



(12) **EUROPEAN PATENT APPLICATION**  
 published in accordance with Art. 153(4) EPC

(43) Date of publication:  
**25.10.2017 Bulletin 2017/43**

(51) Int Cl.:  
**B65D 17/28 (2006.01)**

(21) Application number: **15868723.6**

(86) International application number:  
**PCT/BR2015/000076**

(22) Date of filing: **18.05.2015**

(87) International publication number:  
**WO 2016/094977 (23.06.2016 Gazette 2016/25)**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**  
 Designated Extension States:  
**BA ME**  
 Designated Validation States:  
**MA**

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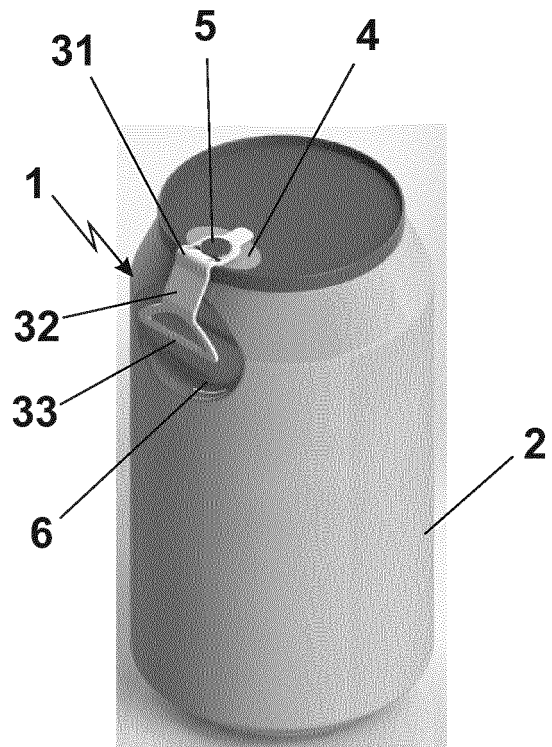
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(30) Priority: **19.12.2014 BR 202014032067 U**

(54) **STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS**

(57) The present utility model relates to a structural arrangement in a seal for beverage containers, pertaining to the technical field of packaging accessories in general but relating more particularly to a new seal for cans for beverages, such as beer, juices and soft drinks, or any other beverage or product that uses the packaging container in question, which yields practical, secure and functional results that are very advantageous. The present utility model patent comprises a seal (1) for beverage cans (2), the seal (1) being provided with a curvilinear lever (3) the upper portion of which is secured to the body (4), which is elliptical or has the shape of the opening of the container, wherein the lever (3) is provided with a fastening system (5) and is designed to form a lever point (30) that widens and extends as far as the fold (31) at the edge, that in turn forms the tooth (31') that perforates the peripheral region of the elliptical body (4), thereby facilitating opening, and that extends, following the inclination of the can, forming the portion (32), and ending in a semi-circular ring (33), the latter being accommodated on the recess (6) made in the can (2). The aforesaid is in addition to certain structural variations provided in variants thereof.



**Fig. 1.1**

**Description**DISCLOSURE OF THE INVENTION

**[0001]** The present Utility Model Patent is directed to a structural arrangement in a seal for beverage containers, pertaining to the technical field of packaging accessories in general but relating more particularly to a new seal for cans for beverages, such as beer, juices and soft drinks, or any other beverage or product that uses the packaging container in question, which yields practical, secure and functional results that are very advantageous.

STATE OF THE ART

**[0002]** Beverage cans are widely known, but only a few people is aware of <http://aleri.inl.alerj.rj.gov.br>, related to the amendment to Bill 2833/2002 that regulates the requirement to print information on beverage cans for alerting consumers of the need to wash the can before drinking the liquid, whose justification is as follows:

"Recent research carried out by specific laboratories have disclosed serious contamination in beverage cans. It was found that on the average large amounts of Bacteria Colony Forming Units per square centimeter (UFC/cm) of fecal coliforms get in touch with the mouth of the consumer, among a number of other microorganisms. The total coliforms indicate precarious hygiene, since the ingestion of a beverage in a can carrying fecal coliforms is the same as putting the mouth in a thoroughly contaminated material, bringing about diarrhea and vomit. Infectologists alert that the current model of the cans is quite deficient, since the dirty seal of the can may contact the liquid and stimulate the proliferation of bacteria as soon as it is opened.

**[0003]** In our State a lot of consumers have acquired several types of illness caused by contaminated beverage cans, and even a few cases of death have been reported.

**[0004]** Therefore, it is of the utmost importance to alert consumers on beverage in a proper way in a clear and objective language for clarifying the consumer. It cannot be admitted that the lack of information is the main cause of illnesses any longer."

**[0005]** Thus, the purpose of this patent is to provide a more hygienic use of can containers, in order to prevent/avoid the liquid from being contaminated. Practically no one has noticed so far that the lid is inserted into the can when the seal is broken, thus establishing a direct contact with the drink, so, in view of this fact the present invention was developed wherein, by using the structural arrangement in a seal for beverage containers and constructive variants thereof, the beverage cans can be opened by removing the seal, thus preventing the same from contacting the liquid, while providing a fast practical

removal of the seal.

DESCRIPTION OF THE INVENTION

**[0006]** The present utility model patent will be better understood after reading the description of the figures that represent schematically:

Figure 1.1: a perspective view of the new structural arrangement in a seal for beverage containers;  
 Figure 1.2: a partially exploded perspective view of the seal for beverage containers;  
 Figure 1.3: an upper view of the seal for beverage containers;  
 Figure 1.4: a partial perspective view showing the seal for beverage containers opened;  
 Figure 1.5: a partial perspective view showing the seal for beverage containers partially opened;  
 Figure 1.6: a partial perspective view showing the seal for beverage containers opened;  
 Figure 1.7: a partial perspective view showing the seal for beverage containers fully removed;  
 Figure 1.8: a partial cut side view of the seal for beverage containers;  
 Figure 1.9: a partial cut side view showing the seal for beverage containers opened;  
 Figure 1.10: a partial cut side view showing the seal for beverage containers partially opened;  
 Figure 1.11: a partial cut side view showing the seal for beverage containers opened;  
 Figure 1.12: a partial cut side view showing the seal for beverage containers fully removed;  
 Figure 2.1: a perspective view of a first constructive variant of the seal for beverage containers;  
 Figure 2.2: an exploded perspective view of a first constructive variant of the seal for beverage containers;  
 Figure 3.1: a perspective view of a second constructive variant of the seal for beverage containers;  
 Figure 3.2: an exploded perspective view of a second constructive variant of the seal for beverage containers;  
 Figure 4.1: a perspective view of a third constructive variant of the seal for beverage containers;  
 Figure 4.2: an exploded perspective view of a third constructive variant of the seal for beverage containers;  
 Figure 5.1: a perspective view of a fourth constructive variant of the seal for beverage containers;  
 Figure 5.2: an exploded perspective view of a fourth constructive variant of the seal for beverage containers;  
 Figure 6.1: a perspective view of a fifth constructive variant of the seal for beverage containers;  
 Figure 6.2: an exploded perspective view of a fifth constructive variant of the seal for beverage containers;  
 Figure 7.1: a perspective view of a sixth constructive

variant of the seal for beverage containers;

Figure 7.2: an exploded perspective view of a sixth constructive variant of the seal for beverage containers;

Figure 8.1: a perspective view of a seventh constructive variant of the seal for beverage containers;

Figure 8.2: an exploded perspective view of a seventh constructive variant of the seal for beverage containers;

Figure 8.3: an upper view of a seventh constructive variant of the seal for beverage containers;

Figure 8.4: an exploded upper view of a seventh constructive variant of the seal for beverage containers;

