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(54) **Protective device for containers**

Schützende Vorrichtung für Behälter

Dispositif de protection pour récipients

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(56) References cited:

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EP 2 923 965 B1

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Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a protective device for containers, specifically for beverage cans.

[0002] The object of the invention is to provide a protective device which, adhered to the upper base of the can, provides sensibly better hygiene conditions, having a positive effect on the health of the user.

[0003] Another object of the invention is to provide a single-piece protective device to simplify the manufacturing thereof, sensibly reducing the costs associated with the same and likewise simplifying the implantation process of the device on the mouth of the can.

[0004] Another object of the invention is for the device to provide an airtight and hygienic closing of the upper part of the can, which prevents dirt or any other kind of external liquid to remain between the lid and upper base of the can prior to the opening of the protective device, which, once opened, provides an airtight closing that prevents the outflow of the liquid contained in the can or the loss of gas.

BACKGROUND OF THE INVENTION

[0005] Protective elements are currently known, which are intended to be mounted on containers, cans in particular, with the purpose of providing better hygienic conditions in the area where the opening to access the inner contents is provided.

[0006] PCT/ES 2010/070592 describes a protector for containers in accordance with the preamble of appended claim 1, comprising an upper protective element covering the upper part of the container and a lower ring located around the perimeter of the container, attached to the upper protective element by means of a hinge such that said upper protective element includes a tab protruding outwards and in the descending direction from the body of said upper protective element presenting an arching path matching the contour of the container.

[0007] Even though this device fulfills the function for which it was provided, it presents extensive problems focusing on the following aspects:

- The device is obtained from two pieces, a hoop that embraces the can and a lid attached to the hoop. Both pieces are attached by means of a hinge. This configuration presents problems related to its difficult and expensive industrial application, given that they are two independent pieces that can also be easily decoupled at any time.
- The closings are provided open, such that, in a can filling chain, first it is necessary to press fit the hoop to the mouth of the can, and once it is in place close the lid fastening it to the hoop through the hinge piece and a tab provided for said purpose, which entails a

long and arduous process having very negative effects on the production process.

- The configuration of the closing device makes it non-airtight with respect to the pressure of the gas of the liquid contained in the can, once the can is opened, for failing to withstand the pressure of the gas of the liquid.

- The opening means are complicated, given that the user needs to introduce his or her nails under a tab protruding from the lid itself and having an arching shape matching the shape of the container.

DESCRIPTION OF THE INVENTION

[0008] The protective device for containers proposed by the invention solves the problems exposed above in a fully satisfactory manner in each and every one of the aspects commented on, based on an extremely effective new configuration.

[0009] To achieve the foregoing, the protective device of claim 1 is proposed. It has been provided that the device will materialize in a single-piece and tubular body that is closed from above and has a short, round base according to the mouth of the can adjusted to the upper part of the container or can, in which perimeter wall a likewise perimeter thickening is interiorly defined, parallel to which a likewise perimeter partition is established, that define a kind of channel for the coupling under pressure of the embossed edge of the can. The outer wall has a perimeter cut that, for the most part, runs along the outer wall making a crenellated contour, i.e. an alternatively ascending and descending stepped contour, which extends along the entire length of said wall, except for a section wherein a link and small seals or attaching elements between both sectors that act as frangible elements upon the opening of the device are defined.

[0010] This way, the perimeter and stepped cut determines two sectors related to each other through the aforementioned link and frangible attaching elements, which determine a kind of ring affixed to the mouth of the can and an upper lid, which although is initially attached to said ring it can be taken down through the aforementioned link.

[0011] The special ascending and descending stepped configuration of the cutting line separating the lid from the ring runs transversally across the perimeter flange of the device affixed to the embossed edge of the lid, which means that in some sectors, the lid is the one affixed to the mouth of the can, while in others it is the ring itself which carries out said function, thereby simplifying the closing means for the lid once open, given that it is once again directly coupled to the mouth of the can without having to establish any kind of means to affix said lid to the lower ring.

[0012] Consequently, the device is supplied closed, its press fit mounting being extremely simple, such that in

the affixing maneuvers, both the lid and the element having the functions of an affixing ring are affixed to the mouth or perimeter flange of the upper base of the can as commented above.

[0013] The special configuration of the device which lid incorporates, in correspondence with its lower base, a ridge in the form of a perimeter partition, makes the lid press against the edge of the can laterally, plugging the same and preventing the outflow of liquids, thereby providing a fully airtight closing.

