(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 334 045 B1

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
18.07.2012 Bulletin 2012/29

(21) Application number: **01979087.2**

(22) Date of filing: **02.10.2001**

(51) Int Cl.:
B65D 77/20 *(2006.01)*

(86) International application number:
PCT/NL2001/000719

(87) International publication number:
WO 2002/032782 (25.04.2002 Gazette 2002/17)

(54) **FOIL COVER WITH SLANTING TEAR LINE**

FOLIENABDECKUNG MIT EINER AUFREISSLINIE

OPERCULE A LIGNE D'OUVERTURE LATERALE

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

(30) Priority: **05.10.2000 NL 1016337**
19.02.2001 NL 1017396

(43) Date of publication of application:
13.08.2003 Bulletin 2003/33

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(56) References cited:
EP-A- 0 007 971
EP-A- 0 359 847
EP-A- 0 372 721
EP-A1- 1 046 595
WO-A-00/18657
WO-A1-94/19256
DE-U- 9 116 946
DE-U1- 29 618 751
US-A- 2 705 579
US-A- 4 209 126

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Description

[0001] The invention relates to a container.

[0002] A container is known inter alia from EP-A-0 880 455. They are used for packaging portions of condensed milk, and for mayonnaise, salad dressing and the like, but it is equally possible to use these containers for other types of produce such as cosmetics.

[0003] In such prior art containers the pull line extends from the distal end of the pull-tab to the centre of the container. The user of the container will therefore grasp the container between thumb and forefinger of one hand and then pull the pull-tab open toward the centre of the container with the thumb and forefinger of the other hand. During this pulling open there is at least one discontinuity encountered in the forces necessary to pull loose the tab and to be generated with the hands.

[0004] EP-A- 1046595 describes such a container.

[0005] A significant discontinuity is formed by the position at which the loosened tab leaves the sealing seam between the cover and the upper edge of the container and continues into the cover; in order to pull loose, break through, tear through or tear a sealing seam quite a large amount of force is required, while thereafter it is only necessary to generate a force for tearing loose the foil or other type of material from which the cover is manufactured.

[0006] As a result of this discontinuity an uncontrolled movement is often made with the fingers which usually leads to spillage.

[0007] The object of the present invention is to provide such a container, whereby this problem is decreased or avoided. This object is achieved by the container according to claim 1.

[0008] Here "flat" is also understood to mean a configuration wherein the upper surface of the edge lies in a flat plane, but wherein for instance a groove or ridge is arranged in the edge.

[0009] Because the pull line extends in a different direction, the user will tend to grasp the container in a different direction and then pull in a different, non-radial direction. Since the direction of pull now extends as a chord, a possible discontinuity in the pulling forces will result in less chance of spillage since the direction of the force is directed not through but along the centre of the container, so that only a smaller quantity of the substance present in the container, which may or may not be liquid, will be able to overflow to the outside.

[0010] According to a first preferred embodiment the pull-tab is formed to cause a tear between the pull-tab and at least a part of the cover.

[0011] This means that no separate pouring spout need be arranged; such a container is for instance suitable for viscous substances, such as mayonnaise.

[0012] This same advantage also applies in greater measure when the pull-tab is formed to cause a tear extending through the cover.

[0013] According to yet another embodiment the cover is connected to the edge of the container with a greater strength at least at two adhesion points than elsewhere, and the connecting line between the adhesion points extends relative to the pull line at an angle varying from a right angle.

[0014] Tearing loose is hereby facilitated; this measure in any case provides the option making the adhesion between the two adhesion points slightly looser, whereby the pulling force to be exerted by the user is more uniform, and the chance of jerking, and thereby of spillage, is again greatly reduced.

[0015] In order to bring about a further definition cf the tear line, the edge is preferably provided with a continuation extending in the plane of the edge under at least one part of the pull-tab.

[0016] Other attractive preferred embodiments are stated in the remaining sub-claims.

[0017] The present invention will be elucidated hereinbelow with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a container according to the invention with a round cover;
figure 2 is a top view of the container shown in figure 1;
figure 3 shows a top view of a container with a, rectangular cover, not forming part of the present invention;
figure 4 shows a detailed top view of a variant of the container shown in figures 1 and 2;
figure 5 is a vertical cross-section of the container shown in figure 4; and
figure 6 is a perspective detail view of a further variant of the container shown in figure 4, wherein the foil serving as cover has been omitted.

[0018] Figure 1 shows a first embodiment of the invention. This first embodiment comprises a container. 1 which is provided on its side with a concertina-like configuration so that it can be compressed. Arranged on the upper side of container 1 is an edge 2 on which a foil layer 3 functioning as cover is arranged by means of a sealing seam, not shown in the drawing, which extends all round. Foil layer 3 is provided with a pull-tab 4.