Figure 8.5: a detailed cut perspective of a seventh constructive variant of the seal for beverage containers;

Figure 8.6: a detailed cut side view of a seventh constructive variant of the seal for beverage containers, in the closed position;

Figure 8.7: a detailed cut side view of a seventh constructive variant of the seal for beverage containers, showing the seal being removed;

Figure 8.8: a detailed cut side view of a seventh constructive variant of the seal for beverage containers, with the lever pushed down and the seal being removed;

Figure 9.1: a perspective view of an eighth constructive variant of the seal for beverage containers;

Figure 9.2: an exploded perspective view of an eighth constructive variant of the seal for beverage containers;

Figure 10.1: a perspective view of a ninth constructive variant of the seal for beverage containers;

Figure 10.2: an exploded perspective view of a ninth constructive variant of the seal for beverage containers;

Figure 11.1: a perspective view of a tenth constructive variant of the seal for beverage containers;

Figure 11.2: an exploded perspective view of a tenth constructive variant of the seal for beverage containers;

Figure 12.1: a perspective view of an eleventh constructive variant of the seal for beverage containers;

Figure 12.2: an exploded perspective view of an eleventh constructive variant of the seal for beverage containers;

Figure 13.1: a perspective view of a twelfth constructive variant of the seal for beverage containers; and

Figure 13.2: an exploded perspective view of a twelfth constructive variant of the seal for beverage containers.

**[0007]** In accordance with Figures 1.1 and 1.12, the present utility model patent comprises a seal (1), for beverage cans (2), said seal (1) being provided with a curvilinear lever (3), on top of which an elliptical body (4) or in the shape of the opening of the container, provided with an attachment system (5), welded, glued or pressed,

and may optionally be made as a single body, said lever (3) being disposed in order to form a lever tip (30), that widens and extends as far as the fold (31), in the edge that, in turn, forms the tooth (31') that perforates the peripheral region of the elliptical body (4), thus facilitating the opening and extended according to the inclination of the can, thus forming the portion (32) and ending in a semicircular ring (33) that is accommodated on the recess (6) made in the can (2) so that the user may grasp same easily

**[0008]** In accordance with Figures 2.1 and 2.2, in a first constructive variant, the lever (3) is arranged in order not to have the tip (30).

**[0009]** In accordance with Figures 3.1 and 3.2, in a second constructive variant, the lever (3) is arranged in order to form a ring (331) at the free vertical end.

**[0010]** In accordance with Figures 4.1 and 4.2, in a third constructive variant, the lever (3) is arranged in order to form a hollow vertical extension (332) at the free end.

**[0011]** In accordance with Figures 5.1 and 5.2, in a fourth constructive variant, the lever (3) is arranged in order to form a circular ring (333) at the free vertical and the can (2) is provided with two ring-shaped recesses (61 and 61'), one deeper than the other, respectively, so that the user may grasp same easily.

**[0012]** In accordance with Figures 6.1 and 6.2, in a fifth constructive variant, the seal (1) is provided with a rectilinear lever (30) that is disposed horizontally and connected to the fixed end, an elliptical region (4) or in the shape of the opening of the container, provided with an attachment system (5), welded, glued or pressed, and may optionally be made as a single body, said lever (3) being disposed in order to form a slight fold (301) in the edge that, in turn, forms the tooth (301') that perforates the peripheral region of the elliptical body (4), followed by an extension (302) and ending in a semicircular ring (303) that is accommodated on the circular recess (60) made in the upper portion of the can (2), so that the user may grasp same easily.

**[0013]** In accordance with Figures 7.1 and 7.2, in a sixth constructive variant, the lever (30) is provided with two curved rods (304) at the fixed end thereof that form an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid.

**[0014]** In accordance with Figures 8.1 to 8.8, in a seventh constructive variant, the lever (30), is provided at the fixed end thereof of an inverted U-shaped extension (305) provided in the end thereof with a blade/guillotine type tooth (305'), forming a tip and an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid.

**[0015]** In accordance with Figures 9.1 and 9.2, in an eighth constructive variant, the lever (30), is arranged in order to form a circular ring (306) at the free end of the extension (302).

**[0016]** In accordance with Figures 10.1 and 10.2, in a ninth constructive variant, the lever (30), is arranged in order to form a rectilinear extension (307) at the fixed

end thereof of the extension (302), that forms an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid.

**[0017]** In accordance with figures 11.1 and 11.4, in a tenth constructive variant, the lever (30), is provided with an inverted U-shaped extension (305) at the fixed end thereof that forms an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid and is arranged in order to form an extension (308) provided with an opening (308') in the free end thereof.

**[0018]** In accordance with Figures 12.1 and 12.2, in an eleventh constructive variant, the lever (30), is provided with a rectilinear extension (309) at the fixed end thereof that forms an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid and is arranged in order to form an extension (308) provided with an opening (308') in the free end thereof.

**[0019]** In accordance with Figures 13.1 and 13.2, in a twelfth constructive variant, the lever (30), is provided with an inverted U-shaped extension (305) at the fixed end thereof that forms an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid and is arranged in order to form a curved extension (310) provided with an opening (310') in the free end thereof and the upper portion of the can (2) is provided with a larger and deeper elliptical body (62) so that the user may grasp same easily.

**[0020]** With the structural arrangement in a seal for beverage containers thus attained, it provides the following advantages in relation to its equivalents known so far:

- an easy and practical opening of the seal;
- a more hygienic arrangement, since the seal/lid does not contact the liquid;
- a better levering effect that facilitates the opening of the seal; and
- the possibility of using recyclable materials in the lid.

**[0021]** The scope of the present utility model patent demonstrates its innovation both in the national and international, and therefore it should not be limited to the use of the containers, but to the terms defined in the claims and its several equivalents.

## Claims

1. A STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, **characterized by** comprising a seal (1) for beverage cans (2), said seal (1) being provided with a curvilinear lever (3), the upper portion of which is attached to the elliptical body (4) or in the shape of the opening of the container, provided with an attachment system (5), welded, glued or pressed, and may optionally be made as a single body, said lever (3) being arranged in order to form a lever tip (30), that widens and extends

as far as the fold (31), in the edge that, in turn, forms the tooth (31') that perforates the peripheral region of the elliptical body (4), facilitating the opening and extending following the inclination of the can, forming the portion (32), and ending in a semi-circular ring (33), the latter being accommodated on the recess (6) made in the can (2).

2. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a first constructive variant, the lever (3) is arranged in order not to have the tip (30).

3. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a second constructive variant, the lever (3), is arranged in order to form a ring (331) at the free vertical end thereof.

4. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a third constructive variant, the lever (3) is arranged in order to form a hollow vertical extension (332) at the free end thereof.

5. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a fourth constructive variant, the lever (3) is arranged in order to form a circular ring (333) at the free vertical end thereof, said can (2) being provided with two ring-shaped recesses (61 and 61'), one deeper than the other, respectively.

6. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized that**, in a fifth constructive variant, the seal (1) is provided with a rectilinear lever (30) that is disposed horizontally and coupled to the fixed end thereof, an elliptical region (4) or in the shape of the opening of the container, provided with an attachment system (5), welded, glued or pressed, and may optionally be made as a single body, said lever (30) being arranged in order to form a slight fold (301), in the edge that, in turn, forms the tooth (301') that perforates the peripheral region of the elliptical body (4), followed by an extension (302) and ending in a semicircular ring (303) that is accommodated on the circular recess (60), made in the upper portion of the can (2).

7. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a sixth constructive variant, the lever (30) is provided with two curved rods (304) at the fixed end thereof that form the an-

cillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid.

8. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a seventh constructive variant, the lever (30), is provided with an inverted U-shaped extension (305) at the fixed end thereof that is provided with a blade/guillotine type tooth (305') at the end thereof, forming a tip and an ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid.

