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(54) **A lever-type easy-to-open cap for bottle**

Hebelähnlicher, leicht zu öffnender Deckel für Flasche

Capsule de type à levier à ouverture facile pour bouteille

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Description

Technical Field

[0001] This invention relates to a lever-type easy-to-open cap for bottle, such as containers for beer, gas-containing beverage, pressurized beverage or medicine.

Background

[0002] An easy-to-open cap for a bottle available in the current market is designed such that a pull-ring is added to a common cap. The pull-ring is directly fixedly connected to the cap body by a rivet, and two invisible scores forming an angle of about 20 to 70 degrees are formed at the back of cap body. In using, the pull-ring is pulled up so as to remove the potion between the two invisible scores on the cap body from the cap for bottle and then open the cap for bottle.

[0003] However, this kind of cap as mentioned above has some disadvantages as below:

1. Since the pull-ring and the cap body are directly fixedly connected via a rivet passing therethrough, seal effect of the cap will be negatively affected by any loosening of riveting portions of the rivet with respect to the pull-ring and the cap body, and content within the bottle may be contaminated, thus leading to a risk in heath safety. Furthermore, using a separate rivet to rivet the pull-ring and the cap body makes manufacture processes more complicated.
2. In the prior art, the angle between the two invisible scores formed at the back of the cap body is approximately 20 to 70 degrees. This relatively large angle does not only make it difficult to open the bottle (a pulling force of about 8kg is necessary), but also tends to cause a jet burst of the pressurized package (such as beer, gas-containing beverage).
3. In the prior art, the tails of the two invisible scores directly extend to the edge of the cap body, which will increase the force necessary to separate the pull-ring from the cap body at tails. This increased force may separate the pull-ring from the cap body, or in other words, may render it impossible for the cap to smoothly disengage from the bottle, hence negatively affecting opening effect. This design does not lead itself to recycling. Furthermore, a sharp edge will be formed at the location where the pulling-ring disengages from the cap body, and therefore user or people accessing the bottle may be hurt.
4. In the prior art, since the cap body is not provided with a positioning structure for the pull-ring thereon, the pull-ring may rotate and/or the pull-rings may overlap each other during bottling, hence leading interference to bottling process.
5. In the prior art, the top surface of the cap body is flat, and the connecting portion of the pull-ring with the cap body is also of a planar structure, therefore

the cap body and the pull-ring cannot be connected tightly.

6. In the prior art, the pull-ring is embossed on the top portion of the cap body and the overall height of the cap is increased. Therefore, bottling process requires a special device, or an existing bottling device can only be used after proper retrofit. Since the conventional lever-type easy-to-open cap as mentioned above cannot be used in the existing bottling device, it lacks compatibility and versatility.

[0004] In view of the above-mentioned problems, the inventor, based on extensive design and development experiences in relevant industrials, propose a novel lever-type easy-to-open cap for bottle, which is of a simple structure, easy to open, and has high compatibility and excellent versatility.

[0005] GB-A-1377767 discloses a closure cap having an annular rim comprising a top portion and a depending peripheral skirt to secure the cap to the container. A V-shaped tear strip covers more than one half the area of the top portion. The tear strip has an arcuate nose portion, opposed diverging sides and unequal length terminal legs. A pull ring is connected with the nose portion disposed beyond the centre of said top portion to the opposite side from said legs.

Summary of Invention

[0006] Examples of this invention provide an novel lever-type easy-to-open cap for bottle which is of simple structure, convenient to manufacture, and easy to open. The lever-type easy-to-open cap for bottle may ensure the content within the bottle to be hygienic and safe. Moreover, compared with conventional cap, it needs less force to open the cap.

[0007] Examples of the invention provide a lever-type easy-to-open cap for bottle, which does not cause a jet burst during opening the bottle.

[0008] Examples of this invention provide a lever-type easy-to-open cap for bottle, which requires an decreased pulling force, ensures that a cap body and a pull-ring remain an integral piece after the cap is opened, separates the cap form the bottle smoothly so as to prevent the bottle mouth from damaging, therefore facilitates recycling the empty bottle and the cap and is friendly to environment. Meanwhile, no sharp corner will be formed at the separation portion of the pull-ring from the cap body, without causing any dangers to the user.

[0009] Examples of the invention provide a lever-type easy-to-open cap for bottle, which may prevent the pull-rings from rotating or overlapping each other during bottling such that the bottling operation may be performed smoothly.

[0010] Examples of the invention provide a lever-type easy-to-open cap for bottle, which possesses good compatibility and versatility such that conventional bottling devices can be employed for bottling.

[0011] In summary, the invention provides a lever-type easy-to-open cap for bottle, which comprises a crown cap body and a pull-ring. At the center of the inner side of the top portion of the crown cap body, a boss is formed by pressing upwards. An arc-shaped score surrounding the boss is formed at the inner side of the top portion of the crown cap body, and each of both ends of the arc-shape score extends to one side of the crown cap body so as to transit to a straight invisible score, which allows removing the cap from the bottle. The pull-ring is formed integrally with a lever tab towards its central portion, wherein the lever tab is provided with a rivet hole at the free end thereof, which is nested on the boss, and the pull-ring is riveted to the crown cap body by the boss. Two concave arc-shaped notches corresponding to each other are respectively formed on both sides of the connection portion between the lever tab and the pull-ring.