[0019] This can be seen more clearly in figure 2 which shows a top view of the container shown in figure 1. A pull line 6 extends from the distal end of pull-tab 4, this end being formed in the present case by a point 5. When pull-tab 4 is pulled, the pull-tab 4 will be pulled loose along pull line 6 and the foil 3 will tear along the tear line 7 shown in broken lines.

[0020] In order to prevent directional aberrations in tear line 7, there are arranged between foil 3 and container edge 2 two adhesion points 8, the adhesion of which is greater than that of the connection elsewhere between edge 2 and foil 3. This is however a specific embodiment which is not essential for the invention; it is likewise possible to work with a foil adhered uniformly to the edge

along the entire length of the edge.

[0021] A spout 9 arranged at the position under pull-tab 4 will be released when the latter is torn loose so that the contents can be poured.

[0022] Figure 3 shows a corresponding configuration but in a rectangular form. No pouring spout is arranged here, but the pull-tab extends above the container. It will be apparent that other forms of the upper surface of the container are also possible, such as an oval shape or a hexagonal shape. It is also possible in these cases for the container to be optionally provided with a pouring spout.

[0023] Figures 4 and 5 show a particularly attractive embodiment. This embodiment is provided with a channel 10 which extends from the content of the container between cover 3 and container edge 2. The channel has a dead-end in the closed situation of the container. Channel 10 herein fulfils a function comparable to that of pouring spout 9 of the previous embodiment.

[0024] The dimensions of channel 10 are chosen such that after a part of cover 3 has been torn loose and the initially blind end of channel 10 is connected to the environment, holding the container 1 with channel 10 downward does not result in the content of container 1 dripping out, and thereby spillage. This is prevented in that the dimensions of channel 10 are chosen such that the capillary and cohesive forces between the content of container 1 and the channel walls is such that this dripping or leakage is prevented.

[0025] The content of container 1 is of course a factor here. It is therefore important to choose the dimensions of the channel subject to the nature, and particularly the capillary and cohesive properties, of the substance packaged in the container.

[0026] It is of course possible however to urge the content out of container 1, this by exerting force on the container. This is of course possible by compressing the cover 3 generally manufactured from foil, although for this purpose it is more attractive to make use of a container form as described in EP-A-0 880 455. Container 1 hereby becomes compressible, so that the content can be pressed cut of container 1 under pressure of the fingers. It is even possible to leave a part of the content in container 1 and only use this later; leakage is after all no longer possible. The advantages of this embodiment become particularly manifest when the container is formed by a container for condensed milk. It is then for instance possible to divide the content of the container between two cups of coffee consumed one after the other.

[0027] The area surrounding channel 10 will of course have to be formed such that tear line 7 extends over channel 10 and the length of channel 10 covered by the remaining foil layer 3 has the correct length at the given cross-sectcnal dimensions to comply with the requirements for generating the correct cohesive and capillary forces.

[0028] In order to bring about this correct length of channel 10, the cover is fixed to the container edge with a normal adhesion in the vicinity of the channel, i.e. the area 11 in figure 4. In area 12 a firm adhesion takes place, so that it is unlikely that the cover be separated there from the container edge. A tear line 7 is hereby created which extends over channel 10. The location of area 12 with a firm adhesion herein determines the location of tear line 7, and thereby the length of channel 10.

[0029] This also prevents the tear line extending into the part of cover 3 above container 1.

[0030] The function of area 12 is comparable to that of the adhesion points 8 in the embodiment of figure 2.

[0031] Another aspect relates to an area 13 with a firm adhesion. The function of this area 13 is to hold the part of the foil which has been torn loose. The forming of an element requiring separate removal in the waste flow is hereby prevented.

[0032] It is also possible to arrange a constriction 14 in channel 10. The pressure at which the channel contains or stops the fluid present in the interior of the container can hereby be precisely determined, subject also to properties such as viscosity of the fluid and the adhesion between the materials from which the container is manufactured and the fluid.

[0033] The constriction is preferably arranged in the form of an elevation of the recess forming the channel in the vicinity of the connection between the interior of the container and the channel. It is also possible to employ a channel with the longitudinal section of a diabolo. Such an embodiment is shown in figure 6.

[0034] In the embodiment shown in figures 4 and 5 the channel is closed on its distal end by a part of the continuation of the edge. The foil herein extends in one plane.