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9. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in an eighth constructive variant, the lever (30) is arranged in order to form a circular ring (306) in the free end of the extension (302).

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10. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a ninth constructive variant, the lever (30) is arranged in order to form a rectilinear extension (307) at the fixed end of the extension (302) that forms the ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid.

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11. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a tenth constructive variant, the lever (30) is provided with an inverted U-shaped extension (305) at the fixed end thereof that forms the ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid and arranged in order to form an extension (308) provided with an opening (308') at the free end thereof.

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12. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in an eleventh first constructive variant, the lever (30) is provided with a rectilinear extension (309) at the fixed end thereof that forms the ancillary lever for removing the elliptical body (4), thus preventing same from contacting the liquid and arranged in order to form an extension (308) provided with an opening (308') at the free end thereof.

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13. THE STRUCTURAL ARRANGEMENT IN A SEAL FOR BEVERAGE CONTAINERS, according to claim 1, **characterized in that**, in a twelfth constructive variant, the lever (30), is provided with an inverted U-shaped extension (305) at the fixed end thereof that forms the ancillary lever for removing the elliptical body (4), thus preventing same from contacting

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the liquid and arranged in order to form a curved extension (310) in the free end thereof provided with an opening (310') and the upper portion of the can (2) is provided with a larger and deeper elliptical recess (62).

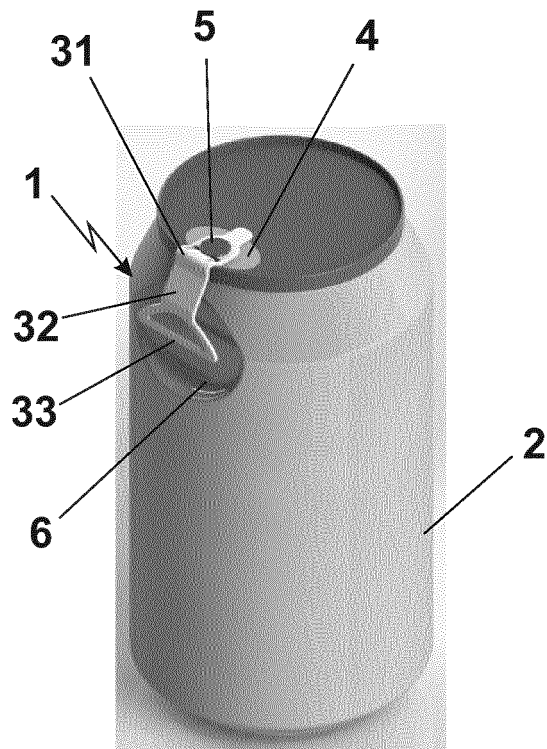


Fig. 1.1

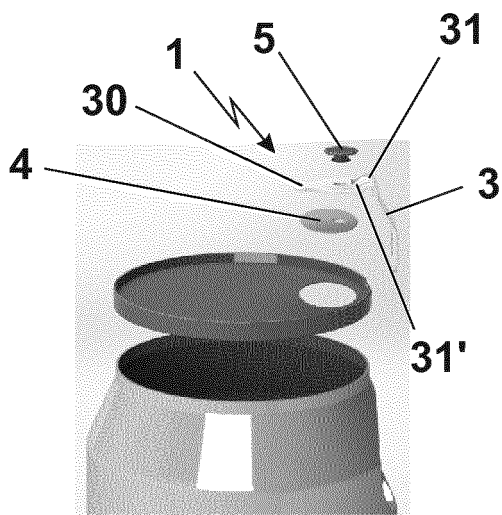


Fig. 1.2

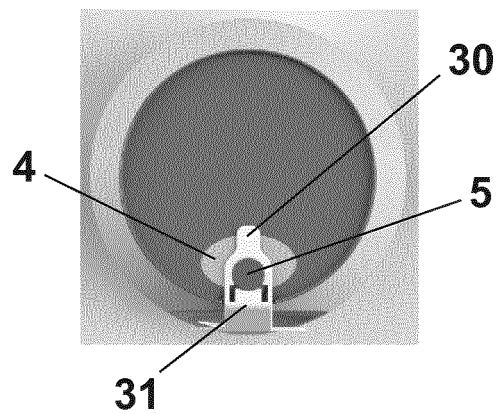
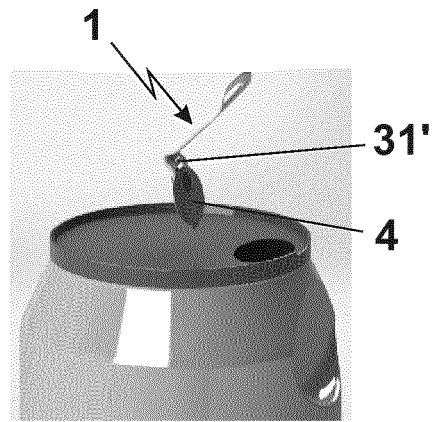
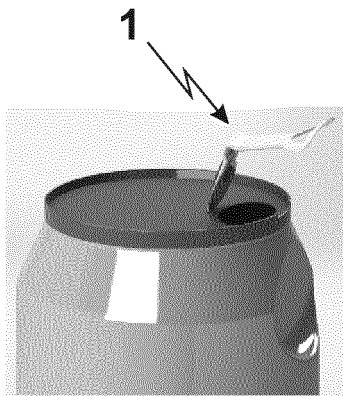
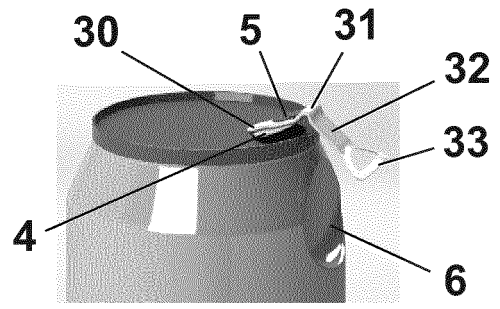
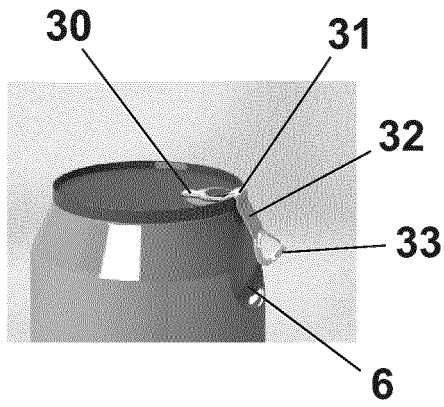


