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(54) Tube container with hinged cap

Tubenbehälter mit Scharnierverschluss

Récipient en forme de tube avec bouchon à charnière

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EP 0 626 320 B1

Description

This invention relates to container tubes for various products provided with a closer cap or lid for the tube, in which the tube has a neck through which the product can flow to the exterior and to which the cap is connected. (see EP-A-0 410 913).

The exterior of these tubes is usually printed with texts, drawings, etc. allusive to the product contained, because of which there is a current tendency in containers with a cap or lid provided with a hinge to situate the finger cot or presser area of the lid in such a way that it becomes centred in relation to the main printed area of the tube, which means in relation to the front printing.

When dealing with tubes and hinged caps which are oval in shape, the existence of this fact is already known, with the neck of the tubular container being made with a guide on which an internal protrusion from the cap fits, and this neck guide being centred in relation to the main printing.

In these oval or eliptical containers, the printing is relatively simple due to the shape of the section, but the centring of the head with its guide in relation to the front printing cannot be carried out on a normal injection machine, which makes it necessary to carry out this operation on each container individually, with the undoubtedly high cost that this entails for each container.

As far as is known, containers of this kind which are circular have not been produced up to now in which the fact that the finger cot area of the cap is centred in relation to the main printing on the tube is also fulfilled.

The object of the invention is therefore to provide a container made up of a container tube provided with a neck or head, with a circular cross-section, and a hinged cap, also circular, according to which the finger cot in the cap is situated in a centred position in relation to the main printing on the tube.

In general terms, and as a guide, a conventional technique is used in order to produce a container of this type, starting with the extrusion of the tube, followed by the printing of the tube, the injection of the neck or head of the tube and the fitting of the cap. In this sequence, the order for injection of the neck of the tube and the printing can be altered.

Following these classical operations, and in an appropriate installation or assembly, the centring processes of the front printing with the finger cot area are carried out, so that once they have been suitably positioned, the assembly of tube and cap can be carried out.

As the object of this invention is not the procedure or method of carrying out the assembly, but the container itself, we must point out that in order to carry out the object mentioned above, the invention proposes a container tube according to claim 1.

The neck of the tube is of a diameter substantially smaller than that of the tube itself and at the portion of it which is closest to the tube, it is provided with a ring-shaped recess situated below a ring-shaped ledge, with access being, from above, by means of a trunco-conical cross section.

Above the ring-shaped ledge the neck, cylindrical in shape, extends towards its upper end, with all its outer side surface grooved by a series of longitudinal teeth cut parallel to the longitudinal axis of the container. The number of teeth is not defined, although considerable in number, which means that the teeth will be small in material size and generally triangular in shape.

The above mentioned toothed portion can be finished at its upper end with an internal diameter corresponding to the thickness of the material itself, and can also be finished by a front wall holed with a diameter smaller than that of the interior of the neck, as will be seen later with respect to the sheets of drawings which are attached.

In both cases, the upper end of the neck determines a seating for the cap which can provide a greater or smaller surface contact.

As regards the cap, it is a straight-sided cylinder with the upper hinge articulated onto its body and forming a whole with it, including one hinge area and another finger cot area diametrally separated from each other, with it being precisely this latter area which must be assembled centrally with the main printing on the container tube. The hinge has a tubular projection on its lower internal face which is housed in a hole in the cap itself.

The cap is provided with three concentric skirts, with the most outer one containing the finger cot portion, in the form of a recess, being adjusted in a greater or lesser degree to the external diameter of the container tube.

The second or middle skirt is adjusted to the exterior of the neck of the tube and includes a lower edge with a ring-shaped ledge next to a recess, also ring-shaped, by means of which it can be fitted by pressure to the above mentioned exterior of the tube neck, which, as was mentioned earlier, is provided with the corresponding means.

This second skirt is provided with a series of longitudinal teeth situated above the recess in it, which act in correspondence with the teeth in the tube neck.

The third or innermost skirt is housed inside the neck of the tube, receiving the front end of this in a tight fit. This skirt is situated at a variable distance from the second one, in order to be able to receive the two previously mentioned possibilities for the front end of the neck.

