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(71) Applicant: **Ducona Vastgoed B.V.**
7122 MN Aalten (NL)

(72) Inventor: **Schepers, Jan Willem Gerrit**
7121 HM Aalten (NL)

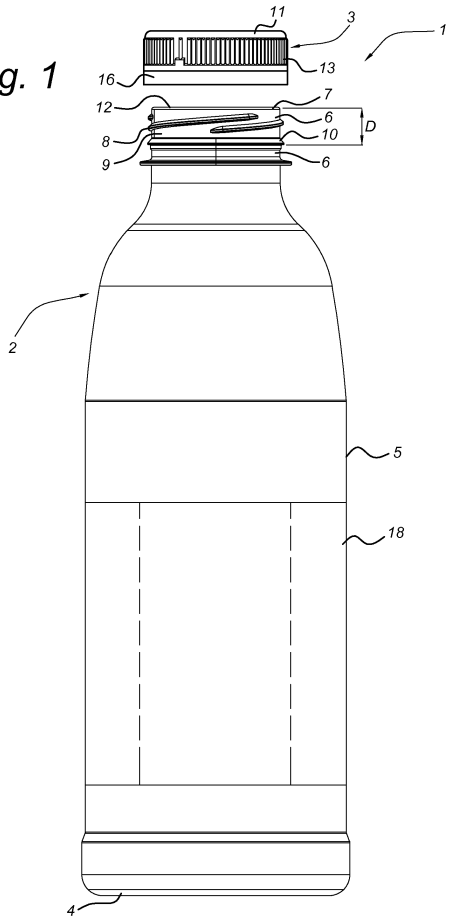
(74) Representative: **Nederlandsch Octrooibureau**
P.O. Box 29720
2502 LS The Hague (NL)

(54) **Method for manufacturing a package suitable for holding a fluid and such a package**

(57) The invention relates to a method for manufacturing a beverage package, the method comprising providing a bottle comprising a peripheral wall extending from a base to a peripheral rim forming an open mouth of the bottle, wherein at least a portion of the peripheral wall is at least translucent; releasably connecting a cap to the peripheral rim to close the open mouth before filling the bottle; providing a covering around the bottle thereby covering at least part of the peripheral wall, wherein at least a portion of the covering is at least translucent, which translucent portion of the covering coincides with the translucent portion of the peripheral wall.

The invention also relates to a beverage package manufactured according to the described method.

Fig. 1



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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a method for assembly of a package suitable for holding a fluid, in particular a package for a drink, such as a bottle, and such a package for holding a fluid, in particular a drink.

Description of the Related Art

[0002] Costumers are becoming more and more interested in freshly made juices While in the past these freshly made juices could mainly be bought at fruit stalls or the like, nowadays costumers can make their own freshly made juice in the supermarkets. In order to be able to purchase such a drink and take it home for consumption, a suitable package is desired.

[0003] Ready-made packed drinks bought from a shelf in the store can be contained in a bottle that is closed with a cap having a tamper evident indicator to observe whether the bottle has been previously opened or not. It is desired that freshly made juice from a juice machine can be packed in a similar bottle with a similar cap with a tamper evident indicator.

[0004] However, this requires another manufacturing approach for the drink bottle, as the bottles and caps are usually supplied in separate boxes. A disadvantage of such supply is that the bottles and caps are not available in the same amount. Another disadvantage is that the interior of the bottle is not shielded from contamination, such that the cleanliness upon use of the bottle cannot be guaranteed.

[0005] It would therefore be desirable to provide an alternative beverage package that alleviated at least some of the perceived inconveniences of the prior art.

BRIEF SUMMARY OF THE INVENTION

[0006] According to the invention, there is provided a method for manufacturing a beverage package, comprising providing a bottle comprising a peripheral wall extending from a base to a peripheral rim forming an open mouth of the bottle, wherein at least a portion of the peripheral wall is at least translucent, releasably connecting a cap to the peripheral rim to close the open mouth before filling the bottle, providing a covering around the bottle thereby covering at least part of the peripheral wall, wherein at least a portion of the covering is at least translucent, which translucent portion of the covering coincides with the translucent portion of the peripheral wall.

