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(54) **A container with a cover**

Behälter mit einem Deckel

Réceptient avec un couvercle

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Description

[0001] The container which preferably consists of plastic has an upper edge portion with an outer downwardly directed flange. The cover which preferably also consists of plastic material has at its edge portion a U-shaped, downwardly open section which when the cover is positioned on the container encloses the upper edge portion of the container while sealing the upper edge portion of the container in relation to the U-shaped section of the cover along a peripherally extending sealing surface. In addition thereto the downwardly extending flange of the container has an upwardly foldable portion which is adapted at its folding upwards to engage the edge of the cover to lift the cover from the edge portion of the container with the object of facilitating the loosening of the cover from the container. The upwardly foldable portion of the downwardly extending flange of the container is separated from the rest of the flange by means of indications of fracture, and when the cover is for the first time released from the container the upwardly foldable portion is separated from the rest of the flange so that there is established gaps between the upwardly foldable portion and the rest of the flange. In previously known containers of this kind the sealing surface between the cover and the container is positioned so that it extends along the upwardly foldable portion of the outer, downwardly directed flange of the container. This provides that the cover can not be repositioned on the container in such a way that the cover sealingly encloses the container after the cover has for the first time been removed from the container. A container with a cover of this kind is previously known from the European patent 93105464.7.

[0002] DE-U1-299 08 053 describes a container with an upwardly foldable portion, wherein a sealing surface is placed close to the upper edge of the container.

[0003] The object of the invention is to provide a container with a cover of said kind, in which it is possible to reposition the cover on the container with maintained sealing action after the cover has been removed from the container. Another object is to provide a container with a cover, in which the opening of the cover is facilitated by the fact that the edge of the cover is initially subjected to an outwardly directed movement at the folding upwards.

[0004] In order to comply with this object the container is characterized in that all peripherally extending sealing surfaces are positioned separated from the upwardly foldable portion of the outer, downwardly extending flange of the container, so that the sealing surfaces maintain their sealing effect after the cover has for the first time been removed by means of the upwardly foldable portion, and in that the sealing surfaces comprise an outwardly directed, peripherally extending projection, positioned on the downwardly extending flange, above the upwardly foldable portion.

[0005] In a container according to the invention it is possible to reposition the cover with a tight connection

to the container.

[0006] In a preferred embodiment of the invention the U-shaped, downwardly open section encloses the upper edge portion of the container while providing a sealing action between the upper edge portion of the container and the U-shaped section of the cover along two peripherally extending sealing surfaces when the cover is positioned on the container. Thereby, the one sealing surface can be provided by an edge positioned at the upper edge portion of the container, said edge being upwardly directed and engaging a groove in the U-shaped section of the cover. The other sealing surface can be constituted by a projection positioned at the upper edge portion of the container, said projection being outwardly directed and being peripherally extending and engaging an opposite surface of the U-shaped section of the cover.

[0007] It is suitable that the upper edge portion of the container and the U-shaped section of the cover are provided with engagement surfaces engaging each other for fixing the cover to the container when the cover is positioned on the container. Thereby, the engagement surface positioned at the upper edge portion of the container can be positioned on the outwardly directed, peripherally extending projection on which the second sealing surface is arranged, so that this projection engages a complementary projection on the U-shaped section of the cover in order to fix the cover to the container when the cover is positioned on the container.

[0008] An embodiment of the container with a cover according to the invention shall in the following be described with reference to the accompanying drawings.

Fig. 1 shows a container according to the invention without a cover.

Fig. 2 shows a partial section of the container with a cover positioned on the container.

Fig. 3 is a partial section of the container with a cover positioned on the container in the area of a portion of the downwardly directed flange of the container, said portion being foldable upwards.

Fig. 4 is a partial section corresponding to Fig. 3 showing the upwardly foldable portion at the upwardly folding thereof in order to lift the cover from the edge portion of the container.