The interrelationship between the longitudinal teeth in the cap and in the neck is carried out by inserting the letter into the former, obviously in a longitudinal direction. As there are a considerable number of teeth, the assembly of the neck and the cap can be carried out without excessive precautions about their mutual positions, since although on insertion the finger cot area and the centre of the main printing do not correspond with total precision, the number of teeth permits a slight circular play or movement of both, which engages the

teeth perfectly without being noticeable to anyone watching.

The outermost skirt on the cap is connected to the toothed skirt by means of a series of regularly distributed ribs, which reinforce the cap assembly. It is established that one of these ribs will be oversized so that it can be used as a reference for the centring of the cap and the tube. It can be situated at any position inside the cap, for example separated by 180º from the finger cot area or any other, so that by taking it as a reference with a certain area of the tube, the centring can be achieved.

The positioning and assembly of the tube and the cap are carried out easily and without the possibility of the cap being extracted, as will be clear from the explanations already given and from the attached drawings, which show the following:

- Figure 1 is a sectional elevation of the neck of a tube according to the invention.
- Figure 2 shows a cap to be fitted to the above tube.
- Figure 3 is a bottom view of the previous Figure.
- Figure 4 is a sectional elevation of the neck of a variant of the tube.
- Figure 5 shows a cap to be fitted to the tube in the previous Figure.
- Figure 6 represents an enlarged view of the connection between the neck and the cap, showing the two constructive variants.

As shown in Figure 1, a container tube (1) is represented, with its head provided with a tronco-conical portion (5) and the neck. The latter is provided with the ring-shaped recess (3), the ring-shaped ledge (2) and its upper end is provided with a series of longitudinal teeth.

Figures 2 and 3 represent the cap to be connected to the said tube, with its upper hinged lid (16) forming the hinge at (8) to the lower remaining part, in which the finger cot that operates the hinged part is formed. This cap has three skirts: the outermost one, in which the finger cot (7) is made, and the other two interior ones (middle and innermost), between which the neck of the tube will be housed. The outer one of these two skirts, being the middle one (9) in the cap, includes an internal lip (10) and a toothed area (12) with triangular teeth.

The outermost and the middle skirts are connected by means of the regularly distributed or spaced ribs (14), one of them (13) being oversized so that it can be used as a reference in the centring.

The other constructive variant for the tube, shown in Figure 4, represents the neck with its toothed portion (4) finished off by the holed closure area (15) which reduces the flow outlet from the interior of the tube. This tube is connected to the cap shown in Figure 5, which is similar to that shown in Figure 2, with the variation consisting of a greater dimension (17) between the inner skirts in order to accommodate the closure area (15) of the tube.

Referring now to Figure 6, we can observe here how the two tubes are shown with their two caps. Thus, in the left portion, the teeth (12) of the cap (6) become engaged with those in the neck of the tube, while the lower portion (10) of the middle skirt is housed in the ring-shaped recess in the neck. The thickness of the front end of the neck fits perfectly between the two skirts.

In identical conditions, the other variant, shown on the right of the axis, increases the space between the inner skirts in order to receive the greater neck dimension at this upper front end area.

The cross section cut through I-I, illustrated in Figure 7, allows the engagement between the teeth in the neck (2) and the corresponding ones in the cap (12), as can be appreciated clearly.

Claims

1. A cylindrical tube (1) with a cap (6) having a lid (16) connected to said cap via a hinge (8), including a container tube (1) closed and sealed at one end and provided with a circular neck with a lower ring-shaped recess (3) at its other end, and a cap (6) that is connected to the said neck and has an outermost skirt (7) that adjusts to the outer surface of the container tube and two inner skirts, between which the circular neck of the container tube (1) is received, and of which the larger one is provided with an internal lip (10) which is housed in the ring-shaped recess (3) in the said neck of the container tube, said container tube having printed matter on its diametrally opposed front and rear outer surfaces, whereby both the container tube (1) and the cap (6) have a circular cross section, and whereby said larger inner skirt (9) is provided with a portion, close to where it starts from the cap, with a series of longitudinal teeth (12) characterized in that the neck of the container tube has, between its free upper end and the area close to the ring-shaped recess, a portion occupied by a series of longitudinal teeth (4) which take up the whole side surface of this portion, by means of which it engages with the teeth in the cap (6) when both are longitudinally assembled, and in that the cap (6) contains a portion (13) to act as a reference, which is made at an angular distance from the portion of a finger cot area (7), which is a recess formed in the outermost skirt to facilitate opening of said lid (16), so that the latter can be adjusted in relation to the main printing on the container tube.

