be arranged in row and column format. In some embodiments, the containers 110 within the packaging assembly 100 can be arranged to form two or more rows 114 and one or more columns 112a, 112b. As shown in FIG. 4, for example, the containers 110 are arranged to form six rows 114 and two columns

112a, 112b. Arrangements of more or less rows 114 and/or more or less columns 112a, 112b are also contemplated.

[0028] As further shown in FIG. 4, the tear lines 130 can be disposed between rows 114 of containers 110. For example, a tear line 130d is disposed between a first row 114a of containers 110 and a second row 114b of containers 110. The first row 114a of containers 110 can be removed from the packaging assembly 110 by tearing the film 120 along the tear line 130d. If desired, a plurality of rows 114 can be removed simultaneously from the packaging assembly 100 by tearing the film 120 along any desired tear line 130. For example, three rows 114 of containers 110 (six containers 110) can be removed simultaneously by tearing the film 120 along the tear line 130e. In further embodiments, one or more tear lines 130 can be disposed between one or more columns of containers 110, such as columns 112a, 112b. In yet further embodiments, one or more tear lines 130 can be disposed between one or more rows 114 of containers 110, and one or more columns of containers 110.

[0029] The containers 110 can also be arranged within the packaging assembly 100 such that they stand upright. As can be appreciated, arranging the containers 110 in an upright configuration can provide increased stability to the packaging assembly 100, for example, when it is placed on a shelf. In other embodiments, the containers 110 can be arranged within the packaging assembly 100 such that they are disposed on their sides, if desired.

[0030] As can be appreciated, various types of containers 110 can be packaged in the packaging assemblies 100 disclosed herein, including, but not limited to, beverage containers, food containers, and non-food containers. The containers 110 can also be made of various materials, including metals and/or non-metals. For example, in some embodiments, the containers 110 comprise one or more metals, including, but not limited to, steel, aluminum, tin, and combinations thereof. Non-metal materials can also be used. For example, in some embodiments, the containers 110 comprise one or more plastic and/or other polymeric materials. Further, in some embodiments, the containers 110 comprise glass materials.

[0031] The containers 110 can also be various shapes and/or sizes. For example, in some embodiments, the containers 110 are substantially cylindrical in shape. In some embodiments, the containers 110 are shaped like traditional cans (e.g., beverage cans, canned food, etc.). In other embodiments, the containers 110 are shaped like traditional bottles (water bottles, beverage bottles, etc.) Other

shaped containers 110, including both traditionally used shapes and non-traditionally used shapes, are also contemplated.

[0032] In some embodiments, the tear lines 130 comprise laser scored tear lines, as illustrated in FIG. 5. Specifically, FIG. 5 is cross-sectional view of the packaging assembly 100 of FIG. 4, taken along the view line 5-5 in FIG. 4. FIG. 5 depicts a portion of a tear line 130 disposed on the film 120. As shown in FIG. 5, the tear line 130 can comprise a laser scored tear line that extends through a first surface 124 (e.g., an exterior surface) of the film 120. In some embodiments, the tear line 130 can be described as a taper or a channel. Further, the tear line 130 extends only through a portion of the film 120 such that a second surface 126 (e.g., the interior surface) remains substantially unaffected. In other embodiments, the tear line 130 can extend all the way through the film 120. For example, as previously discussed, the tear line 130 can comprise a series of perforations that can extend through the film 120.

[0033] With reference to FIGS. 1-2 and 4, the packaging assembly 100 can further comprise a handle 140. The handle 140 can facilitate carrying the packaging assembly 100. Further, in some embodiments, one or more additional handles (e.g., a second handle, etc.) can be used if desired. As shown in the illustrated embodiment, the handle 140 can further include printed indicia 141 and can be used for labeling purposes.

[0034] The handle 140 can be coupled to the film 120. For example, a first portion 142 of the handle 140 is coupled to a surface of the film 120 at a first location, and a second portion 144 of the handle 140 is coupled to a surface of the film 120 at a second location. A third portion 146 of the handle 140 extends outwardly from the packaging assembly 100 to facilitate grasping and carrying the packaging assembly 100. The handle 140 can securely retain the packaging assembly 100 as it is being carried by the user.

[0035] The handle 140 can be coupled to the packaging assembly 100 at various locations. For example, as shown in the illustrated embodiment, the handle 140 is coupled to a longitudinal end 101 of the packaging assembly 100. The handle 140 also extends from a side of the packaging assembly 100. The printed indicia 141 can thus be clearly viewed when the packaging assembly 100 is placed on a shelf. This can be advantageous when the packaging assembly 100 comprises a bulls-eye region (i.e., a region devoid of film 120) that may be formed during a shrink wrap

process. For example, the absence of film 120 at the bulls-eye region can make it difficult to label the packaging assembly 100. However, these difficulties can be overcome by placing a handle 140 comprising printed indicia 141 over the bulls-eye region, as shown in the illustrated embodiment.

