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(54) **A spout for a metallic container with a cap and an anti-pryring**

(57) Sealing set for a container comprising a closure made up of a cap (2) screwable onto a pouring spout body (3) insertable into a hole (4) created on a lid (41) of said container, this closure including a ring-shaped seal that is breakable by unscrewing the cap, the pouring spout body (3) being moulded as a cylinder and having a base (35), below which there is a substantially ring-shaped protuberance (37) suitable to be inserted in said hole (4), between the base and the protuberance a ring-shaped groove being formed fitted with a plurality of projections (38), around the hole (4) a plurality of projections (42) being created in a ring-like position, which, when the pouring spout body is inserted in the hole, insert themselves into the groove and come up against the projections (38) and prevent rotation of the pouring spout body inserted in the lid. A ring (34) having the function of anti-undercutting seal is connected to the base (35) by means of breakable peduncles.

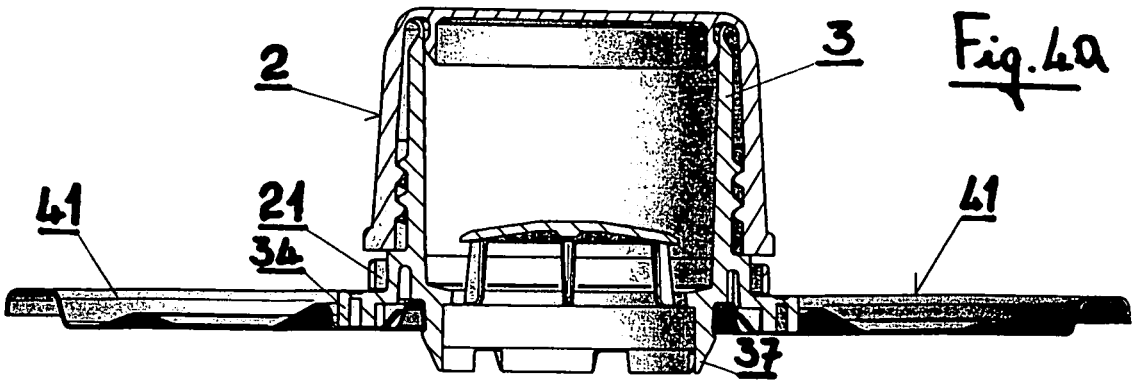

Fig. 4a

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Description

[0001] This invention refers to a sealing set for a container made up of a closure snap fitted onto the lid of a metallic container, for instance, a container for liquids. Various types of seal are commonly known for containers generally screwed on or snap fitted onto the mouth or lid of the same container; this invention regards, in particular, seals made up of a pouring body closed by a cap to be click fitted into a particularly shaped hole created on the lid of a metallic container.

[0002] However, such types of seal have certain inconveniences, the first of which is due to the sealing against tampering. Indeed, this seal is normally created by means of a removable band (seal), connected to the distribution mouth by means of a weakened line, in such way that said band may be removed, after opening of the lid, by means of the tearing of a grommet connected to the band itself. By removing the sealing band, the distribution mouth is freed allowing, once the cap is removed, total or partial pouring of the content; the cap is then replaced to protect any possible content remaining in the container.

[0003] The aforesaid seal, made up of a detachable band may, however, create problems for the user, given that it must be removed by hand.

[0004] Likewise, sealing systems of warranty are known that are made up of a ring connected by breakable peduncles on the lower rim of the cap and fitted with a vertical serration which, at the time of the first screwing of the cap, goes to become wedged on a corresponding vertical serration created on the lower external part of the pouring body, in such way that, at the time of the first opening of the cap, the ring remains blocked by the serration, breaks the above mentioned peduncles and then remains attached to the cap making the breaking of the seal visible. However, said vertical serration has the inconvenience of a possible deterioration by abrasion at the time of the screwing of the cap onto the pouring spout not 100% guaranteeing the breaking of the sealing peduncles.

[0005] The set, according to this invention, allows one to totally eliminate or substantially reduce these reported inconveniences thereby leading to a better and safer functionality. This is made up of a closure with two elements and that is a pouring body to be press fitted into a hole made on the lid of the metallic container and a cap previously assembled on the body of the pouring spout itself.

[0006] This closure, once press mounted on the lid of the container, cannot rotate in the hole due to a plurality of radial projections made in proximity of the rim of the hole itself, and which insert themselves into a ring-shaped groove of the body fitted with radial projections which, in rotation, come up against the projections of the hole in the lid.