[0012] In a preferable embodiment, the two straight invisible scores form an angle of 1 to 20 degrees therebetween.

[0013] In a preferable embodiment, one of the straight invisible scores extends up to the edge of the cap body so as to form at the edge two arcs in a double R form with a radius of 0.5 to 3mm. The tail of the other straight invisible score is connected to an arc-shaped invisible score, which has a radius of 1 to 5mm and is spaced apart from the edge of the cap body by a distance. In a preferable embodiment, the arc-shaped invisible score has a radius of 3mm.

[0014] In another preferable embodiment, two positioning protrusions are provided, in a manner of corresponding to the two straight invisible scores, at outer side of the top portion of the cap body on the side opposite to the two straight invisible scores, and the bottom surface of the lever tab contacts the positioning protrusions and is positioned thereby.

[0015] In a preferable embodiment, a notch, which can receive the pull-ring therein, is formed concavely downwards at the top portion of the cap body.

[0016] In a preferable embodiment, a circular notch, which surrounds the boss and can strengthen the cap body, is further provided inside the notch.

[0017] In a preferable embodiment, the inner and outer circles of the pull-ring are respectively formed as corresponding furl edges toward the bottom of the pull-ring, which tightly abut against each other at the bottom of the pulling-ring.

[0018] In a preferable embodiment, two sides of the lever tab are respectively formed, toward its bottom, as corresponding furl edges.

[0019] In a preferable embodiment, a recess, which abuts against the cap body, is formed at the free end of the lever tab on which the rivet hole is provided.

[0020] As mentioned above, in a lever-type easy-to-open cap for bottle according to the invention, the pull-ring is not directly connected to the cap; instead, it is riveted at the center of the cap body via a level tab. The pulling force that is necessary to open the cap via the

level tab is significantly decreased due to so-called level principle. As concave arc-shaped notches are arranged at the connection portion between the lever tab and the pull-ring, a lever fulcrum is easily and quickly formed during opening the cap such that the level tab can efficiently act to reduce the required pulling force. Furthermore, according to the invention, no separate rivet is employed for riveting, neither is a rivet hole provided on the cap body; and the cap body and the pull-ring are riveted together by the boss, which is part of the cap body. Thus, this arrangement prevents the bottled content within the bottle from contamination which would be otherwise caused by any loosening and hence an impaired sealing condition. In this way the content is ensured to be safe and hygienic.

Description of Drawings

[0021]

Fig. 1 is a structure diagram of a lever-type easy-to-open cap for bottle embodying the invention;

Fig. 2 is a structure diagram of the bottle cap embodying the invention;

Fig. 3A is a structure diagram of the pull-ring embodying the invention;

Fig. 3B is a perspective view of the pull-ring embodying the invention;

Fig. 3C is a cross-section illustrative view of the pull-ring embodying the invention;

Fig. 4 is a structure diagram in cross-section view showing the lever-type easy-to-open cap for bottle embodying the invention before it is pressed on a bottle body; and

Fig. 5 is a structure diagram in cross-section view showing the lever-type easy-to-open cap for bottle after it is pressed onto the bottle.

Best Mode

[0022] As shown in Figs. 1, 2 and 3A, a lever-type easy-to-open cap for bottle comprises a crown cap body 1 and a pull-ring 2. A boss 11 (shown in Fig. 4) is formed at the center of inner side at the top portion of cap body 1 by pressing upwards, and an arc-shaped score 12 around the boss 11 is formed at the top portion of the crown cap body 1 in its inner side, both ends of the arc-shaped score 12 respectively extend to one side of the crown cap body 1 so as to transit to two straight invisible scores 13 which allow to remove the cap from the container. The pull-ring 2 is integrally formed with a lever tab 21 toward its central portion. The lever tab 21 is provided with a rivet hole 211 at the free end thereof, which is nested on the boss 11. The pull-ring 2 is riveted to the crown cap body 1 by the boss 11. Two concave arc-shaped notches 212 corresponding to each other are respectively formed on both sides of the connection portion between the lever tab 21 and pull-ring 2.

[0023] As mentioned above, in a lever-type easy-to-open cap for bottle according to the invention, the pull-ring is not directly connected to the cap body; instead, it is riveted at the center of the cap body via a lever tab. The pulling force that is necessary to open the cap via the lever tab is significantly decreased due to so-called lever principle. As concave arc-shaped notches are present at the connection portion between the lever tab and the pull-ring, a lever fulcrum is easily and quickly formed during opening the cap such that the lever tab can efficiently act to reduce the required pulling force. Furthermore, according to the invention, no separate rivet is employed for riveting, neither is a rivet hole provided on the cap body; and the cap body and the pull-ring are riveted together by the boss, which is part of the cap body. Thus, this arrangement prevents the bottled content within the bottle from contamination which would be otherwise caused by any loosening and hence an impaired sealing condition. In this way the content is ensured to be safe and hygienic.

[0024] Furthermore, as indicated in Figs. 1 and 2, the angle between the two straight invisible scores 13 is between 1 and 20 degrees. If this angle is too large (more than 20 degrees, for example ranging from 20 to 70 degrees as in the prior art), it will need larger force to open the bottle, further a jet burst of the pressurized content (such as beer, gas-contained beverage, etc.) will likely occur when opening the bottle, thus rendering the user in a dangerous situation. Based on extensive tests, the angle between the two straight invisible scores 13 is chosen to be 1 to 20 degrees, which results in a required pulling force of only about 2kg and allows the cap to smoothly separate from the bottle after opening. In the embodiment, the angle between the two straight invisible scores 13 is 9 degrees.