[0007] The portion of the peripheral wall that is at least translucent and the at least translucent portion of the covering that coincide with each other, allows the consumer before filling to check the cleanliness of the bottle, i.e. if there are any bugs, flies, debris or other contaminations present in the interior of the bottle. The bottle is closed with a cap before filling such that the interior of the bottle is protected from any contamination entering the bottle after manufacturing, during transportation and during storage. The cap is releasably connected to the peripheral rim such that the consumer can easily open the bottle for filling with a fresh juice of his or her choice.

[0008] The bottle is closed before filling, because the filling happens at a different location than the manufacturing of the package, i.e. at a store where consumers can fill the bottle with a drink or juice of their choice.

[0009] The bottle and cap can therefore be supplied simultaneously and in the same amount. Additionally, the cap protects the interior of the bottle from contamination, such that the bottle is clean before filling with the freshly made juice.

[0010] Coverings for drinking bottles, such as a sleeve or a label, tend to obstruct the view to the interior of an at least translucent bottle. The covering is preferably provided at an exterior of the peripheral wall. Therefore, at least a portion of the covering is at least translucent and that portion of the covering coincides with the translucent portion of the peripheral wall of the bottle. The user can then see the content of the bottle before, during and after filling. Before filling, the user is able to check whether the bottle is clean. During filling, the user can see how the filling proceeds and after filling, for instance some time after making the juice, the user can check whether the juice looks still drinkable, i.e. is not 'off'.

[0011] The bottle can be at least translucent, preferably transparent, as a whole, so including the base, the peripheral wall and the peripheral rim. It is also possible that just a portion of the peripheral wall is at least translucent. Alternatively, the base and a portion of the peripheral wall can be at least translucent.

[0012] Additionally, the covering can be fully translucent, preferably transparent, or only at a part of the covering coinciding with the at least translucent portion of the peripheral wall.

[0013] According to an embodiment, the covering comprises a substrate layer and the peripheral wall and the material of the substrate layer are at least translucent. The covering can be provided with a print that is provided onto the substrate layer and covers a part of the covering. The print is may be translucent or transparent.

[0014] According to a further embodiment, providing the covering around an exterior of the bottle comprises attaching the covering to at least the peripheral wall of the bottle. The covering can be attached to at least the peripheral wall of the bottle by means of an adhesive material or by means of a mechanical attachment such as clamping. The adhesive material is preferably a translucent or transparent adhesive such that the view to the interior of the bottle is not obstructed.

[0015] The covering can be a label or a sleeve. A label is a strip of material that can be attached, i.e. adhered, to the peripheral wall with an adhesive and encloses at least a part of the circumference of the peripheral wall.

Respective ends of the label can either overlap, coincide or be at a distance after adhering to the bottle. A sleeve is an endless loop of material that can be slid over the peripheral wall of the bottle. The sleeve can then be attached to the wall by either shrinking of the sleeve through heat, or by stretching the sleeve before sliding over the peripheral wall and releasing the sleeve after sliding it onto the bottle. Both methods provide a mechanical attachment between the sleeve and the peripheral wall.

[0016] According to another embodiment, the cap comprises a covering surface and a peripheral flange extending from the covering surface; and the step of releasably connecting a cap to the peripheral rim to close the open mouth comprises pressing the cap onto the peripheral rim such that an engaging element provided at an inside of the cap releasably engages the peripheral rim of the bottle. It is preferred that the engaging element is provided at an inner surface of the peripheral flange of the cap, wherein the engaging element engages the peripheral rim.