[0014] The upper element of the device comprises an indented circumferential section that facilitates the stacking of cans one on top of the other taking advantage of the configuration of this type of containers in the base thereof.

[0015] Finally, and in terms of the means to open the lid by breaking the frangible security seals initially arranged, it has been if a kind of flap that facilitates the opening and breakage of the seals without having to use the nails will emerge from the edge of the lid.

[0016] In terms of the materials used, the device can be obtained in any kind of injectable plastic. Preferably, it will be a moldable and biodegradable material, such as, for example, polypropylene. The possibility that the materials are susceptible of being colored is also considered.

[0017] Therefore, we obtain an extremely simple device that is efficient, economical and easy to install in the mounting chain, thereby allowing a significant reduction in production costs.

DESCRIPTION OF THE DRAWINGS

[0018] In order to supplement the description to be made below, and with the purpose of facilitating a better comprehension of the characteristics of the invention, according to a preferred exemplary practical embodiment thereof, a set of drawings representing the following in an illustrative rather than limitative manner has been attached as an integral part of said description:

Figure 1.- shows a lateral elevational view of a beverage can provided with a protective device for containers made according to the object of the present invention.

Figure 2.- shows a perspective view of the set of the previous figure.

Figures 3, 4 and 5.- show different perspective views of the device of the invention without the corresponding container to which it is coupled.

Figure 6.- shows a plant view of the device.

Figure 7.- shows a profile and sectional view of the device according to the A-A cutting line of figure 6.

Figure 8.- shows a profile and sectional view of the device according to the B-B cutting line of figure 7.

Figure 9.- shows the enlarged detail A of figure 8.

Figure 10.- shows the enlarged detail B of figure 8.

Figure 11.- finally shows an elevational view of the device at the level of the link thereof.

PREFERRED EMBODIMENT OF THE INVENTION

[0019] As shown in the figures referred to above, the protective device for containers being proposed is materialized in a tubular body closed from above (1), with a short, round base according to the mouth of the can (2) adjusted to the upper part of the container, in which perimeter wall (3) a likewise perimeter thickening (4) is interiorly defined, parallel to which a perimeter partition (5) is established, defining a kind of channel for the press fitting of the embossed edge of the can.

[0020] On the other hand, and as shown in figures 1 and 2, the outer and perimeter wall (3) has a longitudinal and perimeter cut (7) that for the most part runs along the same, having an alternatively ascending and descending stepped contour, i.e. crenellated, and which extends along the length of said wall, except for a section wherein a link (8) and small seals or attaching elements that can be torn (9), conveniently distributed along the perimeter cut (7), are defined, which will easily break when the device is used for the first time.

[0021] As shown in the sections of figures 7 and 8, the crenellated perimeter cut (7) determines two sectors, related to each other through the aforementioned link (8) and attaching elements that can be torn (9), which determine an annular sector (10) affixed to the mouth of the can and a sector having the functions of an upper lid (11). Although, said sector is initially attached to said ring it can be taken down relative to the same, through the aforementioned link (8), for which it has been provided that said upper lid (11) will have a flap (12) for the pulling and opening thereof without having to use the nails, even though the entire set is integrated as a single-piece.

[0022] In terms of the special configuration of the link (8) defined in the single-piece body object of the invention, the same is constituted from two stepped trapezoid and isosceles recesses (16) facing each other by their smaller bases and made on the perimeter wall of the device, conveniently distanced and related through a weakening line (17) from which both sectors are folded and which line extends from one smaller base to the other of the trapezoid sectors, having, in correspondence with said larger and smaller bases, respective vertical through-slots (18) determining two elastically deformable partitions (19) that collaborate with the weakening line (17) to constitute the opening means of the lid, all of which as shown in figure 11.

[0023] On the other hand, the sector having the func-

tions of an upper lid (11) has a series of reinforcement ribs (14) arranged radially on its lower face.

[0024] Likewise, a circumferential recess (15) has been provided on the upper face of said sector, which facilitates the stacking of containers provided with the protective device of the invention. This same ridge, seen from the interior, constitutes a section in the shape of a circular crown (13).

[0025] Finally, it should be noted that the sector defining the lid incorporates, in correspondence with its lower base, a ridge in the form of a perimeter partition (5), which makes the lid press against the edge of the can laterally, plugging the same and preventing the outflow of liquids, thereby providing a fully airtight closing with respect to the pressure of the gas of the liquid product inside of the can.