[0035] It is also possible to have channel 10 extend to the end of the continuation. In order to obtain a good sealing in a closed container, it is then necessary to recess the foil and to cause adhesion to the material of the continuation in the recess, so that the channel is sealed. Tests have shown that a better flow behaviour of the fluid is then obtained.

[0036] Further refinements can of course also be added to this design, such as not adhering the cover and the edge to each other at tab part 5. This makes it easy to grip an edge of the cover.

Claims

1. Container (1) comprising an interior space for receiving a substance which is enclosed by a wall having a flat edge (2) enclosing an opening of the conlainer, in which a flexible, tearable cover (3) is adhered to said edge to seal said interior space, in which said cover is provided with a pull-tab (4) extending outside the edge of said wall, said pull tab being arranged to receive a pull force and to tear said cover along a tear line (7) when a pull force is exerted along a pull line (6) between an end of said pull tab and a middle of a part of said edge which is adjacent to said pull

tab, said pull line extending at a distance from a centre of said opening, wherein said wall is structured to be compressible along a longitudinal axis of the container traversing said cover to allow a reduction of a volume of said interior space, wherein a pouring spout (9,10) is provided extending from said edge of said wall, wherein the pull-tab covers at least part of said pouring spout and wherein said tear line extends over a flow channel of said pouring spout.

2. Container as claimed in claim 1 **characterized in that** a notch is provided between the pull-tab and the rest of the cover.

3. Container according to claim 1 or 2 **characterized in that** said pouring spout is formed by a continuation of said edge of said wall, extending at least in part underneath said pull-tab in a plane formed by said edge.

4. Container according to claim 3 **characterized in that** said continuation is provided with a breaking seam underneath said pull-tab.

5. Container as claimed in claim 3 or 4 **characterized in that** said pouring spout is formed by said continuation of said edge of said wali, said flow channel (10) being recessed under said pull tab of said cover and having an open end in open communication with said interior space and having a blind end sealed by said pull-tab.

6. Container as claimed in claim 5 **characterized in that** said flow channel is dimensioned to withstand a force of gravity exerted on said substance in a vertical orientation.

7. Container as claimed in claim 6 **characterized in that** said flow channel comprises a constriction.

8. Container as claimed in claim 7 **characterized in that** said constriction comprises an elevation of said flow channel in a vicinity of said open end.

Patentansprüche

1. Behälter (1) mit einem Innenraum zur Aufnahme einer Substanz, der von einer Wand mit einem flachen Rand (2) begrenzt ist, der eine Öffnung des Behälters umschließt, wobei ein flexibler, abreißbarer Deckel (3) an den Rand geklebt ist, um den Innenraum abzudichten, wobei der Deckel mit einer Abziehlasche (4) versehen ist, die sich außerhalb des Randes der Wand erstreckt, wobei die Abziehlasche so gestaltet ist, dass sie eine Zugkraft aufnimmt und den Deckel entlang einer Aufreißlinie (7) aufreißt, wenn eine Zugkraft entlang einer von einer Mitte der Öffnung entfernt verlaufenden Zuglinie (6) zwischen einem Ende der Abziehlasche und einer Mitte eines Teils des Randes, der an der Abziehlasche angrenzt, ausgeübt wird, wobei die Wand so aufgebaut ist, dass sie entlang einer Längsachse des Behälters, die den Deckel durchläuft, komprimierbar ist, um eine Reduzierung eines Volumens des Innenraums zu ermöglichen, wobei ein Ausguss (9, 10) vorgesehen ist, der sich von dem Rand der Wand erstreckt, wobei die Abziehlasche wenigstens einen Teil des Ausgusses überdeckt und wobei die Aufreißlinie über einem Fließkanal des Ausgusses verläuft.

2. Behälter nach Anspruch 1, **dadurch gekennzeichnet, dass** eine Einkerbung zwischen der Abziehlasche und dem Rest des Deckels vorgesehen ist.

3. Behälter nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der Ausguss von einer Weiterführung des Randes der Wand gebildet ist und sich wenigstens teilweise unterhalb der Abziehlasche in einer vom Rand gebildeten Ebene erstreckt.

4. Behälter nach Anspruch 3, **dadurch gekennzeichnet, dass** die Weiterführung mit einer Bruchnaht unterhalb der Abziehlasche versehen ist.

5. Behälter nach Anspruch 3 oder 4, **dadurch gekennzeichnet, dass** der Ausguss von der Weiterführung des Randes der Wand gebildet ist, wobei der Fließkanal (10) unter der Abziehlasche des Deckels ausgespart ist und mit einem offenen Ende in offener Verbindung mit dem Innenraum steht und ein verdecktes Ende aufweist, das von der Abziehlasche verschlossen ist.