[0036] As discussed above, in some embodiments a second handle can also be used. For example, a second handle can be coupled to the longitudinal end of the packaging assembly 100 that is opposite the longitudinal end 101 wherein the first handle 140 is coupled. Coupling handles 140 to each longitudinal end of the packaging assembly 100 can be advantageous in many ways, including handling, packaging, or otherwise moving the packaging assembly 100. In yet further embodiments, a handle may optionally extend upward from the packaging assembly 100, for example, from a central region of the packaging assembly 100, if desired. Such a handle could be present alone or in combination with one or more handles placed at longitudinal ends of the packaging assembly 100.

[0037] FIGS. 6A and 6B depict cross-sectional views of various embodiments of the packaging assembly 100 of FIG. 4, taken along the view line 6A-6A in FIG. 4. As shown in FIGS. 6A and 6B, the handle 140, 240 can be coupled to the packaging assembly in various ways. In some embodiments, such as the embodiment of FIG. 6A, the handle 140 is directly adhered to the film 120. For example, the handle 140 can be heat sealed, or melted to the film 120. In other embodiments, such as the embodiment of FIG. 6B, the handle 240 is coupled to the film 220 via an adhesive 241. Any suitable adhesive can be used.

[0038] FIG. 7 depicts another embodiment of a packaging assembly 300 that can resemble the packaging assembly 100 described above in certain respects. Accordingly, like features are designated with like reference numerals, with the leading digits incremented to "3." Relevant disclosure set forth above regarding similarly identified features thus may not be repeated hereafter. Moreover, specific features of the packaging assembly 300 may not be shown or identified by a reference numeral in the drawings or specifically discussed in the written description that follows. However, such features may clearly be the same, or substantially the same, as features depicted in other embodiments and/or described with respect to such embodiments. Accordingly, the relevant descriptions of such features apply equally to the features of the packaging assembly 300. Any suitable combination of the features and variations of the same described with respect to the packaging

assembly 100 can be employed with the packaging assembly 300, and vice versa. This pattern of disclosure applies equally to further embodiments depicted in subsequent figures and described hereafter, wherein the leading digits may be further incremented.

[0039] As shown in FIG. 7, the packaging assembly 300 comprises a plurality of containers 310 and a film 320. The packaging assembly further comprises one or more tear lines 330. In the illustrated embodiment, the tear lines 330 are a series of discontinuous tear lines 330. The tear lines 330 can be scored tear lines, or perforated tear lines. The scores or perforations can be formed via a laser, or can be cut with a blade or other implement. Other suitable methods of forming scores or perforations can also be employed.

[0040] Methods of packaging a plurality of containers are also disclosed herein. For example, in one embodiment, the method comprises a step of disposing a film around a plurality of containers. The plurality of containers can be arranged in any desired format, including row and column formats. The method can further comprise a step of shrinking the film around the containers. Exemplary shrink film processes can include applying heat to the film which can cause the film to shrink around the containers. The method can further comprise a step of applying tear lines to the film. For example, the tear lines can be applied with a laser and can be disposed around a perimeter of the film. Scored tear lines, or perforated tear lines can be used. The method can further comprise a step of coupling a handle to the packaging assembly. For example, the handle can be coupled to a surface of the film. Additional method steps can be derived from the disclosure herein.

[0041] Any methods disclosed herein comprise one or more steps or actions for performing the described method. The method steps and/or actions may be interchanged with one another. In other words, unless a specific order of steps or actions is required for proper operation of the embodiment, the order and/or use of specific steps and/or actions may be modified.

[0042] References to approximations are made throughout this specification, such as by use of one or more of the terms “about,” “approximately,” “substantially,” and “generally.” For each such reference, it is to be understood that, in some embodiments, the value, feature, or characteristic may be specified without approximation. For example, where such a qualifier is used, the term includes within its scope the qualified word in the absence of the qualifier.

[0043] Reference throughout this specification to "an embodiment" or "the embodiment" means that a particular feature, structure or characteristic described in connection with that embodiment is included in at least one embodiment. Thus, the quoted phrases, or variations thereof, as recited throughout this specification are not necessarily all referring to the same embodiment. Similarly, it should be appreciated that in the above description of embodiments, various features are sometimes grouped together in a single embodiment, figure, or description thereof for the purpose of streamlining the disclosure. This method of disclosure, however, is not to be interpreted as reflecting an intention that any embodiment requires every feature shown in a particular drawing.