Claims

1. Protective device for containers, such as beverage cans and similar, of the type constituted in any kind of plastic and coupled to the mouth or upper base of the can, **characterized in that** it is constituted from a tubular body closed from above (1), with a short, round base according to the mouth of the can (2), in which perimeter wall (3) a likewise perimeter thickening (4) is interiorly defined, parallel to which a perimeter partition (5) is established, defining a channel to tightly receive the press fit embossed edge of the can, wherein the outer and perimeter wall (3) has a longitudinal and perimeter cut extending along the entire perimeter of said wall except for a section in which a link (8) is defined, **characterised in that** the cut (7) has a crenellated contour, such that said crenellated perimeter cut (7) determines two sectors related to each other through the aforementioned link (8) that define an annular sector (10) affixed to the mouth of the can and a sector having the functions of an upper lid (11) likewise affixed to the embossed edge of the can through the crenellated sectors, the entire set being integrated as a single-piece.
2. Protective device for containers according to claim 1, **characterized in that** the longitudinal and perimeter cut (7) defines a series of attaching elements that can be torn (9), conveniently distributed in the same, between the sectors defining the sector having the functions of an upper lid (11) and the annular sector (10).
3. Protective device for containers according to claim 1, **characterized in that** the upper lid (11) has a flap (12) for pulling and opening the same.
4. Protective device for containers according to claim 1, **characterized in that** the lid incorporates, in correspondence with its lower base, a ridge in the form

of a perimeter partition (5) that makes the lid press laterally against the edge of the can, thereby defining a fully airtight closing with respect to the pressure of the gas of the liquid contained in the container.

5. Protective device for containers according to claim 1, **characterized in that** the sector having the functions of an upper lid (11) has a series of reinforcement ribs (14) arranged radially on its lower face.
6. Protective device for containers according to claim 1, **characterized in that** the sector having the functions of an upper lid (11) has a circumferential recess (15) on its upper face for the stacking of containers provided with the protective device.
7. Protective device for containers according to claim 1, **characterized in that** the link (8) is constituted from two stepped trapezoid and isosceles recesses (16) facing each other by their smaller bases and made on the perimeter wall of the device, conveniently distanced and related through a weakening line (17) from which both sectors are folded and which line extends from one smaller base to the other of the trapezoid sectors (16), with the particularity that, in correspondence with the larger and smaller bases of the trapezoid sectors (16), respective vertical through-slots (18) determining two elastically deformable partitions (19) are established jointly with weakening line (17) defining the opening means of the upper lid (11).
8. Protective device for containers according to claim 1, **characterized in that** it is made of any type of injectable and moldable plastic material.
9. Protective device for containers according to claim 8, **characterized in that** the material is biodegradable.
10. Protective device for containers according to claim 8, **characterized in that** the material is susceptible of being colored

Patentansprüche

1. Schützende Vorrichtung für Behälter wie Getränkedosen und ähnliche, von der Art, die aus jeder Art von Kunststoff besteht, und die mit der Mündung oder oberen Grundfläche der Dose gekoppelt ist, **dadurch gekennzeichnet, dass** sie aus einem rohrförmigen Körper besteht, der von oben (1) geschlossen ist und eine kurze, runde Grundfläche gemäß der Mündung der Dose (2) aufweist, in der eine Umfangswand (3), in der eine ähnliche Umfangsverdickung (4) definiert ist, zu der parallel eine Umfangstrennung (5) hergestellt wird, die einen Kanal zum

festen Aufnahmen einen geprägten Pressitzrandes der Dose definiert, wobei die äußere und Umfangswand (3) einen länglichen und Umfangsschnitt aufweist, der sich entlang des gesamten Umfangs der Wand erstreckt, außer in einem Abschnitt, in dem eine Verbindung (8) definiert ist, **dadurch gekennzeichnet, dass** der Schnitt (7) eine zinnenartige Kontur aufweist, sodass der zinnenartige Umfangsschnitt (7) zwei Abschnitte bestimmt, die über die Verbindung (8) miteinander in Beziehung stehen, wobei die Verbindung einen ringförmigen Abschnitt (10) definiert, der an der Mündung der Dose befestigt ist und einen Abschnitt, der die Funktionen eines oberen Deckels (11) besitzt, der ebenfalls an dem geprägten Rand der Dose über die zinnenartigen Abschnitten befestigt ist, wobei der gesamte Satz als ein Einzelteil integriert wird.

2. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der längliche und Umfangsschnitt (7) eine Reihe von Befestigungselementen definiert, die abgerissen (9) werden können und zweckmäßig zwischen den Abschnitten, die den Abschnitt, der die Funktion eines oberen Deckels (11) aufweist, und dem ringförmigen Abschnitt (10) definieren.
3. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der obere Deckel (11) eine Klappe (12) zum daran Ziehen und Öffnen davon aufweist.
4. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der Deckel entsprechend seiner unteren Grundfläche eine Einfassung in Form einer Umfangstrennung (5) aufnimmt, die bewirkt, dass sich der Deckel lateral an den Rand der Dose presst, wodurch ein vollständig luftdichter Verschluss im Hinblick auf den Druck von Kohlensäure der in dem Behälter enthaltenen Flüssigkeit definiert wird.
5. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der Abschnitt mit den Funktionen eines oberen Deckels (11) eine Reihe von Verstärkungsrippen (14) aufweist, die radial auf der Unterseite angeordnet sind.
6. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der Abschnitt, der die Funktionen eines oberen Deckels (11) aufweist, eine Umfangsvertiefung (15) an der Oberseite aufweist, um die Behälter, die mit der schützenden Vorrichtung bereitgestellt sind, zu stapeln.
7. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** die Verbindung (8) aus zwei abgestuften, trapezartigen und gleich-

schenkeligen Vertiefungen (16) besteht, die mit ihren kleineren Grundflächen einander zugewandt sind und an der Umfangswand der Vorrichtung hergestellt sind und zweckmäßig durch eine Schwächungslinie (17) beabstandet und miteinander verbunden sind, von denen beide Abschnitte abgeklappt sind, wobei sich die Linie von einer kleineren Grundfläche zum anderen trapezartigen Abschnitt (16) erstreckt, mit der Besonderheit, dass in Übereinstimmung mit der größeren und kleineren Grundfläche der trapezartigen Abschnitte (16) zugehörige vertikale Durchgangsschlitze (18) zwei elastisch verformbare Trennungen (19) bestimmen, die zusammen mit der Schwächungslinie (17) hergestellt sind und das Öffnungsmittel des oberen Deckels (11) definieren.

8. Schützende Vorrichtung für Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** sie aus jeder Art von einspritzbaren und formbaren Kunststoffmaterial hergestellt ist.
9. Schützende Vorrichtung für Behälter nach Anspruch 8, **dadurch gekennzeichnet, dass** das Material biologisch abbaubar ist.
10. Schützende Vorrichtung für Behälter nach Anspruch 8, **dadurch gekennzeichnet, dass** das Material empfänglich zum Färben ist.

Revendications

1. Dispositif de protection pour récipients, tels que des boîtes de boisson et similaires, du type constitué d'un plastique quelconque et accouplé à l'embouchure ou à la base supérieure de la boîte, **caractérisé en ce qu'il** est constitué d'un corps tubulaire fermé par le dessus (1) avec une base courte arrondie de manière conforme à l'embouchure de la boîte (2), dans laquelle paroi périphérique (3) est défini à l'intérieur un épaississement (4) également périphérique, parallèlement auquel est établie une cloison périphérique (5) définissant un canal pour recevoir hermétiquement le bord gaufré avec ajustement serré de la boîte, la paroi extérieure et périphérique (3) présentant une découpe longitudinale et périphérique s'étendant le long de toute la périphérie de ladite paroi à l'exception d'une section dans laquelle est définie une liaison (8), **caractérisé en ce que** la découpe (7) présente un contour crénelé de telle sorte que ladite découpe périphérique crénelée (7) définisse deux secteurs reliés l'un à l'autre par ladite liaison (8), qui définissent un secteur annulaire (10) fixé à l'embouchure de la boîte et un secteur ayant les fonctions d'un couvercle supérieur (11) également fixé au bord gaufré de la boîte par le biais des secteurs crénelés, l'ensemble étant intégré d'une