[0007] The closure seal is therefore created by means of a serration envisaged radially towards the exterior of the pouring spout body, while a corresponding counter serration is envisaged towards the interior of a fixed ring, by means of breakable peduncles, on the cap. Said ring acts, therefore, as a guarantee against tampering and is either circular with a constant height or with different semi-circular heights, or again with variable sectors.

[0008] When the cap is screwed on, the serration slides skipping over the serration of the pouring spout body, until, with the cap tight, the two serrations stably lock into superimposition.

[0009] To open the closure for the first time, one unscrews the cap from the body and, due to the blocking of the serration on the cap on the serration of the body and the set not being able to rotate due to the radial projections created in proximity of the rim of the hole that come up against the radial projections created on the pouring spout body, the breaking of the breakable peduncles takes place as well as the breaking of the guarantee ring.

[0010] The invention is described in the following making reference to one of its forms of creation, illustrated in the attached drawings, where:

figs. 1a and 1b illustrate the cap of the closure according to two perspective views respectively from below and from above;

figs. 2a and 2b illustrate the pouring spout body which may be inserted by pressure into the hole created on the lid of the container according to two perspective views respectively from above and from below;

figure 3 illustrates, in a perspective view, the lid of the container fitted with a hole with radial projections made in proximity of the rim, to which the closure is associated;

figures 4a, 4b and 4c illustrate the set according to this invention respectively in cross-section, from above and a dissected perspective view.

[0011] With reference to these figures, the set of this invention is made up of a closure including a cap 2 and a pouring spout body 3 that can be press fitted into a hole 4 created on the lid of a metallic container.

[0012] The cap 2 is preferably cylinder shaped and fitted, in the lower zone, with a guarantee ring 21, connected to the cap itself by means of breakable peduncles 22.

[0013] Said guarantee ring has a serration 23 arranged radially towards the interior of the cap itself. Inside the cap, a thread 24 is envisaged for the mounting of the cap on the body of the pouring spout and on the external surface of the cap rough zones 25 of the lateral surface are envisaged, suitable to favour gripping and manual rotation of the cap itself.

[0014] The pouring spout body 3 is also cylinder shaped and includes in the upper part a pouring spout 31, with a drop-stop edge 32.

[0015] In the intermediate part, the pouring spout body 3 has preferably a thread 33 suitable to match the thread

placed on the inside of the cap and in the lower part the pouring spout body has a base 35, on which a radial serration 36 is pointing towards the exterior, corresponding to the serration 23 of the cap 2. A ring 34 having the function of anti-undercutting seal is connected to this base by means of breakable peduncles.

[0016] The serration of the closure, both that of the pouring spout body and that inside the cap, preferably include two series ("banks") of three or more flexible teeth arranged horizontally and diametrically opposed. The orientation of the teeth on the cap is opposite to the orientation of the teeth on the pouring spout body, in such way that at the time of opening the cap by unscrewing the teeth hook into one another determining the breaking of the peduncles operating by fact a breakage of the seal.

[0017] Furthermore, the pouring spout body has on its lower base 35, a substantially ring-shaped protuberance 37 suitable to be inserted in a hole 4 created on the lid 41 of a container. Between the base and the protuberance a groove is created that is fitted with a plurality of projections 38.

[0018] Around the hole 4 on the lid 41 a plurality of projections 42 are created in a ring-like position which, when the body is pressed into the hole 4, insert themselves into the groove coming up against the projections 38 and preventing rotation of the body pressed into the lid at the time of unscrewing, having to overcome the resistance to breaking of the guarantee peduncles as well as the resistance of the threading.

[0019] The insertable body is normally inserted in the hole of a container lid in tinplate in accordance with the EN 13029:2001 standard and typically with a capacity of 1 litre (but it may also of a different capacity, larger or smaller). Naturally, the invention described as an example may undergo variations and adaptations on the basis of the vast range and quality of liquids to pour or to dose and the type of metallic container that may be of different shapes always remaining within the scope of the following claims.

Claims

1. Sealing set for a container comprising a closure made up of a cap (2) screwable onto a pouring spout body (3) insertable into a hole (4) created on a lid (41) of said container, this closure including a ring-shaped seal that is breakable by unscrewing the cap, **characterised by** the fact that the pouring spout body (3) is moulded as a cylinder and has a base (35), below which there is a substantially ring-shaped protuberance (37) suitable to be inserted in said hole (4), between the base and the protuberance a ring-shaped groove being formed fitted with a plurality of projections (38), around the hole (4) a plurality of projections (42) being created in a ring-like position, which, when the pouring spout body is inserted in the hole, insert themselves into the groove and come up against the projections (38) and prevent rotation of the pouring spout body inserted in the lid.

