



(22) Date de dépôt/Filing Date: 2005/11/18

(41) Mise à la disp. pub./Open to Public Insp.: 2007/05/18

(51) Cl.Int./Int.Cl. *B65D 5/18* (2006.01),
B65D 5/52 (2006.01)

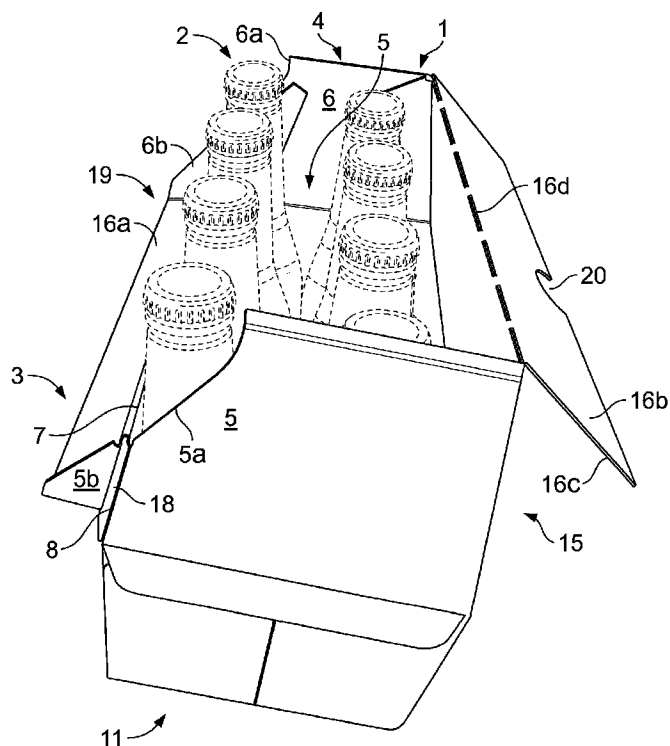
(71) Demandeur/Applicant:
INBEV S.A., BE

(72) Inventeur/Inventor:
REBOURS, CHRISTOPHE, FR

(74) Agent: KERR, JAMES W.

(54) Titre : CARTON ASSURANT L'ACCES AUX CONTENUS ET LEUR PRESENTATION

(54) Title: A CARTON PROVIDING ACCESS/DISPLAY OF CONTENTS



(57) **Abrégé/Abstract:**

Cartons, and carton blanks suitable for forming same, are provided for enclosing primary packaging containers. The cartons in question include a panel wall portion that is adapted to support the carton with a carton-opening angled upwardly to facilitate display and/or extraction of primary packages from the carton's interior. In a preferred embodiment, the panel wall portion comprises adjacent sections of side, top and end wall panels, wherein the three dimensional arrangement of the adjacent sections of side, top and end wall panels combine to form a rigid three dimensional girder structure.

ABSTRACT

Cartons, and carton blanks suitable for forming same, are provided for enclosing primary packaging containers. The cartons in question include a panel wall portion that is adapted to support the carton with a carton-opening angled upwardly to facilitate display and/or extraction of primary packages from the carton's interior. In a preferred embodiment, the panel wall portion comprises adjacent sections of side, top and end wall panels, wherein the three dimensional arrangement of the adjacent sections of side, top and end wall panels combine to form a rigid three dimensional girder structure.

A CARTON PROVIDING ACCESS/DISPLAY OF CONTENTS

Field of the Invention

The present invention relates to cartons adapted to facilitate display and extraction of their contents, and in particular, cartons that are adapted to facilitate the display and dispense of primary packing containers, (e.g. for beer or soft drinks), from constrained spaces, such as domestic refrigerators.

Background of the Invention

The beverage industry, particularly the brewing industry, is faced with a number of limitations that impact the shipping, distribution, and handling of its products. These constraints affect both the commercial and consumer levels of product handling and storage.

The comestible products industry generally utilizes two types of packaging known as "primary" and "secondary" packaging. Primary packaging is used for individual products, whereas secondary packaging holds the primary packages for commercial handling and distribution.

The comestible products industry takes into account numerous considerations when designing packaging, such as quality, structural integrity, optimum size, and the like. For example, an optimum size for individual servings may be governed by law. The geometric shape of the primary packaging is designed to enclose a required volume while taking into consideration the convenience of storing and dispensing the primary packaged goods at the consumer level. Structural considerations arise in connection with the container's ability to withstand

compressive forces that may be occasioned when a plurality of secondary packages are stacked during commercial handling. Further, the design must give due regard to the orientation of the primary packaging during commercial handling and the amount of air space in the primary packaging. In the beverage industry, specifically the brewing industry, where primary packages are typically cylindrical, it is desirable that a minimum amount of beverage surface be exposed to the air space when the can or the like is stored, shipped, etc. The exposure to air space can be minimized when the container is maintained in an upright position. Thus, quality preservation may dictate that the primary packaging be arranged in the secondary packaging in an upright orientation.

When dispensing primary packaged products from the secondary packaging at the consumer level, the upright orientation of the primary package is not always desirable. An upright container may not present sufficient surface area to be firmly grasped. In addition, storage space in a household refrigerator is not always ideally suited to having a can or bottle in an upright posture. It can be undesirable for the consumer to have to rearrange the refrigerator shelving to accommodate the presence of the product in its secondary packaging. In many cases, the primary packaging is simply removed from the secondary packaging. The secondary packaging is then discarded or stored elsewhere for later use, such as a container for returning empty primary packaging for recycling. These practices are inconvenient for the consumer, and there is interest in finding alternate methods of dispensing primary packaged products from associated secondary packaging. A number of attempts to solve this problem appear in the patent literature.

Canadian Patent Number 988,477 relates to a secondary packaging carton that utilizes a tear-

away flap to open the carton. The flap can be torn away to expose the contents of the carton, which are cans oriented in an upright posture. A significant amount of vertical storage space is required if this arrangement is to be successfully used in a domestic **refrigerator**.