- seule pièce.
2. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce que** la découpe longitudinale et périphérique (7) définit une série d'éléments de fixation qui peuvent être déchirés (9), répartis de manière judicieuse dans celle-ci, entre les secteurs définissant le secteur ayant les fonctions d'un couvercle supérieur (11) et le secteur annulaire (10). 5
 3. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce que** le couvercle supérieur (11) présente un volet (12) pour le tirer et l'ouvrir. 10 15
 4. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce que** le couvercle incorpore, de manière correspondant à sa base inférieure, une crête sous la forme d'une cloison périphérique (5) qui force le couvercle à presser latéralement contre le bord de la boîte, pour ainsi définir une fermeture entièrement étanche à l'air par rapport à la pression de gaz du liquide contenu dans le récipient. 20 25
 5. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce que** le secteur ayant les fonctions d'un couvercle supérieur (11) présente une série de nervures de renforcement (14) disposées radialement sur sa face inférieure. 30
 6. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce que** le secteur ayant les fonctions d'un couvercle supérieur (11) présente un retrait circonférentiel (15) sur sa face supérieure pour l'empilement de récipients pourvus du dispositif de protection. 35
 7. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce que** la liaison (8) est constituée de deux retraits étagés de forme trapézoïdale et isocèles (16) en regard l'un de l'autre par leurs plus petites bases et réalisés sur la paroi périphérique du dispositif, espacés de manière judicieuse et reliés par une ligne d'affaiblissement (17) depuis laquelle les deux secteurs sont repliés, laquelle ligne s'étend depuis une plus petite base jusqu'à l'autre des secteurs de forme trapézoïdale (16), avec la particularité que, en correspondance avec les bases plus grandes et plus petites des secteurs de forme trapézoïdale (16), des fentes traversantes verticales respectives (18) déterminant deux cloisons déformables élastiquement (19) sont établies conjointement avec la ligne d'affaiblissement (17) définissant le moyen d'ouverture du couvercle supérieur (11). 40 45 50 55
 8. Dispositif de protection pour récipients selon la revendication 1, **caractérisé en ce qu'il** est fabriqué d'un type quelconque de matière plastique injectable et moulable.
 9. Dispositif de protection pour récipients selon la revendication 8, **caractérisé en ce que** le matériau est biodégradable.
 10. Dispositif de protection pour récipients selon la revendication 8, **caractérisé en ce que** le matériau est susceptible d'être coloré.