[0025] According to this embodiment, as indicated in Figs. 1 and 2, one of straight invisible scores 13 extends up to the edge of the cap body 1 so as to form at the edge two arcs 14-1 in a double R form with a radius of 0.5 to 3mm, such that no sharp edge will occur after separation of the pull-ring from the cap body and thus safety of the user are secured. The tail of the other straight invisible score 13 is continuous to an arc-shaped invisible score 14. The arc-shaped invisible score 14 has a radius of 1 to 5mm and is spaced apart from the edge of the cap body by a distance D. In the invention, the arc-shaped invisible score 14 and the straight invisible scores 13 constitute a complete opening arc, to the effect that no dead angle will occur during opening, and the cap body 1 will smoothly separate from the bottle when the pull-ring 2 is pulled over to the edge of the cap body 1. Since there is present a space D between the arc-shaped invisible score 14 and the edge of the cap body, it is ensured that the cap body 1 and the pull-ring 2 remain an integrated piece after the cap body 1 is opened, which facilitating recycle of the cap and further avoid contamination. In the embodiment, the arc-shaped invisible score 14 preferably has a radius of 3mm.

[0026] In this embodiment, both the arc-shaped invisible score 14 and the straight invisible scores 13 are arranged at the back of the cap body 1, and both of them are covered by PVC or PE lining (not showed in figures). This arrangement ensures that the cap possesses an aesthetic appearance at its outside, the required pulling force is minimized, and the scores are prevented from being exposed to the atmosphere and hence from rusting as otherwise would be the case in the prior art. As such, the invention ensures a better quality of the content contained.

[0027] As further indicated in Fig. 2, according to the embodiment, two positioning protrusions 15 are provided, in a manner of corresponding to the two scores 13, at outer side of the top portion of the cap body 1 on the side opposite to the scores 13. The bottom surface of the lever tab 21 contacts the positioning protrusions 15 and then the lever tab 21 is positioned by the positioning protrusions 15, so that the pull-ring 2 is steadier when riveted to the cap body 1 and is prevented from rotating, and rotation of the cap body 1 with respect to the pull-ring 2 during bottling is further avoided.

[0028] As indicated in Figs. 1, 2 and 4, according to an embodiment, a notch 16, which fitly receives the pull-ring 2 and the lever tab 21 therein, is formed at the top portion of the cap body 1 concavely downwards. This ensures that the pull-rings 2 do not overlap with each other during bottling, and hence allows the cap to pass through the bottling device smoothly. Meanwhile, due to the fact that the pull-ring 2 sinks in the notch 16, the overall height of the cap body 1 matches requirements from the present bottling line. Therefore, the present bottling device can be used, without any retrofits, with the lever-type easy-to-open cap for bottle according to the invention. In other words, the lever-type cap according to the invention has good compatibility and versatility. Furthermore, as indicated in Fig. 5, when beverage is bottled into the bottle and the cap body 1 is pressed to cover the bottle mouth, the notch 16 disappears, i.e., become flush with the top surface of cap body, due to pressure within the bottle, such that the pull-ring 2 is raised to project beyond the top surface of the cap body 1, which facilitate the user to pull up the pull-ring 2.

[0029] As indicated in Fig. 1, 2 and 4, according to the embodiment, a circular notch 17, which surrounds the boss 11, is further provided inside the notch 16. The circular notch 17 can strengthen the cap body 1 to an extent that the cap body 1 satisfies pressure-resistant requirement.

[0030] As indicated in Fig. 3A, 3B, 3C and 4, according to the embodiment, a recess 213, which abuts against the cap body 1, is formed at the free end 211 of the lever tab 21 on which the rivet hole 211 is provided. This recess 213 renders the riveting engagement between the cap body 1 and the lever tab 21 of the pull-ring 2 tighter when the cap body 1 is riveted with the pull-ring 2. In this way, the opening of the cap will not be affected due to levering the pull-ring 2 relatively to the cap body 1.

[0031] As indicated in Fig. 3A, 3B, 3C and 4, the inner and outer circles of the pull-ring 2 are respectively formed as corresponding furl edges 22 and 23 toward the bottom the pull-ring 2, which tightly abut against each other at the bottom of the pulling-ring 2. This arrangement can ensure integration of the cap body 1 and the pull-ring 2, impart an aesthetic appearance to the cap, make the bottling process smooth, ensure a good feeling during pulling up the cap, and eliminate possible hurt or cutting by burrs. Meanwhile, since the furl edges 22 and 23 of the inner and outer circles abut against the bottom of the pull-ring 2 tightly, liquid substance may not leak into the ring, thus preventing it from rusting.

[0032] Furthermore, as indicated in Fig. 3B, two sides of the lever tab 21 are respectively formed, toward its bottom, as corresponding furl edges 214. This increases the strength of the lever tab 21, and thus, during opening process, the pulling force do not need to be increased due to strength of the lever tab 21 which may otherwise be relatively low.