[0009] In Fig. 1 there is shown a container 2 according to the invention without a cover. The container is manufactured from a plastic material and has a substantially cylindrical outer wall 4 having an upper edge portion 6 which has an outer, downwardly directed flange 8. The downwardly directed flange 8 has a portion 10 which is foldable upwards and is separated from the rest of the flange 8 by means of vertical indications of fracture 12. The upwardly foldable portion 10 is foldable around a groove 14 forming a pivot. Preferably the downwardly

directed flange 8 has an upwardly foldable portion of the same kind as the upwardly foldable portion 10 at the diametrically opposite side of the container.

[0010] Fig. 2 is a section of the edge portion 6 of the container outside the upwardly foldable portion 10, the edge portion of the cover 16 which is formed as a U-shaped, downwardly open section 18 encloses the upper edge portion 6 of the container.

[0011] The edge portion 6 of the container has a sealing surface which is constituted by an upwardly directed edge 22 engaging a groove 20 in the U-shaped section 18 of the cover 16. The downwardly extending flange 8 of the container has a peripherally extending, outwardly directed projection 24 cooperating with a peripherally extending, inwardly directed projection 26 on the U-shaped section 18 of the cover 16. The projection 24 engages the inner surface 28 of the U-shaped section 18 on the cover 16 and forms here a second, peripherally extending sealing surface between the container and the cover.

[0012] Fig. 3 shows a section corresponding to Fig. 2 through the upper edge portion of the container and the U-shaped, downwardly open section of the cover in the area of the upwardly foldable portion 10 of the flange 8. The upwardly foldable portion 10 is connected to the upper part of the upper edge portion of the container by means of the groove 14 forming a pivot at the folding of the upwardly foldable portion 10. When the upwardly foldable portion 10 is folded upwards as shown in Fig. 4 the cover is lifted from the container by the fact that the upwardly foldable portion 10 engages the free edge of the U-shaped section 18 of the cover. At the upwardly folding of the upwardly foldable portion 10 the connections 12 between the portion 10 and the rest of the flange 8 are fractured. At previously known containers having a cover of the kind in which the cover is lifted by means of an upwardly foldable portion of the flange the sealing surface is positioned in connection with the upwardly foldable portion 10 which brings about that the cover can not sealingly close the container when the cover is repositioned on the container after having been removed for the first time.

[0013] In accordance with the present invention two sealing surfaces are positioned separated from the upwardly foldable portion 10 of the downwardly extending flange 8 of the container, the sealing surfaces being constituted by the edge 22 and the projection 24 are positioned above the groove 14 defining the upwardly foldable portion 10. This provides that the cover can tightly close the container after having been removed therefrom by the fact that the sealing surfaces are positioned above the gaps being formed between the portion 10 and the rest of the flange 8 subsequently to the upwardly folding of the portion 10.

[0014] The invention can be modified within the scope of the following claims.

Claims

1. A container with a cover, the container (2) having an upper edge portion (6) with an outer, downwardly directed flange (8) and the cover (16) having at its edge portion a U-shaped, downwardly open section (18) which when the cover is positioned on the container encloses the upper edge portion of the container while providing a sealing action between the upper edge portion of the container and the U-shaped section of the cover along one or several peripherally extending sealing surfaces, the downwardly directed flange (8) of the container having an upwardly foldable portion (10) which is adapted to lift the cover from the edge portion of the container when it is folded upwards by engagement with the edge of the cover, **characterized in that** all peripherally extending sealing surfaces (22, 24) are positioned separated from the upwardly foldable portion (10) of the outer, downwardly directed flange (8) of the container so that the sealing surfaces (22, 24) maintain their sealing effect subsequently to the first time removal of the cover (16) by means of the upwardly foldable portion (10), and **in that** the sealing surfaces comprise an outwardly directed, peripherally extending projection (24), positioned on the downwardly extending flange (8), above the upwardly foldable portion (10).
2. A container as claimed in claim 1, **characterized in that** the U-shaped, downwardly open section (18) of the cover (16) when the cover (16) is positioned on the container, encloses the upper edge portion (6) of the container while providing a sealing action between the upper edge portion of the container and the U-shaped section of the cover along two or more, peripherally extending sealing surfaces (22, 24) which are separated from the upwardly foldable portion (10) of the outer, downwardly directed flange (8) of the container.
3. A container as claimed in claim 1, **characterized in that** one of the peripherally extending sealing surfaces is constituted by an upwardly directed edge (22) at the upper edge portion (6) of the container and engaging a groove (20) in the U-shaped section (18) of the cover.
4. A container as claimed in claim 1, **characterized in that** the outwardly directed, peripherally extending projection (24) positioned at the upper edge portion (6) of the container, engages an opposite surface (28) of the U-shaped section (18) of the cover.
5. A container as claimed in claim 1, **characterized in that** the U-shaped, downwardly open section (18) of the cover when the cover (16) is positioned on the container, encloses the upper edge portion (6) of the

