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(54) **Closure for bottles**

Flaschenverschluss

Fermeture pour bouteilles

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Description

[0001] The invention relates to a closure for glass and plastic bottles.

[0002] The one-piece closure for containers for carbonated beverages known from the description of the Polish utility model Ru-55678 consists of a top portion and a skirt portion. The closure has an annual sealing rib which extends downwardly from the lower part of the top portion. The rib includes a first portion having a substantially cylindrical inner surface and a second frusto-conical portion contiguous with the end of the first portion, extending radially inwardly and terminating in a circular free edge. During engagement of the closure with the neck of the container the second, frusto-conical, portion will be engaged by the free end of the neck and folded back against the first portion of the rib to form a gas-tight seal between the neck of the container and the closure.

[0003] The closure known from the Polish patent application P-352255 includes a cup with promotion compartment and a promotional closure is adapted for application to a container.

[0004] The promotional closure includes promotion compartment with a promotional element such as a coupon, currency or other promotional item. The promotional element has a mechanism which covers interior of the closure, preferably it is an opaque part of the surface of the container. The part is situated between liquid product and the neck of the container, which makes the container lustreless enough to hide the inside of the closure.

[0005] The closure known from the Polish patent specification nr 197272 has a tamper-evident band secured to a container neck by a retaining band. The tamper-evident band is attached to the retaining band by a hinge so that the retaining band rotates upward about the hinge when the closure is applied to the neck of a container, causing the inner wall of the retaining band and the inner wall of the tamper-evident band to form a cavity between them. A number of rectangular openings are spaced around the circumference of the retaining band. The upper edge of each opening extends beyond the hinge and into the tamper-evident band. A recess in the inner wall of the tamper-evident band is located above each opening so that the lower edge of the recess intersect with the rear wall of the opening. The openings and recesses cooperate to ensure that any liquid that spills or splashes from the container neck into the cavity during capping will drain out.

[0006] The closure known from the Polish patent specification nr 180383 having a tamper-evident band is purposed for tight closing bottles and other containers. The tamper-evident band is joined by a plurality of frangible bridges and at least one extended non-frangible bridge to the free edge of a skirt of the closure. The band has a segmented internal rib which engages an external retaining flange of the container when the closure is applied to the container. An L-shaped slot extends through the side wall of the tamper-evident band, horizontal leg of which terminates directly adjacent to the under the extended non-frangible bridge. A weakened frangible region of the band extends from the terminating end of the horizontal leg axially downward to the bottom of the band.

[0007] The closure known from the specification of the Polish patent nr 175182 has a pouring head with a flange, a cylindrical part with an annual inner protrusion, a nut mounted on the cylindrical part by a weakened element and a coupling element situated between the annual protrusion of the cylindrical part and the flange of the pouring head. That coupling element ensures stiffening of the pouring head and the cylindrical part.

[0008] The closure known from the specification of the European patent application nr EP0031980 (A1) has a container with a measuring cap closure, whereby the container neck is equipped with a peripheral end lip made of resilient material, and which scrapes along the inner wall of the cap when it is applied to close the container, thereby causing any product residue left in the cap to run back into the container.

[0009] The aim of the invention is to construct a new closure for bottles with a compartment for hiding lottery tickets, advertising materials and/or tablets for making carbonated beverages, lemonade and the like. Furthermore, the new construction of the closure with the promotion holding compartment guarantees that the compartment had not been opened before.

[0010] The closure for bottles is provided with a compartment having the form of a cylindrical cup turned bottom up which is situated on a cylindrical flanged lug made on the upper surface of the bottom of a nut. The compartment terminates on its lower part with a seal. The seal is formed from a slightly thickened flange having a lower part and an upper part, connected together with a band-shaped tear element. The cross-section of the tear element is narrowed and weakened by slots. On the inner surface of the thickened flange there is a circumferential recess and a circumferential fastener having the form of a spline. The fastener has a half - cylindrical cross-section. Under the fastener there is a circumferential groove in the form of a two-stepped recess. The cylindrical flanged lug has on its outer perimeter the first fastener and the second fastener. The tear element is provided with a formed holder. Between the first and the second fasteners there is the first circumferential notch, which is "a" in width, and under the second fastener there is the second circumferential notch, which is "b" in width. The nut has in its lower part a sealing cuff connected to front edges of the outer cylindrical surface of the nut by a narrow tear band weakened by slots.

