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(54) **Device to fix a drinking glass on a bottle**

(57) An assembly comprising a glass (13) and a mounting device (1) which is configured to connect the overturned glass to a bottle neck (11) is described. The mounting device comprises a first opening (2) at a first end and a second opening (3) at a second end. The second opening is formed so as to be engaged by the bottle neck. The device is formed so as to be inserted inside the glass through its open end. The device has a retaining surface (4) which is configured so that, when the device

is connected to the glass, it bears against a portion of the inner side surface (13b) of the glass. The device has an edge (6a) situated at a distance from the retaining surface and configured so that, when the device is connected to the glass, it bears against a further portion of the inner side surface of the glass. A sealing band of heat-shrinkable material fixes the device to the glass. The edge (2a) of the first opening (2) of the mounting device rests internally flush with the inner edge (13a) of the glass.

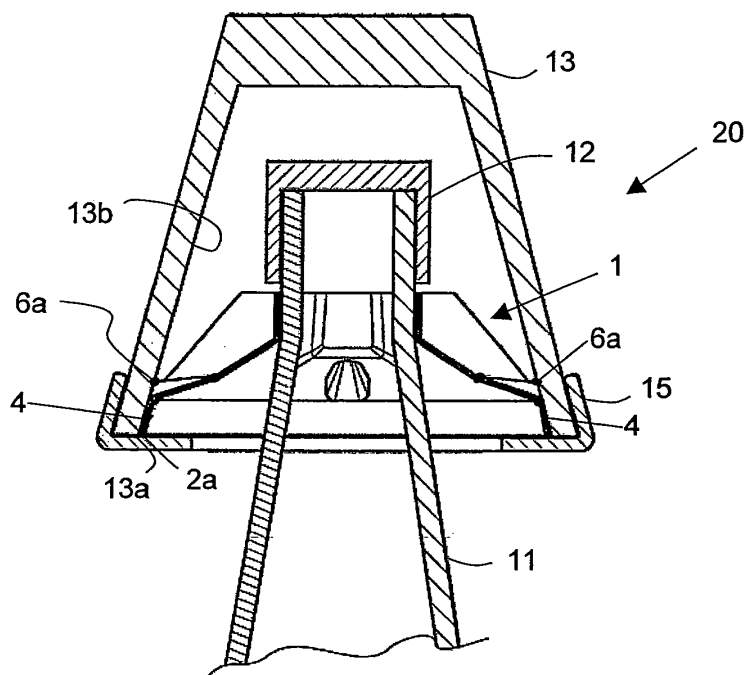


Fig. 5

Description

[0001] The present invention relates to an assembly comprising a glass and a mounting device for connecting the overturned glass to a bottle neck.

[0002] It is known to prepare a packaging with an overturned glass connected to a bottle neck. This operation is performed, for example, when it is required to sell, together with the bottle, a special glass such as, for example, a glass which is particularly suitable for consumption of the beverage contained inside the bottle or a glass which is decorated in a particular manner or also a collector's glass or the like. These packages have a particular appeal for consumers.

[0003] During the course of the present description, reference will be made to glasses which have an inner side surface with a frustoconical form or the form of a truncated right-angle pyramid with a polygonal base. In this connection, it must be pointed out that a glass may have an inner side surface which is frustoconical or in the form of a truncated right-angle pyramid with a polygonal base, independently of the form of its outer side surface, which may be, for example, cylindrical, conical, tulip-shaped, etc. It must also be pointed out that glasses which have an apparently cylindrical inner side surface in reality have a slight conicity (generally not easily visible to the naked eye) due to the process for manufacturing the glass itself.

[0004] EP 0,758,985 describes a packaging formed by locating a plastic insert inside a glass, the insertion movement of the insert inside the glass being limited by an annular edge of the insert which rests against the edge of the glass. The outer surface of the glass and the edge of the glass are then wrapped inside a plastic wrapping so as to keep the insert in position inside the glass. The top part of the insert comprises an opening which is pushed onto the cap of a bottle in order to fix the packaging to the bottle.