[0017] The cap can be pressed onto the peripheral rim such that the engaging element releasably engages the peripheral rim. The engaging force between the engaging element and the peripheral rim can be strong enough to retain the cap on the bottle during transportation and further handling, but can be weak enough to have the cap manually removed from the bottle when the user wants to fill the bottle. This can be achieved by a threaded portion extending downwards from the peripheral rim and a threaded inside of the peripheral flange of the cap matching with the threaded portion of the peripheral rim, wherein the peripheral flange of the cap can be flexible enough to widen upon pressing the cap onto the peripheral rim and wherein upon relaxation of the peripheral flange the threaded portion of the peripheral rim and the threaded inside of the peripheral flange engage.

[0018] Preferably, the peripheral flange of the cap comprises a tamper evident indicator and wherein after pressing the cap onto the peripheral rim the tamper evident closure remains inactive, i.e. is not activated. As the bottle can be intended to be opened and reclosed again, it would be undesirable that a tamper evident indicator is activated upon pressing the cap. This can be achieved by a protrusion provided along at least a part of the peripheral rim of the bottle, i.e. a peripheral protrusion, at a distance D, preferably different from zero, from a top edge of the peripheral rim, the protrusion extending in an outward direction from the rim. Upon pressing the cap onto the peripheral rim, the protrusion forms a barrier to the cap being moved by the exerted pressure, and blocks further movement of the cap during pressing.

[0019] According to a preferred embodiment, the method is carried out in a single production line. In this embodiment, all steps of the manufacturing process are performed in a single production line without interruption of intermediate packing and subsequent transportation to another site to resume the manufacturing process. It is preferred that the production line is situated in one room or space, but alternatively, the machines making up the production line can be divided over a plurality of rooms with transporting bands or the like in between.

[0020] According to an embodiment, the method comprises transporting the package, i.e. the bottle with the cap pressed onto it, to a filling station, removing the cap from the peripheral rim, filling the bottle and reclosing the bottle with the cap.

[0021] After performing the steps of the method described above, the package can be packed and transported to a filling station. Such a filling station can be remote from the single production line, such as a supermarket or other shop. The cap can be removed from the peripheral rim, thereby opening the bottle. The bottle can now be filled with a drink, such as a fresh fruit juice, and reclosed with the cap. While filling the bottle, the user filling the bottle can monitor the bottle through the coinciding at least translucent portions of the peripheral wall of the bottle and the covering.

[0022] Upon reclosing of the bottle with the cap , the method comprises activating the tamper evident indicator. This can be done by means of the above mentioned peripheral protrusion provided at the peripheral rim of the bottle.

[0023] The reclosing of the cap can comprise screwing the cap with the threaded inside of the peripheral flange onto the threaded portion of the peripheral rim. The invention also relates to a beverage package manufactured according to the method described above, comprising

- a bottle having a peripheral wall extending from a base to a peripheral rim forming an open mouth of the container;
- a cover releasably connected to the peripheral rim to close the open mouth;
- a covering provided around the bottle covering at least part of the peripheral wall, wherein the covering is at least partly translucent, which translucent portion of the covering coincides with the translucent portion of the peripheral wall.

It is preferred that the covering is attached to the container by means of an adhesive material, wherein the adhesive material is preferably translucent, more preferably transparent.

[0024] According to a preferred embodiment, the cap comprises a covering surface and a peripheral flange extending from the covering surface; and wherein an engaging element provided at an inside of the cap releasably engages the peripheral rim of the bottle. It is preferred that the engaging element is provided at an inner surface of the covering surface, wherein the engaging element engages an edge of the peripheral rim.

[0025] According to a further embodiment, the peripheral flange of the cap comprises a tamper evident indicator and wherein the tamper evident indicator remains inactive upon engagement of the peripheral flange to the

peripheral rim.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] The features and advantages of the invention will be further appreciated upon reference to the following drawings of a number of exemplary embodiments, in which:

Figure 1 shows an exploded view of a beverage package manufactured according to the invention.
Figure 2 shows a cross section of the beverage package of Fig. 1 along II-II.
Figure 3 shows a schematic overview of the method of manufacturing according to the invention.

