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(54) A CARTON PACKAGE

KARTONVERPACKUNG

EMBALLAGE EN CARTON

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EP 3 620 399 B1

Description

Technical Field

[0001] The present invention relates to a carton package for liquid consumables and a blank for a carton package.

Background

[0002] A wide variety of carton packages for liquid consumables are used today to suit a multitude of different products and needs. The configuration and shape of the carton package has impact on several aspects, such as ease of use, both in terms of the handling of the package itself, and how well the properties of the package, as well as the type of opening mechanisms, harmonize with the characteristics of different filling products. For example, a highly viscous filling product may be more difficult to extract from the package, and typically requiring more manipulation of the package to extract the final remains therefrom. A larger opening may facilitate such extraction but may at the same time reduce the degree of control when pouring the contents from the opening. The latter may be particularly disadvantageous in cases the same packaging container is utilized for less viscous products, e.g. for cost saving reasons. It may also be particularly cumbersome for people with motor skill injuries or other disabilities that make it difficult to extract the product effectively. Thus, a tradeoff is typically necessary to find a compromise between ease of handling of the package and its mechanical properties, leading to a sub-optimal overall performance for certain product categories

[0003] A carton package having the features recited in the preamble of claim 1 is illustrated in document EP1332969A1.

[0004] It is an object of the invention to at least partly overcome one or more limitations of the prior art. In particular, it is an object to provide a carton package allowing for facilitated extraction of the filling product during use.

[0005] In a first aspect of the invention, this is achieved by a carton package for liquid consumables comprising a top panel, a bottom panel, a body extending between the top panel and the bottom panel. The body comprises a front panel, a back panel, a left panel, and a right panel, each of the front panel, back panel, left panel, and right panel extends from the bottom panel to the top panel, the front panel is connected to the top panel along a front-top edge, the left panel is connected to the top panel along a left-top edge. The front-top edge extends between the left panel and the right panel and has a center point. The left-top edge extends between the front panel and the back panel and has a center point. The carton package comprises an opening device arranged on the top panel, the opening device having a center point which has an off-set distance to a first line extending perpendicular to the front-top edge and through the center point thereof. The area of the top panel is larger than the area of the bottom panel.

[0006] Having an opening device with an off-center position on the top panel, while having an area of the top panel larger than the area of the bottom panel, facilitates extraction of the filling product, since a larger opening can be accommodated on the top panel area while the off-set position of the opening device improves the degree of control when pouring the filling product.

[0007] Further examples of the invention are defined in the dependent claims, wherein features for the first aspect may be implemented for the second aspect, and vice versa.

[0008] Still other objectives, features, aspects and advantages of the invention will appear from the following detailed description as well as from the drawings.

Brief Description of the Drawings

[0009] These and other aspects, features and advantages of which examples of the invention are capable of will be apparent and elucidated from the following description of examples of the present invention, reference being made to the accompanying drawings, in which;

Fig. 1 is a schematic illustration, in a perspective view, of a carton package according to examples of the disclosure;
Fig. 2 is a schematic side view illustration of a carton package according to examples of the disclosure;
Fig. 3 is a schematic front view illustration of a carton package according to examples of the disclosure;
Fig. 4 is a schematic top view illustration of a carton package according to examples of the disclosure;
Figs. 5a-f are schematic top view illustrations of a carton package according to examples of the disclosure;
Fig. 6 is a schematic back view illustration of a carton package according to examples of the disclosure;
Fig. 7a is a schematic illustration of a carton blank for a carton package according to examples of the disclosure;
Fig. 7b is a schematic illustration of a top panel section of a carton blank for a carton package according to examples of the disclosure;
Figs. 8a-f are schematic top view illustrations of top panel sections of a carton blank for a carton package according to examples of the disclosure;
Fig. 9 is a schematic illustration, in a perspective view, of a carton package according to examples of the disclosure; and
Fig. 10 is a schematic illustration of a carton blank for a carton package according to examples of the disclosure.

Detailed Description

[0010] Specific examples of the invention will now be described with reference to the accompanying drawings.

This invention may, however, be embodied in many different forms and should not be construed as limited to the examples set forth herein; rather, these examples are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. The terminology used in the detailed description of the examples illustrated in the accompanying drawings is not intended to be limiting of the invention. In the drawings, like numbers refer to like elements Only figures 5e and 8e illustrate examples in accordance with claim 1 for the position of the opening area in the top panel. The other figures disclose examples for (known) alternative positions of the opening area in the top panel which are not covered by claim 1.

[0011] Fig. 1 is a schematic illustration of a carton package 100 for liquid consumables comprising a top panel (T), a bottom panel (B), and a body 101 extending between the top panel (T) and the bottom panel (B). The body 101 comprises a front panel (FP), a back panel (BP), a left panel (LP), and a right panel (RP). The left panel (LP) is indicated in the front view of Fig. 3. Each of the front panel (FP), back panel (BP), left panel (LP), and right panel (RP) extends from the bottom panel (B) to the top panel (T). The front panel (FP) is connected to the top panel (TP) along a front-top edge (FTE). The left panel (LP) is connected to the top panel (TP) along a left-top edge (LTE). The right panel (RP) is connected to the top panel (TP) along a right-top edge (RTE). Turning to the example of Fig. 4, the front-top edge (FTE) extends between the left panel (LP) and the right panel (RP) and has a center point 102. The left-top edge (LTE) extends between the front panel (FP) and the back panel (BP) and has a center point 103. The carton package 100 comprises an opening device 108 being arranged on the top panel (T). The opening device 108 has a center point 109 which has an off-set distance 104 to a first line 105 extending perpendicular to the front-top edge (FTE) and through the center point 102 thereof, as illustrated in Fig. 4. The opening device 108 is thus positioned on the top panel (T) with an off-set distance 104 to the first center line 105. Figs. 5a-f show different examples of such off-set, which will be described in further detail below. Furthermore, the area of the top panel (T) is larger than the area of the bottom panel (B). Having an opening device 108 with an off-center position on the top panel (T), while having a top panel (T) with an area that is larger than the area of the bottom panel (B), provides for a facilitated extraction of the filling product since a larger opening can be accommodated on the top panel area while at the same time the off-set position of the opening device 108 improves the degree of control when pouring the filling product from the carton package 100. A synergy of advantageous properties is provided for a user perspective, who will be able to extract the contents from the carton package 100 more quickly without compromising the control while pouring the contents from the opening device 108. The off-set position of the opening device 108 relative to the first line 105 through the center point 102 of the front-top edge (FTE) allows for placing the opening device 108 closer to the left panel (LP). Thus, while intuitively gripping the carton package 100 from the side, by engaging the right panel (RP), the contents can be conveniently poured from the opposite side, i.e. from the opening device 108 being positioned close to the left panel (LP). The ease of handling while pouring the contents from the carton package 100 is thus improved. Gripping the carton package 100 form the right side and subsequently pouring the contents from the carton package 100 by rotating the carton package 100 around first line 105 is advantageous compared to rotating the carton package 100 around the indicated second line 107 (Fig. 4). The latter rotation provides less stability during the pouring action. Hence, having an off-set distance 104 as specified above towards the left-top edge (LTE) and the right panel (RP) allows for pouring the contents from the opening 108 with a reduced risk of having the content to come into contact with the top panel (T). In other words, the off-set 104 reduces the distance between the opening device 108 and the left-top edge (LTE) and thereby the surface area of the top panel (T) between the opening device 108 and the left-top edge (LTE). The off-set distance 104 also reduces the angle by which the carton package 100 needs to be rotated around first line 105 in order to extract the last content remaining in the carton package 100. In other words, the carton package 100 must be rotated so that the content flows over the packaging material of the carton package 100 extending between the opening device 108 and the left-top edge (LTE). Thus, reducing the aforementioned distance will reduce the angle by which the carton package 100 needs to be rotated to empty the contents therefrom. Facilitated handling of the carton package 100 is thus provided.

[0012] The first line 105 may extend from the center point 102 to an opposite back-top edge (BTE) of the top panel (T) such that the first line 105 divides the total area of the top panel (T) in two portions, as illustrated in Fig. 5a. The opening device 108 covers an opening area (OA) of the top panel (T). The fraction of the opening area (OA) contained inside a first portion 111 of the two aforementioned portions may be in the range 60 - 100%. For example, if the opening device 108 were positioned centrally at the first line 105, without an off-set distance 104, half of the opening area (OA) would be contained inside the first portion 111. The opening device 108 may thus be off-set with respect to the first line 105 so that a larger fraction of the opening area (OA) is contained inside the first portion 111. The first portion 111 of the top panel (T) is delimited by the left-top edge (LTE), the first line 105, the front-top edge (FTE), and the back-top edge (BTE). Fig. 5a shows one example of a fraction of the opening area (OA) overlapping the first portion 111, and it should be understood that various fractions in the range 60 - 100% provides for the advantageous benefits as elucidated above, by facilitating pouring of the contents from the carton package 100. Fig. 4 and Fig. 5b shows examples where 100% of the opening area (OA) is contained

in the first portion 111. This may provide for a particularly facilitated pouring of the contents from the carton package 100, since the distance between the left-top edge (LTE) and the opening device 108 is reduced even further. The off-set distance 104, and the associated fraction of opening area (OA) overlapping with the first portion 111, may be varied to optimize the handling of the carton package 100 to various types of carton package designs and filling products.