2. Cylindrical tube according to claim 1, characterized in that the toothed portion of the neck of the tube finishes at the upper end of the neck in a front end wall, centrally holed (15) with a smaller diameter, into which the smaller innermost skirt of the cap fits, with the whole of this front wall fitting tightly into the base of the cap from which the two inner skirt emerge and being taken in between the said skirts.

3. Cylindrical tube according to claim 1, characterized in that the toothed portion of the neck of the tube culminates in the same diameter as the neck itself, with the upper end of the neck resting on the base of the cap from which the two inner skirts emerge and being taken in between the said skirts.

4. Cylindrical tube according to claim 1, characterized in that the reference in the cap for its centring in relation to the printing on the tube is an inner rib (13) in the cap, between the outermost skirt and the larger of the two inner ones, which is oversized and separated an angular span from the finger cot.

5. Cylindrical tube, according to Claim 1, characterized in that the teeth (4, 12, 18) in the neck of the tube and in the cap are preferably of a triangular cross section.

Patentansprüche

1. Ein zylindrisches Rohr mit einer Kappe (6) mit einem Deckel (16), der mit der besagten Kappe mittels eines Scharniers (8) verbunden ist, einschliesslich eines Ummantelungsrohres (1), das an einem Ende geschlossen und versiegelt und an seinem anderen Ende mit einem kreisrunden Hals mit einer ringförmigen Vertiefung (3) und mit einer Kappe (6) versehen ist, die mit dem besagten Hals verbunden ist und an seinem Ende eine Schürze (7) hat, die sich dem Ummantelungsrohr anpasst, sowie zwei inneren Blenden zwischen denen sich der runde Hals des Ummantelungsrohres (1) einfügt, wobei die längere Blende mit einer inneren Lippe (10) versehen ist, welche sich in die besagte ringförmige Vertiefung (3) in dem Ummantelungsrohr einfügt, wobei das besagte Ummantelungsrohr auf seinen diametral gegenüberliegenden Aussenflächen der Vorder- und Rückseite mit einem Aufdruck versehen ist, wobei sowohl das Ummantelungsrohr (1) als auch die Kappe (6) einen runden Querschnitt haben und wobei besagte innere, längere Schürze (9) nahe dort, wo sie an der Kappe beginnt, auf einem Teil mit einer Anzahl von längsangeordneten Zähnen (12) versehen ist, dadurch gekennzeichnet, dass der Hals des Ummantelungsrohres zwischen seinem freien oberen Ende und dem Bereich nahe der ringförmigen Vertiefung einen Teil mit längsangeordneten Zähnen (4) belegt hat, die Fläche dieses Teilbereichs vollständig einnehmen, wodurch diese mit den Zähnen in der Kappe (6) ineinandergreifen, wenn beide in Längsrichtung zusammengefügt werden, und dadurch dass die Kappe (6) einen Teil (13) enthält, der als Referenz dient und sich in einer Entfernung im Winkel von einer Fingermulde (7) befindet, die eine Vertiefung ist, die sich in der äusseren Schürze befindet und die öffnung der besagten Kappe (16) erleichtern soll, sodass letztere in Bezug zu dem Hauptaufdruck auf dem Ummantelungsrohr eingestellt werden kann.