2. A set according to claim 1, wherein the cap (2) is fitted in its lower zone with a guarantee ring (21) connected to the cap itself by means of breakable peduncles (22).

3. A set according to claim 2, wherein said guarantee ring has a serration (23) pointing radially towards the interior of the cap itself.

4. A set according to claim 3, wherein the pouring spout body (3) in its lower part, has a base (35), connected by means of breakable peduncles to a ring (34) having the function of anti-undercutting seal, which has a radial serration (36) pointing outwards, corresponding to the serration (23) on the cap.

5. A set according to claim 1, wherein the pouring spout body (3) includes in its upper part a pouring spout (31), with a drop-stop edge (32).

6. A set according to claim 4, wherein the serrations (23, 36) of the closure, both that on the pouring spout body and that inside the cap, preferably include two series of three or more flexible teeth placed horizontally and diametrically opposed, the orientation of the teeth on the cap being opposed to the orientation of the teeth on the pouring spout body, in such way that, at the time of opening of the closure by unscrewing, the teeth lock into one another and determine the breaking of the peduncles operating by fact the breaking of the seal.

7. A set according to claim 1, wherein a plurality of projections (42) are created on the external edge of the hole in such way as to prevent the rotation of the closure as a whole and thereby allow the breaking of the guarantee seal.