[0013] The center point 109 of the opening device 108 may have an off-set distance 106 to a second line 107 extending perpendicular to the left-top edge (LTE) and through the center point 103 thereof, as illustrated in e. g. Fig. 4. The opening device 108 may thus be off-set also towards the front panel (FP) for further reducing the area of the top panel (T) extending between the opening device 108 and the left-top edge (LTE) and the front-top edge (FTE) of the top panel (T). This provides for further facilitating pouring the contents from the carton package 100 with a minimized risk of having content flowing onto the top panel (T), and a minimum of rotation of the carton package 100 around the first line 105 for emptying the last content remaining in the carton package 100. The user's control of the pouring is thus improved while at the same time the advantages of increasing the size of the opening device 108 can be utilized, i.e. for a faster extraction of the contents.

[0014] The second line 107 may extend from the center point 103 to the opposite right-top edge (RTE) of the top panel (T) such that the second line 107 divides the total area of the top panel (T) in two portions, as illustrated in Fig. 5c. The opening device 108 covers an opening area (OA) of the top panel (T). A fraction of the opening area (OA) contained inside a first portion (112) of the aforementioned two portions may be in the range 60 - 100%. The opening device 108 may thus be off-set with respect to the second line 107 so that a larger fraction of the opening area (OA) is contained inside the first portion 112. The first portion 112 of the top panel (T) is delimited by the left-top edge (LTE), the second line 107, the front-top edge (FTE), and the right-top edge (RTE). Fig. 5c shows one example of a fraction of the opening area (OA) overlapping the first portion 112, and it should be understood that various fractions in the range 60 - 100% provides for the advantageous benefits as elucidated above, by facilitating pouring of the contents from the carton package 100. Fig. 5d shows an example where 100% of the opening area (OA) is contained in the first portion 112. This may provide for a particularly facilitated pouring of the contents from the carton package 100, since the distance between the front-top edge (FTE) and the opening device 108 is reduced even further. The off-set distance 106, and the associated fraction of opening area (OA) overlapping with the first portion 112, may be varied to optimize the handling of the carton package 100 to various types of carton package designs and filling products.

[0015] The first line 105 and second line 107 may extend from the center point 102 and the center point 103, respectively, to intersect at a midpoint 110 of the top panel such that the first line 105 and the second line 107 divide the total area of the top panel (T) in four portions, as illustrated in Fig. 5e. The opening device 108 covers an opening area (OA) of the top panel (T). A fraction of the opening area (OA) contained inside a first portion 113 of the four portions may be in the range 60 - 100%. The opening device 108 may thus be off-set with respect to both the first line 105 and the second lines 107, so that a larger fraction of the opening area (OA) is contained inside the first portion 113. The first portion 113 of the top panel (T) is delimited by the left-top edge (LTE), the first line 105, the second line 107, and the front-top edge (FTE). Fig. 5e shows one example of a fraction of the opening area (OA) overlapping the first portion 113, and it should be understood that various fractions in the range 60 - 100% provides for the advantageous benefits as elucidated above, by facilitating pouring of the contents from the carton package 100. Fig. 5f shows an example where 100% of the opening area (OA) is contained in the first portion 113. This may provide for a particularly facilitated pouring of the contents from the carton package 100, since the distance between the front-top edge (FTE) and the opening device 108, as well as the distance between the left-top edge (LTE) and the opening device 108 is reduced even further. The off-set distance 104 and the off-set distance 106, and the associated fraction of opening area (OA) overlapping with the first portion 113, may be varied to optimize the handling of the carton package 100 to various types of carton package designs and filling products. It should be understood that the opening device 108 may be off-set into any of the aforementioned portions 111, 112, 113, by varying amounts while providing for the above-mentioned advantages. The top panel (T) may in some examples be slanted towards the front panel (FP), as illustrated in Fig. 2. In this case, the opening device 108 is advantageously arranged with an off-set 106 towards the front-top edge (FTE) so that a limited part or no part of the opening device 108 extends above the back-top edge (BTE) of the carton package 100, as schematically illustrated in Fig. 6. This reduces the risk of damaging the opening device 108 during e.g. stacking and transportation of the carton package 100.

[0016] Hence, a height (h_b) of the back panel (BP) from a back-bottom edge (BBE) to a back-top edge (BTE) may be larger than a height (h_f) of the front panel (FP) from a front-bottom edge (FBE) to the front-top edge (FTE), as illustrated in Fig. 2. Having a slanted top panel (T) provides also for an increased area of the top panel (T). The top panel (T) may thus accommodate a larger opening device 108 for a quicker extraction of the contents from the carton package 100, especially for highly viscous contents. It is conceivable however to provide an area of the top panel (T) which is larger than the area of the bottom panel (B) by other configurations, e.g. by having any of the panels (FP, BP, LP, RP) angled or curved. A slanted top panel (T) may however provide for a partic-

ularly stable carton package 100 while allowing an increase in the area of the top panel (T), as well as protection for the opening device 108.

[0017] The front-top edge (FTE) may be longer than the left-top edge (LTE), as illustrated in the example of Fig. 4. This provides for narrower right- and left panels (RP, LP) in relation to the front- and back panels (FP, BP), which in turn provides for narrow and intuitive gripping portions of the carton package 100 at which the user may place his or her hand when quickly engaging to grip the package 100. As described above, by engaging the right panel (RP) with a grip, having the opening device 108 off-set towards the opposite left panel (LP) allows for a facilitated pouring of the contents form the carton package 100.

[0018] The carton package 100 may comprise at least one rounded edge 114 extending between the top panel (T) and the bottom panel (B), as illustrated in the example of Fig. 9. The width of the rounded edge 114 may reach a maximum at a midpoint of the carton package 100, and then decrease gradually towards the top panel (T) and the bottom panel (B) as illustrated in Fig. 9. The rounded edge 114 provides for facilitating gripping of the carton package 100 and manipulation of the shape of the package 100, such as compressing the carton package 100. The rounded edge 114 may be provided at any of the edges of the carton package extending from the bottom panel (B) to the top panel (T). Fig. 10 illustrates an example of a carton blank 200 having a panel section 114' for providing such rounded edge 114 of the packaging container 100.

[0019] Fig. 7a is a schematic illustration of a carton blank 200 for a carton package 100. The carton blank 200 comprises a first longitudinal crease line 301 defining a front-left edge (FLE) and a left-top edge (LTE) of the carton package 100. A second longitudinal crease line 302 defines a front-right edge (FRE) and a right-top edge (RTE) of the carton package 100. The carton blank 200 comprises a front panel section (FP), a back panel section (BP), a left panel section (LP), and a right panel section (RP). The carton blank 200 further comprises a first transversal crease line 303 comprising a first section 303' defining a front-top edge (FTE), and second sections 303", 303"', at opposite ends of the first section 303', defining upper inclined side portions of the left panel section (LP) and right panel section (RP). The second sections 303", 303"', of the first transversal crease line 303 are angled with respect to the first section 303' thereof, as illustrated in Fig. 7a. The front panel section (FP) is connected to a top panel section (T_1) along the front-top edge (FTE).

[0020] Fig. 7b is a detailed view of the top panel section (T_1) of the carton blank 200. The front-top edge (FTE) extends between the first longitudinal crease line 301 and the second longitudinal crease line 302, and has a center point 102. The center point 102 is illustrated in Fig. 7b. The carton blank 200 comprises a removable opening portion 108' arranged on the top panel section (T_1). The removable opening portion 108' is intended to receive the opening device 108.The removable opening portion 108' has a center point 109' which has an off-set distance 104 to a first line 105 extending perpendicular to the front-top edge (FTE) and through the center point 102 thereof, as illustrated in Fig. 7b. Having the removable opening portion 108' arranged with an off-set distance 104 to the first line 105 through the center of the front-top edge (FTE) provides for forming a carton package 100 with the blank 200 having the advantageous benefits as described above with respect to the carton package 100 and Figs. 1 - 6. Having the second sections 303", 303'" of the first transversal crease line 303 angled with respect to the first section 303' thereof provides for a carton package 100 having an increased top panel area and the advantageous benefits in synergy with the off-set opening portion 108' as described above with respect to the carton package 100.

[0021] Figs. 8a-f show examples of the top panel section (T_1). The first line 105 may extend from the aforementioned center point 102 to an opposite back-top edge section (BTE') of the top panel section (T_1) such that the first line 102 divides the total area of the top panel section (T_1) in two portions, as illustrated in Fig. 8a. The removable opening portion 108' covers an opening area (OA') of the top panel section (T_1). A fraction of the opening area (OA') contained inside a first portion 111 of the aforementioned two portions may be in the range 60 - 100%. Fig. 8a shows one example of a fraction of the opening area (OA') overlapping the first portion 111, and it should be understood that various fractions in the range 60 - 100% provides for the advantageous benefits as elucidated above, by facilitating pouring of the contents from the carton package 100. Fig. 8b shows an example where 100% of the opening area (OA') is contained in the first portion 111. This may provide for a particularly facilitated pouring of the contents from the carton package 100.