[0044] Unless otherwise noted, the terms "a" or "an" are to be construed as meaning "at least one of." In addition, for ease of use, the words "including" and "having" are interchangeable with and have the same meaning as the word "comprising." Recitation of the term "first" with respect to a feature or element does not necessarily imply the existence of a second or additional such feature or element.

[0045] The claims following this written disclosure are hereby expressly incorporated into the present written disclosure, with each claim standing on its own as a separate embodiment. This disclosure includes all permutations of the independent claims with their dependent claims. Moreover, additional embodiments capable of derivation from the independent and dependent claims that follow are also expressly incorporated into the present written description.

[0046] Without further elaboration, it is believed that one skilled in the art can use the preceding description to utilize the invention to its fullest extent. The claims and embodiments disclosed herein are to be construed as merely illustrative and exemplary, and not a limitation of the scope of the present disclosure in any way. It will be apparent to those having ordinary skill in the art, with the aid of the present disclosure, that changes may be made to the details of the above-described embodiments without departing from the underlying principles of the disclosure herein. In other words, various modifications and improvements of the embodiments specifically disclosed in the description above are within the scope of the appended claims. The scope of the invention is therefore defined by the following claims and their equivalents.

CLAIMS

1. A packaging assembly, comprising:

a first container and a second container;

a film wrapped around a portion of each of the first and second containers such that the film is configured to retain each of the first and second containers in a substantially fixed position within the packaging assembly;

wherein the film comprises a tear line disposed between the first and second container, wherein the tear line extends around a perimeter of the film between the first and second container.

2. The packaging assembly of claim 1, wherein the tear line comprises a laser scored line.

3. The packaging assembly of claim 1, wherein the tear line comprises a series of perforated lines.

4. The packaging assembly of claim 1, wherein the tear line comprises a continuous tear line.

5. The packaging assembly of claim 1, wherein the tear line comprises a series of discontinuous tear lines.

6. The packaging assembly of claim 1, wherein the first container is removed from the packaging assembly via tearing the film at the tear line.

7. The packaging assembly of claim 1, wherein the film comprises a polymeric film.

8. The packaging assembly of claim 1, wherein the film comprises a thermoplastic film.

9. The packaging assembly of claim 1, wherein the film comprises a shrinkable film.

10. The packaging assembly of claim 1, further comprising a handle, wherein the handle is coupled to a longitudinal end of the packaging assembly.

11. The packaging assembly of claim 10, wherein the handle comprises printed indicia.

12. A packaging assembly, comprising:

a first row of containers and a second row of containers;

a film wrapped around a portion of the first and second rows of containers such that the film is configured to retain each of the first and second rows of containers in a substantially fixed position within the packaging assembly;

wherein the film comprises a tear line disposed between the first and second rows of containers, wherein the tear line extends around a perimeter of the film between the first and second rows of containers.

13. The packaging assembly of claim 12, wherein the tear line comprises a laser scored line.

14. The packaging assembly of claim 12, wherein the tear line comprises a series of perforated lines.

15. A method of packaging a plurality of containers, the method comprising:

disposing a film around a plurality of containers;

shrinking the film around the plurality of containers; and

applying a tear line to the film such that the tear line is disposed between a first and second container.

16. The method of claim 15, wherein the tear line is applied to the film with a laser.

17. The method of claim 15, wherein the tear line is applied to the film such that the tear line extends around a perimeter of the film between the first and second container.

18. The method of claim 15, further comprising:

coupling a handle to the packaging assembly.

19. The method of claim 18, wherein the handle is coupled to a longitudinal end of the packaging assembly.

20. The method of claim 15, wherein the plurality of containers are arranged in two or more rows and one or more columns.