[0005] The Applicant has noted that the packaging described by EP 0,758,985 does not guarantee a sufficient level of safety for the user when removing the plastic wrapping in order to separate the glass from the insert. In fact, the annular edge of the insert projects, at least partly, from the glass. This edge is often sharp owing to burrs which have formed during moulding and could cut the user's fingers.

[0006] Moreover, the Applicant has noted the need to provide a more stable connection between the insert and glass.

[0007] Therefore, the object of the present invention is to provide an assembly with a glass and a mounting device for connecting the overturned glass to a bottle neck, which is able to solve the above-mentioned problems.

[0008] In particular, the object of the present invention is to provide a mounting device for connecting a glass to a bottle neck, which offers a greater degree of safety than the known solutions and which is also able to achieve a

more stable connection between the device and glass.

[0009] According to a first aspect, an assembly comprising a glass and a mounting device for connecting the overturned glass to a bottle neck is provided. The glass has an open end with an edge, a closed end and an inner side surface. The mounting device comprises a first opening at a first end and a second opening at a second end, said second opening being formed so as to be engaged by said bottle neck, said device being formed so as to be inserted inside said glass through its open end. The device has a retaining surface which is configured so that, when the device is connected to the glass, it bears against a portion of the inner side surface of the glass. Moreover, the device has an edge situated at a distance from the retaining surface and configured so that, when the device is connected to the glass, it bears against a further portion of the inner side surface of the glass.

[0010] Conveniently, the edge of the first opening of the mounting device rests internally flush with the inner edge of the glass.

[0011] Preferably, the retaining surface is a surface which extends from the edge of the first opening in the direction of the second opening.

[0012] Preferably, the edge, situated at a distance from said retaining surface, is an edge of a rim which extends from a step situated in the vicinity of the end of the retaining surface.

[0013] In one embodiment, the glass has a frustoconical inner side surface. In this case, the retaining surface is a frustoconical surface with a conicity substantially corresponding to that of the inner side surface of the glass.

[0014] Conveniently, the first opening and the second opening are substantially circular.

[0015] Preferably, the assembly also comprises a sealing band situated on a part of the outer side surface of the glass, on the edge of the glass and on the edge of the first opening of the device.

[0016] Conveniently, the sealing band also extends so as to cover a part of the open end of the glass, leaving, however, sufficient space for the bottle neck.

[0017] The sealing band may be made of a heat-shrinkable, preferably substantially transparent and substantially thin material.

[0018] The device may be conveniently obtained by means of moulding a thermoplastic polymer.

[0019] According to a second aspect, a packaging is provided, comprising an assembly according to one of the preceding claims and a bottle, to the neck of which the assembly is connected.

[0020] The present invention is further illustrated by the following figures provided by way of a non-limiting example in which:

- Figure 1 is an enlarged axonometric view of the mounting device according to an embodiment of the present invention;
- Figure 2 is a top plan view of the device according

- to Figure 1;
- Figure 3 is a front view of the device according to Figure 1;
- Figure 4 is a view similar to the view of Figure 3 but rotated through 45° relative thereto;
- Figure 5 is a cross-sectional view of the assembly according to the invention showing the device sectioned along the plane A-A of Figure 2 and connected to a glass and to a bottle neck (the glass and bottle neck are not shown in Figure 2); and
- Figure 6 is a cross-sectional view of the assembly according to the invention showing the device sectioned along the plane B-B of Figure 2 and connected to a glass and to a bottle neck (the glass and bottle neck are not shown in Figure 2).

[0021] Reference should be made firstly to Figures 1, 2, 3 and 4 which show solely the mounting device 1 of the assembly 20 according to an embodiment of the present invention.

[0022] The mounting device 1 has a roughly frustoconical form. The device 1 has a first preferably substantially circular opening 2 and a second opening 3 which is also preferably substantially circular. The diameter of the first opening 2 is greater than the diameter of the second opening 3.