[0011] The closure of the invention has a simple construction and it is easy in realization. The closure of the invention provides indication that the compartment had not been opened earlier, because the seal is permanently fastened to the compartment.

[0012] An example of realization of the present invention is presented on the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013]

Fig.1 shows the principal end view of the closure for bottles.
Fig.2 shows the longitudinal section of the closure along the line A-A.
Fig.3 shows the longitudinal section of the detail "B".
Fig.4 shows quintuple magnification of the longitudinal section of the detail "C" shown on fig.3.
Fig.5 5 shows the end view of the closure.
Fig.6 shows the magnification of principal end view of the detail "C" shown on fig. 5
Fig.7 shows the magnification of the principal end view of the compartment.
Fig.8 shows the magnification of the axonometric view of the closure.

[0014] The plastic closure for bottles includes a nut **1** and a compartment **2** forced in the nut **1**. The compartment **2** is a cylindrical cup turned bottom up. The compartment **2** has on its lower opened end a seal **3** which is formed from a slightly thickened flange **4** having its upper part **5** and a lower part **6,** joined together with a band-shaped tear element **7**. The cross-section of the tear element **7** is narrowed and weakened by slots **8.** The tear element **7** is provided with a formed holder **9** which allows to tear the seal **3,** in order to access to the contents of the compartment **2.** On the inner side **10** of the flange **4** there are a circumferential recess **11** having a rectangular cross-section and a circumferential fastener **12** having a form of a spline which has a half-cylindrical cross-section. Under the fastener **12** there is a circumferential groove **13** having a stepped recess **13'**. The plastic nut 1 having a form of a cylindrical cup turned its bottom **14** up, has on the upper surface of the bottom **14** a cylindrically flanged lug **15.** On the outer perimeter of the lug **15** there are a first fastener **16** and a second fastener **17**. Between the fasteners **16** and **17** there is a first circumferential notch **18,** which is "a" in width and under the fastener **17** there is a second circumferential notch **19,** which is "b" in width. After the first tearing the lower part **6** of the thickened flange **4,** which makes the seal **3,** remains on the circumferential notch **19** of the flanged lug **15.** The outer cylindrical surface **20** of the nut **1** is provided with longitudinal vertical indentations **21** and longitudinal recesses **22,** in order to increase roughness during turning the nut **1** in relation to a not-shown bottle. The nut **1** has in its lower part a sealing cuff **23** connected to the free edges **24** of the outer cylindrical surface **20** of the nut **1** by a narrow tear band **25,** weakened by slots **26.** On the inner cylindrical surface of the nut **1** there is thread **27.** After the first undo the nut **1** from a not-shown bottle neck the sealing cuff **23** remains on the bottle neck. Furthermore, there is a circumferential sealing ring **29** mounted on the inner side **28** of the nut **1.** Between the lower edge of the lower part **6** of the compartment **2** and the upper outer surface **14'** of the nut **1** there is a contact line **30.**

Claims

1. Plastic closure for bottles including a nut consisting of a cylindrical cup with its bottom **14** turned up side-down, comprising a compartment **2** consisting of a cylindrical cup turned bottom up, situated on cylindrical flanged lug **15** which is made on the upper surface of the bottom **14** of the nut **1,** and said compartment **2** terminates on its lower part with a seal **3 ,** and said seal **3** consists of flange **4** having its upper **5** and lower **6** parts connected together by a band-shaped tear element **7** and said element **7** is narrowed and weakened by slots **8 , characterized in that** on the inner side **10** of the flange **4** there is a circumferential recess **11** above a circumferential fastener **12** having the form of a spline, and said fastener **12** has a half-cylindrical cross-section, and under the fastener **12** there is a circumferential groove **13** having a stepped recess **13'**, furthermore, the cylindrical flanged lug **15** has on its outer perimeter a first fastener **16** and a second fastener **17**, cooperating with recess **11** and groove **13**, respectively.