[0022] The center point 109' of the removable opening portion 108' may have an off-set distance 106 to a second line 107 extending perpendicular to the left-top edge (LTE) and through the center point 103 thereof, as illustrated in e.g. Fig. 8c. The blank 200 thus provides for an opening portion 108' which is off-set also towards the front panel (FP) of the carton package 100 as described above with respect to Figs. 1 - 6.

[0023] The second line 107 may extend from the center point 103 to the opposite right-top edge (RTE) of the top panel section (T_1) such that the second line 107 divides the total area of the top panel section (T_1) in two portions, as illustrated in Fig. 8c. The removable opening portion 108' covers an opening area (OA') of the top panel section (T_1). A fraction of the opening area (OA') contained inside a first portion 112 of the aforementioned two portions may be in the range 60 - 100%. Fig. 8c shows one example of a fraction of the opening area (OA') overlapping the first portion 112, and it should be understood that various fractions in the range 60 - 100% provides for the advantageous benefits as elucidated above, by facil-

itating pouring of the contents from the carton package 100. Fig. 8d shows an example where 100% of the opening area (OA') is contained in the first portion 112. This may provide for a particularly facilitated pouring of the contents from the carton package 100.

[0024] The first line 105 and the second line 107 may extend from the center point 102 and the center point 103, respectively, to intersect at a midpoint 110' of the top panel section (T_1) such that the first line 105 and the second line 107 divide the total area of the top panel section (T_1) in four portions, as illustrated in the example of Fig. 8e. The removable opening portion 108' covers an opening area (OA') of the top panel section (T_1). A fraction of the opening area (OA') contained inside a first portion 113 of the aforementioned four portions may be in the range 60 - 100%. Fig. 8e shows one example of a fraction of the opening area (OA') overlapping the first portion 113, and it should be understood that various fractions in the range 60 - 100% provides for the advantageous benefits as elucidated above, by facilitating pouring of the contents from the carton package 100. Fig. 8f shows an example where 100% of the opening area (OA') is contained in the first portion 113. This may provide for a particularly facilitated pouring of the contents from the carton package 100, since the distance between the front-top edge (FTE) and the opening portion 108', as well as the distance between the left-top edge (LTE) and the opening portion 108' is reduced even further.

[0025] Turning to Fig. 7a, the right panel section (RP) may extend between the first longitudinal crease line 301 and a third longitudinal crease line 304. The right panel section (RP) has a first length (h_1) along the third longitudinal crease line 304 between the first transversal crease line 303 and a second transversal crease line 305. In particular, the second transversal crease line 305 defines the front-bottom edge (FBE) and the back-bottom edge (BBE) of the package 11, as shown in Figure 1. The right panel section (RP) has a second length (h_2) along the first longitudinal crease line 301 between the first transversal crease line 303 and the second transversal crease line 305. The first length (h_1) may be longer than the second length (h_2), as illustrated in Fig. 7a. The carton blank 200 thus provides for forming a carton package 100 with a slanted top panel (T) as illustrated in Fig. 2, with the advantageous benefits described above in relation to the carton package 100.

[0026] The left-top edge (LTE) may have a shorter length than the front-top edge (FTE), as illustrated in e. g. Fig. 7b. This provides for carton package 100 with narrower right- and left panels (RP, LP) in relation to the front- and back panels (FP, BP), which in turn provides for narrow and intuitive gripping portions of the carton package 100 during use. As described above, by engaging the right panel (RP) with a grip, having the opening portion 108' off-set towards the opposite left panel (LP) allows for a facilitated pouring of the contents form the carton package 100.

[0027] The present invention has been described above with reference to specific examples. However, other examples than the above described are equally possible within the scope of the invention. The different features and steps of the invention may be combined in other combinations than those described. The scope of the invention is only limited by the appended claims.

[0028] More generally, those skilled in the art will readily appreciate that all parameters, dimensions, materials, and configurations described herein are meant to be exemplary and that the actual parameters, dimensions, materials, and/or configurations will depend upon the specific application or applications for which the teachings of the present invention is/are used.

Claims

1. A carton package (100) for liquid consumables comprising a top panel (T),
a bottom panel (B),
a body (101) extending between the top panel and the bottom panel, the body comprising
a front panel (FP), a back panel (BP), a left panel (LP), and a right panel (RP), each of the front panel, back panel, left panel, and right panel extends from the bottom panel to the top panel, the front panel is connected to the top panel along a front-top edge (FTE), the left panel is connected to the top panel along a left-top edge (LTE),
wherein the front-top edge (FTE) extends between the left panel and the right panel and has a center point (102),
wherein the left-top edge (LTE) extends between the front panel and the back panel and has a center point (103),
wherein the area of the top panel is larger than the area of the bottom panel, **characterized in that** a first line (105) and a second line (107) intersect at a midpoint (110) of the top panel such that the first line (105) and the second line (107) divide the total area of the top panel in four portions including a first portion (113), the first line (105) extends perpendicular to the front-top edge (FTE) and through a center point (102) of the front-top edge (FTE), the second line (107) extends perpendicular to the left-top edge (LTE) and through a center point (103) of the left-top edge (LTE), and
an opening device covers an opening area (OA) of the top panel, wherein a fraction of the opening area contained inside the first portion (113) of the four portions is over 60% and at least one portion of the opening area (OA) contained inside a second portion and a third portion adjacent to the first portion (113) of the four portions.

2. A carton package according to claim 1, wherein a height (h_b) of the back panel (BP) from a back-bottom edge (BBE) to a back-top edge (BTE) is larger than

a height (h_f) of the front panel (FP) from a front-bottom edge (FBE) to the front-top edge (FTE).

3. A carton package according to claim 1 or 2, wherein the front-top edge (FTE) is longer than the left-top edge (LTE).

4. A carton package according to any of claims 1 - 3, comprising at least one rounded edge (114) extending between the top panel and the bottom panel.

5. A carton package according to claim 4, wherein the rounded edge (114) is connected to the right panel (RP).

6. A carton package according to claim 4, wherein the rounded edge (114) is connected to both the right panel (RP) and the front panel (FP).

7. A carton package according to any of claims 4 to 6, wherein
the rounded edge (114) has a width which may reach a maximum at a midpoint of the carton package and decrease gradually towards the top panel and the bottom panel.

8. A carton package according to any of claims 1 to 7, wherein
the top panel is angled or curved to the bottom panel.

Patentansprüche

1. Kartonverpackung (100) für flüssige Verbrauchsgüter, umfassend:

ein oberes Feld (T),
ein unteres Feld (B),
einen Körper (101), der sich zwischen dem oberen Feld und dem unteren Feld erstreckt, wobei der Körper Folgendes umfasst:
ein vorderes Feld (FP), ein hinteres Feld (BP), ein linkes Feld (LP) und ein rechtes Feld (RP), wobei sich das vordere Feld, das hintere Feld, das linke Feld und das rechte Feld von dem unteren Feld zu dem oberen Feld erstrecken, wobei das vordere Feld entlang eines vorderen oberen Rands (FTE) mit dem oberen Feld verbunden ist und das linke Feld entlang eines linken oberen Rands (LTE) mit dem oberen Feld verbunden ist,
wobei sich der vordere obere Rand (FTE) zwischen dem linken Feld und dem rechten Feld erstreckt und einen Mittelpunkt (102) hat,
wobei sich der linke obere Rand (LTE) zwischen dem vorderen Feld und dem hinteren Feld erstreckt und einen Mittelpunkt (103) hat,
wobei die Fläche des oberen Felds größer als die Fläche des unteren Felds ist,
dadurch gekennzeichnet, dass sich eine erste Linie (105) und eine zweite Linie (107) an einem Mittelpunkt (110) des oberen Felds kreuzen, so dass die erste Linie (105) und die zweite Linie (107) die Gesamtfläche des oberen Felds in vier Abschnitte, einschließlich eines ersten Abschnitts (113), unterteilen, wobei sich die erste Linie (105) senkrecht zu dem vorderen oberen Rand (FTE) und durch einen Mittelpunkt (102) des vorderen oberen Rands (FTE) erstreckt, die zweite Linie (107) sich senkrecht zu dem linken oberen Rand (LTE) und durch einen Mittelpunkt (103) des linken oberen Rands (LTE) erstreckt und
eine Öffnungsvorrichtung eine Öffnungsfläche (OA) des oberen Felds abdeckt, wobei ein Bruchteil der Öffnungsfläche, der in dem ersten Abschnitt (113) der vier Abschnitte enthalten ist, über 60% beträgt und mindestens ein Abschnitt der Öffnungsfläche (OA), der in einem zweiten Abschnitt enthalten ist und ein dritter Abschnitt neben dem ersten Abschnitt (113) der vier Abschnitte.

2. Kartonverpackung nach Anspruch 1, wobei eine Höhe (h_b) des hinteren Felds (BP) von einem hinteren unteren Rand (BBE) zu einem hinteren oberen Rand (BTE) größer als eine Höhe (h_f) des vorderen Felds (FP) von einem vorderen unteren Rand (FBE) zu dem vorderen oberen Rand (FTE) ist.

3. Kartonverpackung nach Anspruch 1 oder 2, wobei der vordere obere Rand (FTE) länger als der linke obere Rand (LTE) ist.