Other solutions have been advanced in the attempt to overcome the shortcomings that are attributable to the above-mentioned tear-away flap system. Examples include the packaging disclosed in Canadian Patent Numbers 1,006,852 and 1,182,792. In both of these patents, secondary packaging or cartons hold the primary packaging or "cans" serially. The cans are removable from a chute formed in a base portion of the associated *carton*. These cartons do not permit the consumer to see readily the number of cans remaining inside the *carton*. Moreover, while this design can handle a relatively small number of cans with relative ease, large numbers of cans present difficulties associated with vertical storage space.

U.S. Pat. No. 2,791,362 discloses a container for a plurality of fragile articles. The container has a one-piece partition member. The container and the partition member are adapted to divide easily in half along pre-scored lines. This construction prevents the partition member from being pulled from the half container when used as a carrying handle.

U.S. Pat. No. 2,983,362 discloses a container adapted to enclose a desired number of articles. The container is broken or split longitudinally to expose the ends of the articles in the container. The articles are rendered accessible for convenient removal from the container and easily reinserted for storage or subsequent disposal.

U.S. Pat. No. 3,018,919 discloses a can carrier designed to hold a plurality of cans evenly divided in two sets or rows. The carrier is constructed so as to be readily separable into two holders with each holder containing half of the cans. The device also has a handle that is also separable into two parts. This structure provides each of the two halves of the carrier, when separated, with its own handle.

U.S. Pat. No. 3,677,458 discloses an end-loading, twin *carton* that is separable into two cartons. The twin *carton* has folded handles usable with the twin *carton* and also with the separated cartons. A blank for the *carton* is also disclosed.

U.S. Pat. No. 4,256,223 discloses a *display carton* having two compartments that are movable between a carrying and a *display* configuration. A *display* panel with a *display* window opening therein is provided on each of the compartments. The *display* panels are exposed for viewing when the *carton* is in its *display* configuration but not when it is in its carrying configuration.

U.S. Pat. No. 4,471,870 discloses a package comprising a rigid tray member having an upstanding peripherally located rim portion. A plurality of discrete container assemblies are within the rigid tray member. Each container assembly has a plurality of individual containers in a regular geometric array interconnected by a unitary thermoplastic carrier means. A cover shroud overlays the tray and is secured to the tray rim to complete the package.

U.S. Pat. Nos. 5,249,738 and 5,299,733 both disclose a package formed from a one-piece wrapper. The one-piece wrapper is typically made of carrier board. The carrier board is folded

around twenty-four cans or bottles including a top and bottom of the package. The package has cuts or perforations that partially separate the package into two twelve-packs. Each side of the package has at least one tear-strip aligned with the cuts or perforations that complete the separation to form two twelve-packs. The top of the package has a second pair of tear-strips that allows the two twelve-packs to be separated into four six-packs. The wrapper can be folded in such a manner that the two six-packs of each of the two twelve-packs are separated by an individual divider in the wrapper. This divider has a perforated top end that is aligned with the tear-strips. The two sides of the divider are held together by an adhesive. The adhesive allows the six-packs to be separated. The combination of the tear-strips and the adhesive holds the container together in a package of twenty-four cans or bottles that can be divided into two twelve-packs or four six-packs.

There remains a need in the *beverage* packaging industry for a primary and secondary packaging system that facilitates shipping in a secondary package and dispensing of a plurality of primary packages contained therein for the consumer.

Summary of the Invention

In accordance with one aspect of the present invention, there is provided a carton that is adapted to contain at least one primary packaging container, and more typically a plurality thereof, as for example in the instance of beer beverage multi-pack cartons in which an array of beer packaged in primary containers are arranged.

Packaging of this type may contain bottles or cans. Moreover the cartons are preferably useful not only in connection with conveying the products to the consumer, but also facilitating their display in, by way of example, in a consumer's refrigerator.

Moreover, and in some especially desirable embodiments, the carton is also adapted to provide for the collection and disposal of used packaging. In particularly preferred embodiments, the carton can provide for the return of the emptied primary packaging to some recycling or refund center. This is especially useful in returnable beverage (e.g. beer) markets - and particularly so in relation to reusable primary packaging such as beer bottles that are designed with this environmental economy in mind.

Cartons according to the present invention comprise a panel wall portion that is adapted to engage the carton in carton-supporting relation. More precisely, the carton is supported by the panel wall portion such that an opening into said carton interior angled upwardly to facilitate display and/or extraction of primary packaging contained therein.

In a particular embodiment according to the present invention the above mentioned panel wall portion is adapted to be partially broken away from one or more adjacent panel walls, and to be pivoted in hinged relation around a hinge line extending along a remaining attachment between the panel wall portion and a conjoined edge of a panel which comprises part of the balance of the carton. In this embodiment, the panel wall portion can then be positioned by rotation about its hinge, to support the carton from below, and preferable to support it in inclined relation to a shelf, table or other underlying surface.

The present invention also includes carton blanks that are adapted to be erected as the above described cartons.

Introduction to the Drawings

Appended hereto are drawings of a preferred embodiment according to the present invention, in which:

Figure 1 is a end-on perspective view of a open, erected carton according to a preferred aspect of the present invention;

Figure 2 is side-on perspective view of the closed, erected carton depicted in Figure 1;

Figure 3 is a top plan view of a carton blank of a preferred aspect of the present invention, prior to its being erected to form the cartons illustrated in Figures 1 and 2;

Figure 4 is a perspective view illustrating a first step in the opening of the carton shown in Figure 2;

Figure 5 depicts a second step in the opening of the carton shown in Figure 2;

Figure 6 depicts a third step in the opening of the carton shown in Figure 2;

Figure 7 depicts a fourth step in the opening of the carton shown in Figure 2; and,

Figure 8 shows the fully opened carton, laying on its supporting feature with the contents thereof displayed within the carton's interior.

Detailed Description of the Invention

In accordance with the presently preferred form of the present invention and referring to Figures 1, 2 and 4 through 8 in general, there is depicted carton 1, as being adapted to contain at

least one primary packaging container, (exemplified by container 2, in this case a bottle, with other portions of seven additional bottles also being represented therein, in phantom), and comprising a panel wall portion 3 that is adapted to engage the carton 1 in carton-supporting relation whereby said carton 1 is thereby supported with an opening 4 into said carton interior 5 angled upwardly to facilitate display and/or extraction of primary packaging contained therein.