Claims

1. A lever-type easy-to-open cap for bottle, comprising:

a crown cap body (1), at the center of the inner side of the top portion of which a boss (11) is formed by pressing upwards, wherein an arc-shaped score (12) surrounding the boss (11) is formed at the inner side of the top portion of the crown cap body (1), and each of both ends of the arc-shape score extends to one side of the crown cap body so as to transit to a straight invisible score (13) which allows removing the cap from the bottle; and

a pull-ring (2), which is formed integrally with a lever tab (21) towards its central portion, wherein the lever tab (21) is provided with a rivet hole at the free end thereof, which is nested on the boss (11), and the pull-ring (2) is riveted to the crown cap body (1) by the boss (11); two corresponding concave arc-shaped notches (212) are respectively formed on both sides of the connection portion between the lever tab and the pull-ring.

2. The lever-type easy-to-open cap for bottle according to claim 1, wherein the two straight invisible scores (13) form an angle of 1 to 20 degrees therebetween.

3. The lever-type easy-to-open cap for bottle according to claim 2, wherein one of the straight invisible scores (13) extends up to the edge of the cap body (1) so as to form at the edge two arcs in a double R form with a radius of 0.5 to 3mm, and the tail of the other straight invisible score is connected to an arc-shaped invisible score (14), which has a radius of 1 to 5mm, and is spaced apart from the edge of the cap body

by a distance.

4. The lever-type easy-to-open cap for bottle according to claim 3, wherein the arc-shaped invisible score (14) has a radius of 3mm.

5. The lever-type easy-to-open cap for bottle according to any preceding claim, wherein two positioning protrusions (15) are provided, in a manner of corresponding to the two straight invisible scores (14), at outer side of the top portion of the cap body (1) on the side opposite to the two straight invisible scores (14), and the bottom surface of the lever tab (21) contacts the positioning protrusions (15) and the lever tab (21) is positioned thereby.

6. The lever-type easy-to-open cap for bottle according to any preceding claim, wherein a first notch (16), which can receive the pull-ring (2) therein, is formed concavely downwards at the top portion of the cap body (1).

7. The lever-type easy-to-open cap for bottle according to claim 6, wherein a circular second notch (17), which surrounds the boss (11) and can strengthen the cap body (1), is further provided inside the first notch (16).

8. The lever-type easy-to-open cap for bottle according to any preceding claim, wherein the inner and outer circles of the pull-ring (2) are respectively formed as corresponding furl edges (22, 23) toward the bottom the pull-ring (2), which tightly abut against each other at the bottom of the pulling-ring.

9. The lever-type easy-to-open cap for bottle according to any preceding claim, wherein two sides of the lever tab (21) are respectively formed, toward its bottom, as corresponding furl edges (214).

10. The lever-type easy-to-open cap for bottle according to any preceding claim, wherein a recess (213), which abuts against the cap body (1), is formed at the free end of the lever tab (21) on which the rivet hole is provided.

Patentansprüche

1. Hebelbasierender, leicht zu öffnender Flaschenverschluss, der Folgendes aufweist:

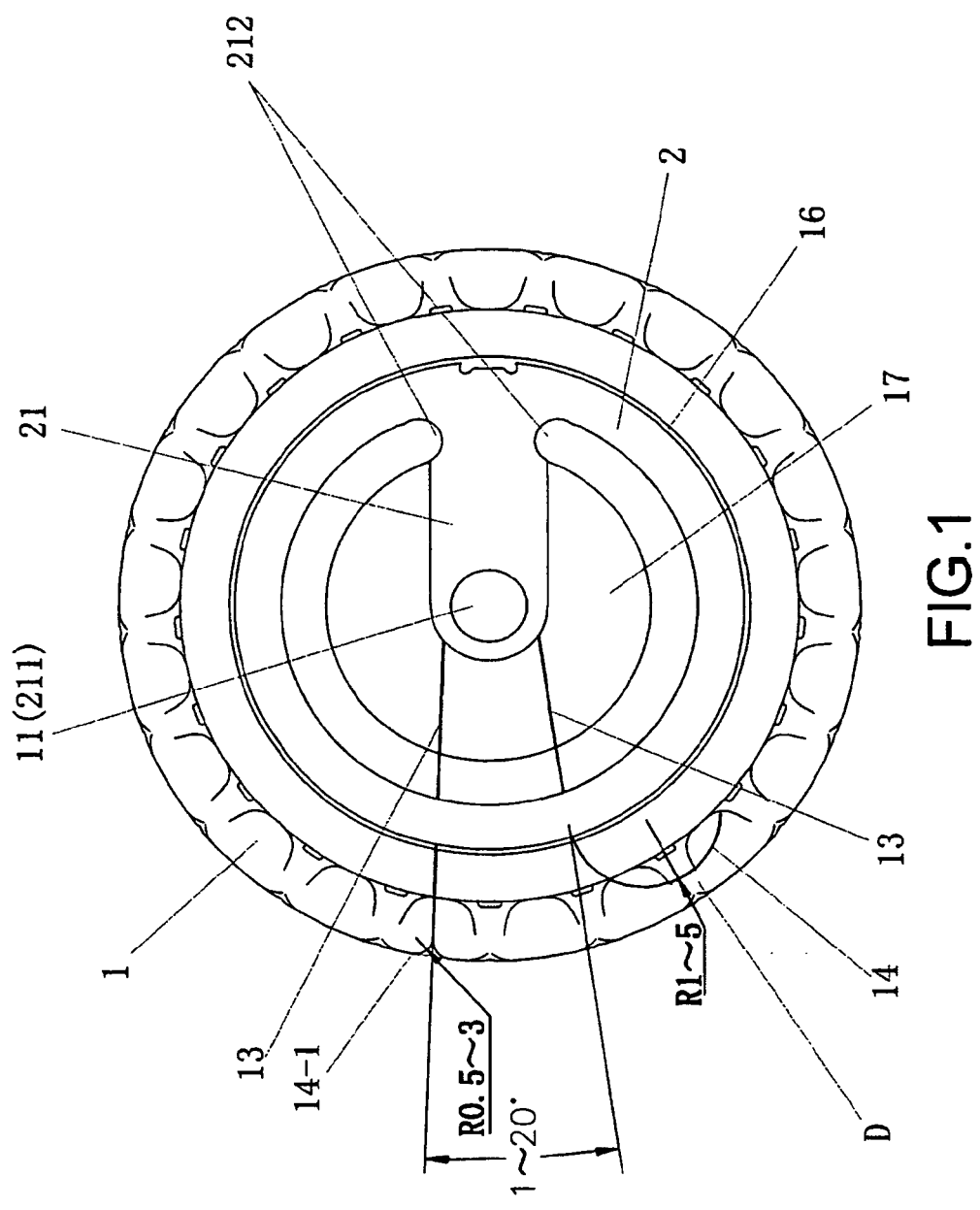
- ein Verschlussdeckelteil (1), bei dem im Zentrum dessen innenseitigen oberen Bereichs ein runder Vorsprung (11) durch aufwärtsgerichtetes Umformen ausgebildet ist, wobei an der Innenseite des oberen Bereichs des Verschlussdeckelteils (1) eine bogenförmige Rille (12) aus-