4. Kartonverpackung nach einem der Ansprüche 1 - 3, umfassend mindestens einen abgerundeten Rand (114), der sich zwischen dem oberen Feld und dem unteren Feld erstreckt.

5. Kartonverpackung nach Anspruch 4, wobei der abgerundete Rand (114) mit dem rechten Feld (RP) verbunden ist.

6. Kartonverpackung nach Anspruch 4, wobei der abgerundete Rand (114) sowohl mit dem rechten Feld (RP) als auch dem vorderen Feld (FP) verbunden ist.

7. Kartonverpackung nach einem der Ansprüche 4 bis 6, wobei
der abgerundete Rand (114) eine Breite hat, die an einer Mitte der Kartonverpackung ein Maximum erreichen und zu dem oberen Feld und dem unteren Feld hin allmählich abnehmen kann.

8. Kartonverpackung nach einem der Ansprüche 1 bis 7, wobei

das obere Feld zu dem unteren Feld abgewinkelt oder gekrümmt ist.

Revendications

1. Emballage en carton (100) pour des produits de consommation liquides, comprenant :

un panneau supérieur (T),
un panneau inférieur (B),
un corps (101) s'étendant entre le panneau supérieur et le panneau inférieur, le corps comprenant :

un panneau avant (FP), un panneau arrière (BP),

un panneau gauche (LP) et un panneau droit (RP), chacun parmi le panneau avant, le panneau arrière, le panneau gauche et le panneau droit s'étendant depuis le panneau inférieur jusqu'au panneau supérieur, le panneau avant étant connecté au panneau supérieur le long d'un bord avant-supérieur (FTE), le panneau gauche étant connecté au panneau supérieur le long d'un bord gauche-supérieur (LTE),
le bord avant-supérieur (FTE) s'étendant entre le panneau gauche et le panneau droit et présentant un centre (102),
le bord gauche-supérieur (LTE) s'étendant entre le panneau avant et le panneau arrière et présentant un centre (103),
la surface du panneau supérieur étant supérieure à la surface du panneau inférieur,
caractérisé en ce qu'une première ligne (105) et une deuxième ligne (107) s'intersectent en un point médian (110) du panneau supérieur de telle sorte que la première ligne (105) et la deuxième ligne (107) divisent la surface totale du panneau supérieur en quatre portions incluant une première portion (113), la première ligne (105) s'étendant perpendiculairement au bord avant-supérieur (FTE) et à travers un centre (102) du bord avant-supérieur (FTE), la deuxième ligne (107) s'étendant perpendiculairement au bord gauche-supérieur (LTE) et à travers un centre (103) du bord gauche-supérieur (LTE), et
un dispositif d'ouverture recouvrant une surface d'ouverture (OA) du panneau supérieur, une fraction de la surface d'ouverture contenue à l'intérieur de la première portion (113) parmi les quatre portions étant supérieure à 60 % et au moins une portion de la surface d'ouverture (OA) contenue à l'intérieur d'une deuxième portion et une troisième portion adjacente à la première portion (113) parmi les quatre portions.

2. Emballage en carton selon la revendication 1, dans lequel une hauteur (h_b) du panneau arrière (BP) depuis un bord arrière-inférieur (BBE) jusqu'à un bord arrière-supérieur (BTE) est supérieure à une hauteur (h_f) du panneau avant (FP) depuis un bord avant-inférieur (FBE) jusqu'au bord avant-supérieur (FTE).

3. Emballage en carton selon la revendication 1 ou 2, dans lequel le bord avant-supérieur (FTE) est plus long que le bord gauche-supérieur (LTE).

4. Emballage en carton selon l'une quelconque des revendications 1 à 3, comprenant au moins un bord arrondi (114) s'étendant entre le panneau supérieur et le panneau inférieur.

5. Emballage en carton selon la revendication 4, dans lequel
le bord arrondi (114) est connecté au panneau droit (RP).

6. Emballage en carton selon la revendication 4, dans lequel
le bord arrondi (114) est connecté à la fois au panneau droit (RP) et au panneau avant (FP).

7. Emballage en carton selon l'une quelconque des revendications 4 à 6, dans lequel
le bord arrondi (114) présente une largeur qui peut s'étendre sur une distance maximale au niveau d'un point médian de l'emballage en carton et diminuer progressivement vers le panneau supérieur et le panneau inférieur.

8. Emballage en carton selon l'une quelconque des revendications 1 à 7, dans lequel le panneau supérieur est incliné ou incurvé vers le panneau inférieur.