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0027] Figure 1 shows a schematic overview of an embodiment of the beverage package 1 comprising a bottle 2 and a cap 3. The bottle 2 comprises a base 4 and a peripheral wall 5 extending from the base 4 to a peripheral rim 6 having an edge 7. The peripheral rim 6 defines an open mouth 12 of the bottle. The peripheral rim 6 is provided with a threaded portion 9 extending along a height towards the base 4 from the edge 7. The threaded portion 9 is provided with engagement means 8, shaped as screw thread, for engaging the cap 3. Additionally, a peripheral protrusion 10 is provided along the peripheral rim 6. The protrusion 10 is located at a distance D from the edge 7 of the peripheral rim 6. The distance D is defined as the distance from the edge 7 to a half width of the protrusion 10 at the interface between the protrusion 10 and the peripheral rim 6, being at least the height of the threaded portion 9.

[0028] The peripheral wall 5 of the bottle 2 is provided with a label 18, adhered to the peripheral wall 5 and covering a portion of the peripheral wall 5. The peripheral wall 5 of the bottle 2 is at least translucent at at least the location of the label 18, but preferably the bottle 2 is fully transparent from base 4 to edge 7. The label can be translucent or transparent. The bottle can be made of a translucent or transparent material. In case of a translucent bottle, the label can be either translucent or transparent. In case of a transparent bottle 2, the label 18 is preferably transparent as well. In this way, a so-called no-label-look is achieved, i.e. the label 18 allows the user to see the interior of the bottle 2, with or without content.

[0029] The cap 3 is provided with a covering surface 11 that covers an open mouth 12 of the bottle 2. A peripheral flange 13 extends downwards from the covering surface 11 and covers an exterior of the peripheral rim 6 (see fig. 2) when the cap 3 is connected to the bottle 2.

[0030] As shown in figure 2, an inside surface 14 of the peripheral flange 13 is provided with engagement means 15 that engage the screw thread 8 of the threaded portion 9 of the peripheral rim 6 of the bottle 2. These engagement means 15 can comprise protrusions that can engage with the screw thread, or can comprises matching screw threads to the threaded portion 9.

[0031] The cap 3 further comprises a tamper evident indicator 16, shaped as a removable extension, such as an additional ring, to the peripheral flange 13 of the cap 3. Figure 2 shows the cap 3 being releasably connected to the bottle 2 while the tamper evident indicator 16 is inactive. Activation of the tamper evident indicator 16 is achieved by screwing the cap 3 onto the peripheral rim 6, such that a activation element 17 of the tamper evident indicator 16 is moved beyond the protrusion 10 of the bottle 2. The activation element 17 protrudes from a side of the tamper evident indicator 16 facing the bottle 2 and engages the protrusion 10. Upon opening of the beverage package 1 the protrusion 10 blocks the tamper evident indicator 16 from removal from the bottle 2. The cap 3 can only be removed from the bottle after breaking the connection between the tamper evident indicator 16 and the peripheral flange 13 of the cap 3. It is desired that this connection cannot be restored upon reclosing of the package 1.

[0032] It is preferred that the distance D between the protrusion 10 and the edge of the peripheral rim 6 is such that the activation element 17 of the tamper evident indicator 16 is at least engaged with the threaded portion 9 upon connecting the cap 3 to the peripheral rim 6 without activating the tamper evident indicator 16.

[0033] Figure 3 shows the steps of the method of manufacturing a beverage package 1 according to the invention. The embodiment comprises a single production line 100. At a forming station 101, the bottle is blow-molded from a semi-manufactured product or from a base material. The bottle material can comprise a polymer material, such as polyethyleneterephthalate (PET) or other suitable material.