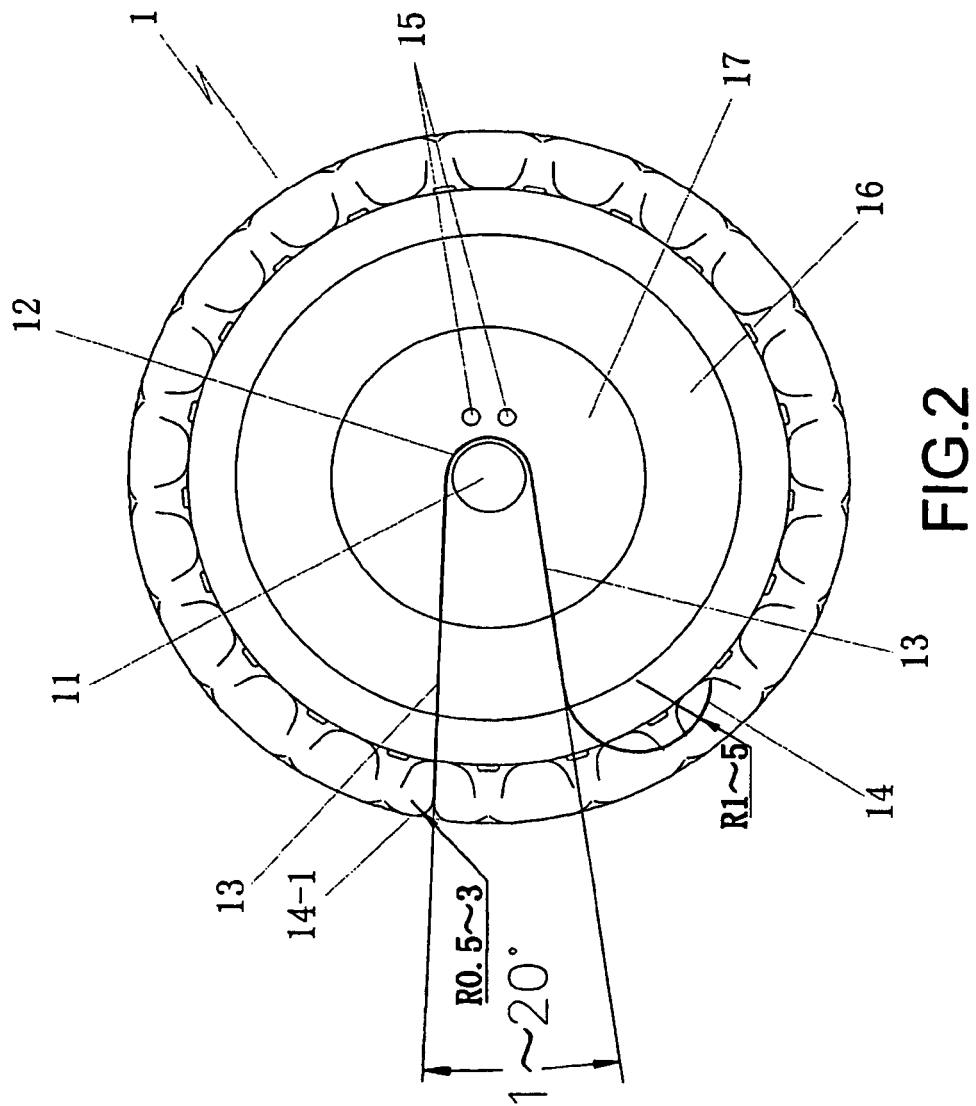
- gebildet ist, die den runden Vorsprung (11) umgibt, und sich jedes der beiden Enden der bogenförmigen Rille zu einer Seite des Verschlussdeckelteils hin erstreckt, um in eine gerade, unsichtbare Rille (13) überzugehen, die ein Entfernen des Verschlusses von der Flasche ermöglicht; und
- einen Zugring (2), der einstückig mit einem in Richtung dessen zentralen Bereichs weisenden Hebelstreifen (21) ausgebildet ist, wobei der Hebelstreifen (21) an seinem freien Ende mit einem Nietloch versehen ist, das mit dem runden Vorsprung (11) verschränkt ist, und wobei der Zugring (2) mithilfe des runden Vorsprungs (11) am Verschlussdeckelteil (1) angenietet ist, und an jeder der beiden Seiten des Verbindungsbereichs zwischen Hebelstreifen und Zugring eine von zwei einander entsprechenden konkav-bogenförmigen Einkerbungen (212) ausgebildet ist.
2. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach Anspruch 1, worin die zwei geraden, unsichtbaren Rillen (13) einen Winkel von 1 bis 20 Grad einschließen.
 3. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach Anspruch 2, worin sich eine der geraden, unsichtbaren Rillen (13) so bis zum Rand des Verschlusssteils (1) hin erstreckt, dass an dem Rand zwei Bögen in Form eines doppelten R mit einem Radius von 0,5 bis 3 mm ausgebildet werden, und wobei das Ende der anderen unsichtbaren Rille mit einer bogenförmigen, unsichtbaren Rille (14) verbunden ist, die einen Radius von 1 bis 5 mm aufweist und mit einem Abstand vom Rand des Verschlusssteils abgesetzt ist.
 4. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach Anspruch 3, worin die bogenförmige unsichtbare Rille (14) einen Radius von 3 mm aufweist.
 5. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach einem der vorhergehenden Ansprüche, worin an der Außenseite des oberen Bereichs des Verschlusssteils (1), an der Seite gegenüber von den beiden geraden, unsichtbaren Rillen (14), zwei Fixierungsvorsprünge (15) in einer zu den beiden geraden, unsichtbaren Rillen (14) passenden Weise ausgebildet sind, und wobei die untere Oberfläche des Hebelstreifens (21) die Fixierungsvorsprünge (15) berührt und hierdurch den Hebelstreifen (21) fixiert.
 6. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach einem der vorhergehenden Ansprüche, worin am oberen Bereich des Verschlusssteils (1) eine erste Nut (16) konkav nach unten ausgebildet ist, in der der Zugring (2) aufgenommen werden kann.
 7. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach Anspruch 6, worin innerhalb der ersten Nut (16) ferner eine runde zweite Nut (17) ausgebildet ist, die den runden Vorsprung (11) umgibt und das Verschlusssteil (1) verstärken kann.
 8. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach einem der vorhergehenden Ansprüche, worin der Zugring (2) jeweils am inneren und äußeren Kreisumfang mit in Richtung zur Unterseite des Zugrings (2) entsprechend umgeschlagenen Kanten (22, 23) ausgeführt ist, die an der Unterseite des Zugrings dicht aneinanderstoßen.
 9. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach einem der vorhergehenden Ansprüche, worin zwei Seiten des Hebelstreifens (21) jeweils in Richtung dessen Unterseite entsprechend als Umschlagkanten (214) ausgeführt sind.
 10. Hebelbasierender, leicht zu öffnender Flaschenverschluss nach einem der vorhergehenden Ansprüche, worin am freien Ende des Hebelstreifens (21), an dem das Nietloch ausgebildet ist, eine am Verschlusssteil (1) anliegende Vertiefung (213) ausgeformt ist.