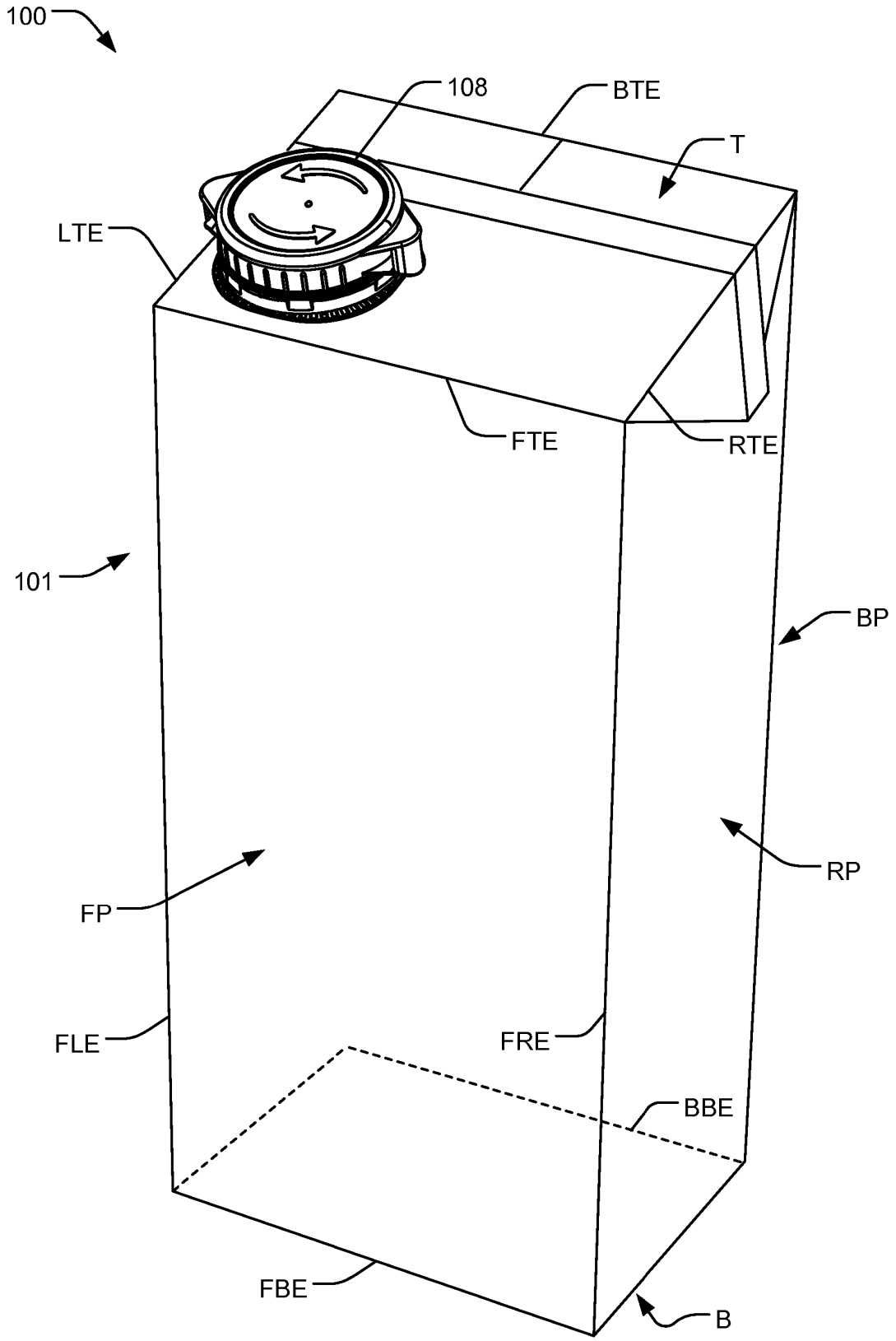

Fig. 1

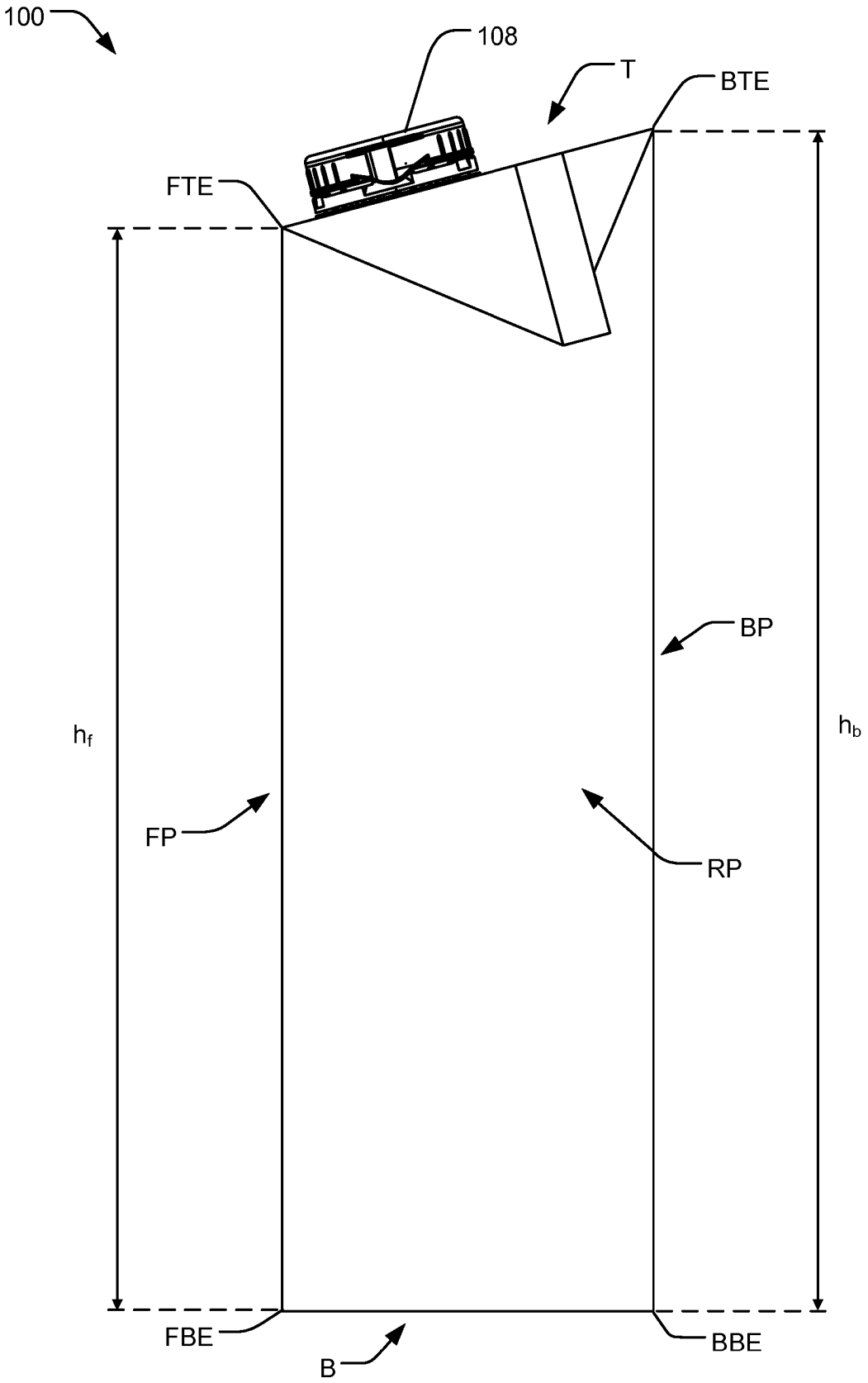

Fig. 2

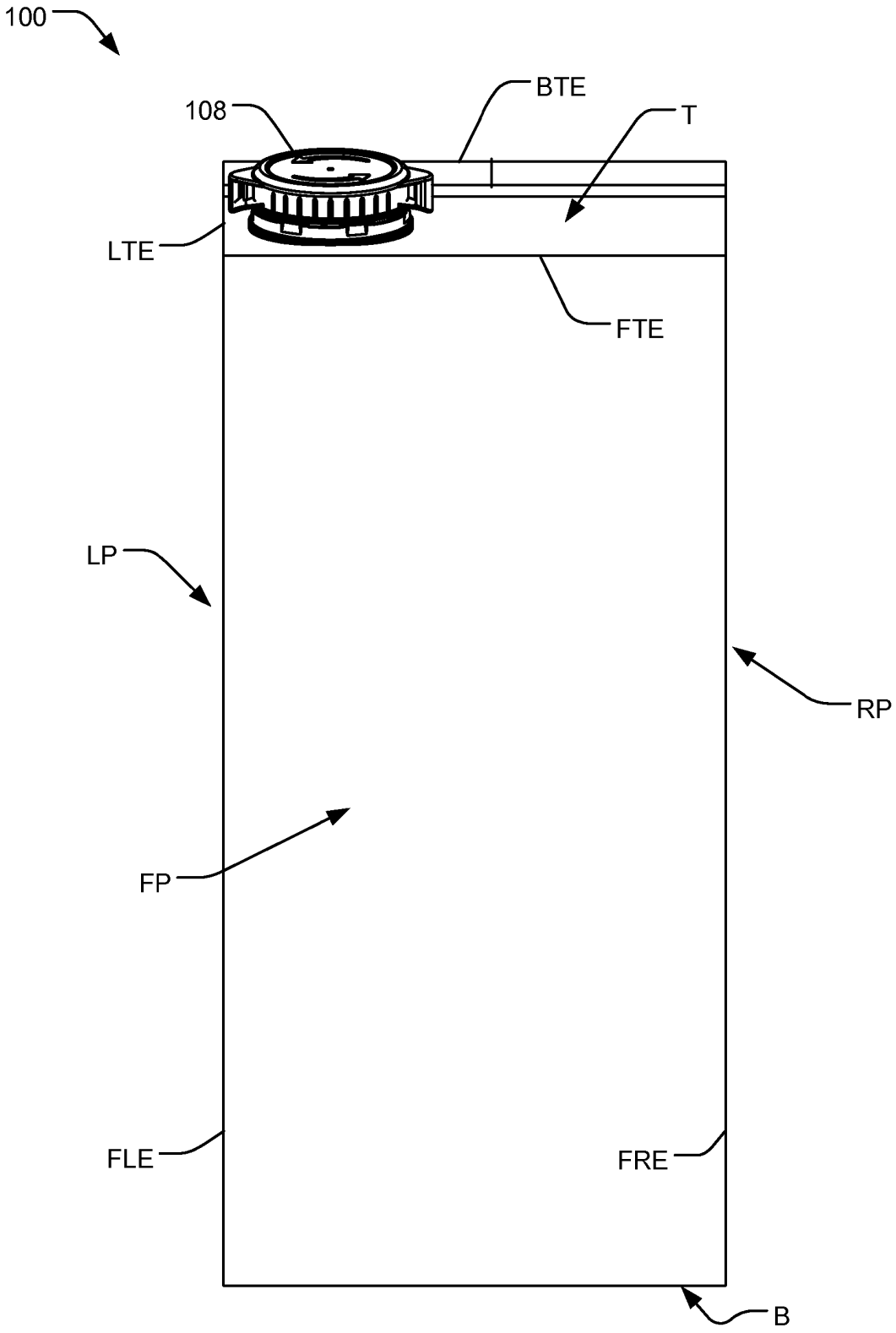

Fig. 3

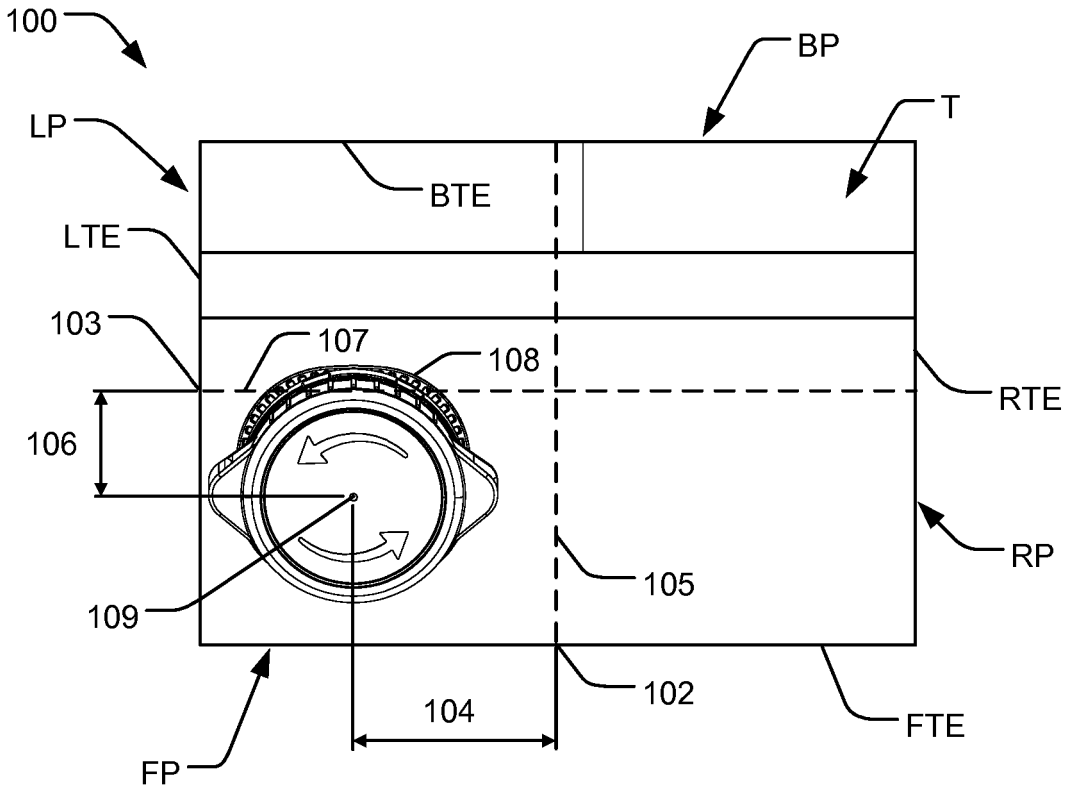

Fig. 4

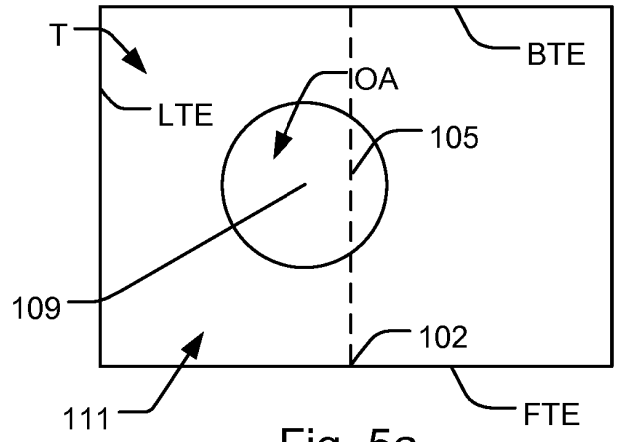