2. Zylindrisches Rohr gemäss Anspruch 1 dadurch gekennzeichnet, dass der gezahnte Teil des Rohrhalses an dem oberen Ende des Halses in einer frontalen Abschlusswand endet, die mittig mit einem Loch (15) kleineren Durchmessers versehen ist, in das die kleinere innere Schürze der Kappe passt, wobei diese gesamte Abschlusswand fest in die Basis der Kappe eingefügt ist, von der aus die beiden inneren Schürzen ausgehen, zwischen denen die Abschlusswand steckt.

3. Zylindrisches Rohr gemäss Anspruch 1 dadurch gekennzeichnet, dass der gezahnte Teil des Rohrhalses in dem gleichen Durchmesser wie der Hals selbst gipfelt, wobei das obere Ende des Halses auf der Basis der Kappe ruht, von der aus die beiden inneren Schürzen ausgehen, und zwischen diesen steckt.

4. Zylindrisches Rohr gemäss Anspruch 1 dadurch gekennzeichnet, dass die Referenz in der Kappe für seine Zentrierung in Bezug auf den Aufdruck auf dem Rohr eine innere Rippe (13) in der Kappe zwischen der äusseren und der längeren der beiden inneren Schürze ist, welche überdimensioniert und von der Fingermulde einen abgewinkelten Abstand weit getrennt ist.

5. Zylindrisches Rohr gemäss Anspruch 1 dadurch gekennzeichnet, dass die Zähne (4, 12, 18) in dem Rohrhals und in der Kappe vorzugsweise einen dreieckigen Durchschnitt haben.

Revendications

1. Un tube cylindrique (1) avec un couvercle muni d'un bouchon (16) relié à ce couvercle par une charnière (8) comprenant un tube conteneur (1) fermé et obturé à un bout et muni d'une collerette circulaire avec une encoche en forme d'anneau (3) à l'autre bout, et un couvercle (6) qui est relié à cette collerette et comporte une lèvre extérieure (7) qui s'ajuste à la paroi extérieure du tube conteneur, et deux lèvres intérieures, entre lesquelles vient se loger la collerette circulaire du tube conteneur. La plus grande de ces lèvres intérieures est munie d'un rebord intérieur (10) qui est logé dans l'encoche en forme d'anneau (3) dans ladite collerette du tube conteneur. Les parois diamétralement opposées avant et arrière de ce tube conteneur comportent des caractères imprimés, le tube conteneur (1) et le couvercle (6) ont tous les deux des sections transversales, et la lèvre intérieure la plus grande porte sur une partie, près de son point de départ du couvercle, une série de dents longitudinales (12). Par ailleurs, la collerette du tube conteneur comporte entre son extrémité libre et la zone proche de

l'encoche en forme d'anneau une portion occupée par une série de dents longitudinales (4) qui recouvrent complètement la surface latérale de cette partie. La lèvre s'engage grâce à ces dents dans le couvercle (6) quand les deux sont assemblés transversalement, et le couvercle (6) contient une partie (13) servant de référence, et qui se trouve à une distance angulaire d'une partie renfoncée (7) qui est une encoche formée dans la lèvre la plus à l'extérieure pour faciliter l'ouverture du bouchon (16), afin que ce dernier puisse être ajusté en fonction des caractères imprimés sur le tube conteneur.

2. Tube cylindrique selon la description 1, caractérisé par le fait que la partie dentée de la collerette du tube se termine à l'extrémité supérieure de la collerette par une cloison frontale percée en son centre d'un trou (15) de diamètre plus réduit, dans laquelle vient se loger la petite lèvre intérieure du couvercle, l'ensemble de cette cloison frontale s'adaptant exactement à la base du couvercle duquel partent les deux lèvres intérieures et étant prise entre ces deux lèvres.

3. Tube cylindrique selon la description 1, caractérisé par le fait que l'extrémité de la partie dentée de la collerette du tube a le même diamètre que la collerette elle-même, avec l'extrémité supérieure de la collerette reposant sur la base du couvercle d'où partent les deux lèvres intérieures et qui est prise entre ces deux lèvres.

4. Tube cylindrique selon la description 1, caractérisé par le fait que la référence sur le couvercle pour son centrage par rapport aux marques imprimées sur le tube est un anneau intérieur (13) dans le couvercle, entre la lèvre extérieure et la plus grande des deux lèvres intérieures, qui est plus grande et à une distance angulaire de la partie renfoncée.