container while providing a sealing action between the upper edge portion of the container and the U-shaped section of the cover along two peripherally extending sealing surfaces, one sealing surface being formed by an upwardly directed edge (22) formed at the upper edge portion of the container and engaging a groove (20) in the U-shaped section of the cover and the other sealing surface being formed by the outwardly directed, peripherally extending projection (24) provided at the upper edge portion of the container and engaging an opposite surface (28) of the U-shaped section of the cover.

6. A container as claimed in any of the preceding claims, **characterized in that** the upper edge portion (6) of the container and the U-shaped section (18) of the cover are provided with engagement surfaces (24, 26) engaging each other to fix the cover to the container when the cover is positioned thereon.
7. A container as claimed in claims 4 and 6, **characterized in that** the engagement surface positioned at the upper edge portion of the container is provided at the outwardly directed, peripherally extending projection (24) at which the peripherally extending sealing surface is provided and that this projection when the cover is positioned on the container engages a complementary projection (26) at the U-shaped section of the cover so as to fix the lock (16) to the container (2).
8. A container as claimed in any of the preceding claims, **characterized in that** the upwardly foldable portion (10) is adapted to act in a vertical direction so that the edge of the cover (16) is at least initially displaced outwards so that the engagement between the edge of the cover and the edge portion of the container comes to an end.
9. A container as claimed in claim 8, **characterized in that** the upwardly foldable portion forms a lever when it is folded upwards.

Patentansprüche

1. Behälter mit einem Deckel, wobei der Behälter (2) einen oberen Kantenbereich (6) mit einem äußeren, nach unten gerichteten Flansch (8) besitzt und der Deckel (16) an seinem Kantenbereich einen U-förmigen, nach unten offenen Abschnitt (18) besitzt, der, wenn der Deckel auf dem Behälter positioniert ist, den oberen Kantenbereich des Behälters umschließt, während eine Dichtwirkung zwischen dem oberen Kantenbereich des Behälters und dem U-förmigen Abschnitt des Deckels entlang einer oder mehreren sich umfangsmäßig erstreckenden Dicht-

fläche(n) erzielt wird, wobei der nach unten gerichtete Flansch (8) des Behälters einen nach oben faltbaren Bereich (10) besitzt, der so angepasst ist, um den Deckel von dem Kantenbereich des Behälters dann anzuheben, wenn er nach oben, durch den Eingriff mit der Kante des Deckels, gefaltet ist, **dadurch gekennzeichnet, dass** alle sich umfangsmäßig erstreckenden Dichtflächen (22, 24) getrennt von dem nach oben gerichteten, faltbaren Bereich (10) des äußeren, nach unten gerichteten Flanschs (8) des Behälters positioniert sind, so dass die Dichtflächen (22, 24) deren Dichteffekt auf ein Entfernen des Deckels (16) zum ersten Mal folgend mittels des nach oben faltbaren Bereichs (10) beibehalten, und dass die Dichtflächen einen nach außen gerichteten, sich umfangsmäßig erstreckenden Vorsprung (24) aufweisen, der an dem nach unten sich erstreckenden Flansch (8), oberhalb des nach oben faltbaren Bereichs (10), positioniert ist.

2. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der U-förmige, nach unten offene Abschnitt (18) des Deckels (16), wenn der Deckel (16) an dem Behälter positioniert ist, den oberen Kantenbereich (6) des Behälters umschließt, während eine Dichtwirkung zwischen dem oberen Kantenbereich des Behälters und dem U-förmigen Abschnitt des Deckels entlang von zwei oder mehr sich umfangsmäßig erstreckenden Dichtfläche(n) (22, 24), die von dem nach oben faltbaren Bereich (10) des äußeren, nach unten gerichteten Flanschs (8) des Behälters getrennt sind, erzielt wird.
3. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** eine der sich umfangsmäßig erstreckenden Dichtflächen durch eine nach oben gerichtete Kante (22) an dem oberen Kantenbereich (6) des Behälters gebildet ist und in eine Nut (20) in dem U-förmigen Abschnitt (18) des Deckels eingreift.
4. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der nach außen gerichtete, sich umfangsmäßig erstreckende Vorsprung (24), positioniert an dem oberen Kantenbereich (6) des Behälters, in eine gegenüberliegende Fläche (28) des U-förmigen Abschnitts (18) des Deckels eingreift.
5. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** der U-förmige, nach unten offene Abschnitt (18) des Deckels, wenn der Deckel (16) an dem Behälter positioniert ist, den oberen Kantenbereich (6) des Behälters umschließt, während eine Dichtwirkung zwischen dem oberen Kantenbereich des Behälters und dem U-förmigen Abschnitt des Deckels entlang von zwei sich umfangsmäßig erstreckenden Dichtflächen erzielt wird, wobei eine Dichtfläche durch eine nach oben gerichtete Kante (22), gebildet an dem oberen Kantenbereich des Be-

hälters und in eine Nut (20) in dem U-förmigen Abschnitt des Deckels eingreifend, gebildet ist, und die andere Dichtfläche durch den nach außen gerichteten, sich umfangsmäßig erstreckenden Vorsprung (24), vorgesehen an dem oberen Kantenbereich des Behälters, und in eine gegenüberliegende Fläche (28) des U-förmigen Abschnitts des Deckels eingreifend, gebildet ist.

6. Behälter nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der obere Kantenbereich (6) des Behälters und der U-förmige Abschnitt (18) des Deckels mit Eingriffsflächen (24, 26) versehen sind, die ineinander eingreifen, um den Deckel an dem Behälter zu befestigen, wenn der Deckel darauf positioniert ist.

7. Behälter nach Anspruch 4 und 6, **dadurch gekennzeichnet, dass** die Eingriffsfläche, die an dem oberen Kantenbereich des Behälters positioniert ist, an dem nach außen gerichteten, sich umfangsmäßig erstreckenden Vorsprung (24) vorgesehen ist, an dem die sich in Umfangsrichtung erstreckende Dichtfläche vorgesehen ist, und dass dieser Vorsprung, wenn der Deckel an dem Behälter positioniert ist, in einen komplementären Vorsprung (26) an dem U-förmigen Abschnitt des Deckels so eingreift, um die Verriegelung (16) an dem Behälter (2) zu befestigen.

8. Behälter nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der nach oben faltbare Bereich (10) so angepasst ist, um in einer vertikalen Richtung derart zu wirken, dass die Kante des Deckels (16) zumindest zu Anfang nach außen so verschoben wird, dass der Eingriff zwischen der Kante des Deckels und dem Kantenbereich des Behälters zu einem Ende gelangt.

9. Behälter nach Anspruch 8, **dadurch gekennzeichnet, dass** der nach oben faltbare Bereich einen Hebel bildet, wenn er nach oben gefaltet ist.

Revendications

1. Récipient avec un couvercle, le récipient (2) ayant une partie de bord supérieure (6) avec un rebord extérieur orienté vers le bas (8) et le couvercle (16) ayant au niveau de sa partie de bord une section ouverte vers le bas en forme de U (18) qui, lorsque le couvercle est positionné sur le récipient, enferme la partie de bord supérieure du récipient tout en procurant une action d'étanchéité entre la partie de bord supérieure du récipient et la section en forme de U du couvercle le long d'une ou plusieurs surfaces d'étanchéité s'étendant de manière périphérique, le rebord orienté vers le bas (8) du récipient ayant une