2. Plastic closure for bottles according to claim 1, **characterized in that**, that the tear element **7** is provided by a formed holder **9.**

3. Plastic closure for bottles according to claim 1, **characterized in that**, that between the first fastener **16** and the second fastener **17** there is a circumferential notch **18** which is "a" in width, and under the second fastener **17** there is a circumferential notch **19,** which is "b" in width, furthermore, the nut **1** has in its lower part a sealing cuff **23** connected with front edges **24** of the cylindrical surface **20** of the nut **1** by a narrow tear band **25,** which is weakened by slots **26.**

Patentansprüche

1. Flaschenverschluss, hergestellt aus Kunststoff und ausgestattet mit einem Schraubverschluss, der sich dadurch auszeichnet, dass er über ein Fach **2** in Form eines zylindrischen, mit dem Boden nach oben gedrehten Gefäßes verfügt, das sich auf dem zylindrischen Flanschanguss **15** befindet, der auf der oberen Fläche des Bodens **14** des Schraubverschlusses **1** angebracht ist, wobei das Fach **2** auf der unteren, offenen Seite mit einer Plombe **3** abgeschlossen ist, die aus einer etwas verdickten Flanschschelle **4** aus einem Oberteil **5** und einem Unterteil **6** besteht, die miteinander mit Hilfe eines abreißbaren Elements **7** in Form eines Streifens mit

verengtem und durch Lochung in Form von Langlöchern **8** geschwächtem Querschnitt verbunden sind, während sich auf der Innenseite **10** der verstärkten Schelle **4** eine umlaufende Vertiefung **11** und ein umlaufender Druckverschluss **12** in Form einer Feder mit dem Querschnitt eines Halbzylinders befinden, unter welchem eine umlaufende Nut **13** in Form einer zweistufigen Vertiefung **13'** befindet, sowie dadurch, dass der zylinderförmige Flanschanguss **15** auf seinem äußeren Umfang einem erste Druckverschluss **16** und einen zweiten Druckverschluss **17** besitzt.

2. Verschluss wie in Anspruch 1, der sich dadurch auszeichnet, dass das abreißbare Element 7 mit einem profilierten Griff **9** ausgestattet ist.

3. Verschluss wie in Anspruch 1, der sich dadurch auszeichnet, dass zwischen dem ersten Druckverschluss **16** und dem zweiten Druckverschluss **17** einer erste umlaufende Kerbe **18** mit der Breite "a" befindet und dass sich unter dem zweiten Druckverschluss **17** eine zweite umlaufende Kerbe **19** mit der Breite "b" befindet, während der Schraubverschluss **1** in seinem unteren Teil über eine abdichtende Manschette **23** verfügt, die mit den Vorderrändern **24** der zylinderförmigen Fläche **20** des Schraubverschlusses **1** mit Hilfe eines abreißbaren, schmalen Streifens **25** verbunden ist, der durch Langlöcher **26** geschwächt wird.

Revendications

1. Fermeture des bouteilles fabriquée en matière plastique, équipée d'un écrou, **caractérisé en ce qu'**elle est munie d'un compartiment **2** sous forme d'un godet cylindrique retourné dans le sens inverse, situé sur un bourrelet cylindrique formant une bride **15** qui se trouve sur la surface supérieure du fond **14** de l'écrou **1**, étant entendu que le compartiment **2** est terminé en sa partie inférieure ouverte par un joint d'étanchéité **3** constitué d'un collier **4** épaissi formant une bride dont la partie supérieure **5** et la partie inférieure **6** sont assemblées à l'aide d'un élément cassable **7** sous forme d'une bande dont la section est rétrécie et affaiblie par les fentes **8** alors que côté intérieur **10** du collier épaissi **4** se trouve un enfoncement circulaire **11** et un élément de fixation circulaire **12** sous forme d'une languette dont la section transversale est un hémi-cylindre, et sous lequel est située une rainure circulaire **13** sous forme d'un enfoncement graduel **13'** et, en outre, **caractérisé en ce que** sur le périmètre extérieur du bourrelet cylindrique formant une bride **15** se trouve le premier élément de fixation circulaire **16** et le second élément de fixation circulaire **17**.