The panel wall portion 3 is adapted to be partially broken away from one or more adjacent panel walls (see adjacent panel walls 5 and 6 for example, broken away along respective edges 5a and 6a), and to be pivoted in hinged relation around a hinge line 7 extending along a remaining attachment between said panel wall portion 3 and a conjoined edge 8 of a panel 18 which comprises part of the balance of said carton 3.

Carton 1 comprises four side walls (10, 11, 12, 13), in a regular rectangular arrangement about a carton base 14, with those side walls supporting an upper part 15 of said carton 3 having a gabled arrangement and comprised of a mutually spaced apart complementary pair of gabled upper end walls (5 and 6), a top wall 16, and a complementary pair of mutually spaced apart upper side walls 17 and 18, that are inclined inwardly towards said top wall 16.

The panel wall portion 3 comprises adjacent sections 18a, 5b, 6b, and 16a, of side, top and end wall panels 18, 5, 6 and 16 respectively. The adjacent sections of side, top and end wall panels thereof form a rigid three dimensional girder structure 19, (which as illustrated in the preferred embodiment, is a composite of the 18a and 16a wall sections fixed in angled relation relative to one another, by wall sections 5a and 6a acting as structural fillets there-between.

Referring now more particularly to Figure 3, there is shown a carton blank according to one aspect of the present invention, in which the blank is adapted to be assembled into a carton as illustrated in Figures 1, 2, and 4 through 8 of the drawings appended hereto.

The blank comprises a bottom panel 14, is indicated by that reference numeral at both the top and bottom of Figure 3 of the drawings - which serves to point out the two part construction of the overall panel, from panels 14a and 14b being arranged in overlapping mutually affixed relation in the erected carton.

Similar two part constructions are associated with panels 11 and 13 in the erected cartons as illustrated in the figures depicting same. In the case of panel 11, it is formed by a flap 11a that is connected along one edge of panel 14a, and another flap, 11b, that is connected along one edge of panel 14b. Here again, with the carton in its erected form the flaps 11a and 11b are arranged in fixed overlapping relation relative to one another and in that combination for panel 11. The same construction applies to panel 13, as a composite of flaps 13a and 13b.

Glue flaps 10a and 10b extending along associated fold lines from panel 10; 18c, 18d, 18e and 18f extending from panel 18; 17a and 17b from panel 17 and 12a and 12b from panel 12 - all serve to provide overlapping areas with adjacent surfaces in the erected carton, that as the name would suggest, supports a glued connection therewith.

Glue flaps pairs, (18c, 18d and 18e,18f) are defined by a tear line there between, extending in each case from a stress relief perforation (see reference numerals 21 and 22 respectively), to a free edge of the flaps. This helps to facilitate the tearing away of the mutually secured panel portions during the pivoting of the girder arrangement 19, when the carton is being deployed to display the contents it encloses. For example, portion 6b overlays flap 18f, and 5b overlays 18d. Also note that the stress relief perforations 21 and 22 serve in some degree, to avoid tearing of the carton material beyond the intended hinge line 8.

The operation of the carton, once erected from the blank as described above, is illustrated sequentially in Figures 4 through 8. As a first step shown in Figure 4, a partial opening is formed by depressing a tear away tab 20 formed in part by lines of weakness in the carton material of panel 16. The resulting opening permits the user to pull against an edge portion of panel 16a, resulting in its being torn free of the balance of panel 16 along lines of weakness that define the interface between same. Extensions of those lines of weakness across panels 5 and 6, also define panels 5b and 6b - which similarly tear away so that panel 18b becomes free to rotate along hinge line 8, relative to the balance of panel 18.

As shown in Figure 6, the hinged girder structure can be rotated so that panel 18a folds back against panel 18, and panel 16a, braced along opposite ends thereof by panels 5b and 6b, extend outwardly beyond the cartons exterior.

As depicted in Figure 7, a further portion, (16b) of panel 16, can be similarly torn away along lines of weakness 16c and 16d, and either pulled back in hinged relation around hinge line

16d, or alternatively removed entirely if hinge line 16d is constructed to facilitate such tearing away. Note that a deck portion 23 of panel 16 preferably remains in place, to provide hoop strength in support of the opening into the carton's interior.

Lastly, as indicated in Figure 8, the carton is arranged to lay with flap 16a against a supporting surface (not shown) of for example a refrigerator appliance shelf, with the opening into the carton interior arranged generally at an upwardly presenting angle (i.e. with the edge extending from the corner 24 also laying on that shelf. In this way, the containers (e.g. see reference numeral 2), are displayed more visibly than if no angled support were to be provided for the carton.

10. The carton blank according to claim 9, wherein said panel wall portion wherein the three dimensional arrangement of the adjacent sections of side, top and end wall panels there of form a rigid three dimensional girder structure.

CLAIMS:

1. A carton adapted to contain at least one primary packaging container, and comprising a panel wall portion that is adapted to engage the carton in carton-supporting relation whereby said carton is thereby supported with an opening into said carton interior angled upwardly to facilitate display and/or extraction of primary packaging contained therein.
2. The carton according to claim 1, wherein the panel wall portion is adapted to be partially broken away from one or more adjacent panel walls, and to be pivoted in hinged relation around a hinge line extending along a remaining attachment between said panel wall portion and a conjoined edge of a panel which comprises part of the balance of said carton.
3. The carton according to claim 2, wherein said carton comprises four side walls in a regular rectangular arrangement about a carton base, with said side walls supporting an upper part of said carton having a gabled arrangement and comprised of a mutually spaced apart complementary pair of gabled upper end walls, a top wall, and a complementary pair of mutually spaced apart upper side walls that are inclined inwardly towards said top wall.
4. A carton according to claims 2 or 3, wherein said panel wall portion comprises adjacent sections of side, top and end wall panels.
5. The carton according to claim 4, wherein said panel wall portion wherein the three dimensional arrangement of the adjacent sections of side, top and end wall panels there of form a rigid three dimensional girder structure.