partie pouvant être pliée vers le haut (10) qui est prévue pour soulever le couvercle de la partie de bord du récipient lorsqu'elle est pliée vers le haut par engagement avec le bord du couvercle, **caractérisé en ce que** toutes les surfaces d'étanchéité s'étendant de manière périphérique (22, 24) sont positionnées de manière séparée de la partie pouvant être pliée vers le haut (10) du rebord extérieur orienté vers le bas (8) du récipient, de telle sorte que les surfaces d'étanchéité (22, 24) maintiennent leur effet d'étanchéité après le premier retrait du couvercle (16) au moyen de la partie pouvant être pliée vers le haut (10), et **en ce que** les surfaces d'étanchéité comportent une saillie s'étendant de manière périphérique et orientée vers l'extérieur (24) positionnée sur le rebord orienté vers le bas (8), au-dessus de la partie pouvant être pliée vers le haut (10).

2. Récipient selon la revendication 1, **caractérisé en ce que** la section ouverte vers le bas en forme de U (18) du couvercle (16) lorsque le couvercle (16) est positionné sur le récipient enferme la partie de bord supérieure (6) du récipient tout en procurant une action d'étanchéité entre la partie de bord supérieure du récipient et la section en forme de U du couvercle le long de deux surfaces d'étanchéité s'étendant de manière périphérique (22, 24) ou plus qui sont séparées de la partie pouvant être pliée vers le haut (10) du rebord extérieur orienté vers le bas (8) du récipient.

3. Récipient selon la revendication 1, **caractérisé en ce qu'une** des surfaces d'étanchéité s'étendant de manière périphérique est constituée par un bord orienté vers le haut (22) au niveau de la partie de bord supérieure (6) du récipient et engageant une rainure (20) dans la section en forme de U (18) du couvercle.

4. Récipient selon la revendication 1, **caractérisé en ce que** la saillie s'étendant de manière périphérique et orientée vers l'extérieur (24), positionnée au niveau de la partie de bord supérieure (6) du récipient, engage une surface opposée (28) de la section en forme de U (18) du couvercle.

5. Récipient selon la revendication 1, **caractérisé en ce que** la section ouverte vers le bas en forme de U (18) du couvercle lorsque le couvercle (16) est positionné sur le récipient enferme la partie de bord supérieure (6) du récipient tout en procurant une action d'étanchéité entre la partie de bord supérieure du récipient et la section en forme de U du couvercle le long de deux surfaces d'étanchéité s'étendant de manière périphérique, une surface d'étanchéité étant formée par un bord orienté vers le haut (22) formé au niveau de la partie de bord supérieure du récipient et engageant une rainure (20) dans la sec-

tion en forme de U du couvercle et l'autre surface d'étanchéité étant formée par la saillie s'étendant de manière périphérique et orientée vers l'extérieur (24) prévue au niveau de la partie de bord supérieure du récipient et engageant une surface opposée (28) de la section en forme de U du couvercle. 5

6. Récipient selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la partie de bord supérieure (6) du récipient et la section en forme de U (18) du couvercle sont pourvues de surfaces d'engagement (24, 26) qui s'engagent l'une l'autre afin de fixer le couvercle sur le récipient lorsque le couvercle est positionné dessus. 10

7. Récipient selon les revendications 4 et 6, **caractérisé en ce que** la surface d'engagement positionnée au niveau de la partie de bord supérieure du récipient est prévue au niveau de la saillie s'étendant de manière périphérique et orientée vers l'extérieur (24) au niveau de laquelle la surface d'étanchéité s'étendant de manière périphérique est prévue et **en ce que** cette saillie lorsque le couvercle est positionné sur le récipient engage une saillie complémentaire (26) au niveau de la section en forme de U du couvercle de façon à fixer le couvercle (16) sur le récipient (2). 15 20 25

8. Récipient selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la partie pouvant être pliée vers le haut (10) est prévue pour aller dans une direction verticale de telle sorte que le bord du couvercle (16) est au moins initialement déplacé vers l'extérieur de telle sorte que l'engagement entre le bord du couvercle et la partie de bord du récipient se termine. 30 35

9. Récipient selon la revendication 8, **caractérisé en ce que** la partie pouvant être pliée vers le haut forme un levier lorsqu'elle est pliée vers le haut. 40

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Fig.1.