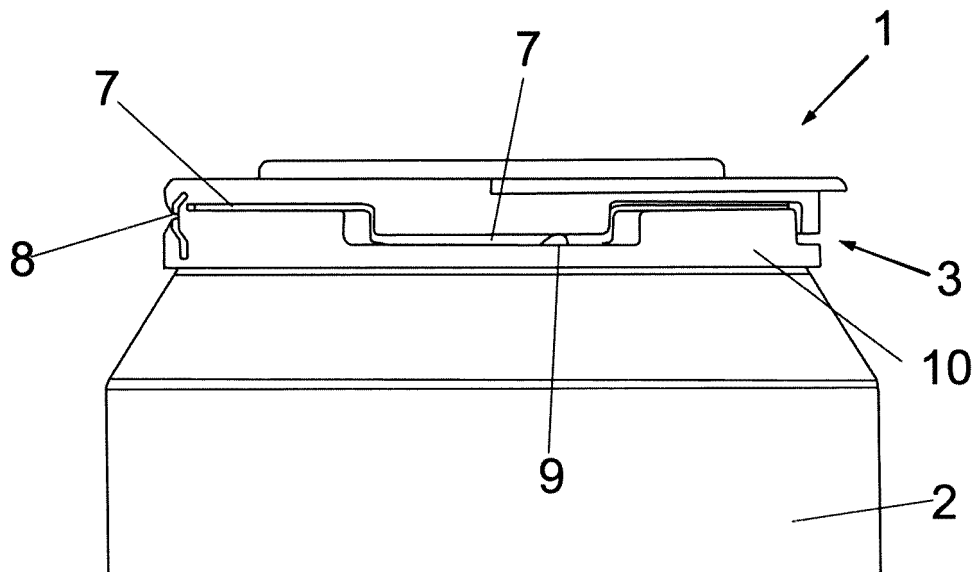


FIG. 1

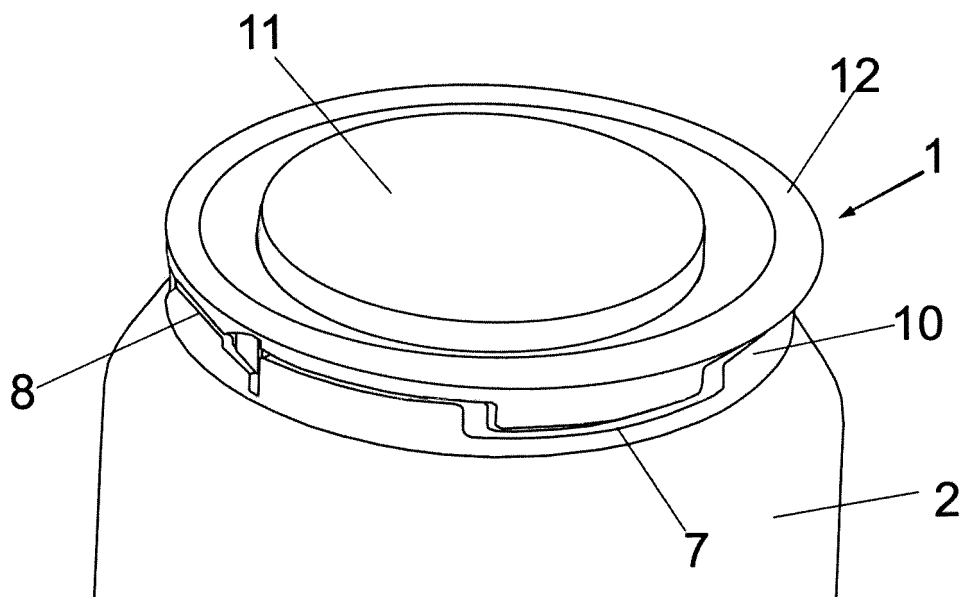