Revendications

1. Couvercle de type à levier à ouverture facile pour une bouteille, comprenant:
 - un corps de couvercle formant couronne (1), au centre du côté intérieur de la portion supérieure duquel une bosse (11) est formée par un pressage vers le haut, où une rayure en forme d'arc (12) entourant la bosse (11) est formée au côté intérieur de la portion supérieure du corps de couvercle formant couronne (1), et chacune des deux extrémités de la rayure en forme d'arc s'étend vers un côté du corps de couvercle formant couronne de façon à transmettre une rayure invisible rectiligne (13) qui permet le retrait du couvercle de la bouteille; et
 - un anneau d'arrachage (2) qui est réalisé intégralement avec une patte de levier (21) vers sa portion centrale, où la patte de levier (21) présente un trou riveté à son extrémité libre, qui est situé sur la bosse (11), et l'anneau d'arrachage (2) est riveté au corps de couvercle formant couronne (1) par la bosse (11); deux encoches en forme d'arc concave correspondantes (212) sont respectivement ménagées sur les deux cô-

- tés de la portion de connection entre la patte de levier et l'anneau d'arrachage.
2. Couvercle de type à levier à ouverture facile pour une bouteille selon la revendication 1, où deux rayures invisibles rectilignes (13) forment un angle de 1 à 20 degrés entre elles. 5
 3. Couvercle de type à levier à ouverture facile pour une bouteille selon la revendication 2, où une des rayures invisibles rectilignes (13) s'étend vers le bord du corps de capuchon (1) de manière à former aux bords deux arcs en une forme de R double avec un rayon de 0,5 à 3 mm, et le fût de l'autre rayure invisible rectiligne est relié à une rayure invisible en forme d'arc (14) qui a un rayon de 1 à 5 mm et qui est espacée du bord du corps du capuchon d'une distance. 10 15
 4. Couvercle de type à levier à ouverture facile pour une bouteille selon la revendication 3, où la rayure invisible en forme d'arc (14) a un rayon de 3 mm. 20
 5. Couvercle de type à levier à ouverture facile pour une bouteille selon l'une quelconque des revendications précédentes, où deux saillies de positionnement (15) sont réalisées, d'une manière correspondante aux deux rayures invisibles rectilignes (14), au côté extérieur de la portion supérieure du corps de capuchon (1) sur le côté opposé aux deux rayures invisibles rectilignes (14), et la surface inférieure de la patte de levier (21) vient en contact avec les saillies de positionnement (15), et la patte de levier (21) est ainsi positionnée. 25 30 35
 6. Couvercle de type à levier à ouverture facile pour une bouteille selon l'une quelconque des revendications précédentes, où une première encoche (16), apte à recevoir l'anneau d'arrachage (2) à l'intérieur, est réalisée d'une manière concave vers le bas à la portion supérieure du corps de capuchon (1). 40
 7. Couvercle de type à levier à ouverture facile pour une bouteille selon la revendication 6, où une deuxième encoche circulaire (17), qui entoure la bosse (11) et qui peut renforcer le corps de capuchon (1), est réalisée en outre à l'intérieur de la première encoche (16). 45
 8. Couvercle de type à levier à ouverture facile pour une bouteille selon l'une quelconque des revendications précédentes, où les cercles intérieur et extérieur de l'anneau d'arrachage (2) sont respectivement formés comme des bords ferlés correspondants (22, 23) vers le fond de l'anneau d'arrachage (2), qui butent étroitement l'un contre l'autre au fond de l'anneau d'arrachage. 50 55
 9. Couvercle de type à levier à ouverture facile pour une bouteille selon l'une quelconque des revendications précédentes, où deux côtés de la patte de levier (21) sont respectivement formés, vers son fond, comme des bords ferlés correspondants (214). 5
 10. Couvercle de type à levier à ouverture facile pour une bouteille selon l'une quelconque des revendications précédentes, où un évidement (213), qui bute contre le corps de capuchon (1), est formé à l'extrémité libre de la patte de levier (21) sur laquelle le trou de rivet est réalisé. 10