[0023] Preferably, the diameter of the second opening 3 is substantially the same as the diameter of the bottle neck to which the mounting device 1 is intended to be connected. Moreover, with regard to the embodiment shown, it is considered that the diameter of cap of the bottle is greater than that of the bottle neck. Therefore, the diameter of the second opening 3 is smaller than the diameter of the bottle cap. In order to understand more fully these comments reference should be made to Figures 5 and 6.

[0024] Moreover, preferably, the diameter of the first opening 2 is smaller than, but substantially corresponds to, the diameter of the open end of the glass 13 to which the mounting device 1 is intended to be connected. As mentioned above, the glass 13 is frustoconical with a diameter which decreases from the edge of the open end towards the closed bottom.

[0025] Starting from the edge 2a of the first opening 2, the device 1 comprises a ring 4 with a frustoconical side surface which tapers in the direction towards the second opening 3. The conicity of the ring 4 correspond substantially to the conicity of the glass 13. In other words, the ring 4 is formed in such a way that, during use, it bears against a corresponding part of the inner side surface of the glass 13 to which the device 1 is connected. In the claims, the surface of the ring is also referred to as "retaining surface" since it helps hold (or retain) the device relative to the glass.

[0026] At the end of the ring 4, the device 1 has a transition step 5 by means of which the diameter is reduced. A rim 6 extends from the transition step 5, again in the direction of the second opening 3. The surface of the rim

6 is substantially vertical or frustoconical (with a diameter which tapers in the direction of the second opening 3). The rim 6 terminates in a circumferential edge 6a.

[0027] The surface of the rim 6 is a roughly cylindrical surface but is interrupted by upper ribs 7 and lower ribs 8 which will be described in greater detail hereinbelow.

[0028] Sections of the edge 6a of the rim 6 are connected to the edge 3a of the second opening 3 by means of upper surfaces 9. Preferably, an upper rib 7 is situated between two adjacent upper surfaces 9. In the embodiment shown there are eight upper surfaces 9 and four upper ribs 7 arranged substantially at 90°.

[0029] Therefore, in other words, the bottom of the upper ribs 7 is inset with respect to the plane of the upper surfaces 9.

[0030] Each pair of upper surfaces 9, between which an upper rib 7 is situated, is separated from another pair of upper surfaces 9 by means of an inset area 10. Each inset area 10 has a substantially flat bottom 10a, two substantially vertical side surfaces 10b and an end surface 10c which is substantially connected at the top to the edge 3a of the second opening 3. One of the above-mentioned lower ribs 8 is present in each bottom surface 10a. In the embodiment shown there are four inset areas 10 and four lower ribs 8 arranged substantially at 90°.

[0031] Obviously, the number of inset areas 10 and respective lower ribs 8, as well as the number of upper surfaces 9 and respective upper ribs 7 is of no importance for the purposes of the present invention. Their angular arrangement may also be different from that shown in the various figures.

[0032] Typically, the device 1 is obtained by moulding a thermoplastic polymer such as PVC and/or PET, for example.

[0033] Having described the configuration of the device 1, assembly thereof together with a glass 13 and finally connection of the assembly 20 comprising device and glass to a bottle will now be described with reference to Figures 5 and 6.

[0034] In Figures 5 and 6 the bottle neck is indicated by the reference number 11, the cap of the bottle by the reference number 12 and the glass by the reference number 13. Advantageously, the glass 13 may be associated with the device 1 before connecting the device 1 to the bottle. The device 1 is inserted inside the glass until the edge 2a of the first opening 2 is flush substantially with the inner edge 13a of the glass 13. In this position, the surface of the ring 4 bears against the corresponding portion of the inner side surface 13b of the glass 13. Moreover, preferably, the circumferential edge 6a of the ring 6 also bears against a corresponding portion of the inner side surface of the glass. The force exerted by the contact between the surface of the ring 4 and the inner side surface of the glass and the force exerted by the contact between the edge 6a of the rim 6 and the inner side surface of the glass 13 ensures a stable connection between the device 1 and the glass 13. In particular the device 1 is prevented from penetrating further into the glass.