Fig. 1.3



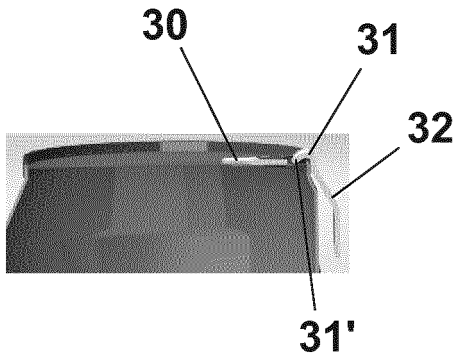


Fig. 1.8

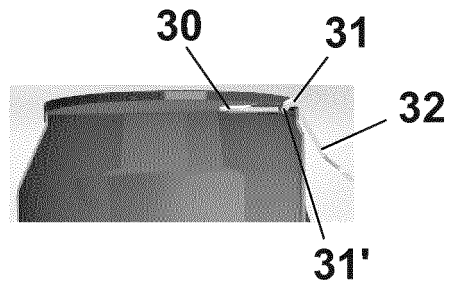


Fig. 1.9

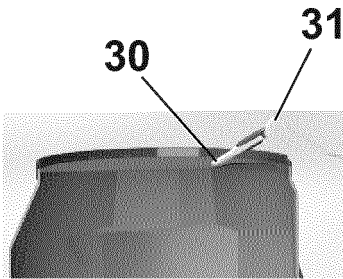


Fig. 1.10

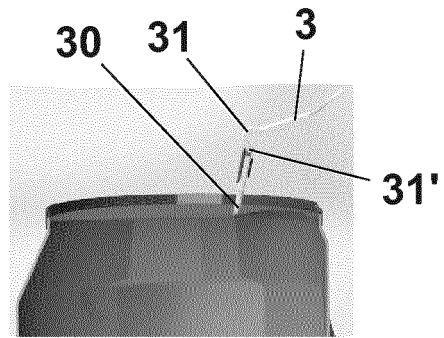


Fig. 1.11

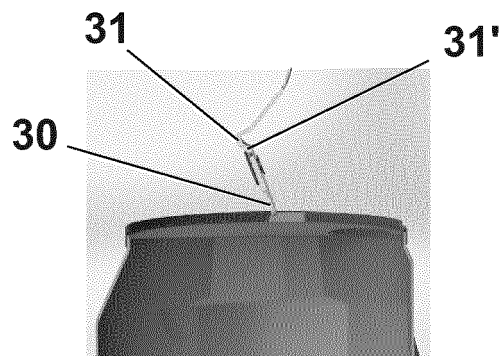
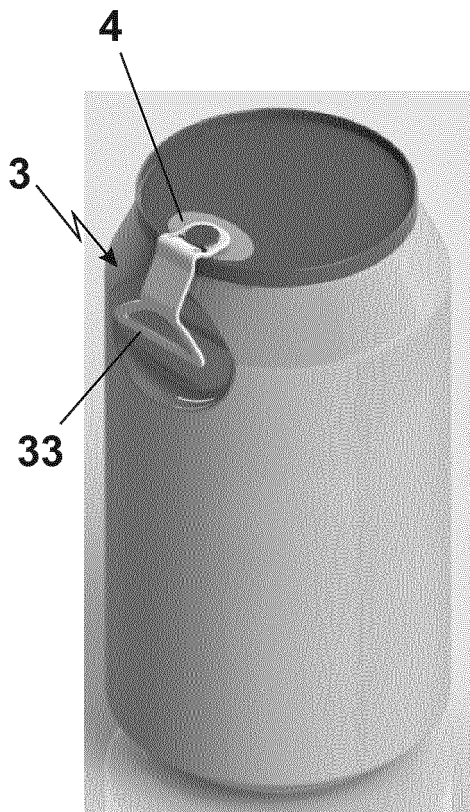
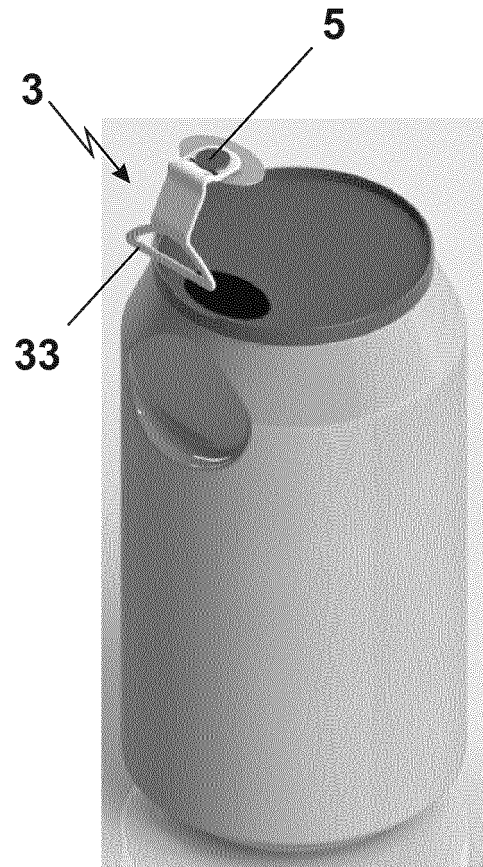