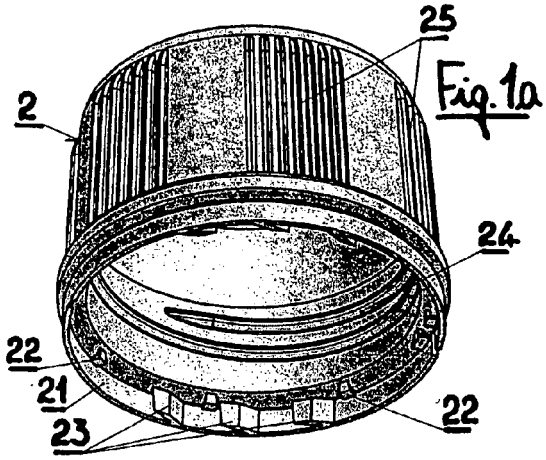

Fig.1a

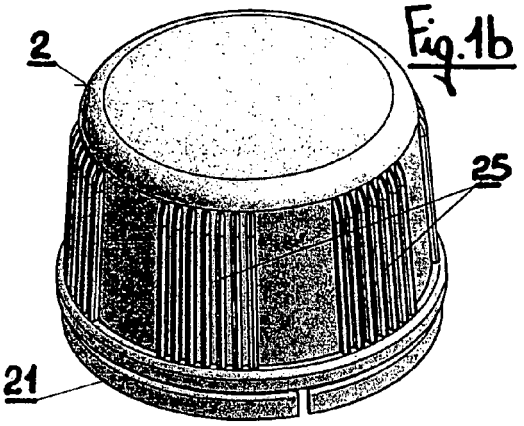

Fig.1b

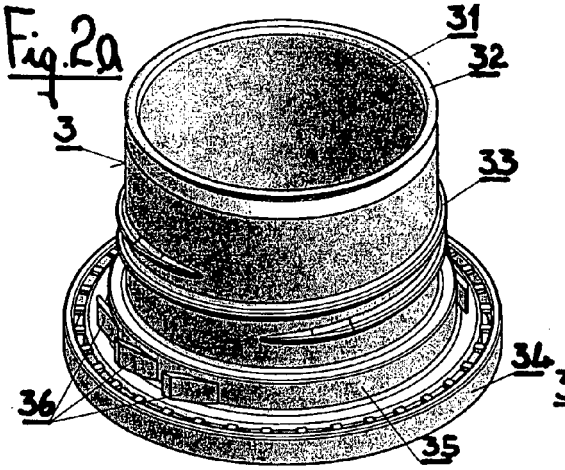

Fig.2a

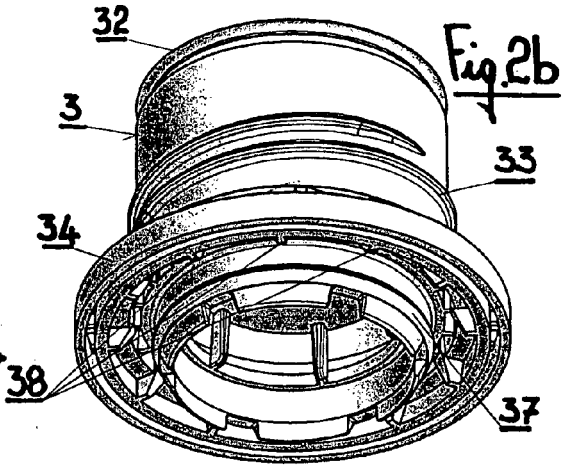

Fig.2b

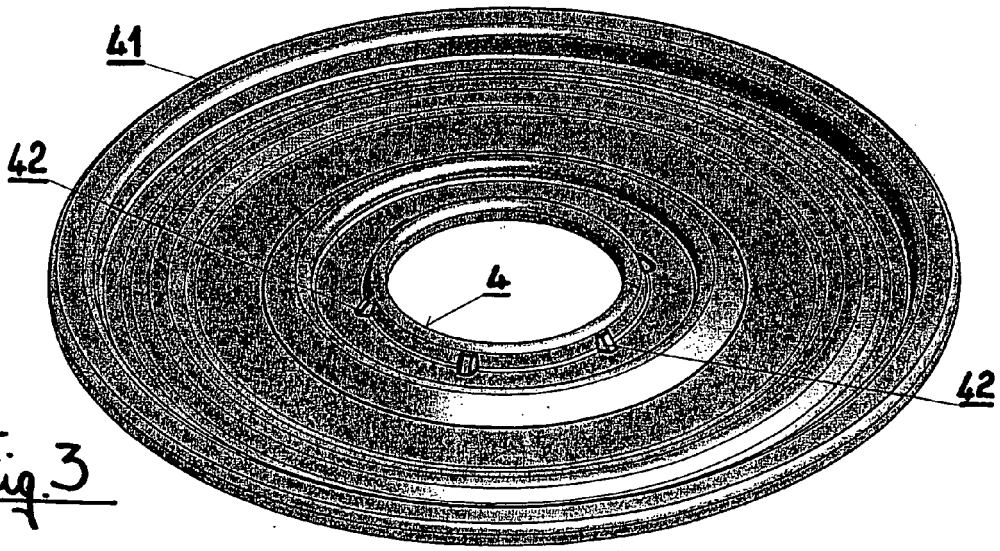

Fig.3

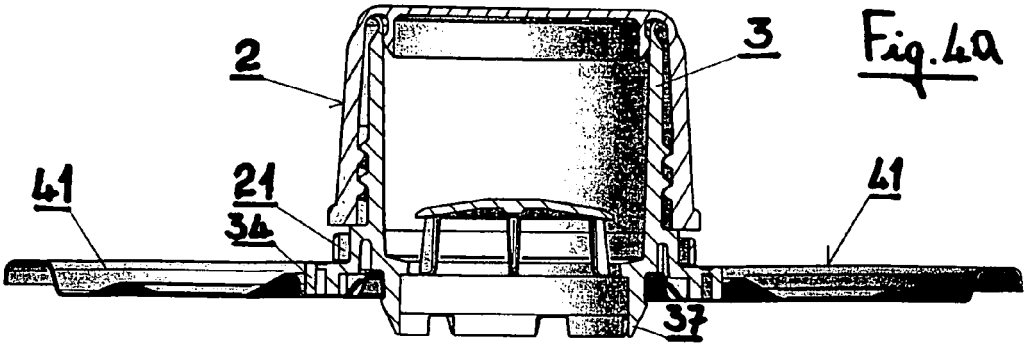

Fig.4a

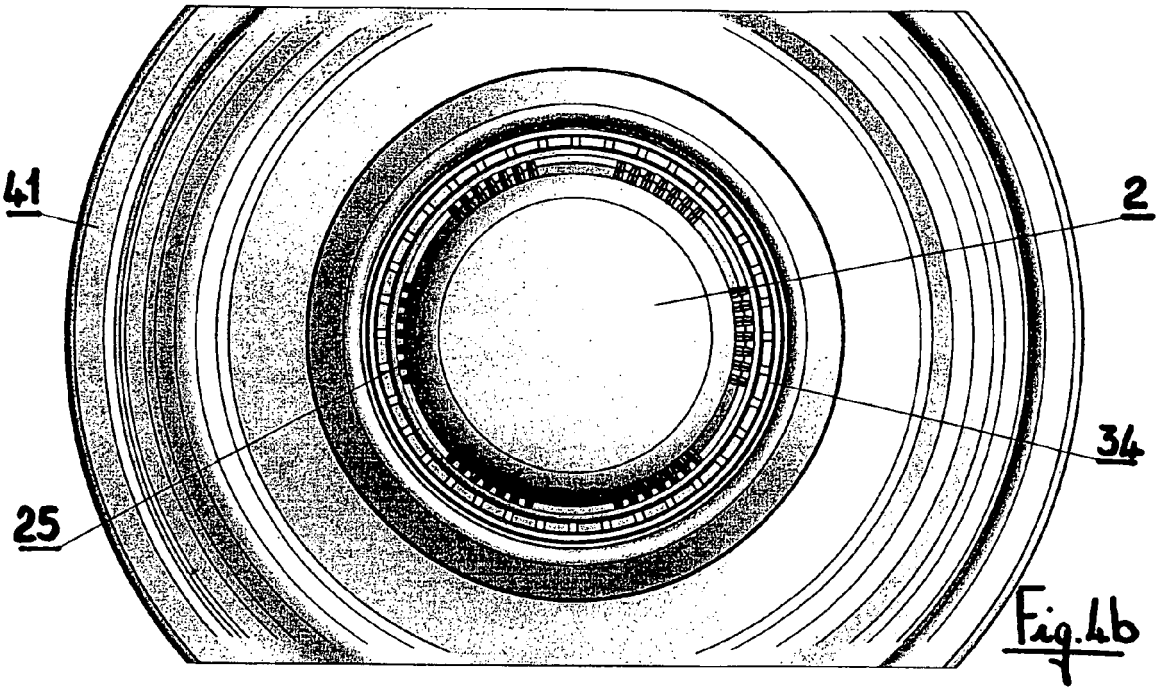

Fig.4b

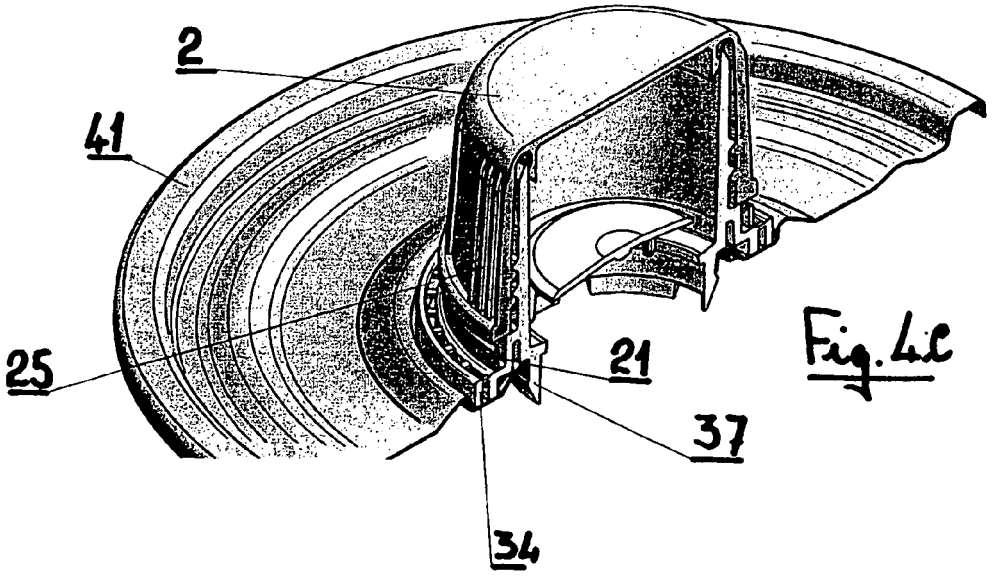

Fig.4c

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EUROPEAN SEARCH REPORT

Application Number
EP 10 00 5098

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	US 3 388 842 A (COSTA ALLAN A) 18 June 1968 (1968-06-18) * column 2, line 25 - line 29; figures 1-3 * -----	1 2,3,5,7	INV. B65D25/42 B65D41/34
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TECHNICAL FIELDS SEARCHED (IPC)
B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	9 July 2010	Sundell, Olli

CATEGORY OF CITED DOCUMENTS

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