2. Fermeture des bouteilles fabriquée en matière plastique selon la revendication 1 **caractérisé en ce que** l'élément cassable **7** est équipé d'une poignée profilée 9.

3. Fermeture des bouteilles fabriquée en matière plastique selon revendication 1 **caractérisé en ce que**, entre le premier élément de fixation **16** et le second élément de fixation **17** se trouve la première encoche circulaire **18** d'une largeur "a" et sous le second élément de fixation **17** est située la seconde encoche circulaire **19** d'une largeur "b", alors que l'écrou **1** possède dans sa partie inférieure une manchette d'étanchéité **23** qui est reliée avec les rebords frontaux **24** de la surface cylindrique **20** de l'écrou **1** par une bande étroite cassable **25** qui est affaiblie par les fentes **26.**

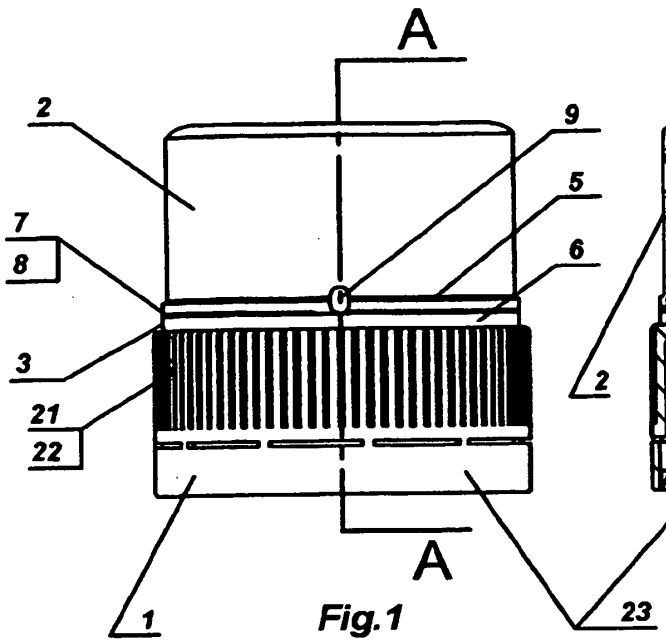