Fig. 5a

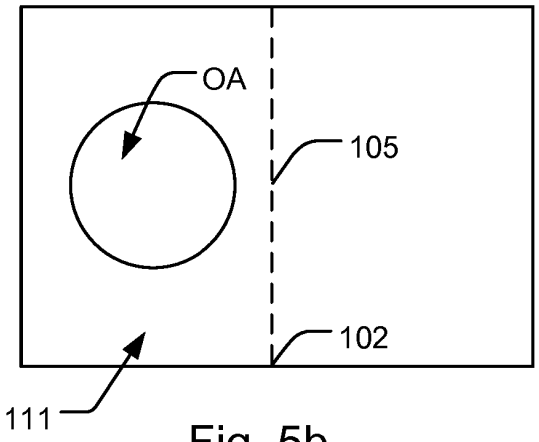

Fig. 5b

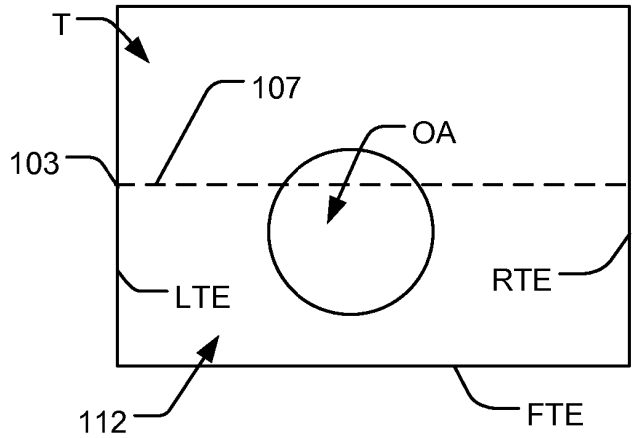

Fig. 5c

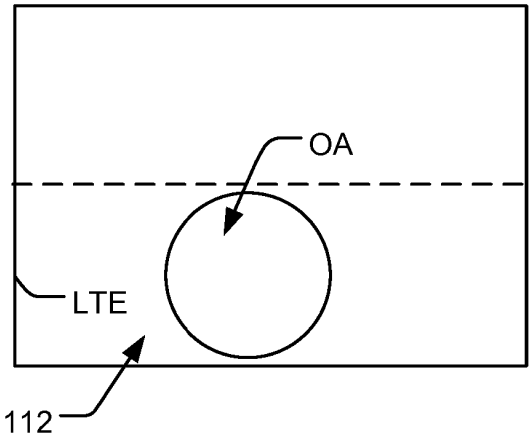

Fig. 5d

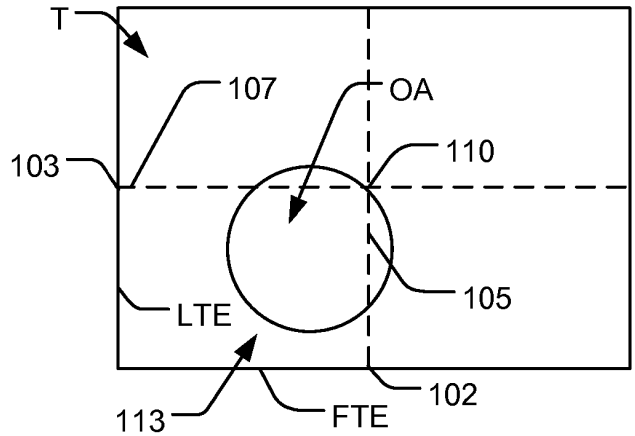

Fig. 5e