[0035] Fixing of the device 1 to the glass is performed by means of a sealing band 15, preferably a band made of substantially transparent, thin and heat-shrinkable material. In Figures 5 and 6 the thickness of the band 15 is not shown to scale. In other words, in reality, the thickness of the band 15 is much less than that shown in the figures. The band 15 is situated on the outer side surface of the glass (in the vicinity of the edge of the glass 13), on the edge 13a of the glass 13 and on the edge 2a of the first opening 2 of the device 1. Preferably, the band 15 also extends so as to cover a part of the open end of the glass 13, leaving, however, sufficient space for the bottle neck 11.

[0036] Therefore, as mentioned above, owing to the fact that the surface of the ring 4 and the edge 6a of the rim 6 bear against corresponding portions of the inner side surface 13b of the glass, the device 1 is not able to penetrate further inside the glass; moreover, owing to the band 15, the device 1 cannot be separated from the glass 13.

[0037] The glass 13, with the device 1 inserted inside it and fixed by the band 15, is then connected to the bottle neck in its overturned condition. In particular, the cap of the bottle is passed through the first opening 2 and is then forced to pass through the second opening 3 of the device 1. In the final position, the device 1 is situated so that the inner side 10d of the end surfaces 10c of the inset areas 10 rests against the surface of the bottle neck 11 immediately below the cap 12. In this position it is practically impossible - except by destroying the assembly (comprising glass, mounting device for connecting the overturned glass to the bottle neck and band) - to remove the glass from the bottle.

[0038] In order to separate the glass from the bottle, the band must be cut, the glass 13 separated from the device 1, the cap unscrewed and the device 1 removed in the upwards direction.

[0039] It should be noted that the edge of the device 1 does not project (either radially or longitudinally) from the edge 13a of the glass. In other words, the edge 2a of the first opening of the mounting device 1 rests internally flush with the inner edge of the glass 13a. This ensures that, when the band is removed, the user does not run the risk of injuring him/herself with the edge of the device. In fact, the band may be removed by running a finger and/or a fingernail against the outer side surface of the glass.

[0040] By way of an example not intended to be limiting in any way it is pointed out that a height considered suitable for the ring 4 ranges between 3.0 mm and 10.0 mm. Preferably, the height of the ring is equal to about 4.0 to 5.0 mm. Again by way of an entirely non-limiting example, it is also pointed out that the edge of the rim 6 is conveniently situated at a distance of between 3.0 mm and about 10.0 mm from the transition step 5. Preferably, the distance between the edge of the rim 6 and the transition step 5 is equal to about 4.0 to 5.0 mm.

[0041] Although the detailed description above relates

to a mounting device 1 for connecting to a bottle a glass having an inner side surface with a frustoconical form, according to other embodiments not shown in the drawings the mounting device 1 may be configured so as to connect to a bottle a glass having an inner side surface in the form of a truncated right-angle pyramid with a polygonal base. In this case, the first opening 2 would have a form in plan view substantially corresponding to that of the open end of the glass (polygonal). For example, in the case of a glass having an inner side surface in the form of a truncated right-angle pyramid with a square base, the first opening 2 of the device 1 should have a corresponding substantially square shape. The form of the ring, transition step, rim, connecting surfaces, ribs and inset areas will be correspondingly modified depending on this shape of the first opening 2. All these modifications are within the competence of a person skilled in the art and will not be described further below.

[0042] The shape, however, of the second opening 3 depends on the form of the bottle neck. It could be different from a circular shape in the case of bottles which have a neck with a non-circular cross-section.