[0034] The bottle is then moved to a covering station 102 where a label 18 is adhered to an exterior or outside of the peripheral wall 5 of the bottle 2, see fig. 1, using an adhesive material.

[0035] After labeling the bottle 2, the labeled bottle 2 is moved to a capping station 103, where a cap 3 is pressed onto the peripheral rim 6 of the bottle 2 to cover the open mouth 12, see fig. 2. The bottle 2 is not filled before capping, i.e. the bottle is empty when releasably closed with cap 3. The tamper evident indicator 16 remains inactive after performing the capping process, as described above. Alternatively, the bottle 2 is first capped and then labeled.

[0036] After capping, the bottles 2 are packed at a packing station 104 and prepared for transportation to a remote filling station 200. The filling station 200 is not a part of the production line 100. At the filling station 200, which can be at a supermarket, the cap 3 is removed from the bottle 2 by the user and the bottle 2 is filled with freshly made juice, for instance at a juice machine operated by the user. After filling the bottle 2, the cap 3 is screwed onto the peripheral rim 6 up to activating the tamper evident indicator 16 with the protrusion 10.

[0037] Thus, the invention has been described by reference to certain embodiments discussed above. It will be recognized that many modifications in addition to those described above may be made to the structures and techniques described herein without departing from the spirit and scope of the invention. Accordingly, although specific embodiments have been described, these are examples only and are not limiting upon the scope of the invention.

LIST OF PARTS

[0038]

1. Beverage package
2. Bottle
3. Cap
4. Base
5. Peripheral wall
6. Peripheral rim
7. Edge
8. Engagement means
9. Threaded portion
10. Protrusion
11. Covering surface
12. Open mouth
13. Peripheral flange
14. Inside of peripheral flange
15. Engagement means
16. Tamper evident indicator
17. Activation element
18. Label

100. Production line
101. Blow-molding station
102. Labeling station
103. Capping station
104. Packing station

200. Filling station

Claims

1. Method for manufacturing a beverage package (1), the method comprising:

- providing a bottle (2) comprising a peripheral wall (5) extending from a base (4) to a peripheral rim (6) forming an open mouth (12) of the bottle, wherein at least a portion of the peripheral wall is at least translucent;
- releasably connecting a cap (3) to the peripheral rim to close the open mouth before filling the bottle;
- providing a covering (18) around the bottle thereby covering at least part of the peripheral wall, wherein at least a portion (10) of the covering is at least translucent, which translucent portion of the covering coincides with the translucent portion of the peripheral wall.

2. Method according to claim 1, wherein the covering comprises a substrate layer and wherein the peripheral wall and the substrate layer are at least translucent.

3. Method according to claim 1 or 2, wherein providing the covering around the bottle comprises adhering the covering to at least the peripheral wall of the bottle.

4. Method according to claim 3, wherein the covering is a label or a sleeve.

5. Method according to any of the preceding claims, wherein the cap comprises a covering surface (11) and a peripheral flange (13) extending from the covering surface; and the step of releasably connecting the cap to the peripheral rim to close the open mouth comprises:

- pressing the cap onto the peripheral rim such that an engaging element (15) provided at an inside (14) of the cap releasably engages the peripheral rim of the bottle.

6. Method according to any of the preceding claims, wherein the peripheral flange of the cap comprises a tamper evident indicator (16) and wherein after pressing the cap onto the peripheral rim the tamper evident closure remains inactive.

7. Method according to any of the preceding claims, wherein the method is carried out in a single production line (100).

8. Method according to any of the preceding claims, comprising transporting the package to a filling station (200), removing the cap from the peripheral rim, filling the bottle and reclosing the bottle with the cap.

9. Method according to claim 7 or 8, wherein the filling station is at a location remote from the single production line.

10. Method according to any of the preceding claims, wherein the peripheral rim comprises a threaded portion (9) extending downwards from the edge to the base and wherein the peripheral flange of the cap is provided with a threaded inside (14) matching with the threaded portion of the peripheral rim and wherein reclosing the bottle with the cap comprises screwing the cap onto the threaded portion of the peripheral rim.