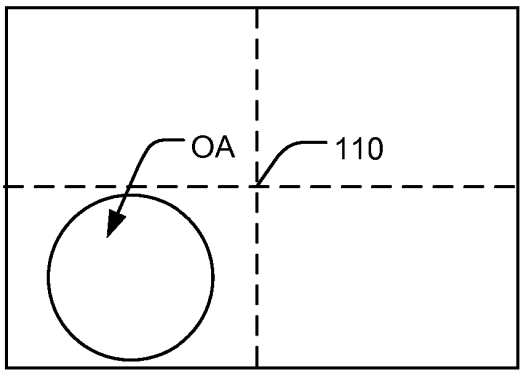

Fig. 5f

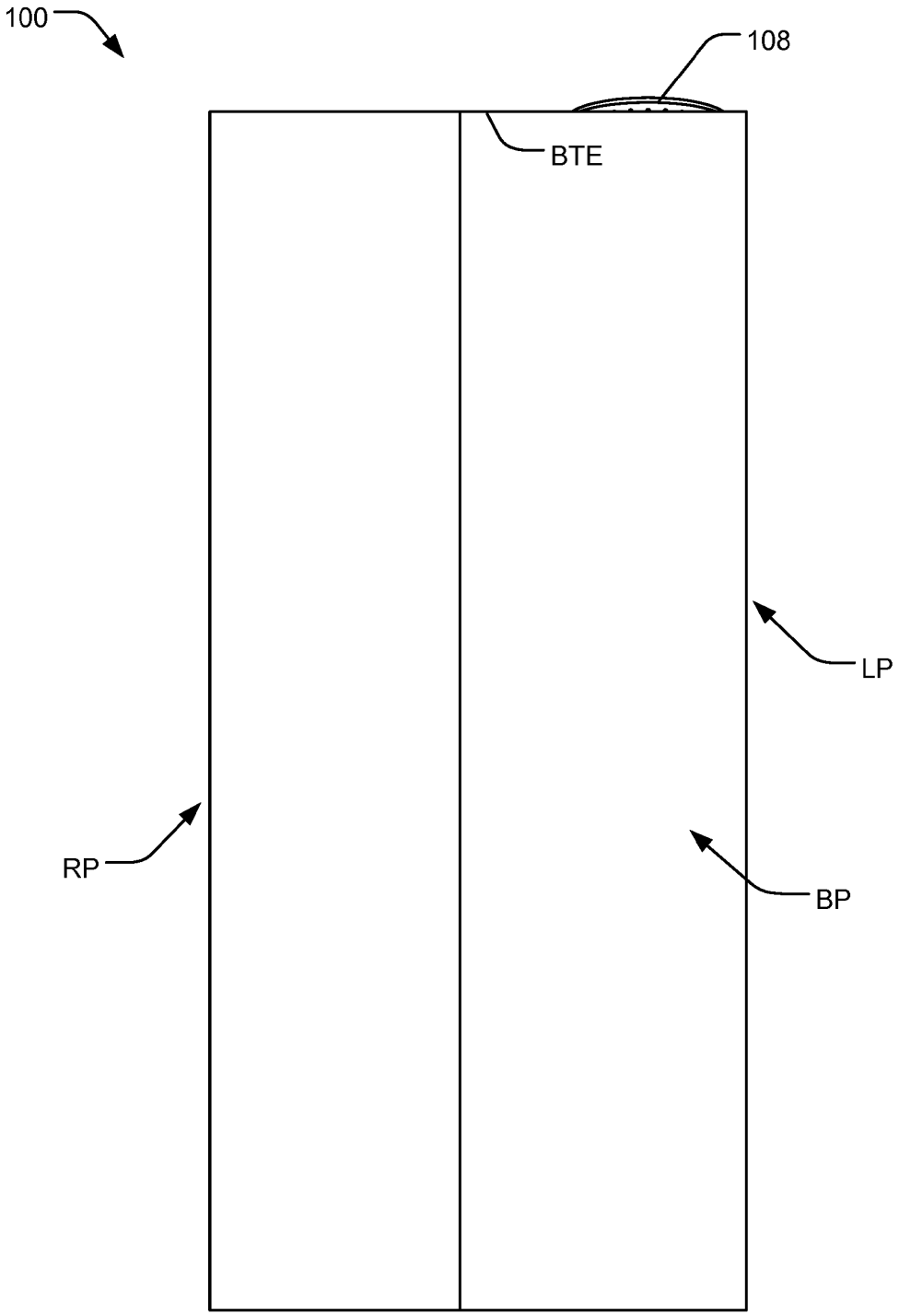

Fig. 6

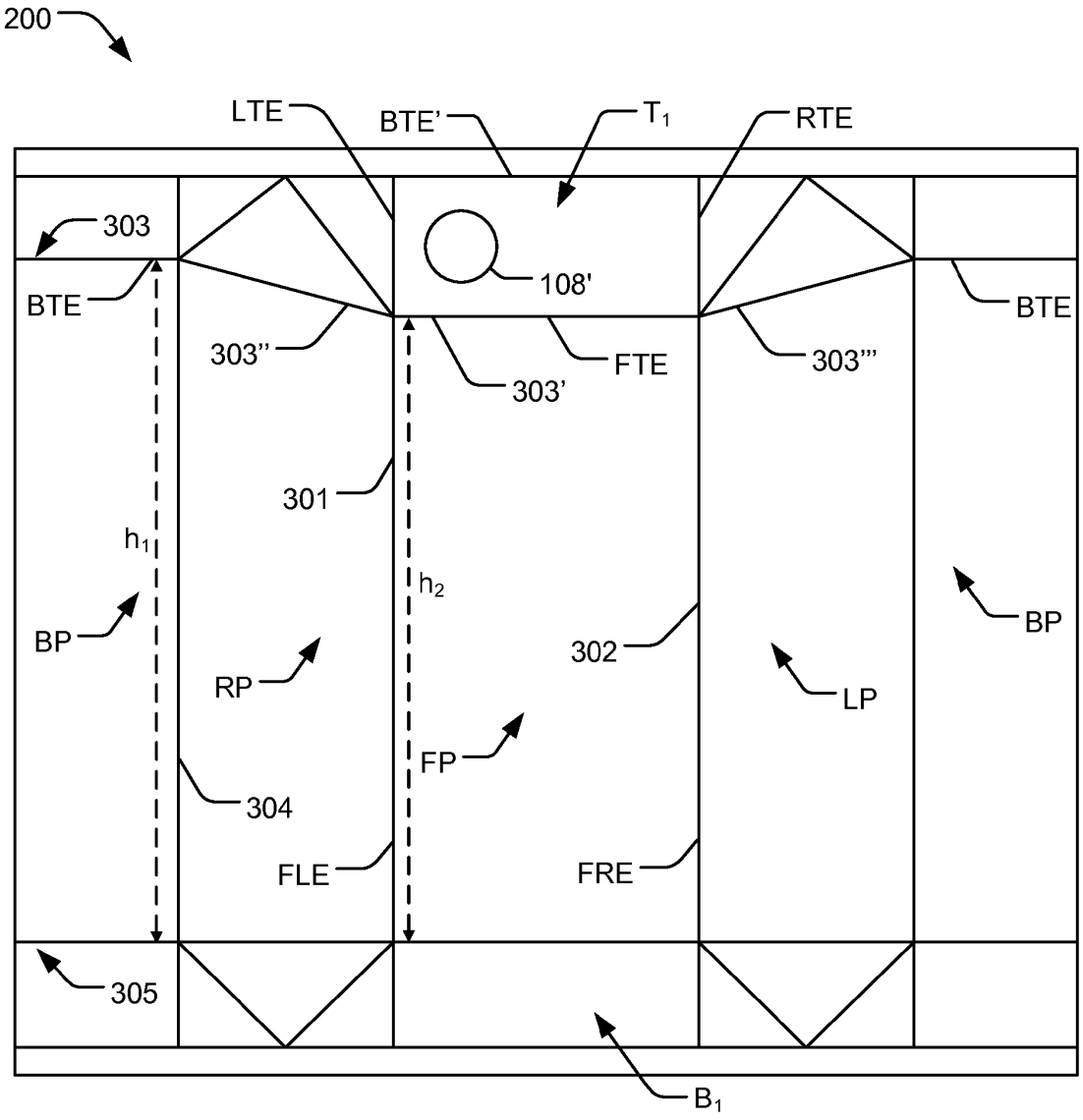
200
LTE
BTE'
T1
RTE
303
108'
BTE
BTE
303''
303'
FTE
303'''
301
h1
h2
BP
BP
RP
302
LP
FP
304
FLE
FRE
305
B1