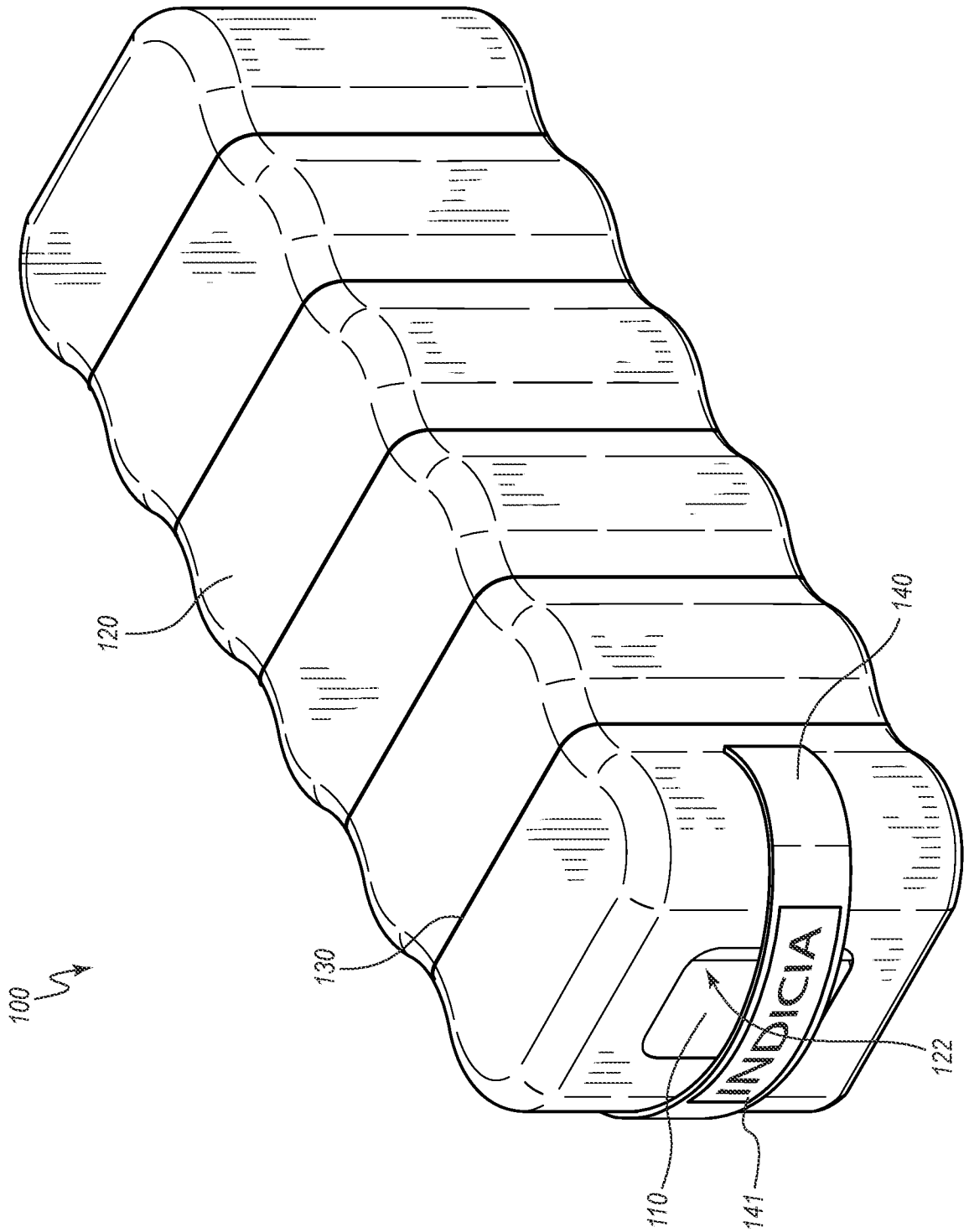


FIG. 1

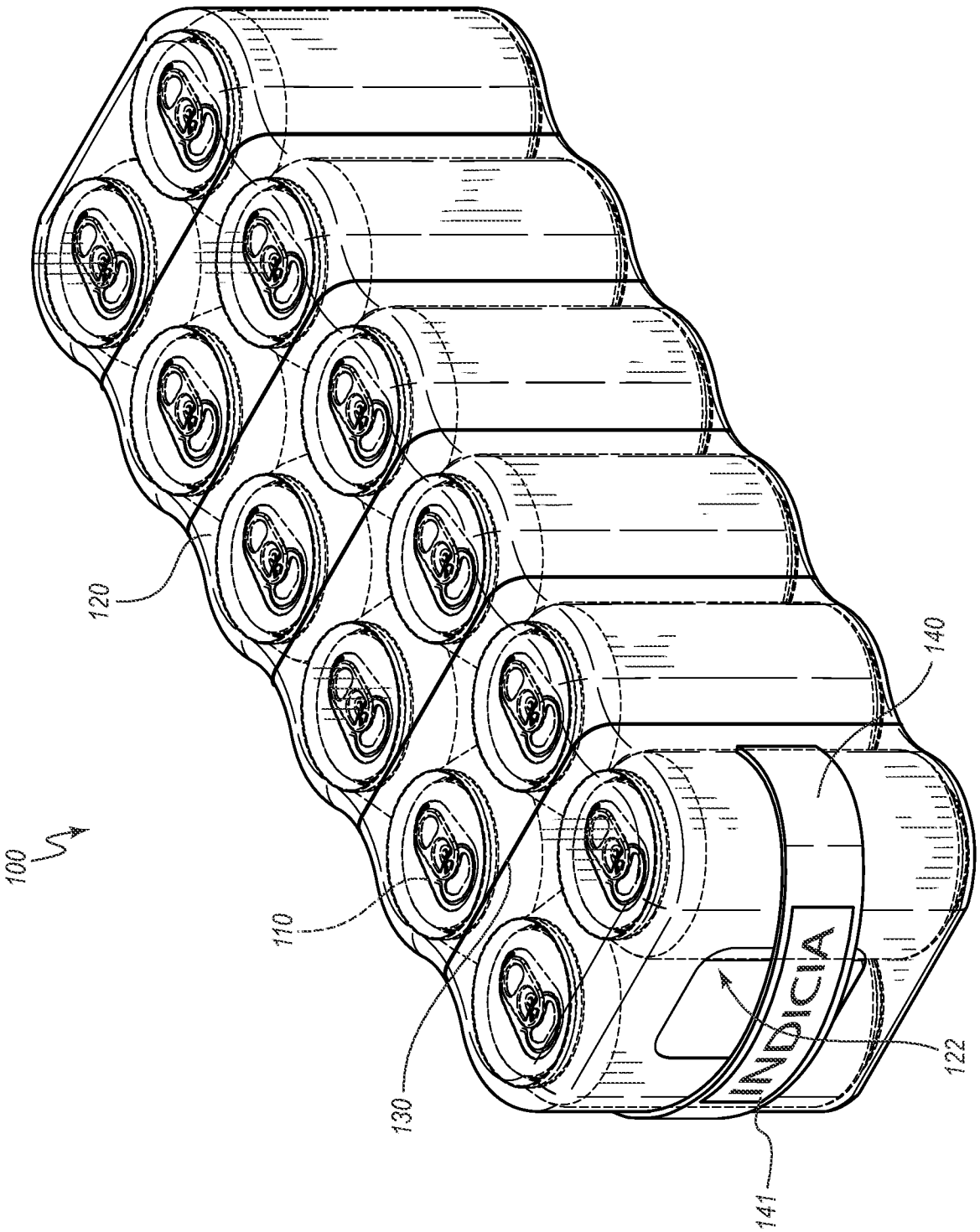