11. Method according to any of claims 8 to 10, wherein reclosing the bottle with the cap comprises activating the tamper evident indicator by means of a protrusion (10) along at least part of the peripheral rim of the bottle at a distance D different from zero from a edge of the rim, the protrusion extending in an outward direction from the rim.

12. Beverage package (1) manufactured according to any of claims 1-7, comprising

- a bottle (2) having a peripheral wall (5) extending from a base (4) to a peripheral rim (6) forming an open mouth (12) of the bottle;
- a cap (3) releasably connected to the peripheral rim to close the open mouth;
- a covering (18) provided around the bottle covering at least part of the peripheral wall, wherein the covering is at least partly translucent, which translucent portion of the covering coincides with the translucent portion of the peripheral wall.

13. Package according to claim 12, wherein the cap comprises a covering surface (11) and a peripheral flange (13) extending from the covering surface; and wherein an engaging element (15) provided at an inside of the cap releasably engages the peripheral rim of the bottle.

14. Package according to claim 13, wherein the peripheral rim comprises a threaded portion (9) extending downwards from the edge to the base and wherein the peripheral flange of the cap is provided with a threaded inside (14) matching with the threaded portion of the peripheral rim, such that the bottle is reclosed by screwing the cap onto the threaded portion of the peripheral rim.

15. Package according to any of claims 12-14, wherein the peripheral flange of the cap comprises a tamper evident indicator (16) and wherein the tamper evident indicator remains inactive upon engagement of the peripheral flange to the peripheral rim.