Claims

1. Assembly (20) comprising a glass (13) and a mounting device (1) for connecting the overturned glass (13) to a bottle neck (11),

- in which said glass (13) has an open end with an edge (13a), a closed end and an inner side surface (13b),

- in which said mounting device (1) comprises a first opening (2) at a first end and a second opening (3) at a second end, said second opening (3) being formed so as to be engaged by said bottle neck, said device (1) being formed so as to be inserted inside said glass (13) through its open end,

characterized in that said device (1) has a retaining surface (4) which is configured so that, when the device (1) is connected to the glass (13), it bears against a portion of the inner side surface (13b) of the glass (13) and **in that** said device (1) has an edge (6a) situated at a distance from said retaining surface (4) and configured so that, when the device (1) is connected to the glass (13), it bears against a further portion of the inner side surface (13b) of the glass (13).

2. Assembly (20) according to Claim 1, **characterized in that** the edge (2a) of the first opening (2) of the mounting device (1) rests internally flush with the inner edge (13a) of the glass.

3. Assembly (20) according to Claim 1 or 2, **charac-**

terized in that said retaining surface (4) is a surface which extends from the edge (2a) of the first opening (2) in the direction of the second opening (3).

4. Assembly (20) according to any one of Claims 1 to 3, **characterized in that** said edge (6a), situated at a distance from said retaining surface (4), is an edge of a rim (6) which extends from a step (5) situated in the vicinity of the end of the retaining surface (4). 5
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5. Assembly (20) according to any one of the preceding claims, **characterized in that** said glass (13) has a frustoconical inner side surface and **in that** said retaining surface (4) is a frustoconical surface with a conicity substantially corresponding to that of the inner side surface of the glass (13). 15
6. Assembly (20) according to any one of the preceding claims, **characterized in that** said first opening (2) and said second opening (3) are substantially circular. 20
7. Assembly (20) according to any one of the preceding claims, **characterized in that** it also comprises a sealing band (15) situated on a part of the outer side surface of the glass (13), on the edge (13a) of the glass and on the edge (2a) of the first opening (2) of the device (1). 25
8. Assembly (20) according to Claim 7, **characterized in that** the sealing band (15) also extends so as to cover a part of the open end of the glass (13), leaving, however, sufficient space for the bottle neck (11). 30
9. Assembly (20) according to Claim 7 or 8, **characterized in that** said sealing band (15) is made of a heat-shrinkable, preferably substantially transparent and substantially thin material. 35
10. Assembly (20) according to any one of the preceding claims, **characterized in that** the device (1) is obtained by means of moulding a thermoplastic polymer. 40
11. Packaging comprising an assembly (20) according to one of the preceding claims and a bottle, to the neck of which the assembly (20) is connected. 45