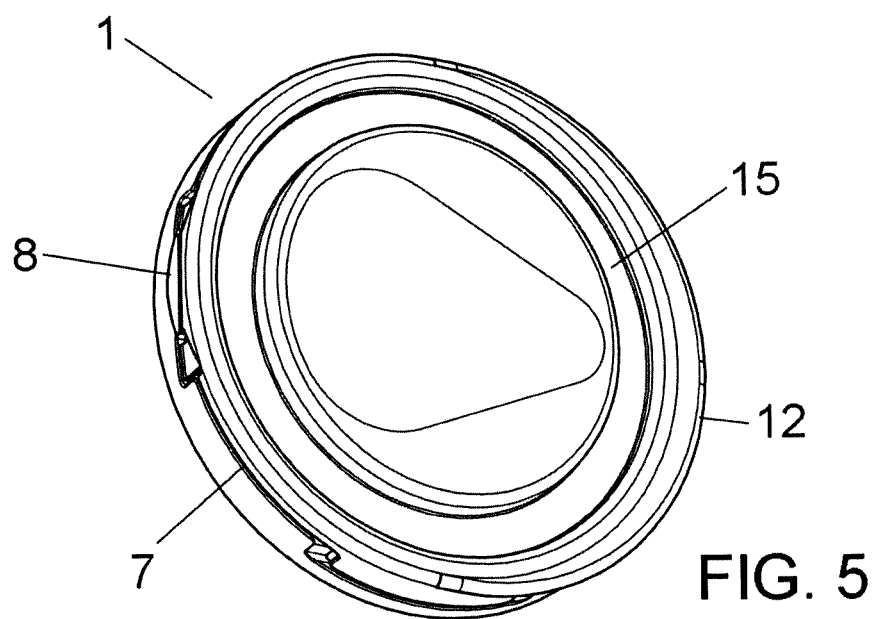
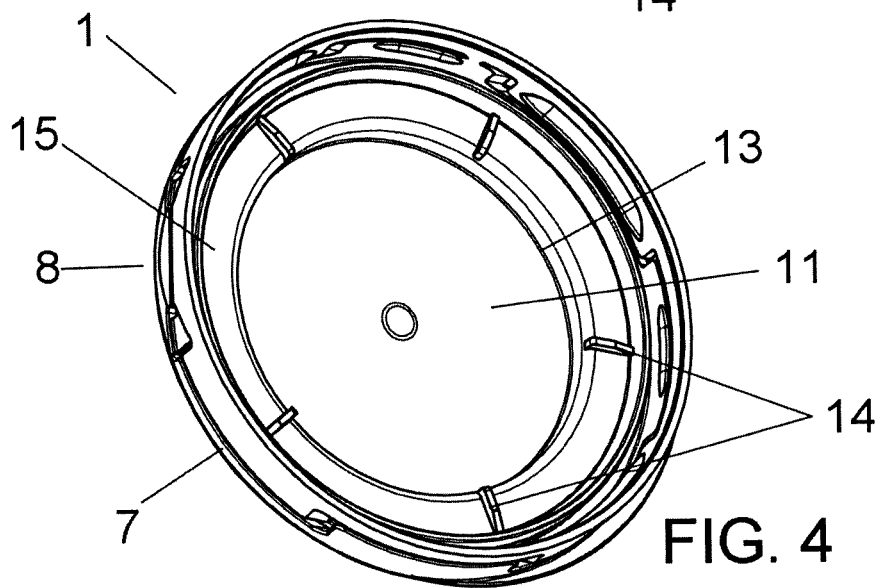
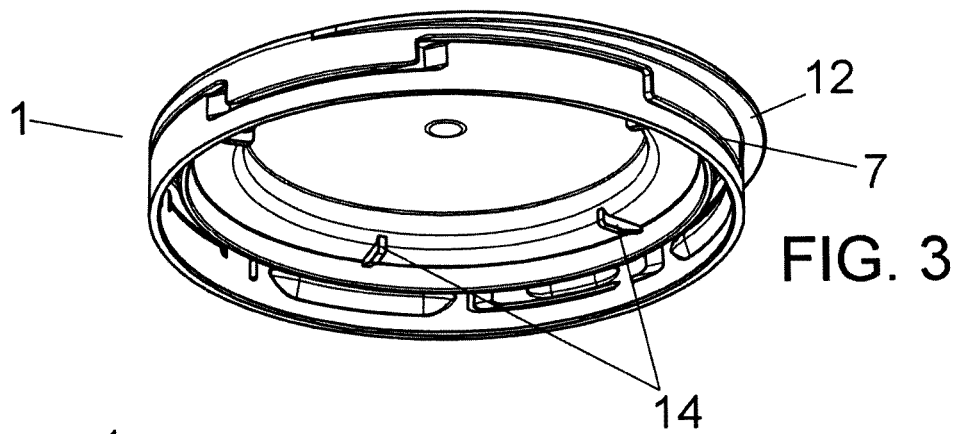