Fig. 1

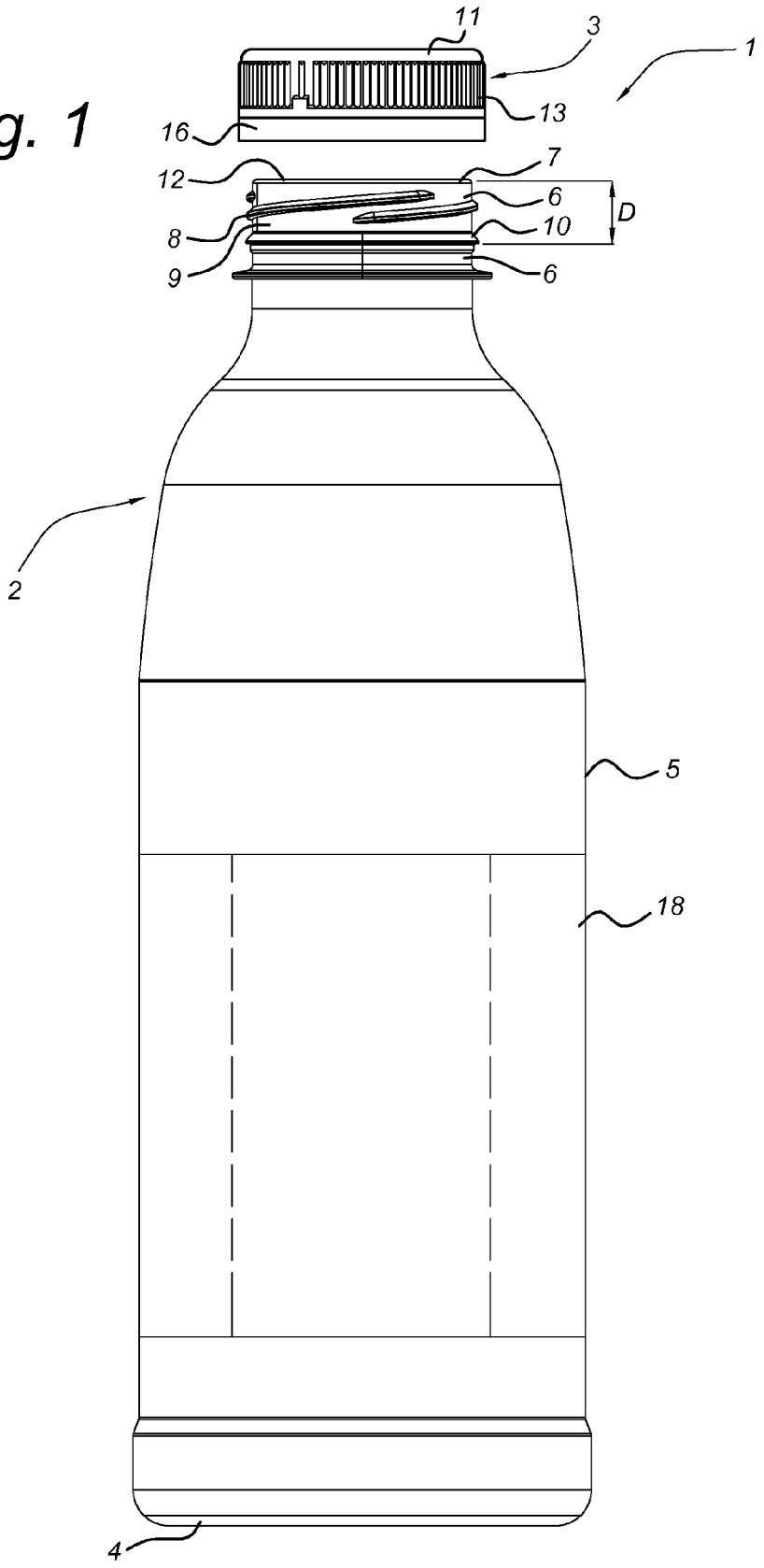


Fig. 2

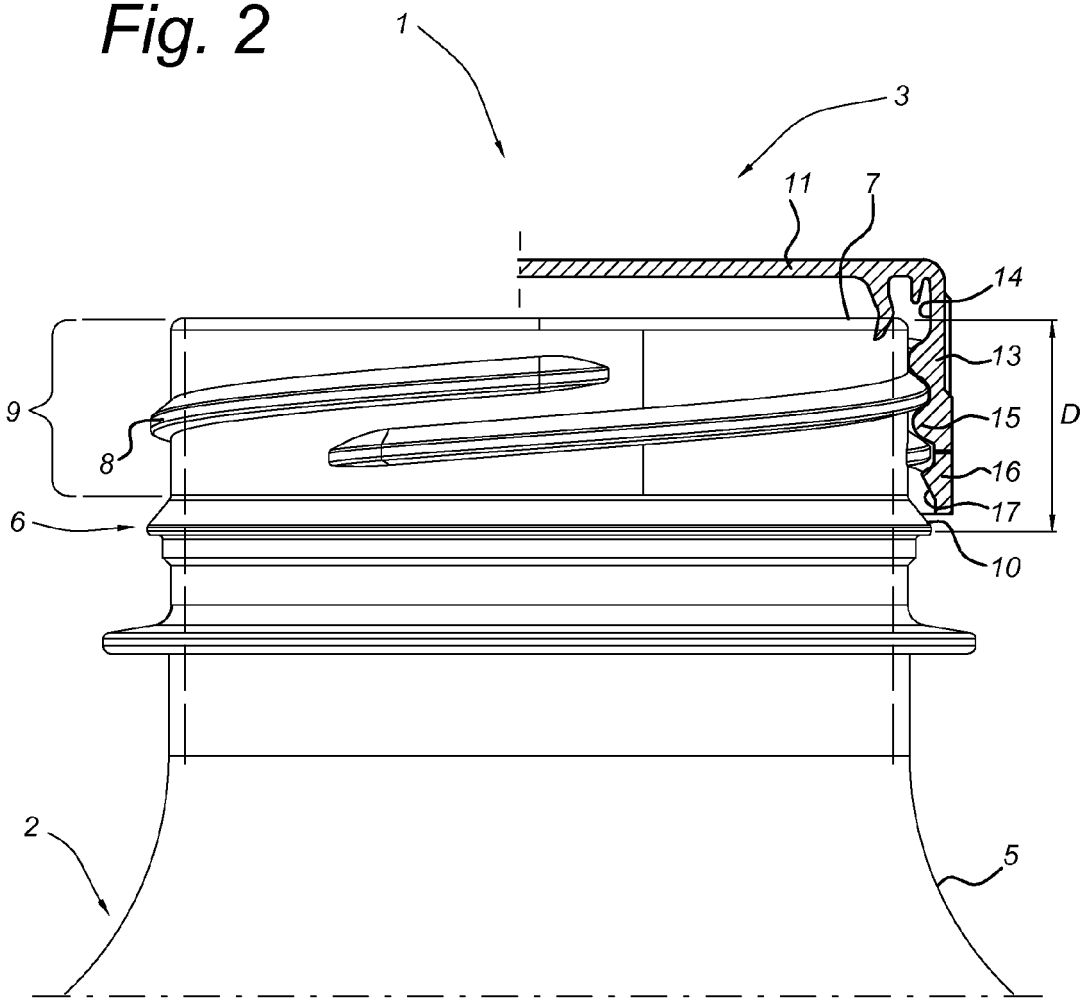
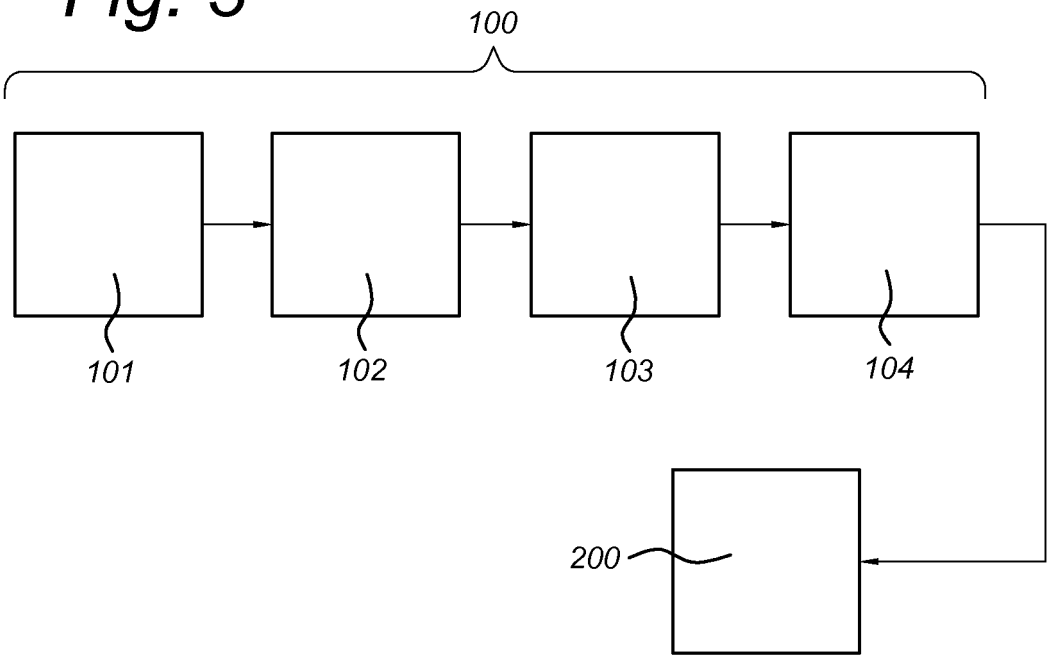


Fig. 3



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EUROPEAN SEARCH REPORT

Application Number
EP 14 18 2617

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	2 February 2015	Bridault, Alain

CATEGORY OF CITED DOCUMENTS

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