Fig. 1.12





**Fig. 2.1**



**Fig. 2.2**

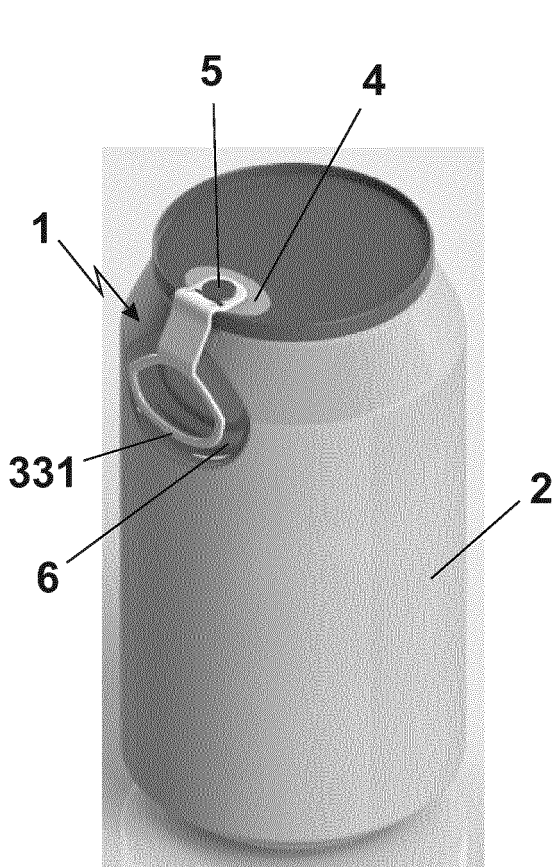


Fig. 3.1

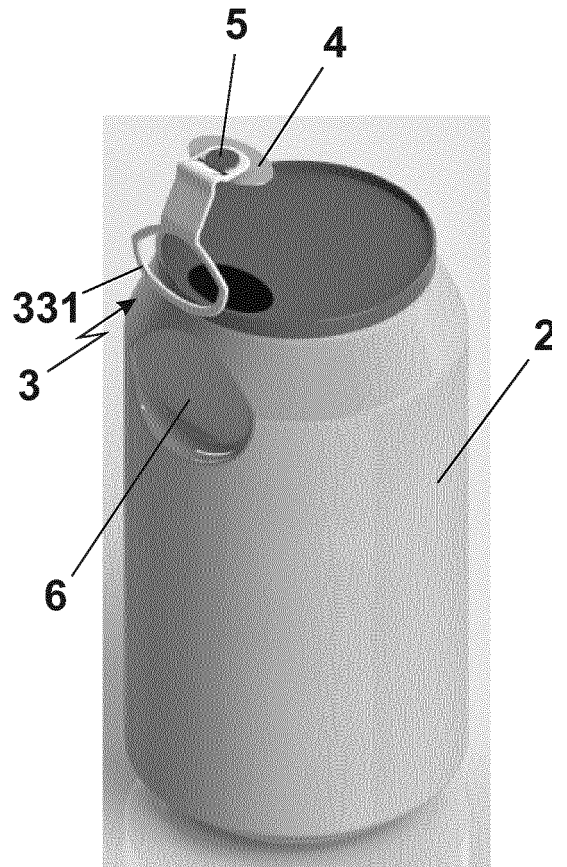


Fig. 3.2

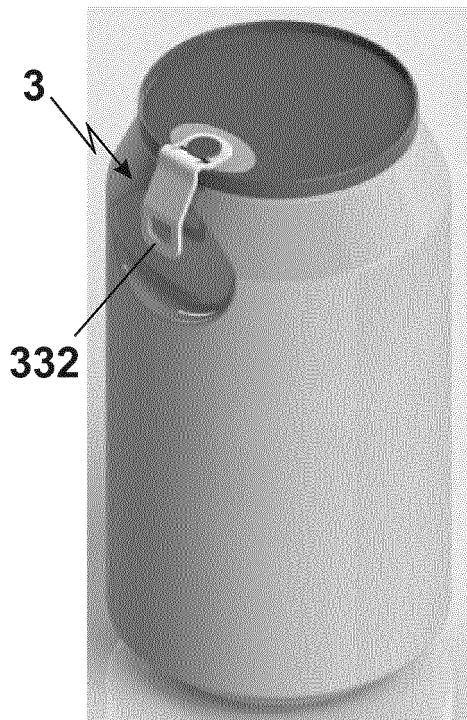


Fig. 4.1

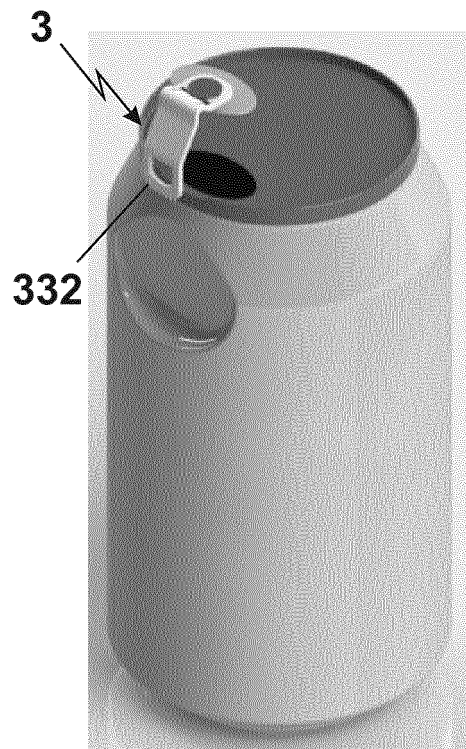