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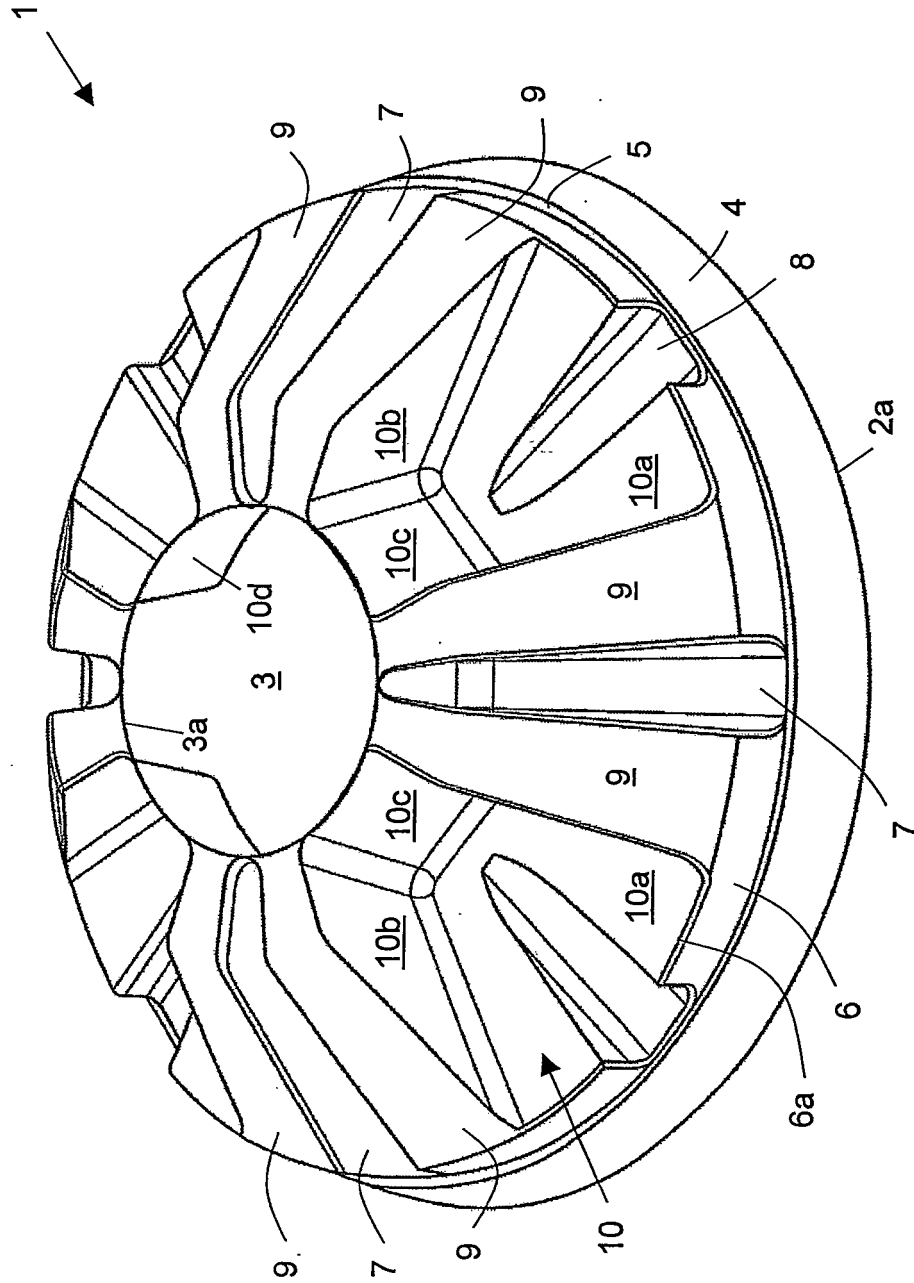