FIG. 2



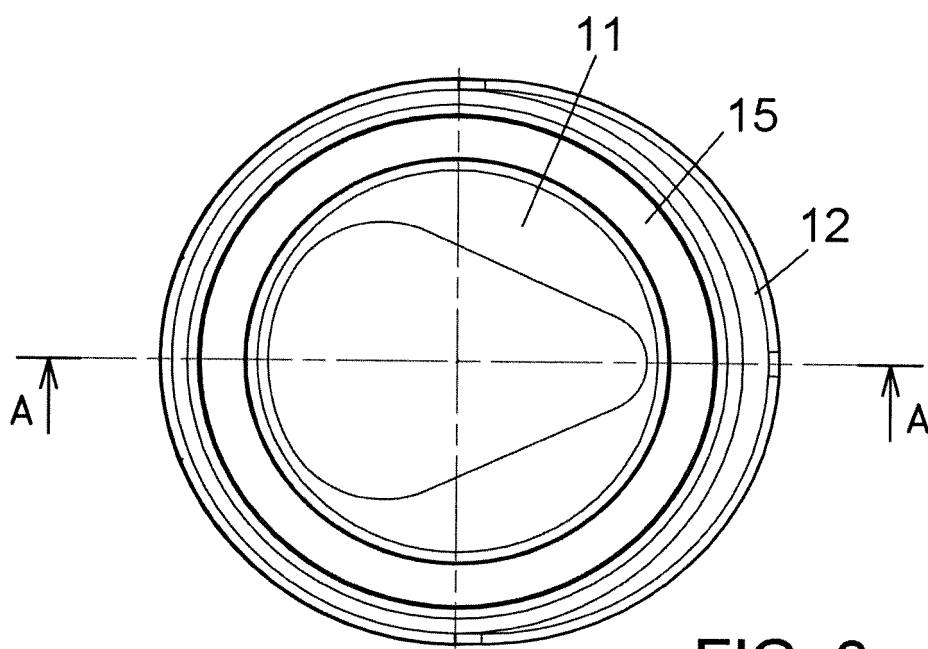


FIG. 6

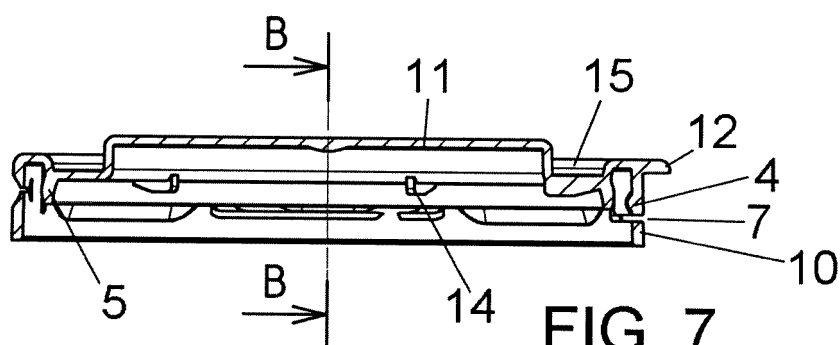


FIG. 7

A - A

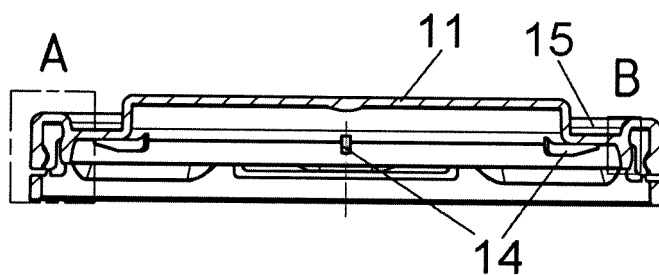


FIG. 8

B - B

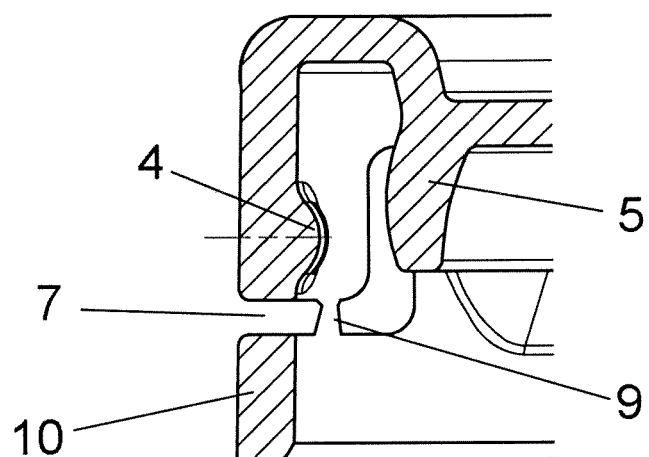


FIG. 9

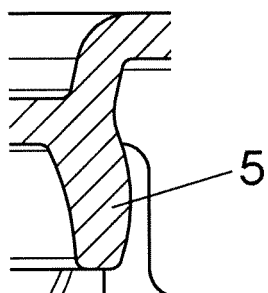


FIG. 10

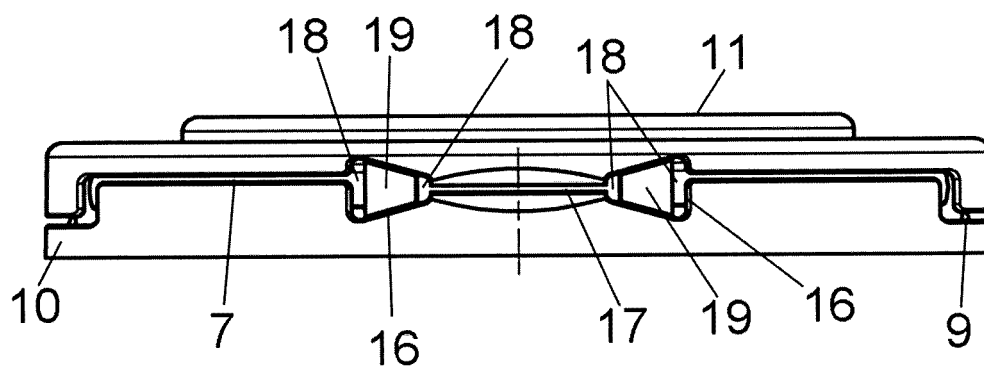


FIG. 11

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- ES 2010070592 W [0006]