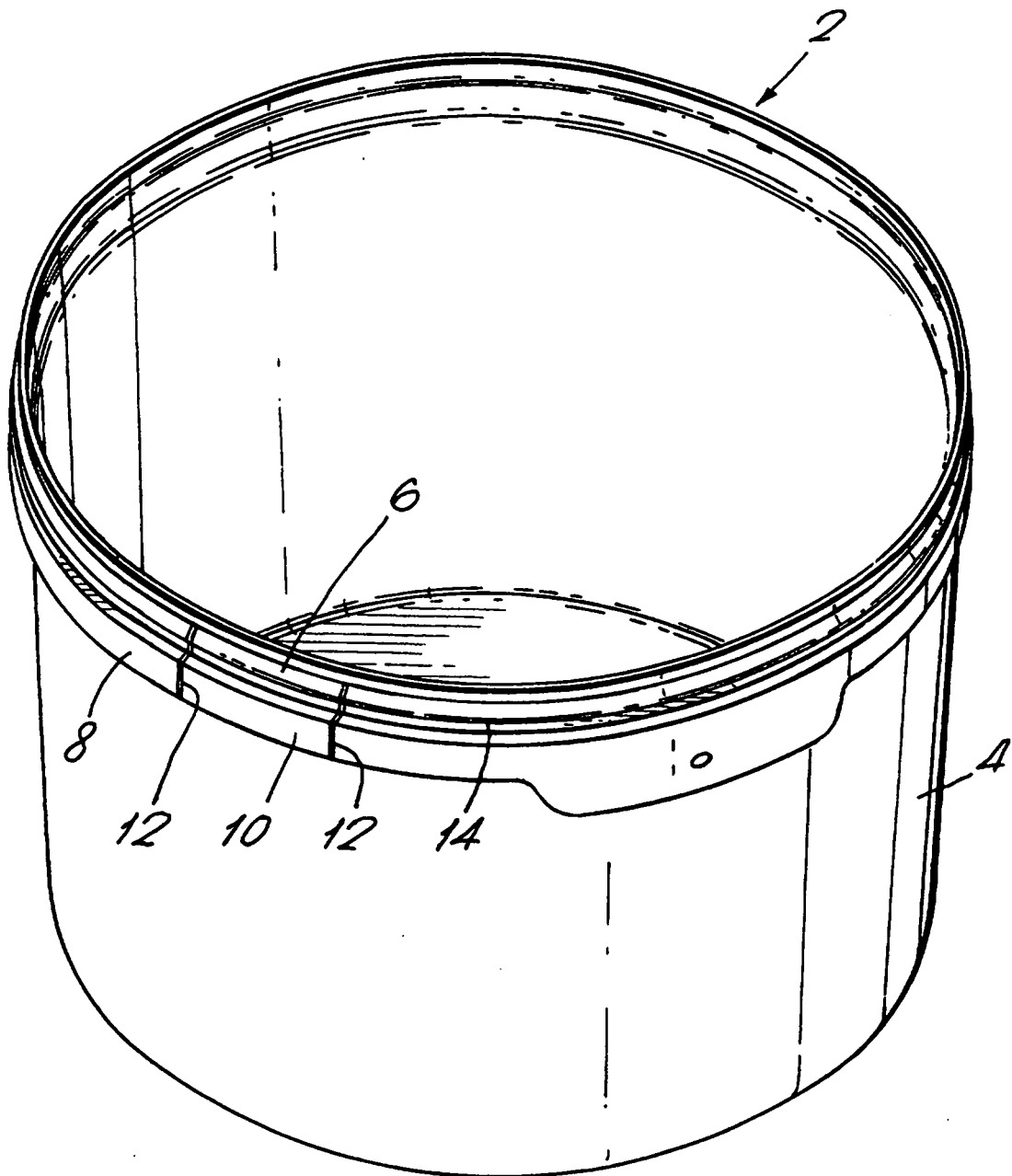


Fig.2.