6. A carton blank adapted to be erected as a carton for containing at least one primary packaging container, and comprising a panel wall portion that is adapted to engage the carton in carton-supporting relation whereby said carton is thereby supported with an opening into said carton interior angled upwardly to facilitate display and/or extraction of primary packaging contained therein.

7. The carton blank according to claim 6, wherein the panel wall portion is adapted to be partially broken away from one or more adjacent panel walls, and to be pivoted in hinged relation around a hinge line extending along a remaining attachment between said panel wall portion and a conjoined edge of a panel which comprises part of the balance of said carton.

8. The carton according to claim 7, wherein said carton comprises four side walls in a regular rectangular arrangement about a carton base, with said side walls supporting an upper part of said carton having a gabled arrangement and comprised of a mutually spaced apart complementary pair of gabled upper end walls, a top wall, and a complementary pair of mutually spaced apart upper side walls that are inclined inwardly towards said top wall.

9. A carton blank according to claims 7 or 8, wherein said panel wall portion comprises adjacent sections of side, top and end wall panels.

1/8

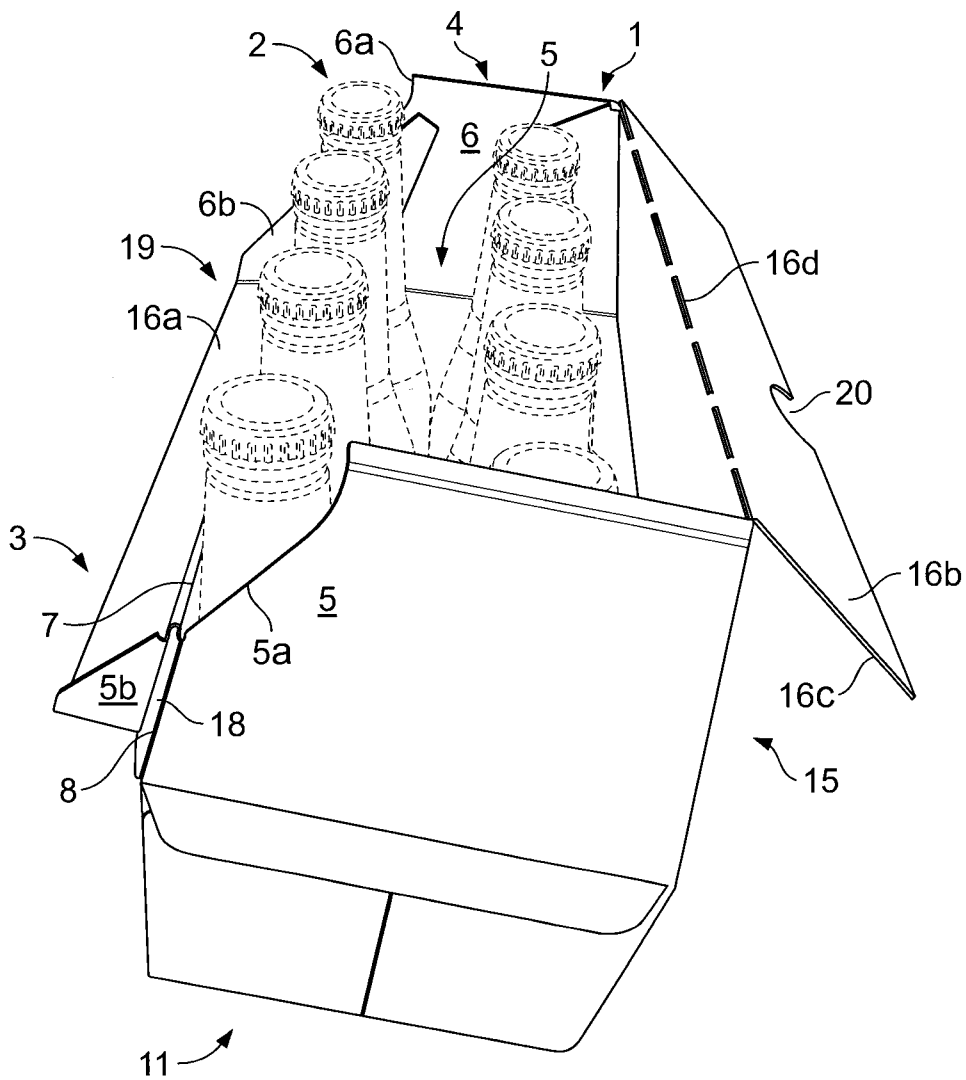


FIG. 1

2/8

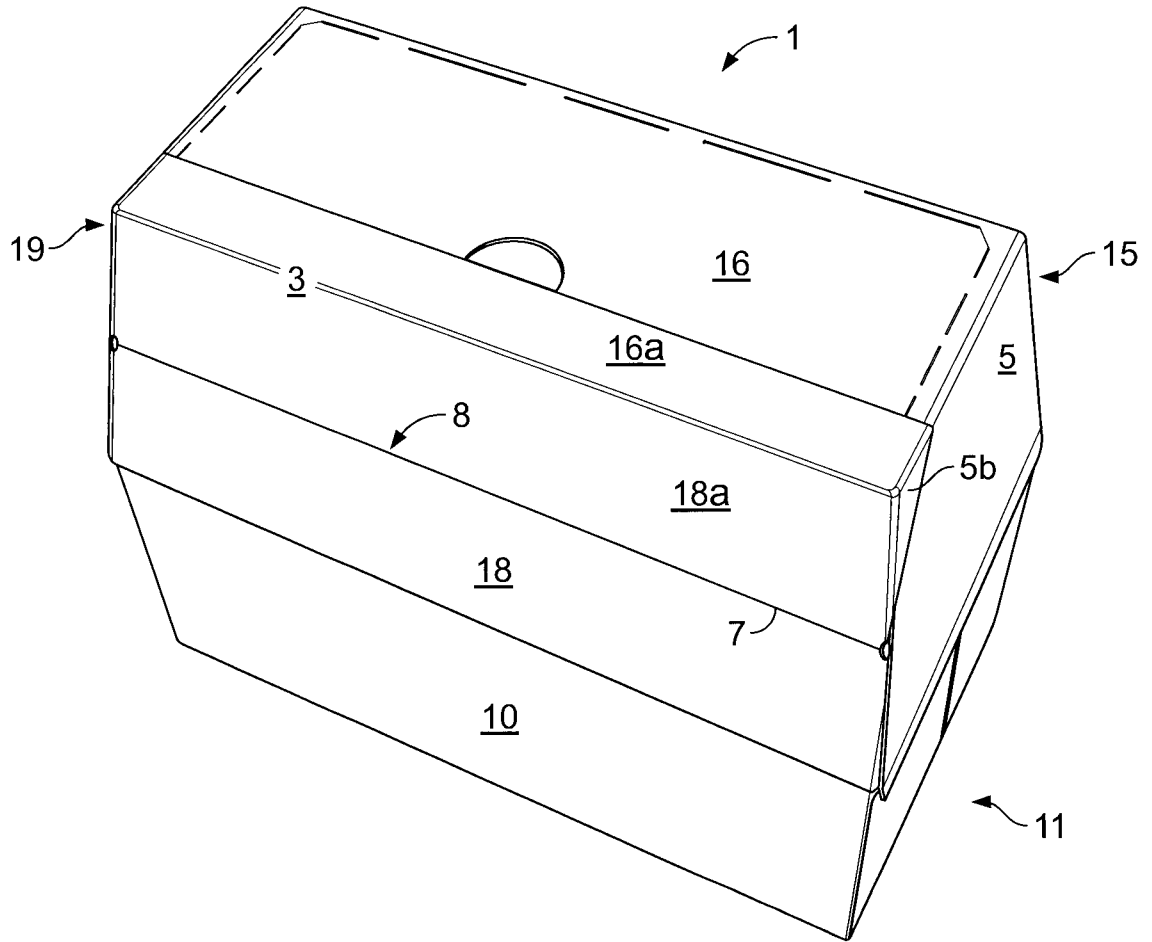