5. Tube cylindrique selon la description 1, caractérisé par le fait que les dents (4, 12, 18) de la collerette du tube et dans le couvercle ont de préférence une section transversale triangulaire.

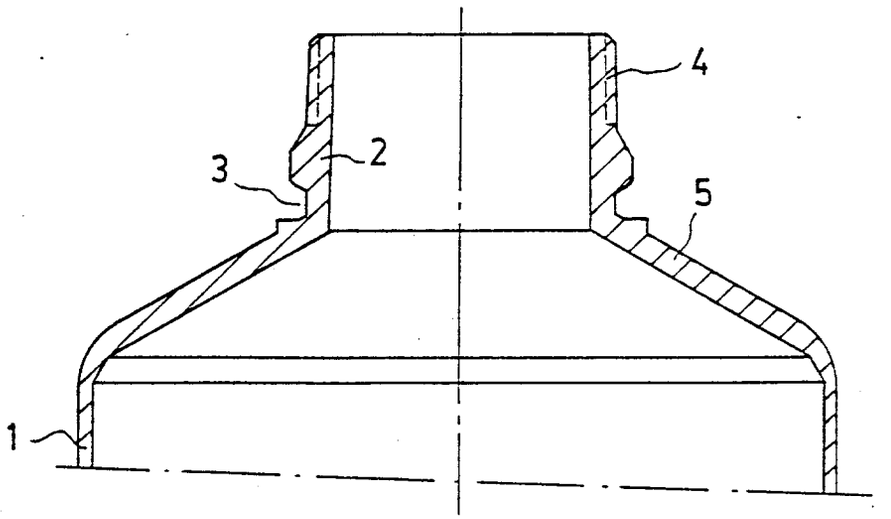

Fig.: 1

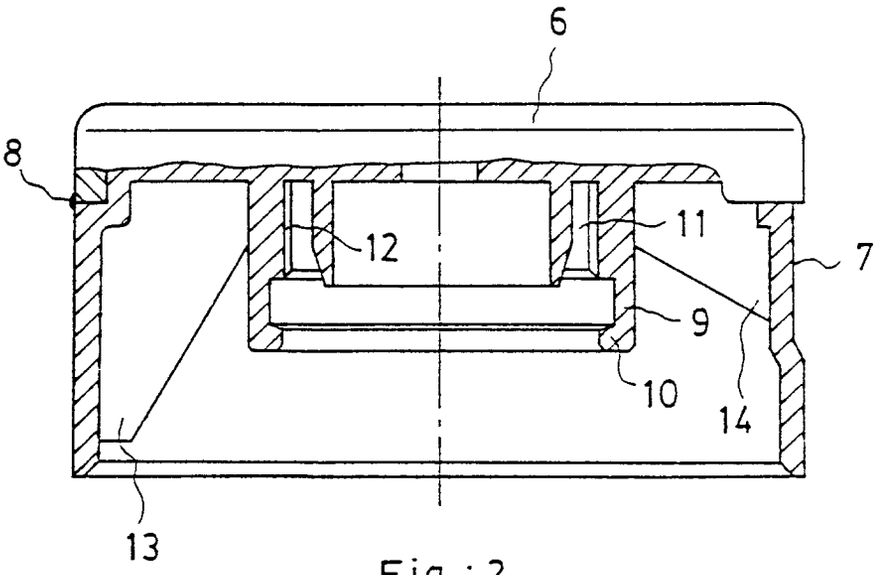

Fig.: 2

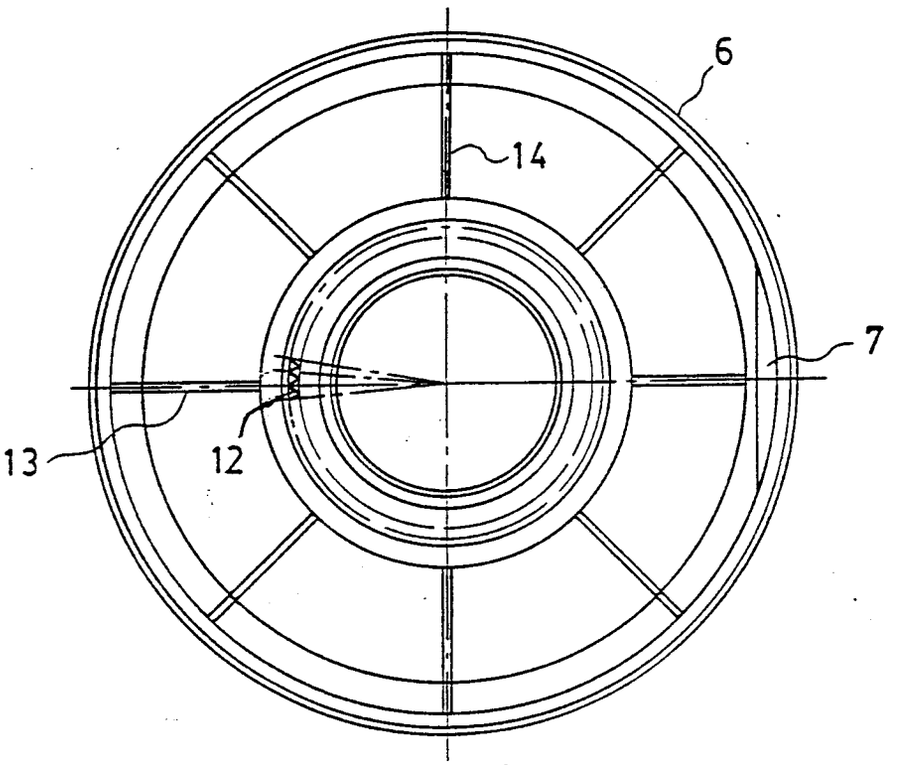