Fig. 4.2

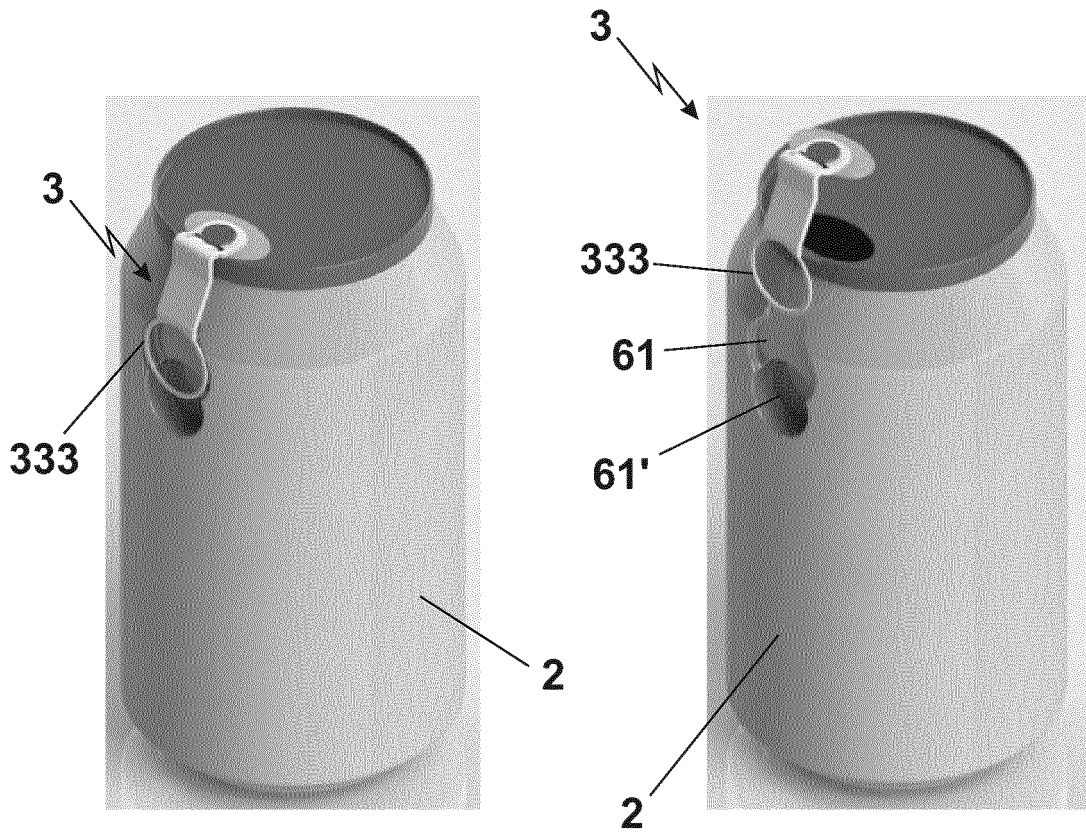


Fig. 5.1

Fig. 5.2

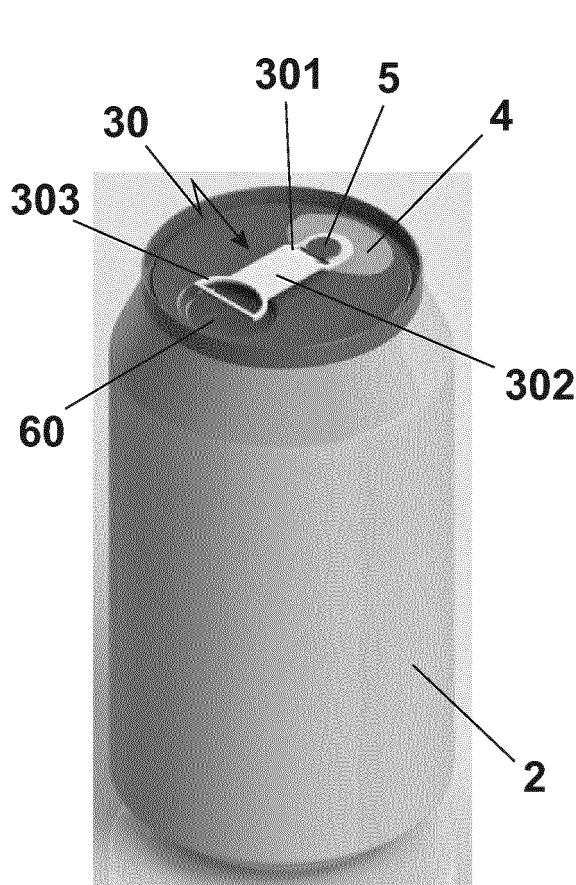


Fig. 6.1

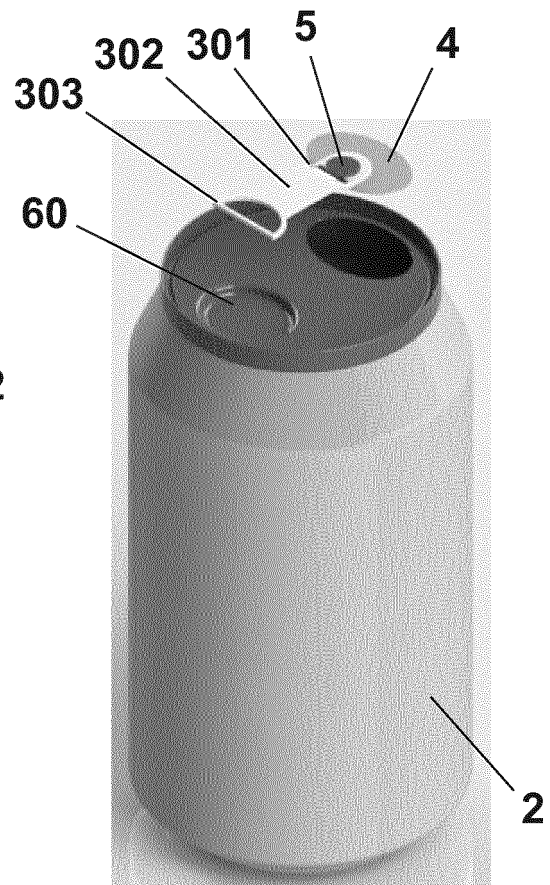
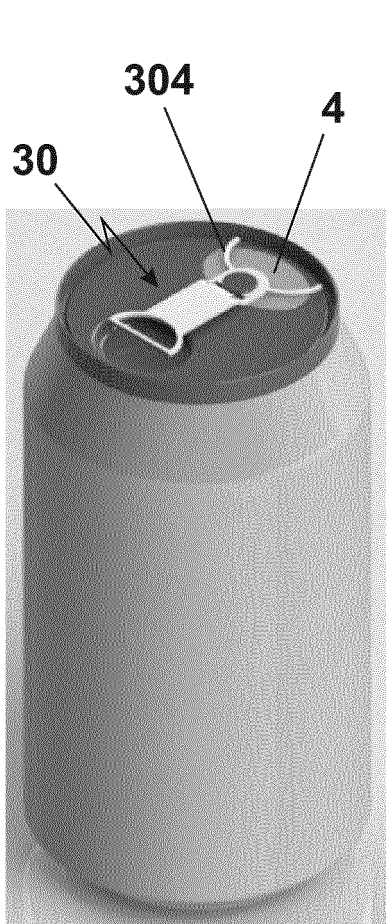