FIG. 2

3/8

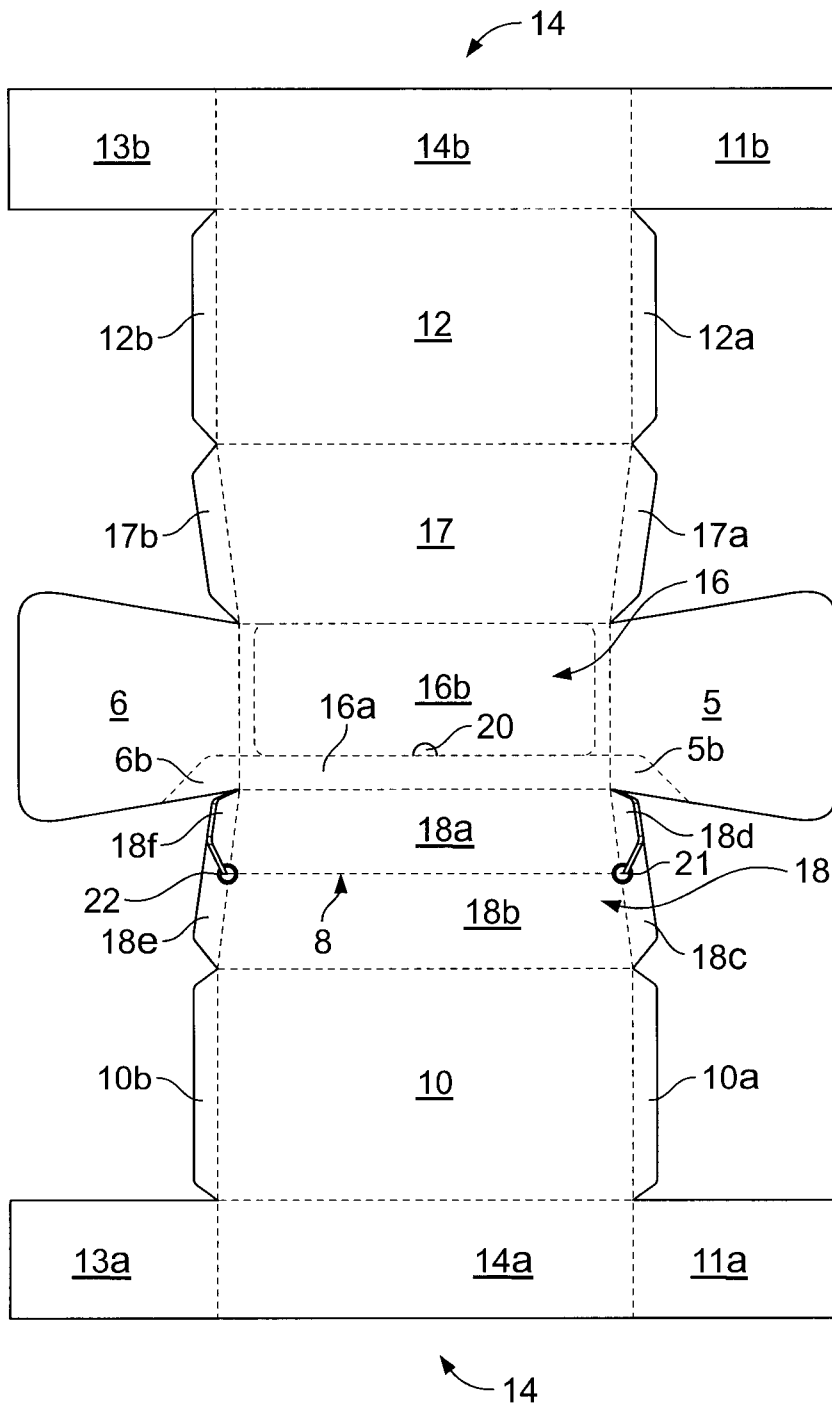


FIG. 3

4/8

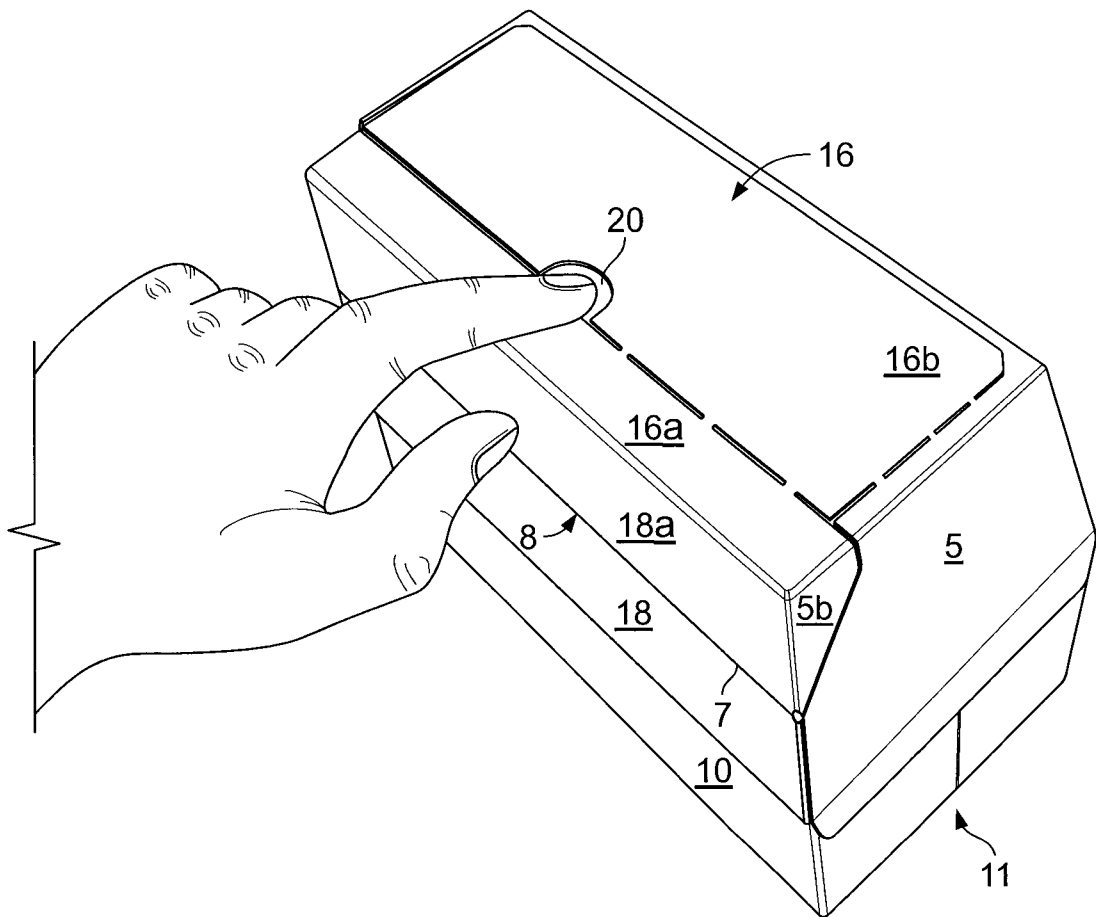


FIG. 4

5/8

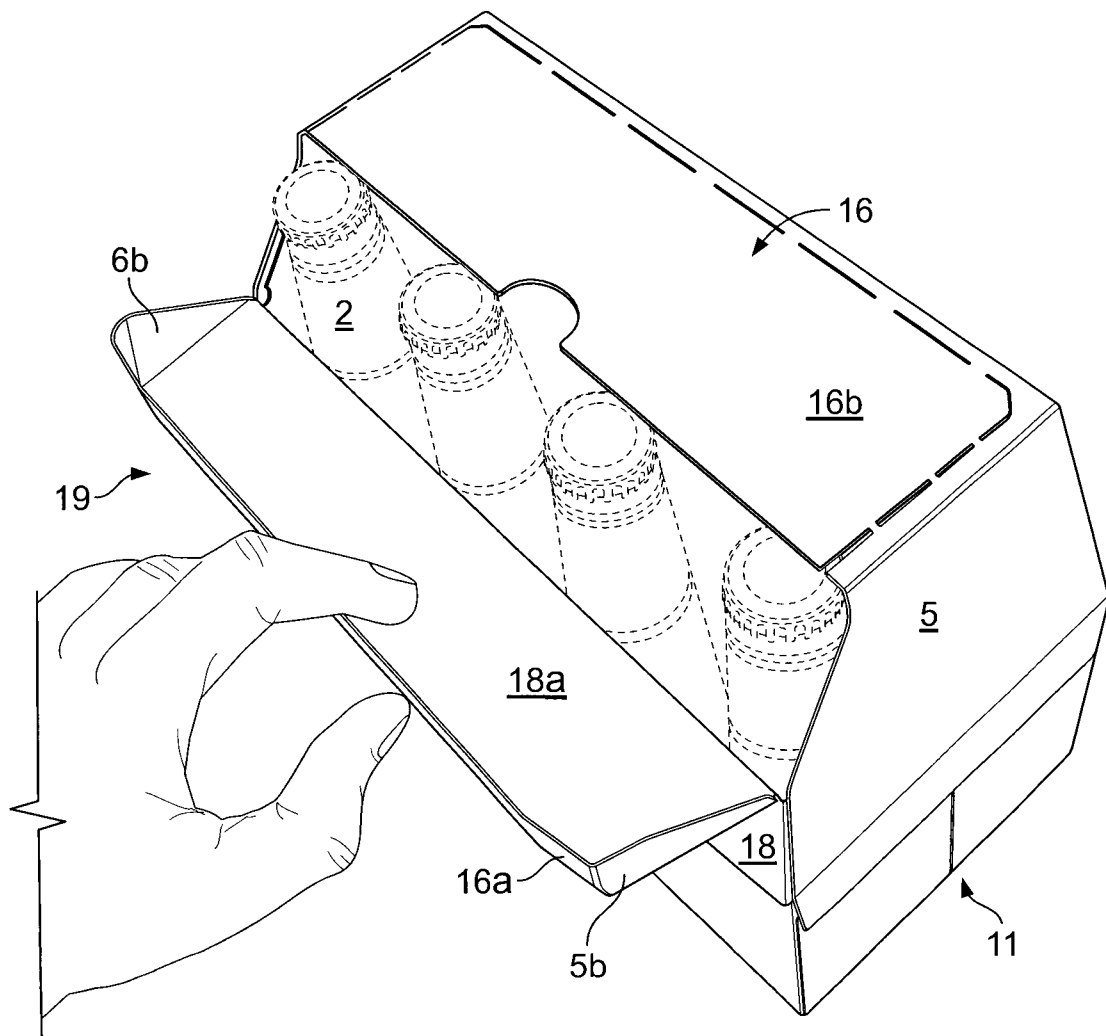


FIG. 5

6/8

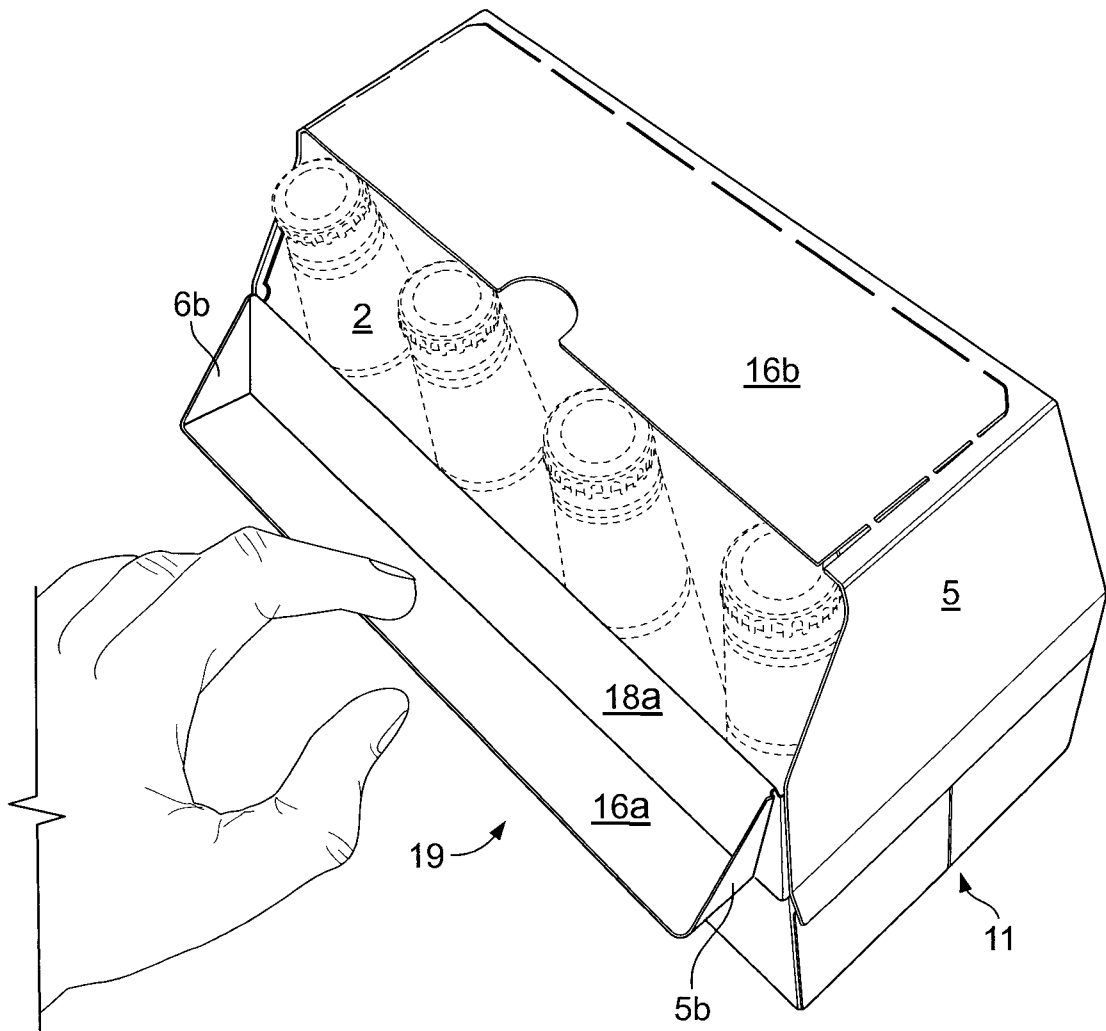


FIG. 6

7/8

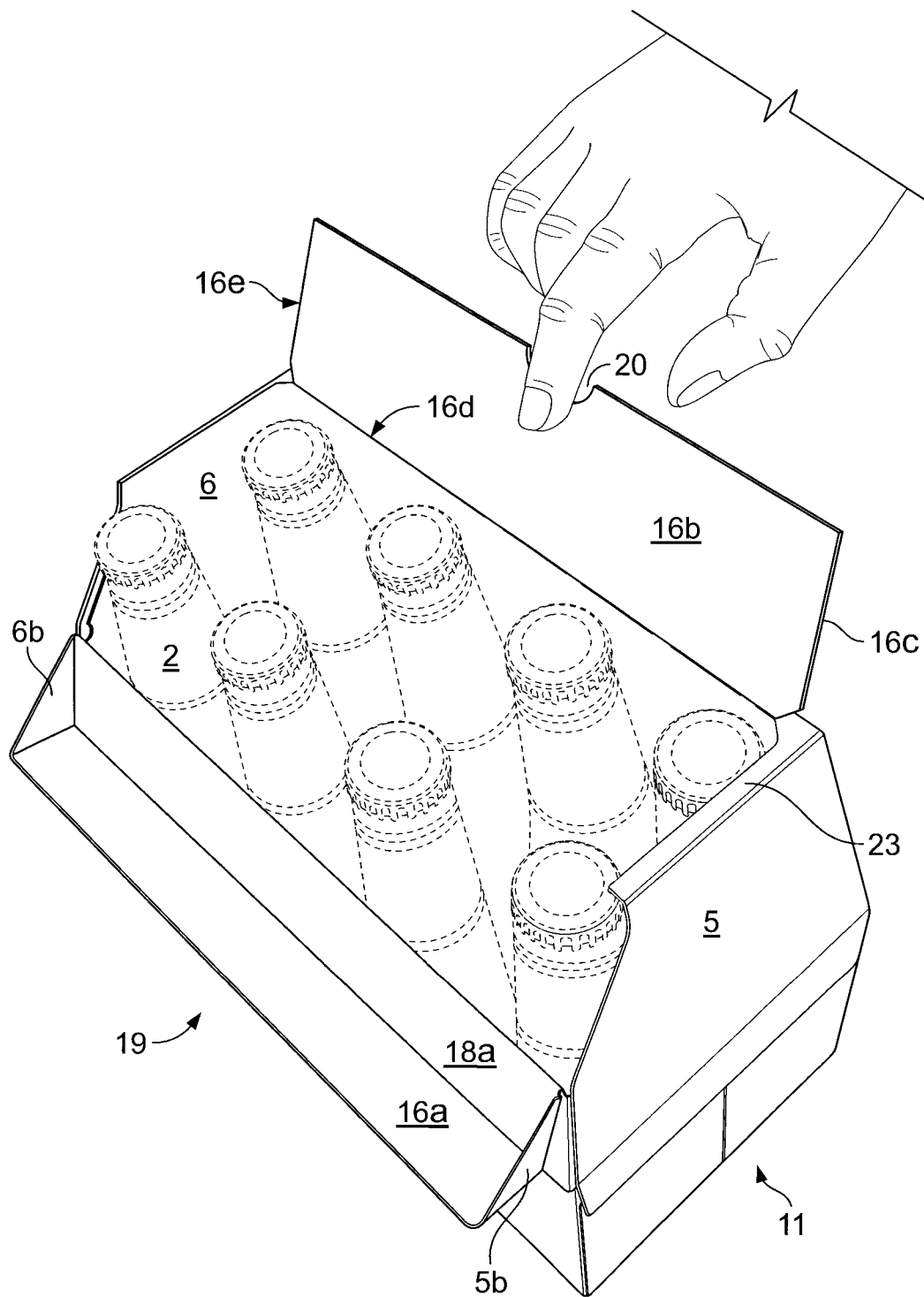


FIG. 7

8/8

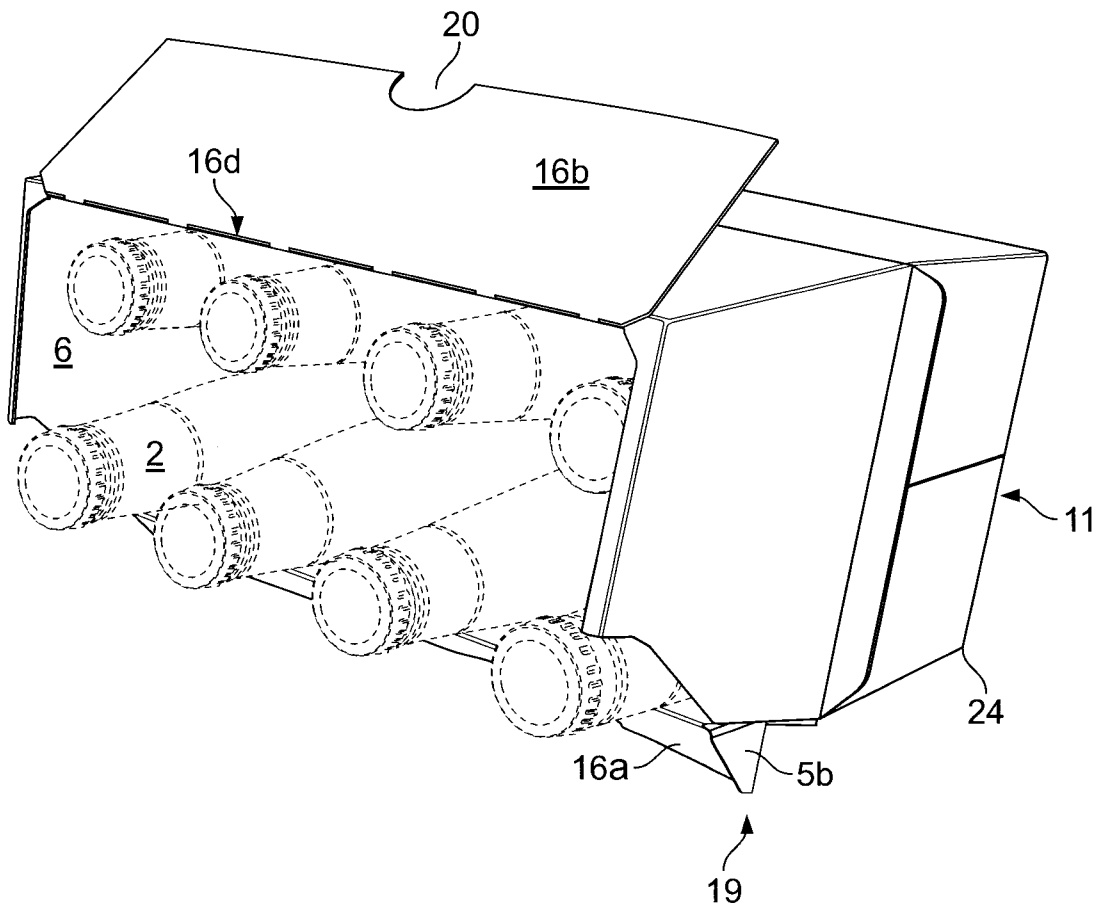


FIG. 8