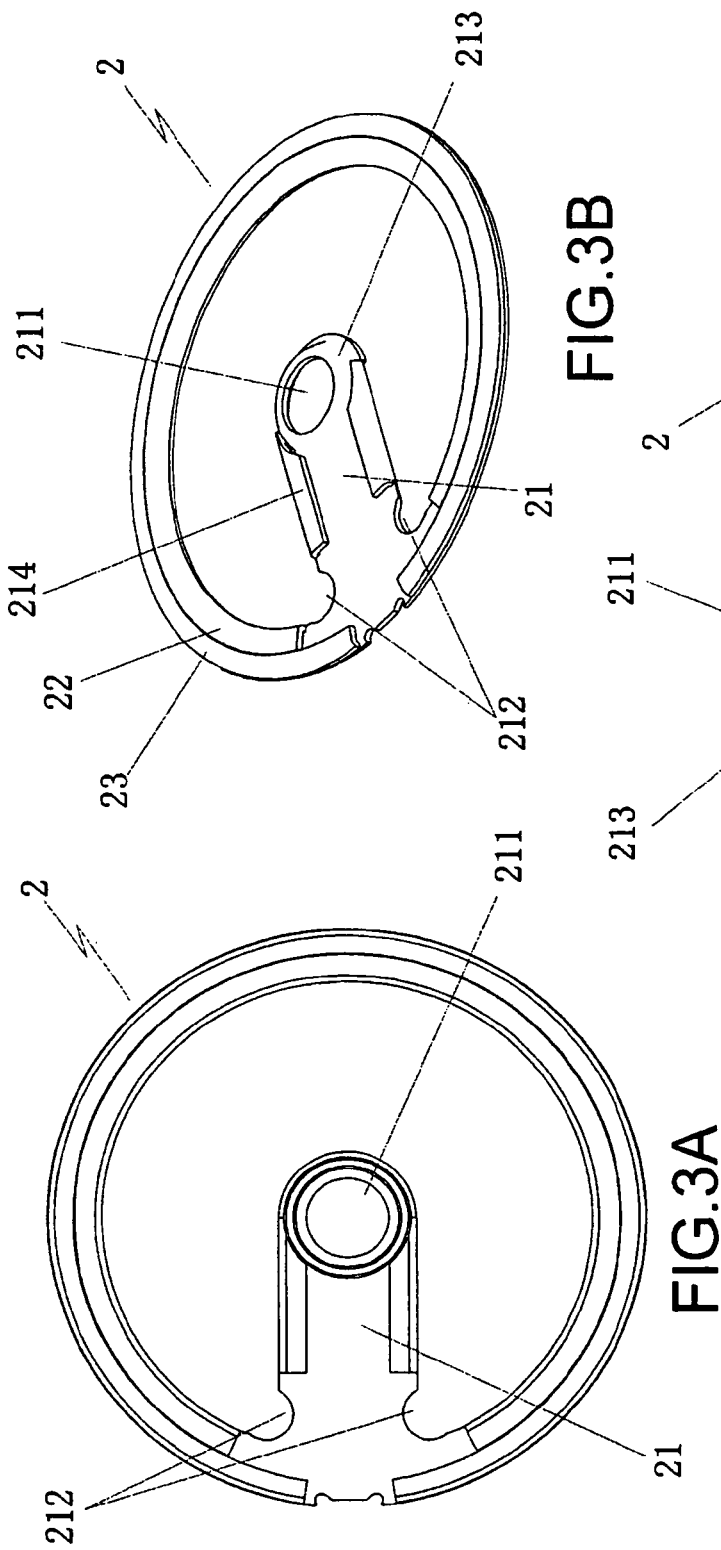


FIG. 3B

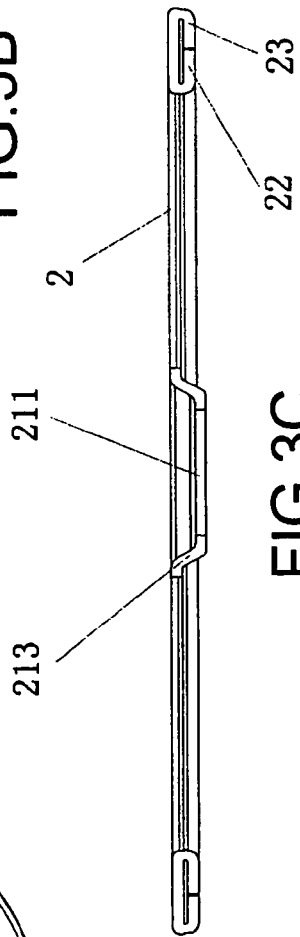
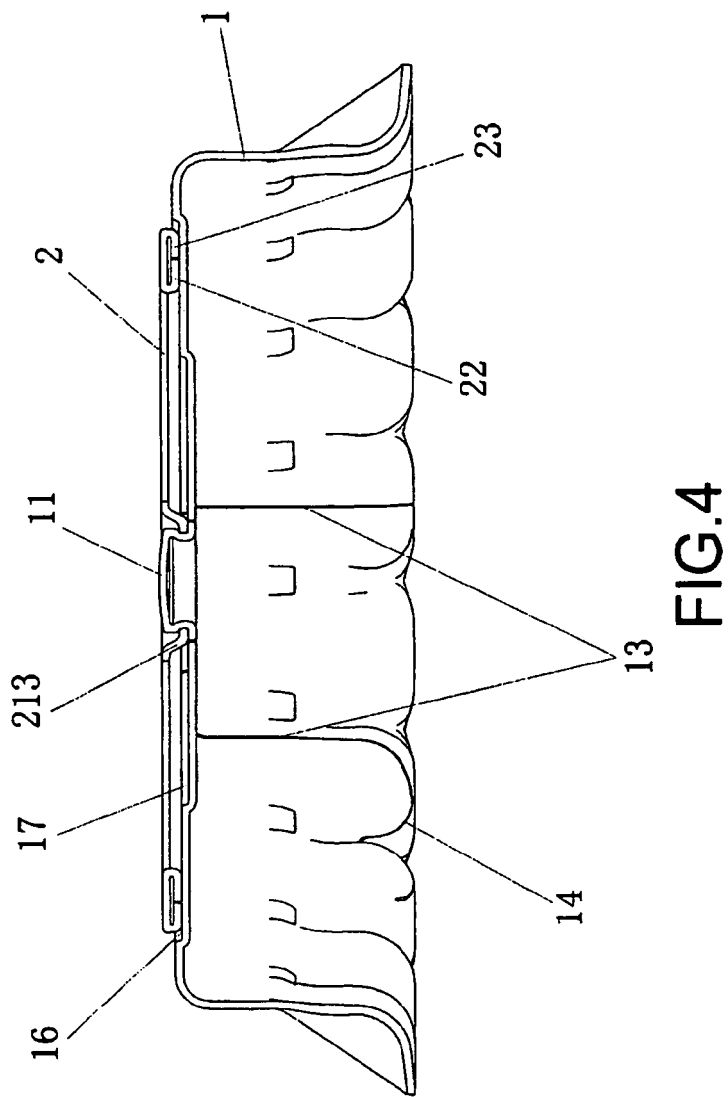


FIG. 3C



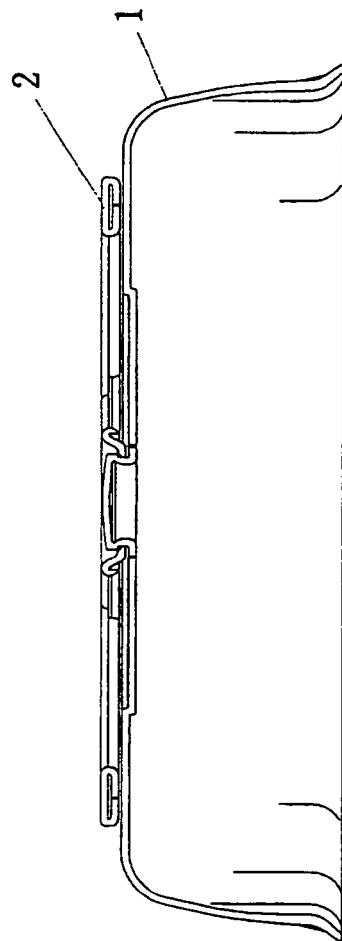


FIG.5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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