Fig.: 3

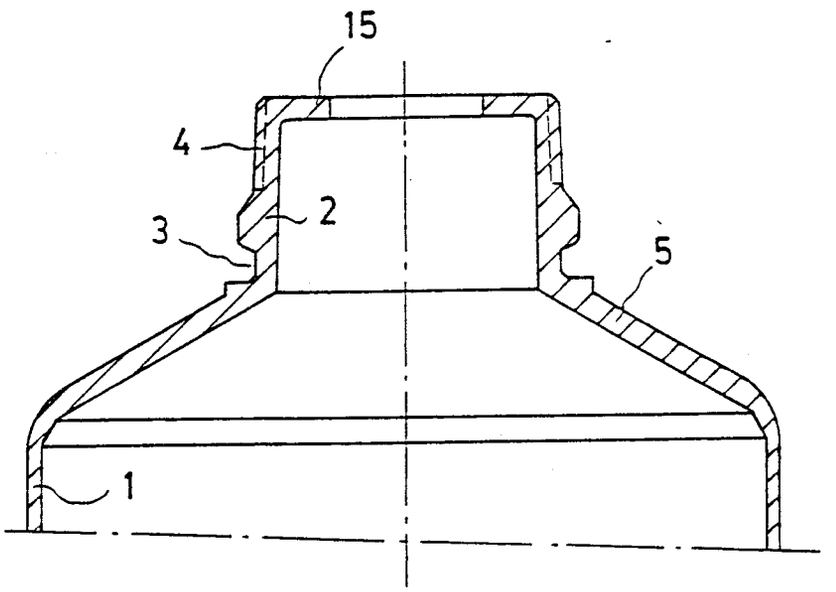

Fig.: 4

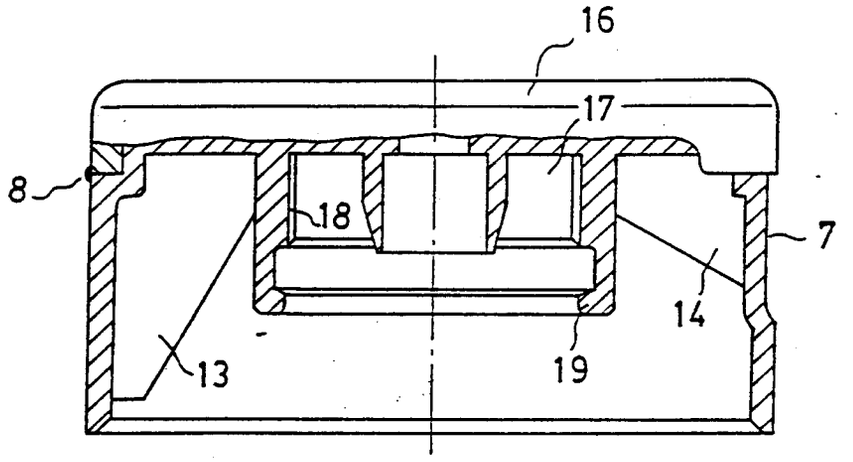

Fig.: 5

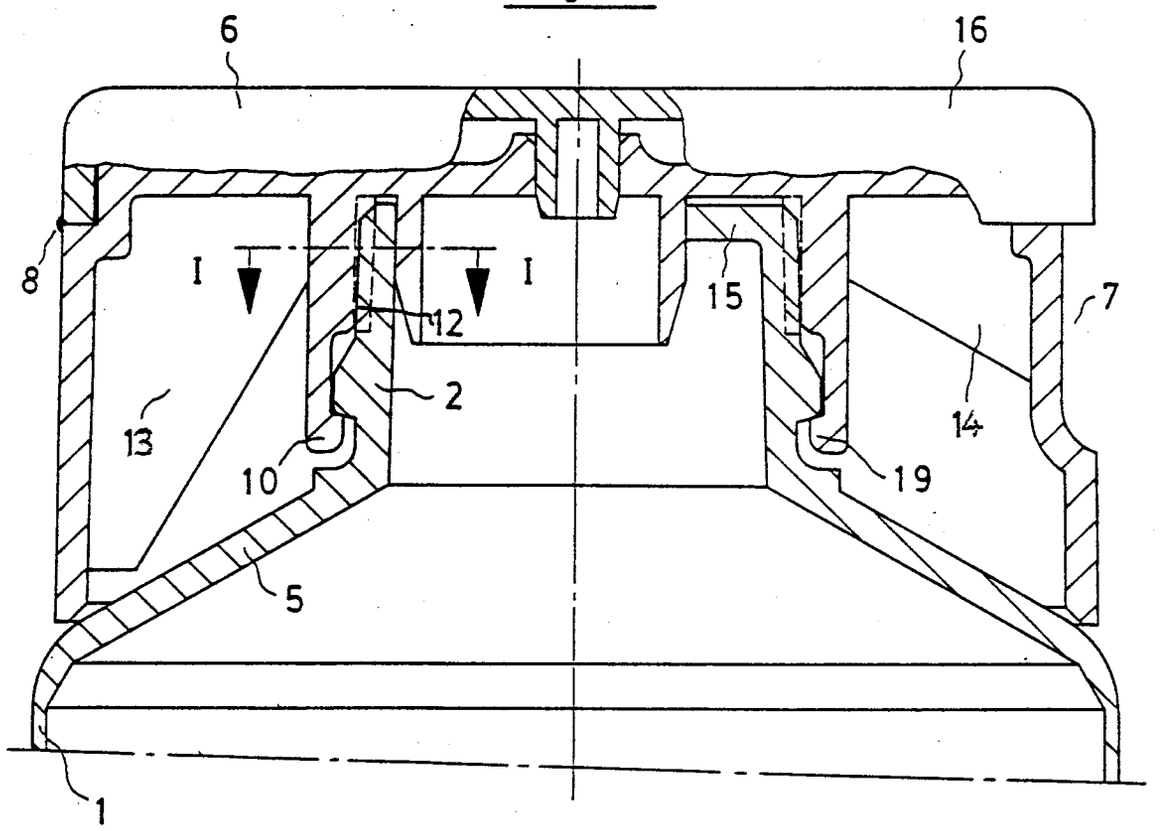

Fig.: 6

Fig.: 7