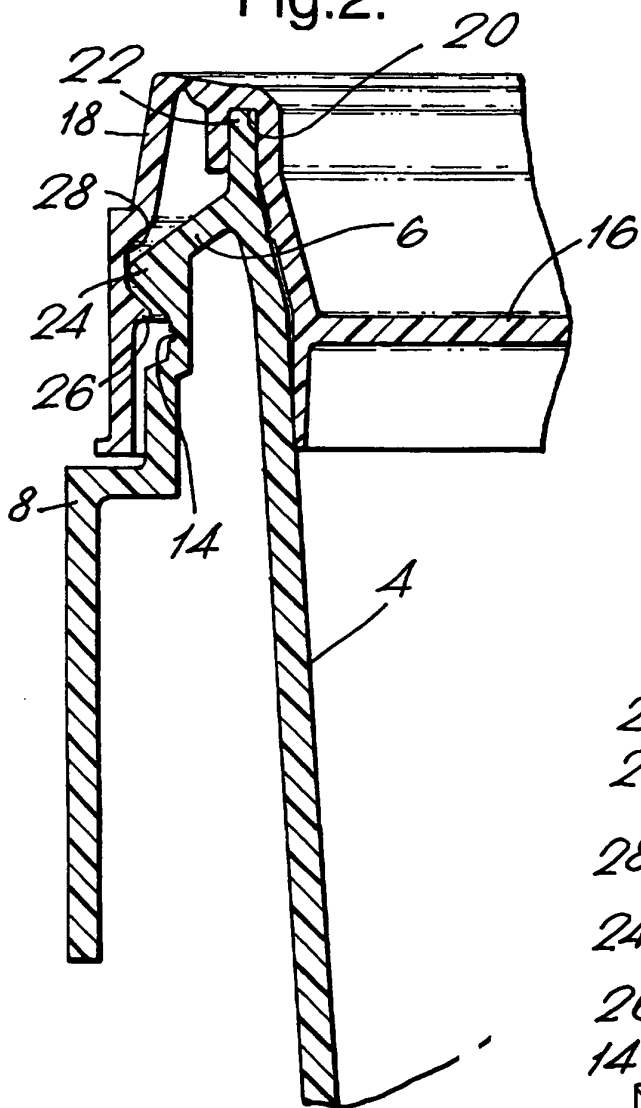


Fig.3.

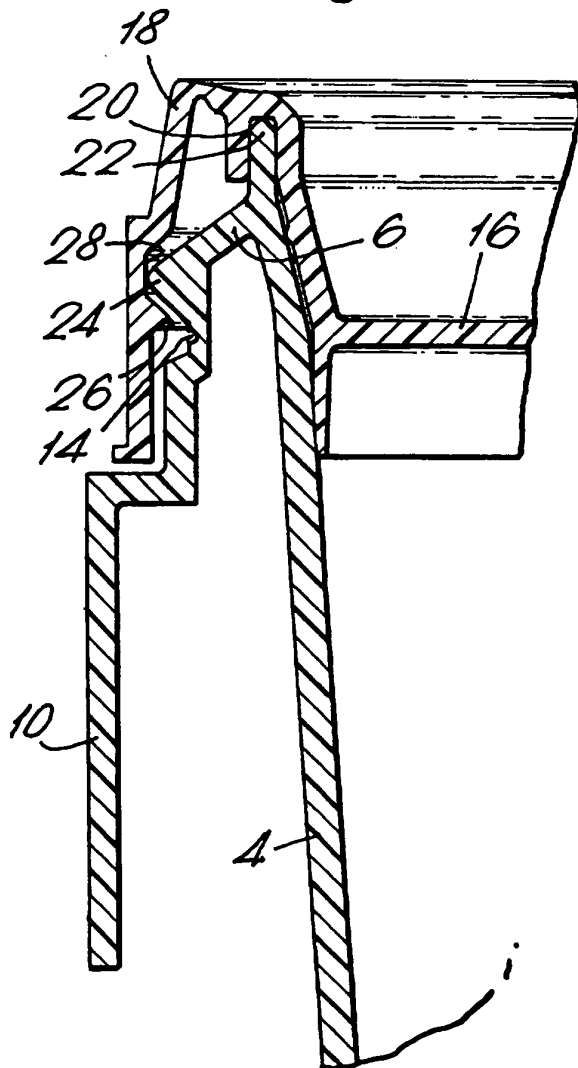


Fig.4.