Fig.1

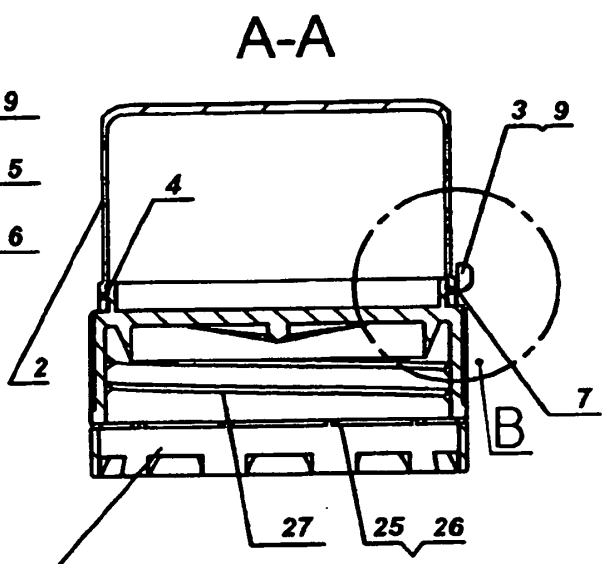


Fig.2

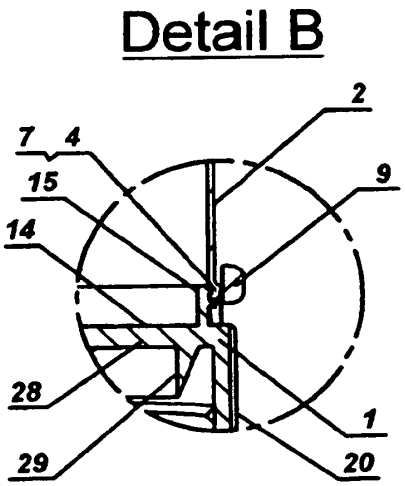


Fig.3

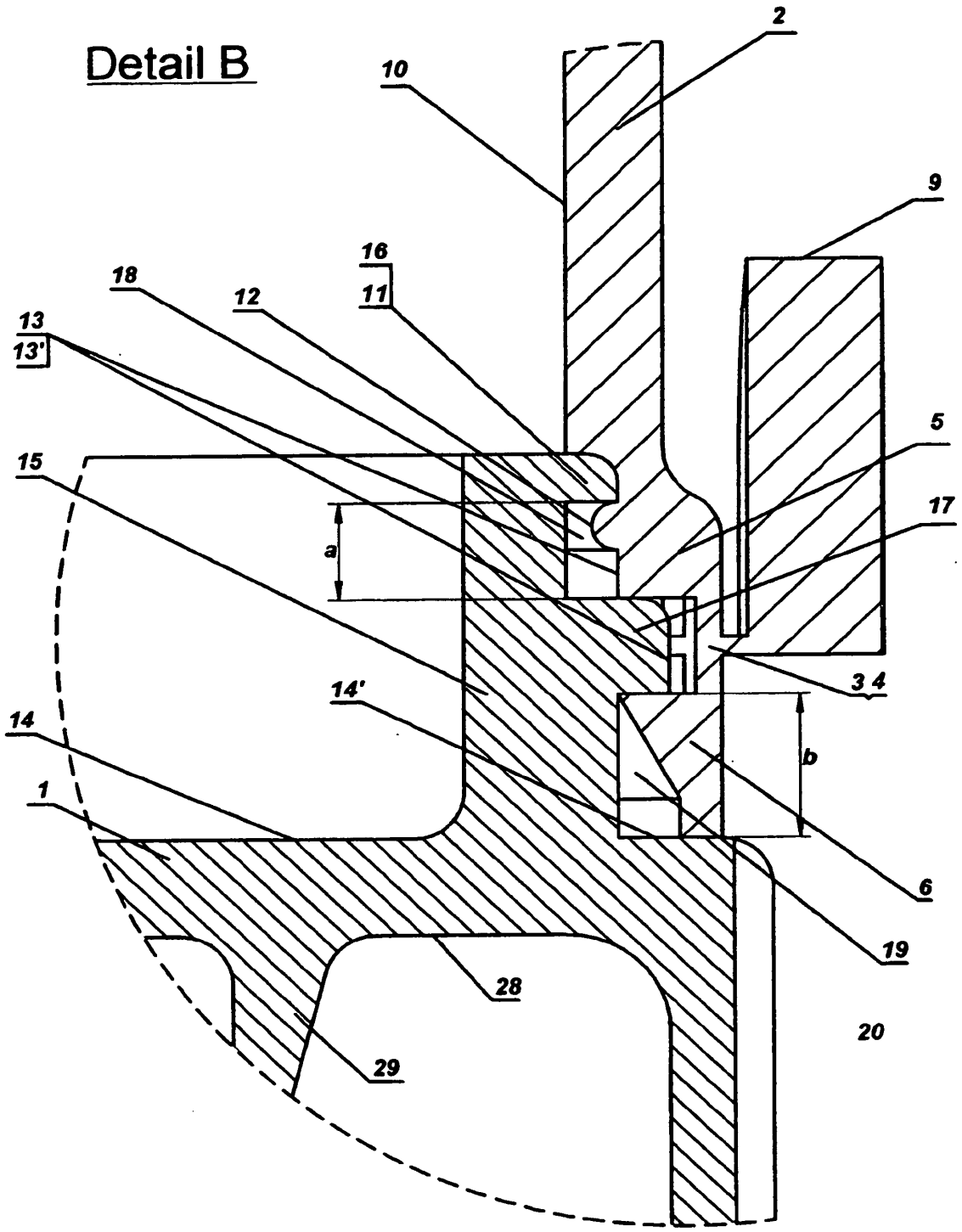


Fig.4

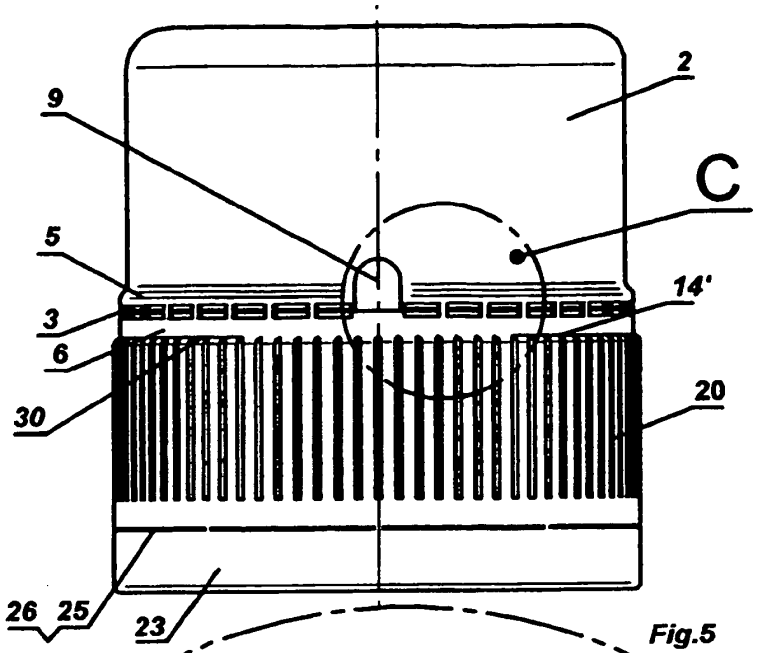


Fig.5

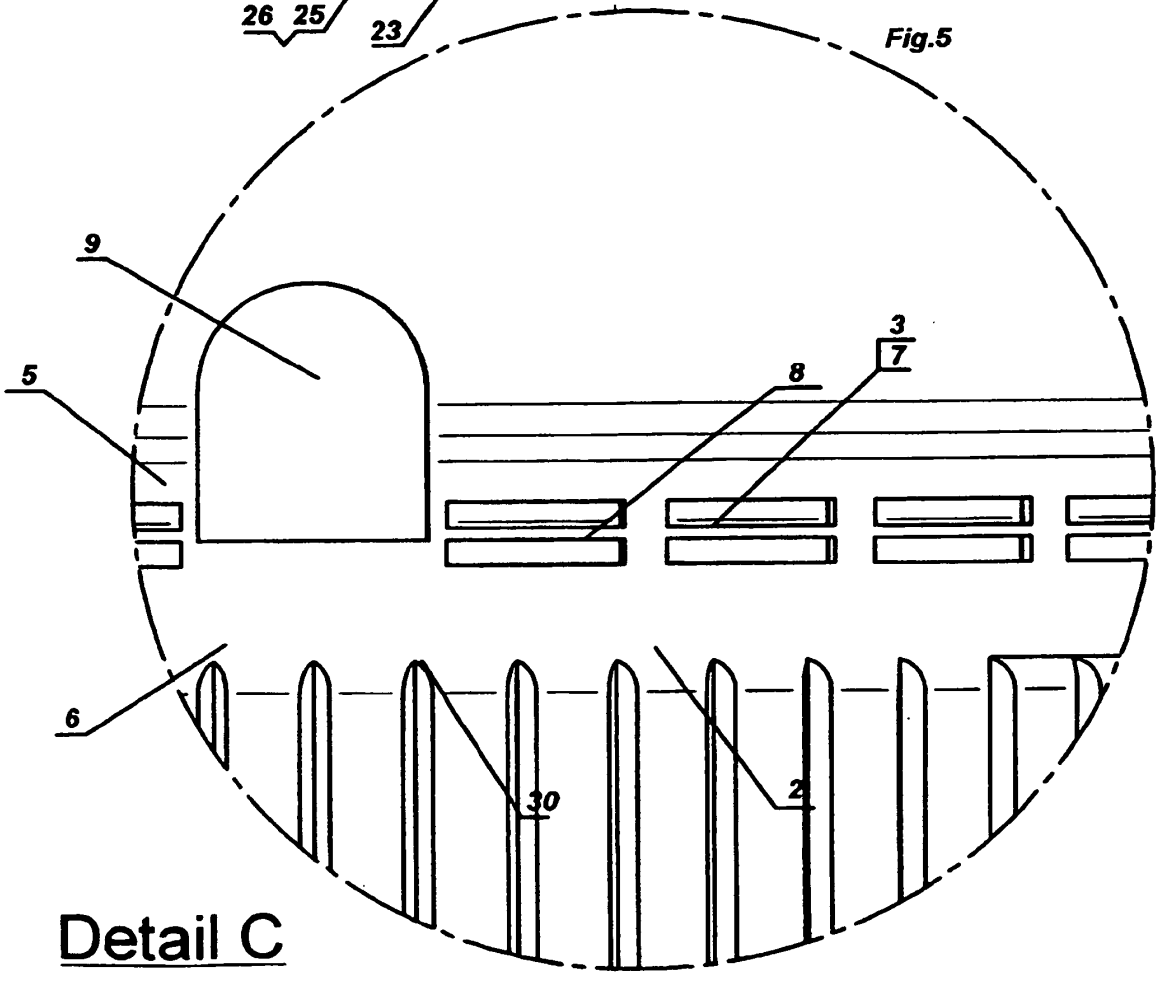


Fig.6