Fig. 1

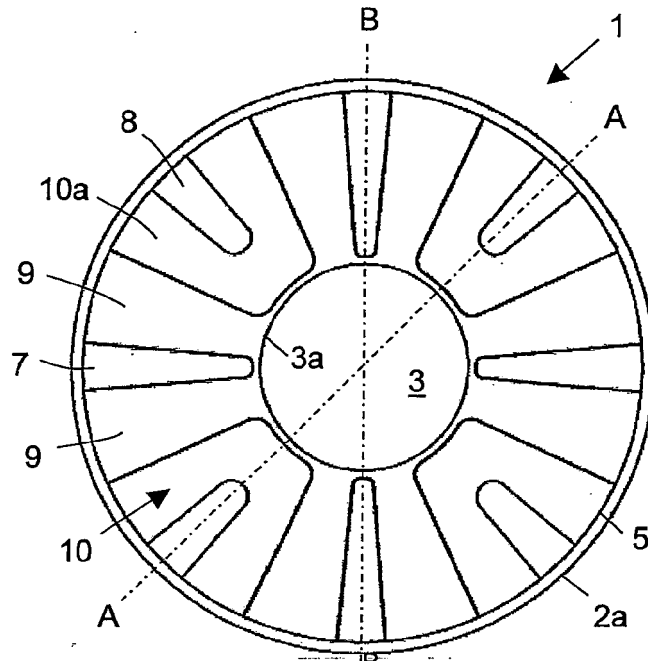


Fig. 2

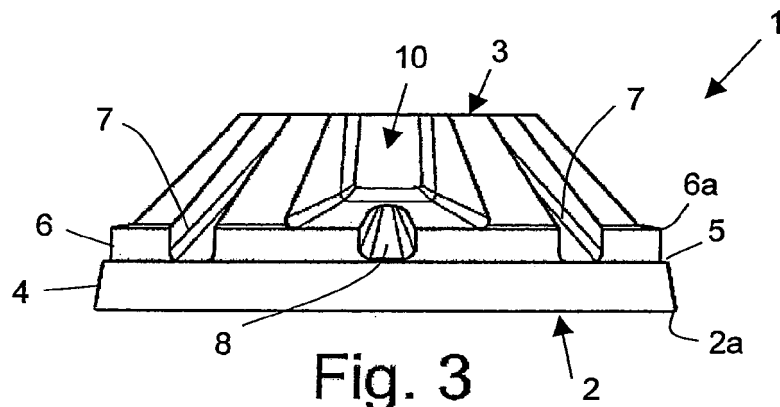


Fig. 3

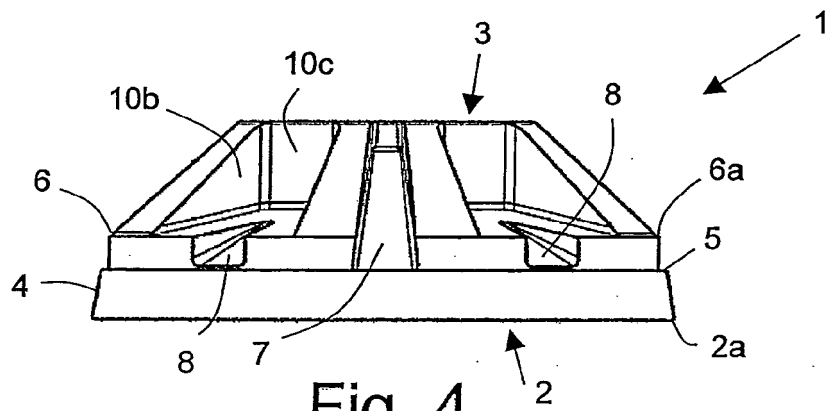


Fig. 4

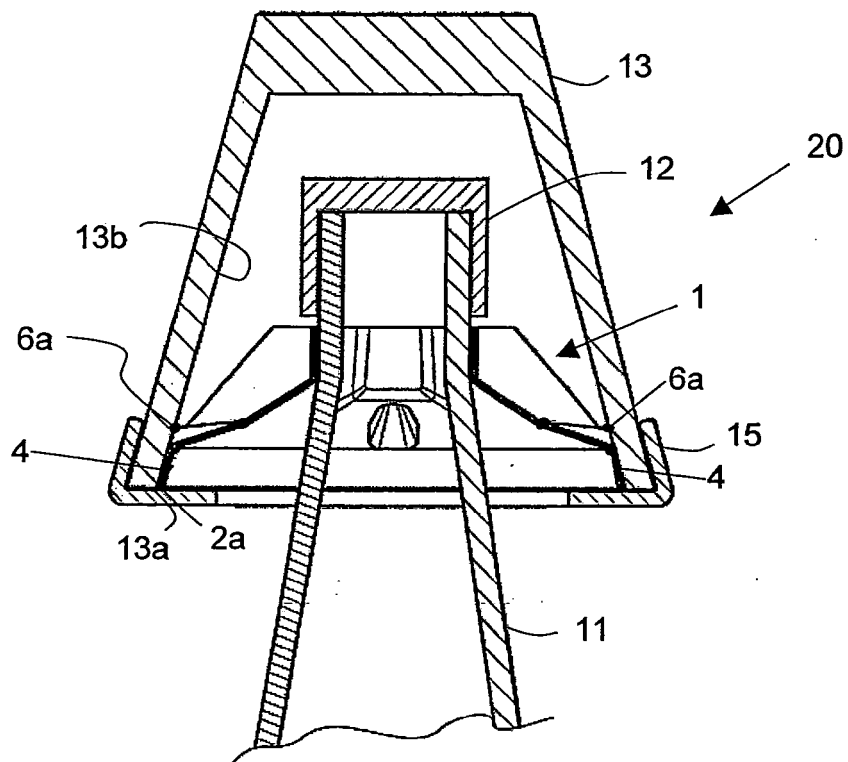


Fig. 5

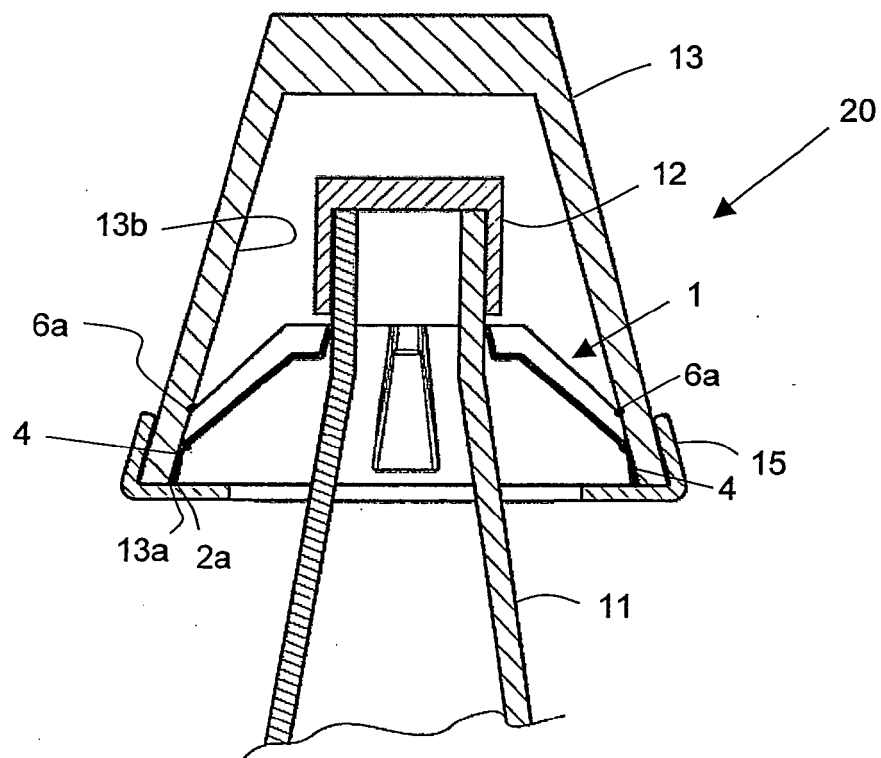


Fig. 6



EUROPEAN SEARCH REPORT

Application Number
EP 08 16 1017

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	WO 95/31380 A (MAILWAY) 23 November 1995 (1995-11-23) * page 4, line 27 - page 5, line 5; figures 1,2 *	1,11	INV. B65D41/26
A	----- GB 1 191 291 A (DUNLOP) 13 May 1970 (1970-05-13) * page 1, line 75 - page 2, line 30; figure 1 *	1,11	
A	----- GB 679 238 A (CREAMIA PURIFIED MILK CO.) 17 September 1952 (1952-09-17) * page 1, line 38 - line 51; figures *	1,11	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D A45F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 30 September 2008	Examiner Newell, Philip
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 16 1017

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The members are as contained in the European Patent Office EDP file on
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30-09-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9531380	A	23-11-1995	AT 160545 T 15-12-1997
			AU 2414495 A 05-12-1995
			DE 69501117 D1 08-01-1998
			DE 69501117 T2 09-04-1998
			DK 758985 T3 10-08-1998
			EP 0758985 A1 26-02-1997
			ES 2112646 T3 01-04-1998
			GR 3025917 T3 30-04-1998

GB 1191291	A	13-05-1970	NONE

GB 679238	A	17-09-1952	NONE

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 0758985 A [0004] [0005]