Fig. 6.2



**Fig. 7.1**



**Fig. 7.2**

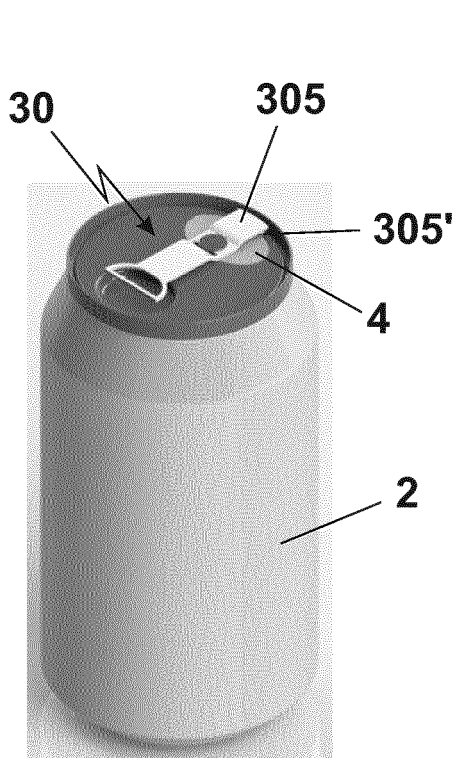


Fig. 8.1

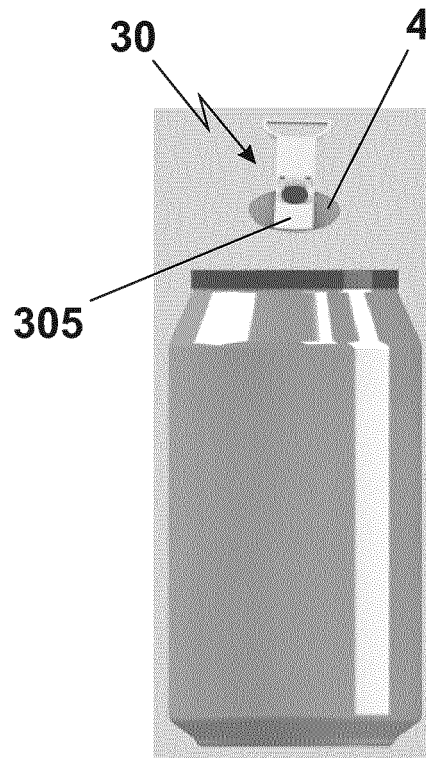


Fig. 8.2

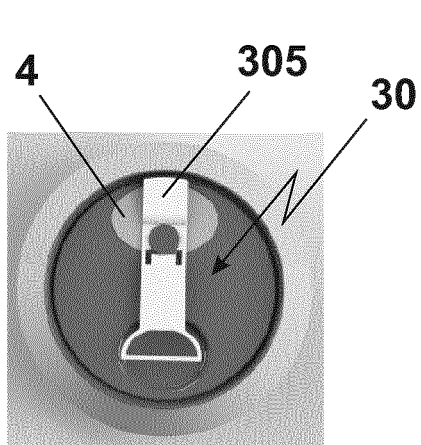


Fig. 8.3

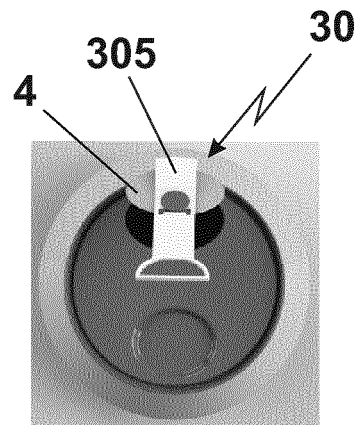


Fig. 8.4



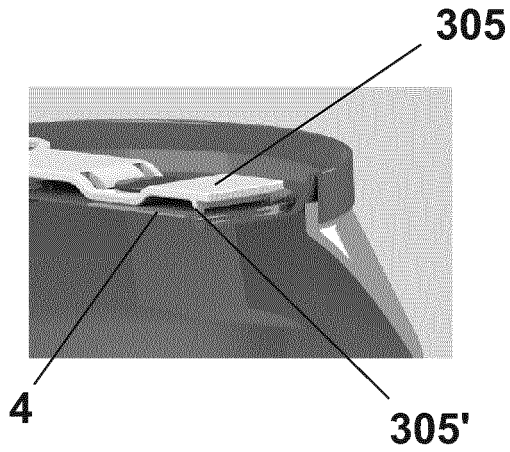


Fig. 8.5

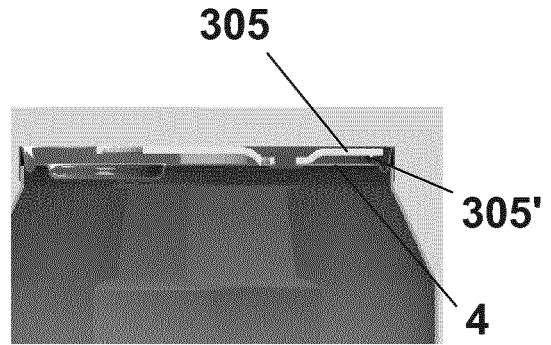


Fig. 8.6

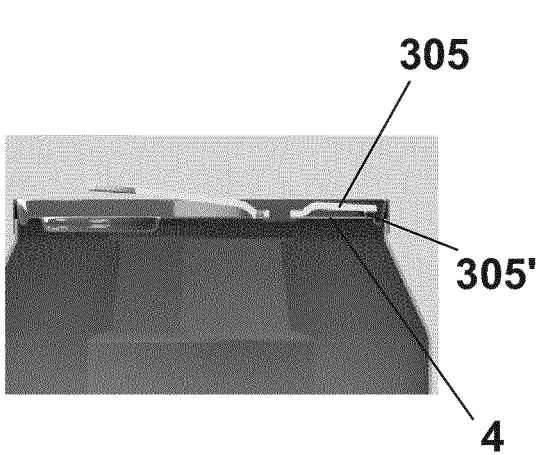


Fig. 8.7

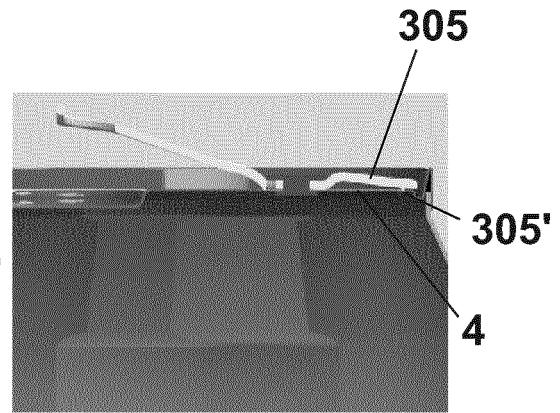


Fig. 8.8



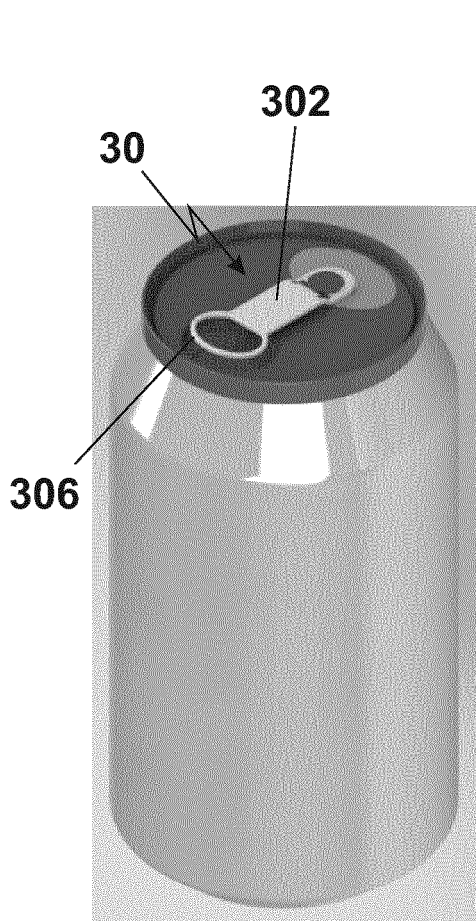
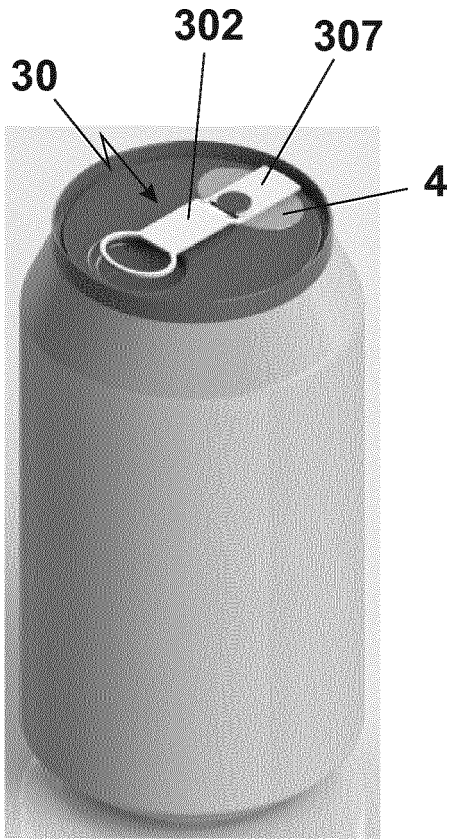