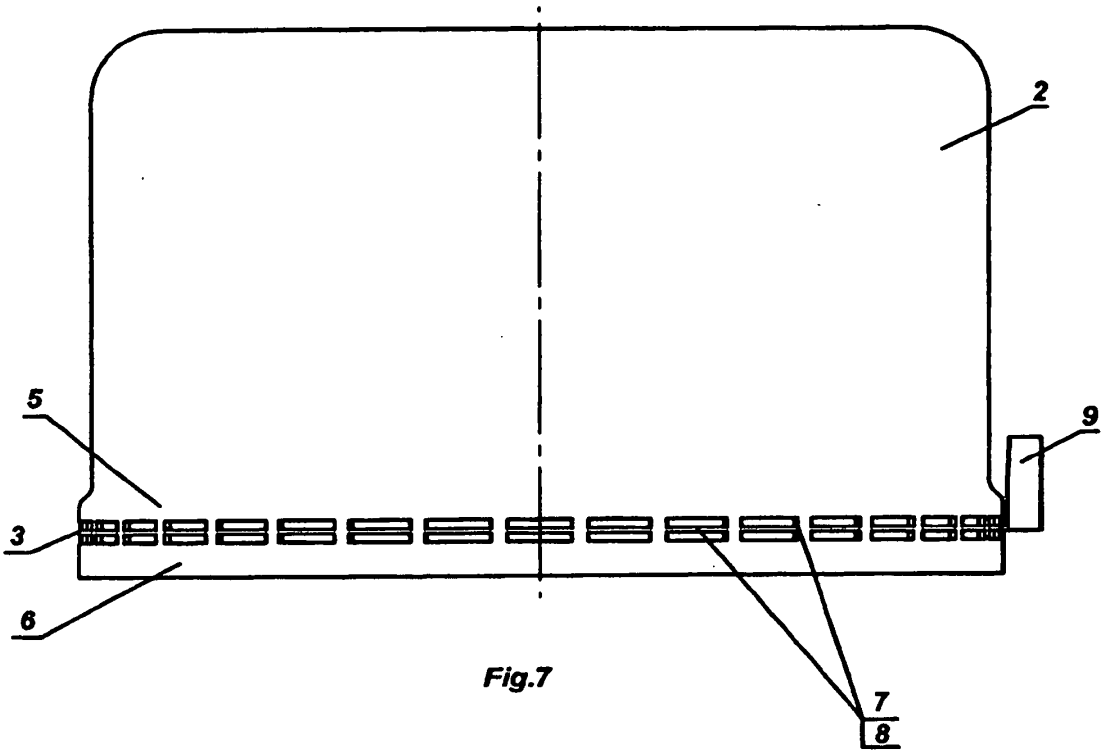


Fig.7

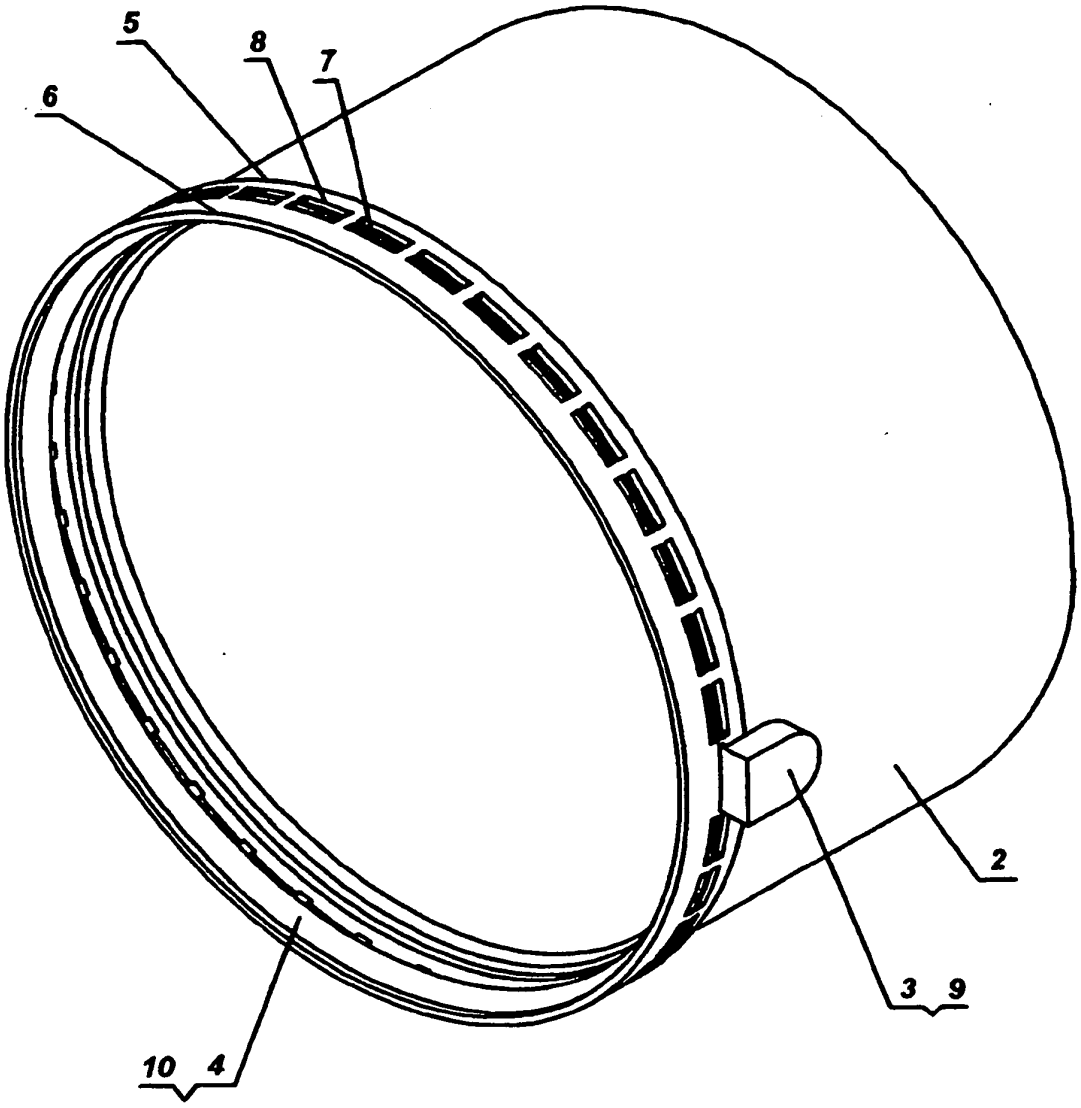


Fig.8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- PL RU55678 **[0002]**
- PL P352255 **[0003]**
- PL 197272 **[0005]**
- PL 180383 **[0006]**
- PL 175182 **[0007]**
- EP 0031980 A1 **[0008]**