Fig. 7a

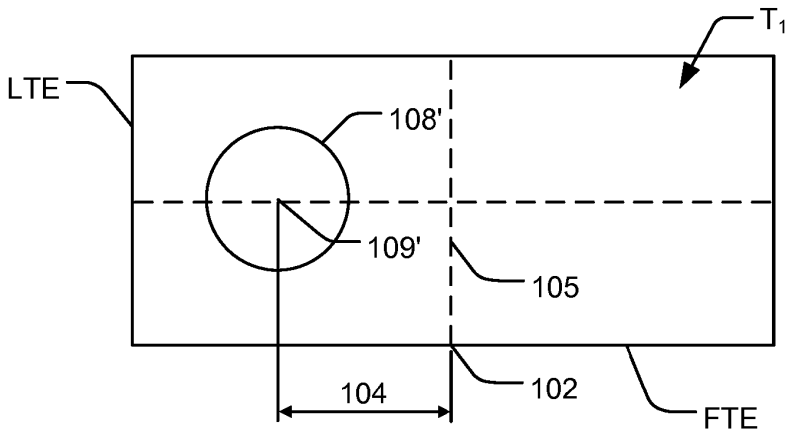
T1
LTE
108'
109'
105
104
102
FTE

Fig. 7b

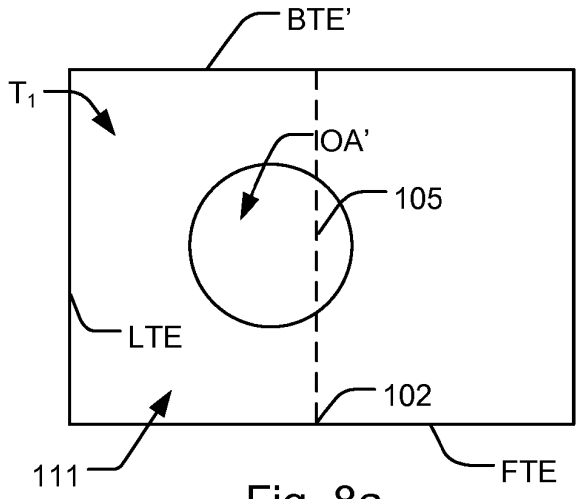

Fig. 8a

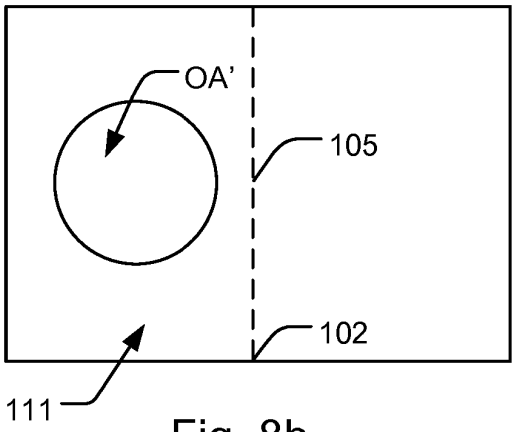

Fig. 8b

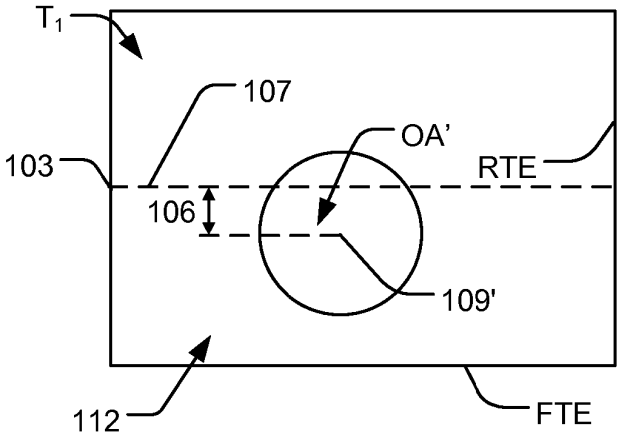

Fig. 8c

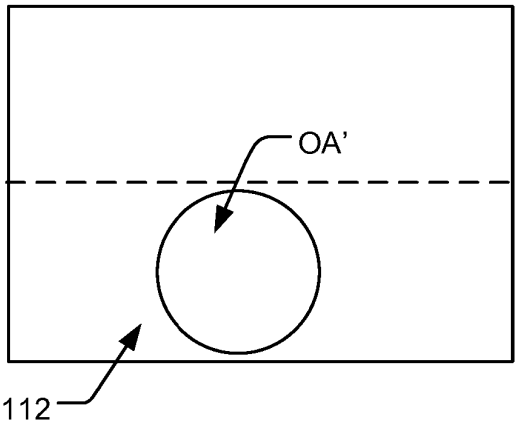

Fig. 8d

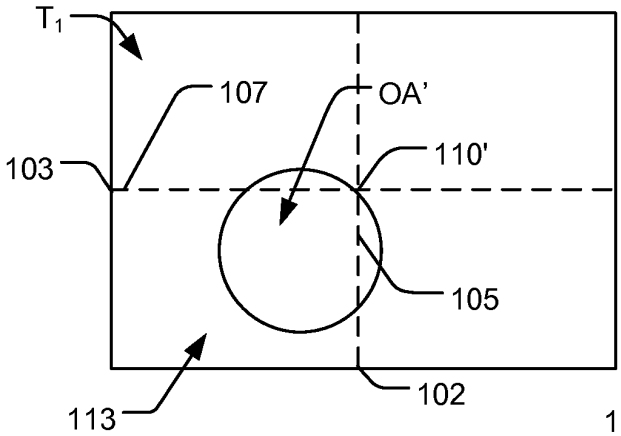

Fig. 8e

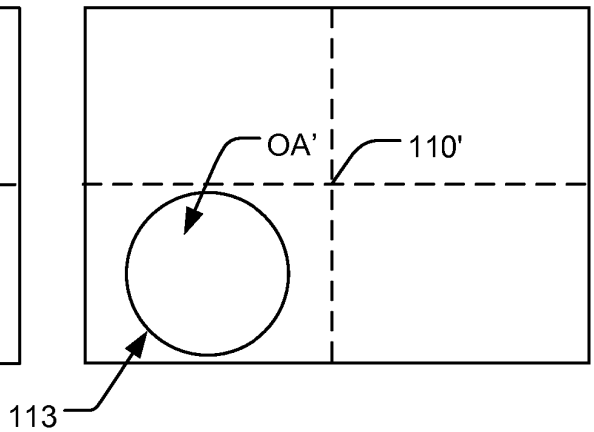

Fig. 8f

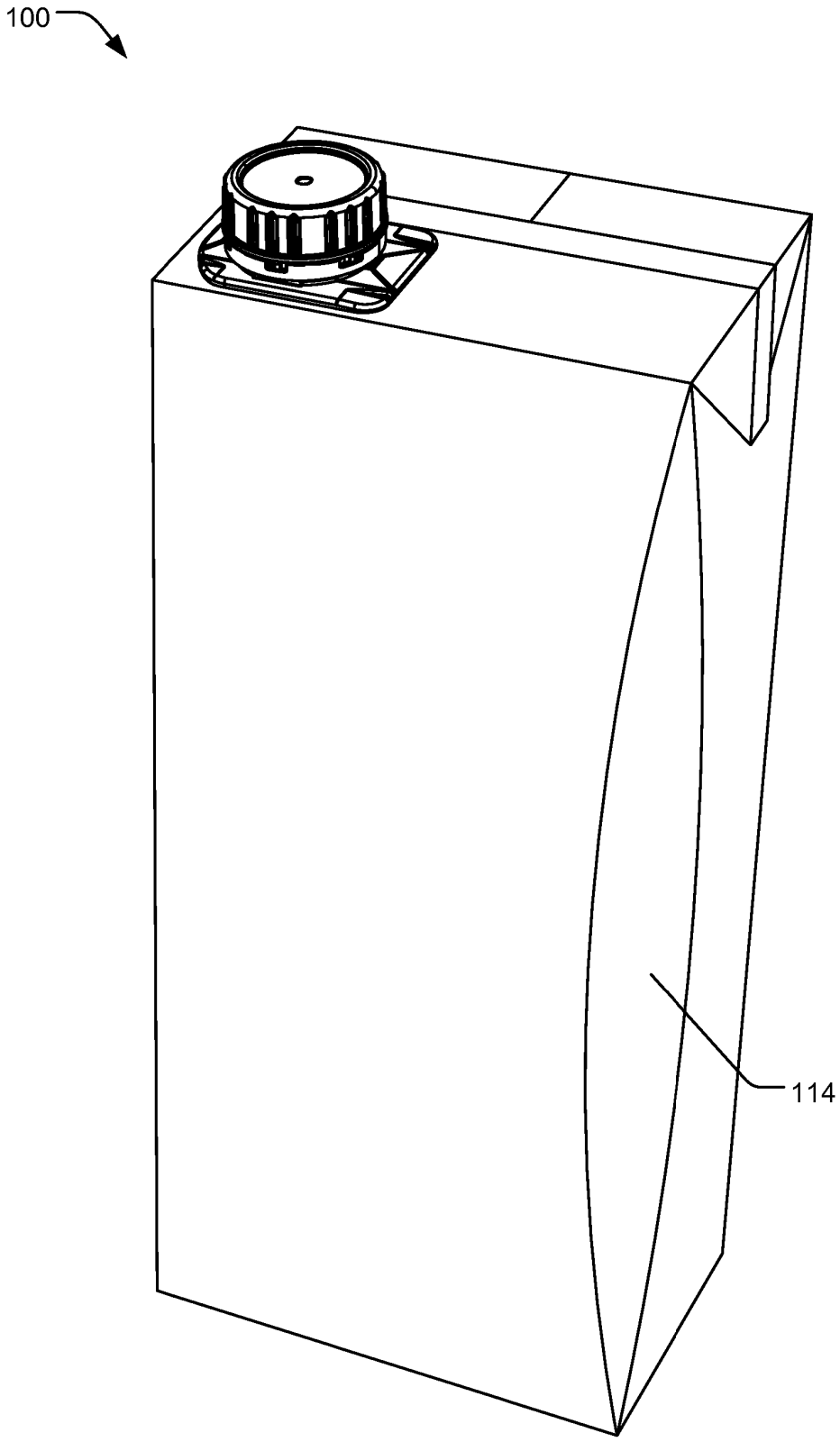

Fig. 9

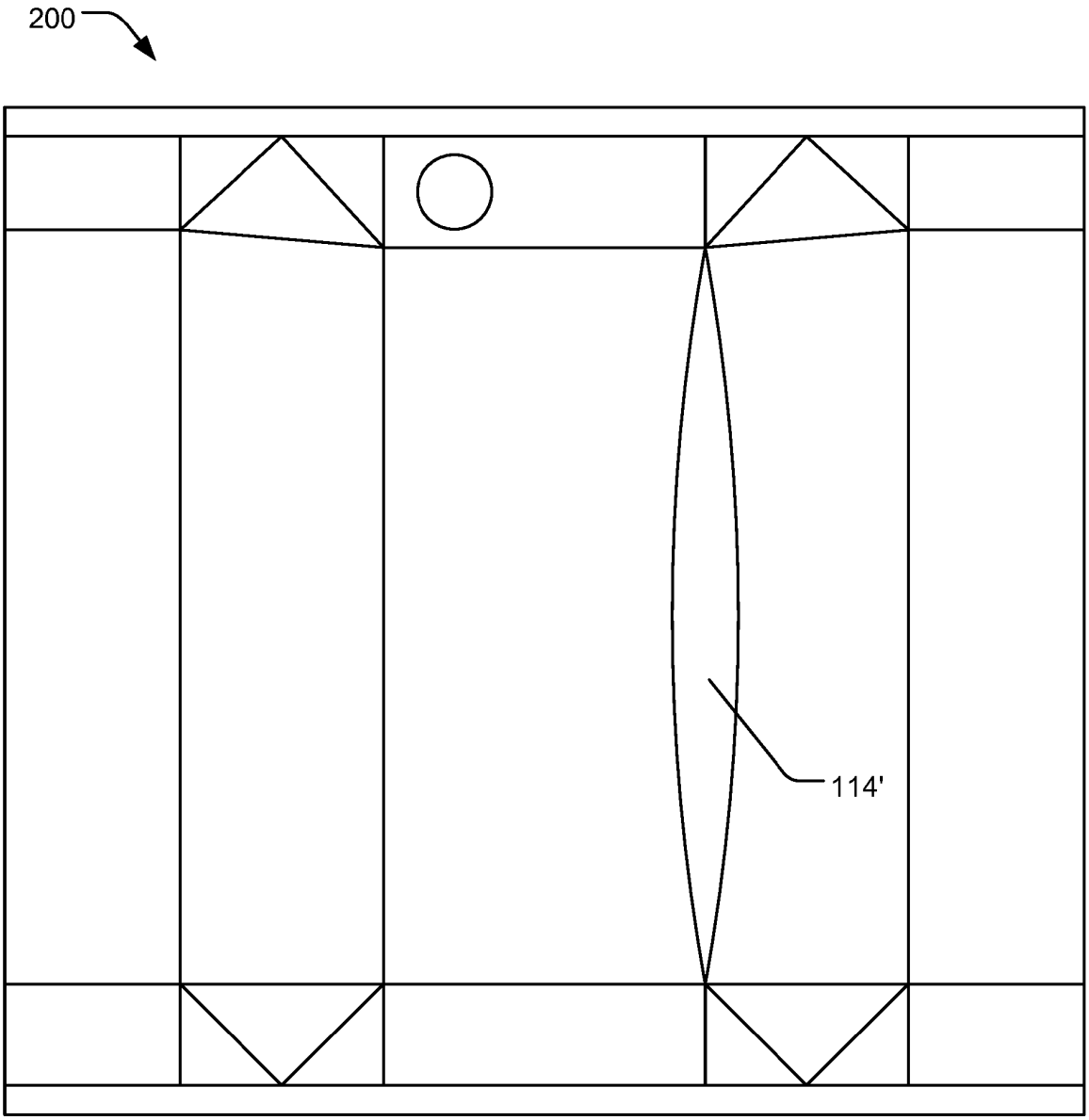

Fig. 10

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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