FIG. 2

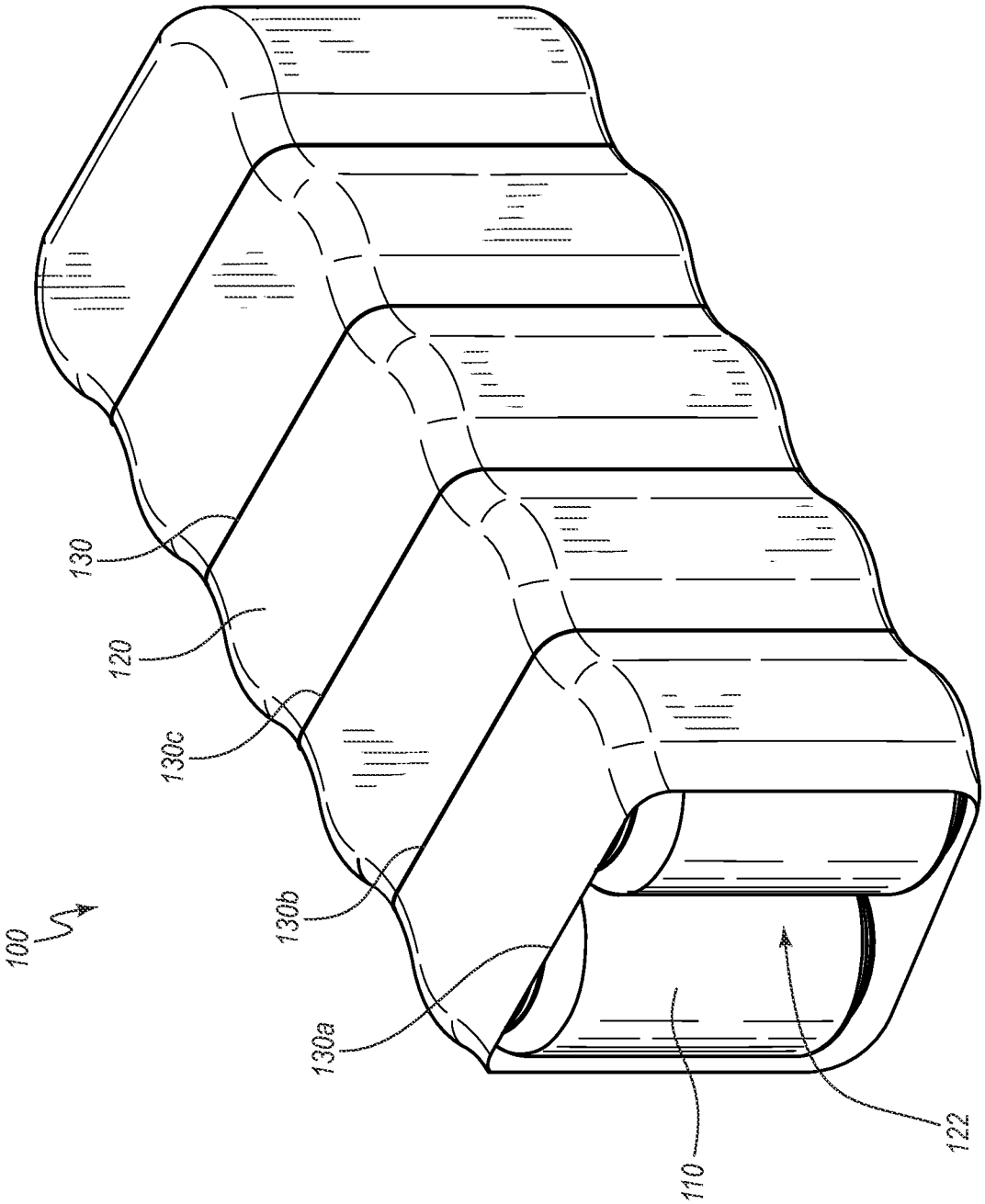


FIG. 3

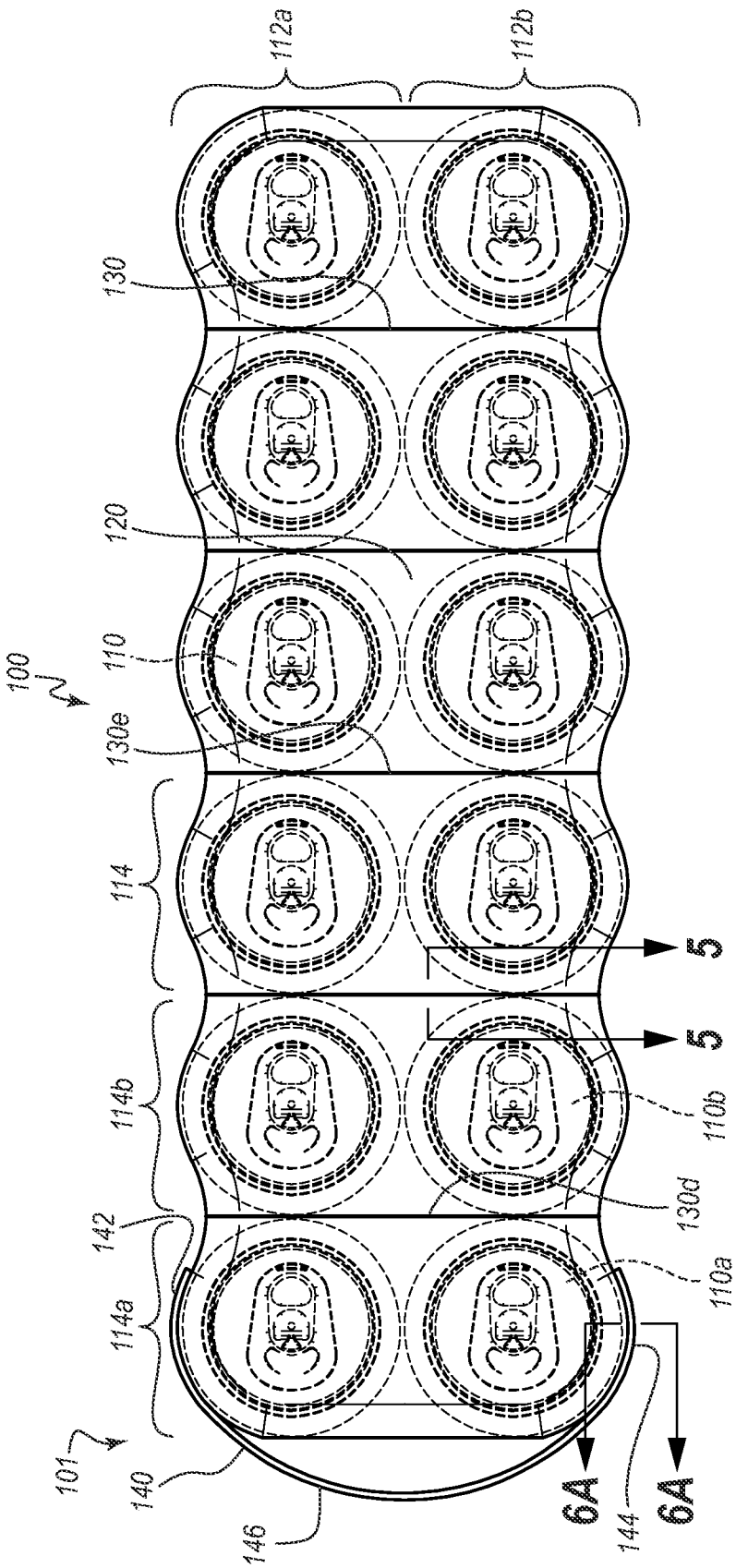

112a
112b
130
120
110
100
130e
114
5
5
114b
110b
130d
142
110a
114a
101
140
146
144
6A
6A