Fig. 9.1



Fig. 9.2



**Fig. 10.1**



**Fig. 10.2**

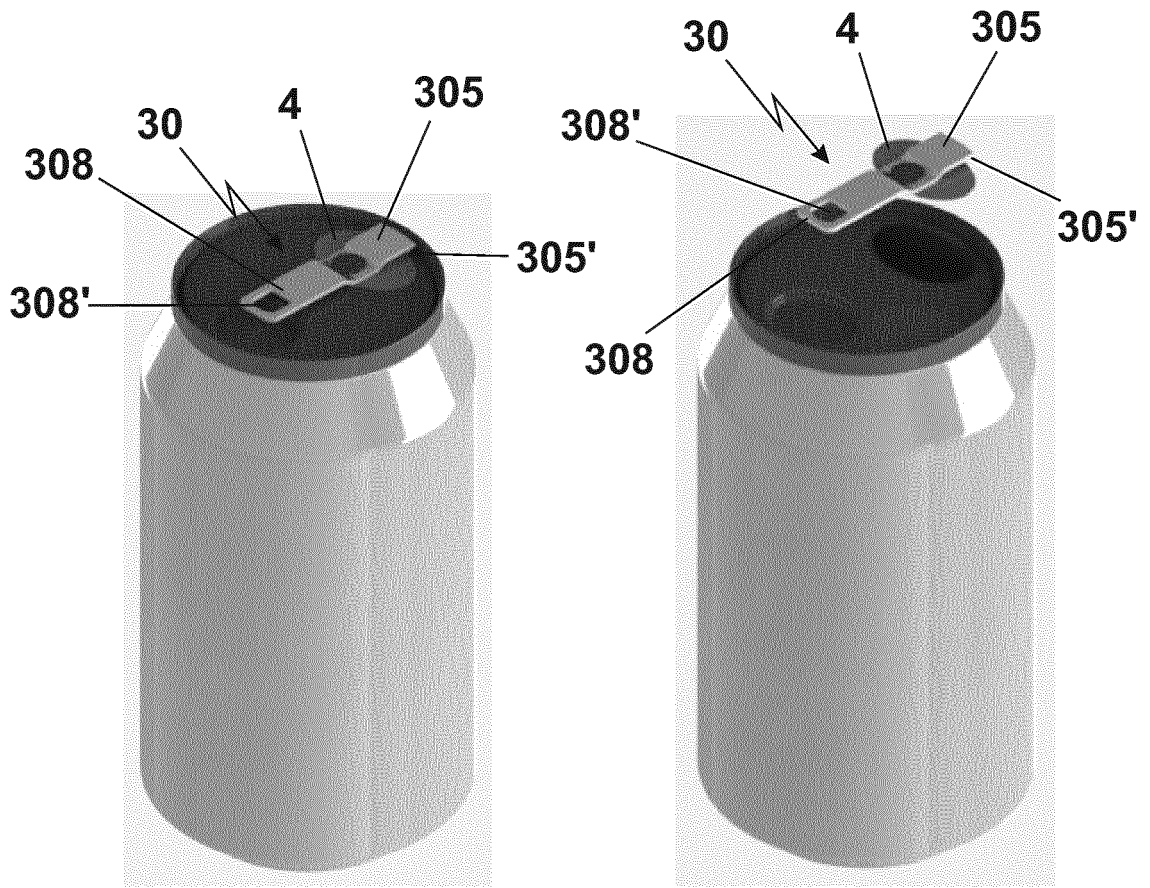


Fig. 11.1

Fig. 11.2

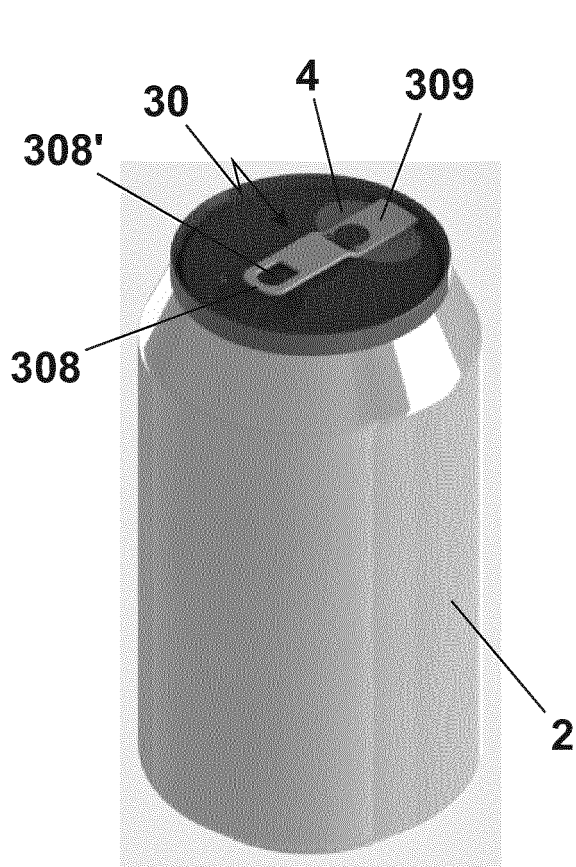


Fig. 12.1

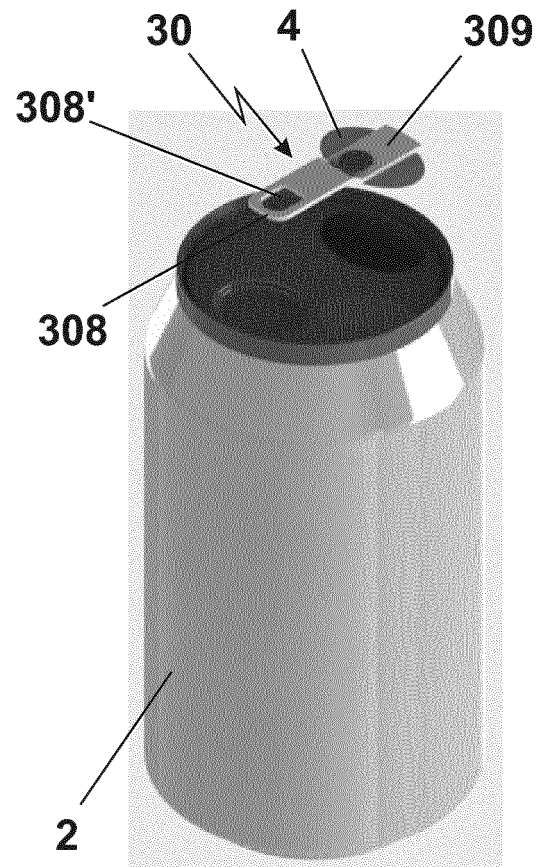


Fig. 12.2

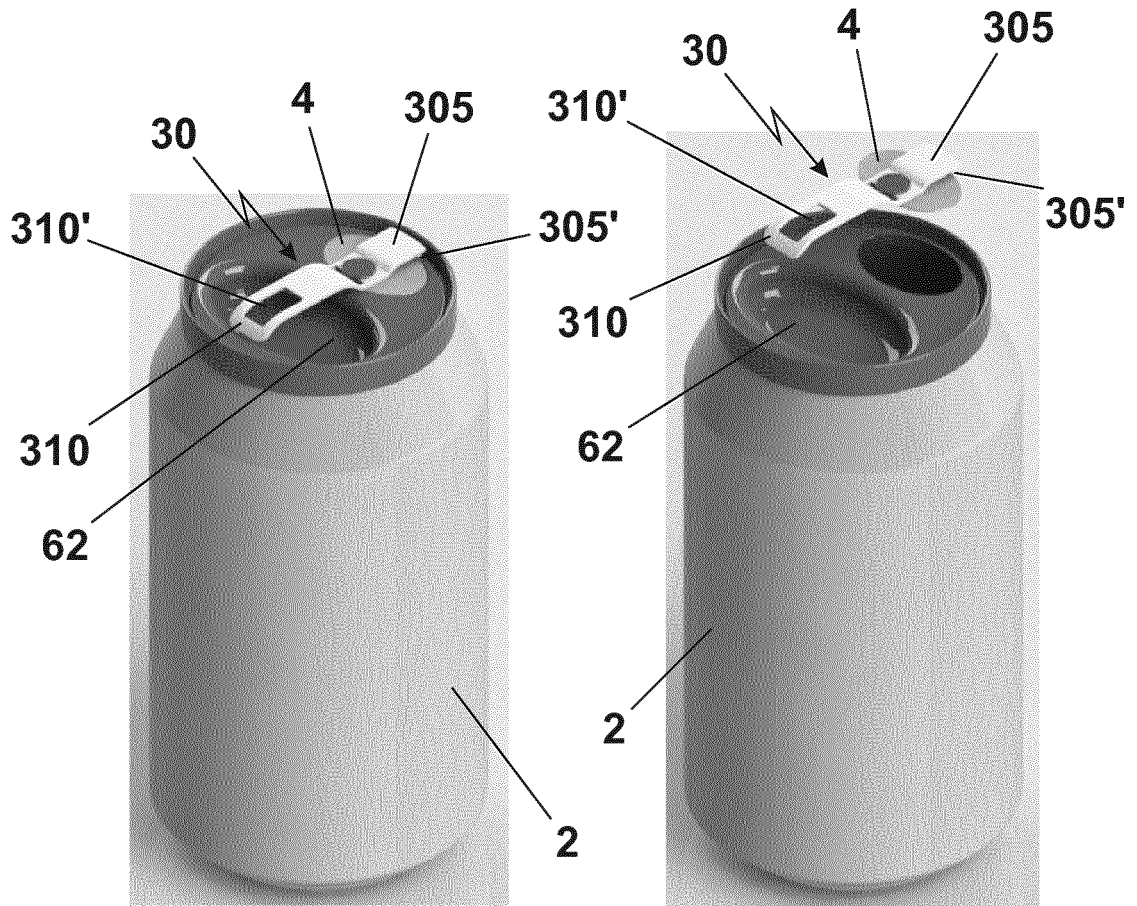



Fig. 13.1

Fig. 13.2

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/BR2015/000076

|    |   |  |
|----|---|--|
| 5  | A. CLASSIFICATION OF SUBJECT MATTER<br><b>B65D17/28 (2006.01)</b>   |  |
|    | According to International Patent Classification (IPC) or to both national classification and IPC   |  |
| 10 | B. FIELDS SEARCHED<br>Minimum documentation searched (classification system followed by classification symbols)<br><b>IPC: B65D17/28; CPC: B65D17/165, B65D2517/0013, B65D2517/0079, B65D2517/0092, B65D2517/5062, B65D2517/5</b> |  |
|    | Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched<br><b>BASE DE DADOS INPI-BR (SINPI)</b>   |  |
| 15 | Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)<br><b>EPODOC, ESPACENET, GOOGLE PATENTS</b>  |  |
| 20 | C. DOCUMENTS CONSIDERED TO BE RELEVANT  |  |
|    | Category*   | Citation of document, with indication, where appropriate, of the relevant passages   |
|    |   | Relevant to claim No.  |
| 25 | Y   | WO 0128875 A1 (SON TAE HYUN [KR])<br>26 APR 2001 826.04.2001<br>(Fig. 3A to 3T; pag. 12, Lines 6 to 40)  |
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|    |   | 1, 5, 6 and 13   |
| 45 | <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.   |  |
|    | * Special categories of cited documents:  | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| 50 | "A" document defining the general state of the art which is not considered to be of particular relevance  | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
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|    | "O" document referring to an oral disclosure, use, exhibition or other means  |  |
|    | "P" document published prior to the international filing date but later than the priority date claimed  |  |
|    | Date of the actual completion of the international search<br><b>30 JUL 2015 (30.07.2015)</b>  | Date of mailing of the international search report<br><b>27 AUG 2015 (27.08.2015)</b>  |
|    | Name and mailing address of the ISA/<br>   | Authorized officer<br><b>Leonardo Falangola Martins</b>  |
|    | Facsimile No.   | Telephone No. <b>+55 21 3037-3493/3742</b>   |

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT |  |                       |
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