FIG. 4

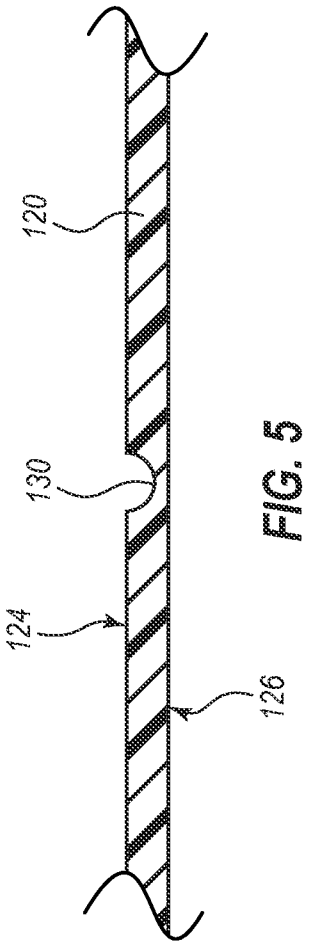

120
130
124
126

FIG. 5

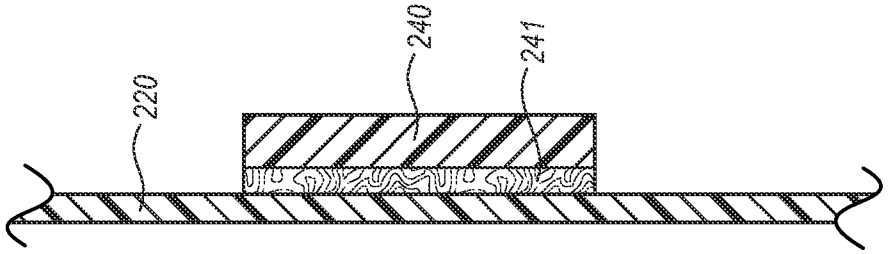


FIG. 6B

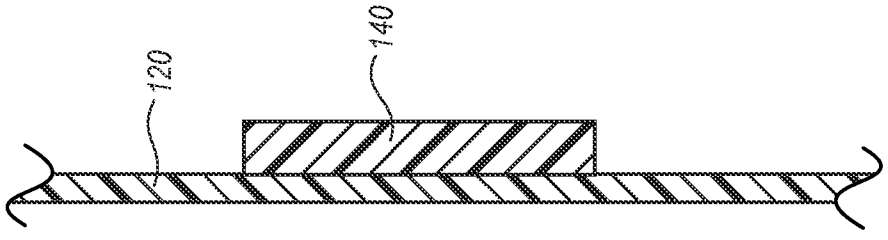


FIG. 6A

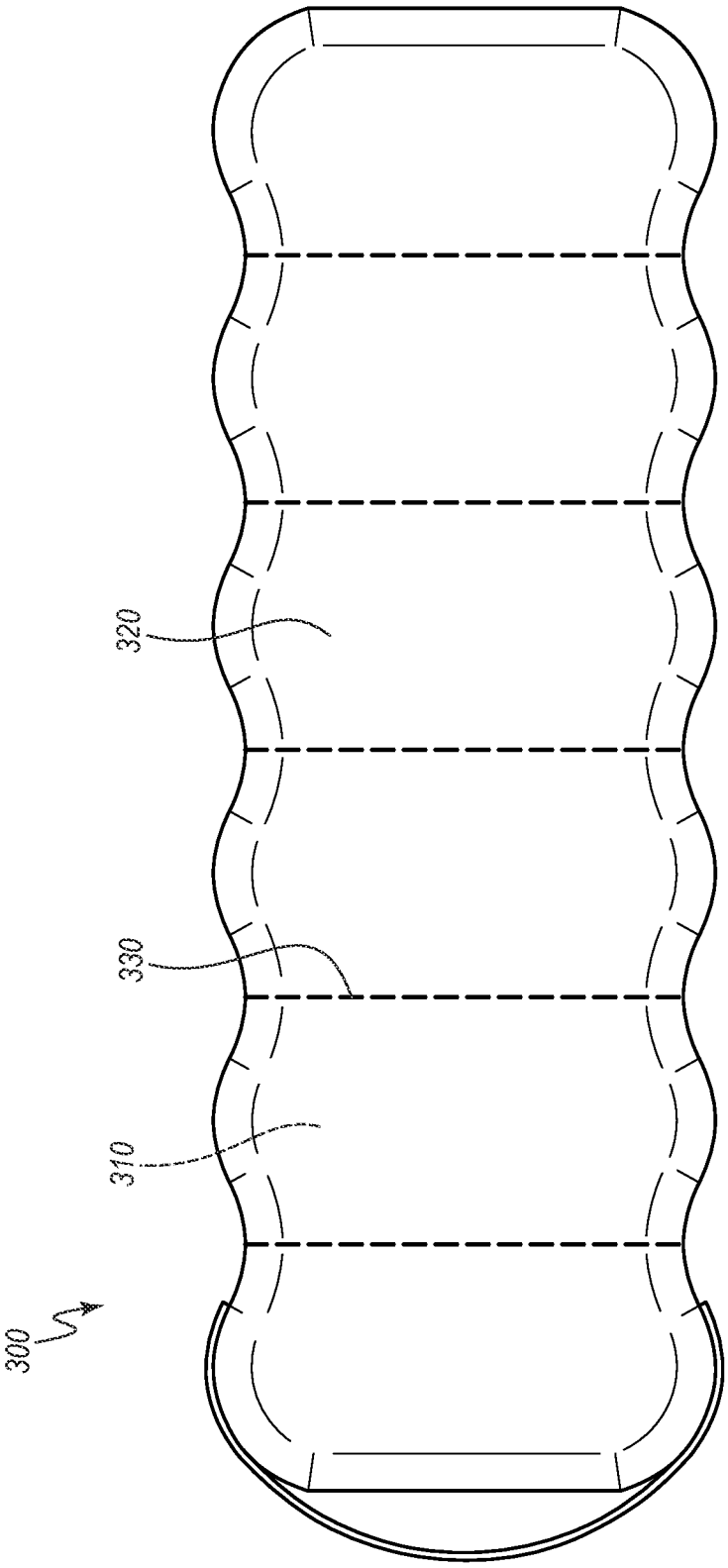


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 15/16833

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - B65D 71/06 (2015.01)
CPC - B65D 2571/00864
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)
IPC(8): B65D 71/06 (2015.01)
CPC: B65D 2571/00864

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IPC(8): B65D 71/08, B65D 65/00, B65D 71/34, B65D 75/66, B65D 75/62, B65D 75/60 (2015.01) CPC: B65D 71/06, B65D 71/063, B65D 71/08, B65D 75/66, B65D 75/58, B65D 75/68, B65D 2571/00012, B65D 2571/00018, B65D 2571/00024, B65D 75/527

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase; ProQuest Dialog; Google Patents; Google Web; Google Scholar
Search Terms: tearstrip%, perforation%, line%, weakness, film%, wrap%, laser, scor%, creas%, perf%, series, perforat%, continuous, tear, polymeric, polymer, thermoplastic, shrink%, rows, columns, handle, indicia, indicium, markings, print, advertisement%, text, image%

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	GB 2303114 A (Robinson). 12 February 1997 (12.02.1997). Figs. 1, 4-5; p 3, ln 3-4; p 4, ln 1-6.	1, 4, 6 ---------- 2-3, 5, 7-11
X --- Y	US 6,105,776 A (Meilhon). 22 August 2000 (22.08.2000). Fig. 1; col 3, ln 2-6, 8-10, 17-21, 32-37.	12, 15, 17, 20 ---------- 13-14, 16, 18-19
Y	US 2012/0288660 A1 (Maseiker et al.). 15 November 2012 (15.11.2012). Fig. 1; para [0025]).	2, 13, 16
Y	US 4,166,532 A (Tsuchida et al.). 04 September 1979 (04.09.1979). Fig. 2; col 2, ln 34-39; col 3, ln 5-15	3, 5, 7-11, 14, 18-19

☐ Further documents are listed in the continuation of Box C. ☐

* 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
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"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
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
24 April 2015 (24.04.2015)	20 MAY 2015
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (January 2015)