6. Behälter nach Anspruch 5, **dadurch gekennzeichnet, dass** der Fließkanal so bemessen ist, dass er einer auf die Substanz in einer vertikalen Richtung aufgebrachten Schwerkraft standhält.

7. Behälter nach Anspruch 6, **dadurch gekennzeichnet, dass** der Fließkanal eine Engstelle aufweist.

8. Behälter nach Anspruch 7, **dadurch gekennzeichnet, dass** die Engstelle eine Erhebung des Fließkanals in einer Nähe des offenen Endes aufweist.

Revendications

1. Contenant (1) comprenant un espace intérieur pour recevoir une substance qui est enfermée par une paroi possédant un bord plat (2) enfermant une ouverture du contenant, dans lequel un couvercle flexible pouvant être déchiré (3) est collé audit bord pour sceller ledit espace intérieur, dans lequel ledit couvercle est pourvu d'une languette à tirer (4)

s'étendant à l'extérieur du bord de ladite paroi, ladite languette à tirer étant agencée pour recevoir une force de tirage et pour déchirer ledit couvercle le long d'une ligne de déchirure (7) lorsqu'une force de tirage est exercée le long d'une ligne de tirage (6) entre une extrémité de ladite languette à tirer et un milieu d'une partie dudit bord qui est adjacente à ladite languette à tirer, ladite ligne de tirage s'étendant à une distance d'un centre de ladite ouverture, dans lequel ladite paroi est structurée pour être compressible le long d'un axe longitudinal du contenant traversant ledit couvercle pour permettre une réduction d'un volume dudit espace intérieur, dans lequel un bec verseur (9, 10) est prévu, s'étendant à partir dudit bord de ladite paroi, dans lequel la languette à tirer couvre au moins une partie dudit bec verseur et dans lequel ladite ligne de déchirure s'étend sur une gorge d'écoulement dudit bec verseur.

2. Contenant selon la revendication 1, **caractérisé en ce qu'**une encoche est prévue entre la languette à tirer et le reste du couvercle.

3. Contenant selon la revendication 1 ou 2, **caractérisé en ce que** ledit bec verseur est formé par une continuation dudit bord de ladite paroi, s'étendant au moins en partie en dessous de ladite languette à tirer dans un plan formé par ledit bord.

4. Contenant selon la revendication 3, **caractérisé en ce que** ladite continuation est pourvue d'une jonction de rupture en dessous de ladite languette à tirer.

5. Contenant selon la revendication 3 ou 4, **caractérisé en ce que** ledit bec verseur est formé par ladite continuation dudit bord de ladite paroi, la gorge d'écoulement (10) étant évidée sous ladite languette à tirer dudit couvercle et possédant une extrémité ouverte en communication ouverte avec ledit espace intérieur et possédant une extrémité operculée scellée par ladite languette à tirer.

6. Contenant selon la revendication 5, **caractérisé en ce que** ladite gorge d'écoulement est dimensionnée pour supporter une force de gravité exercée sur ladite substance dans une orientation verticale.

7. Contenant selon la revendication 6, **caractérisé en ce que** ladite gorge d'écoulement comprend un étranglement.

8. Contenant selon la revendication 7, **caractérisé en ce que** ledit étranglement comprend une élévation de ladite gorge d'écoulement dans un voisinage de ladite extrémité ouverte.

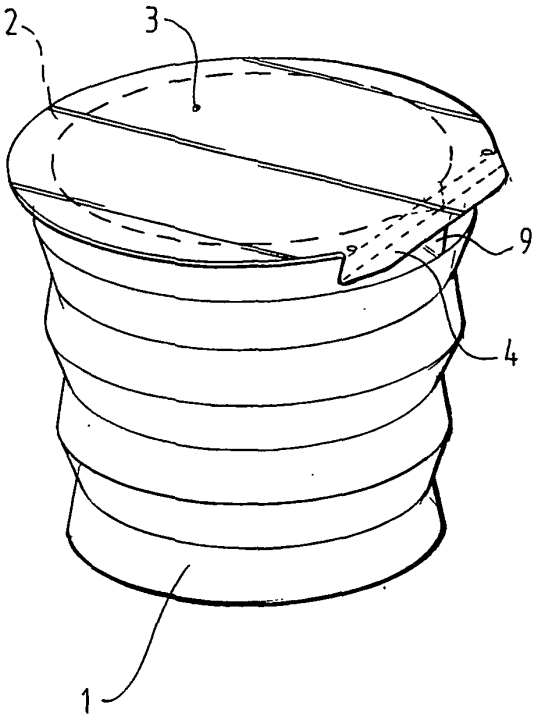


FIG. 1

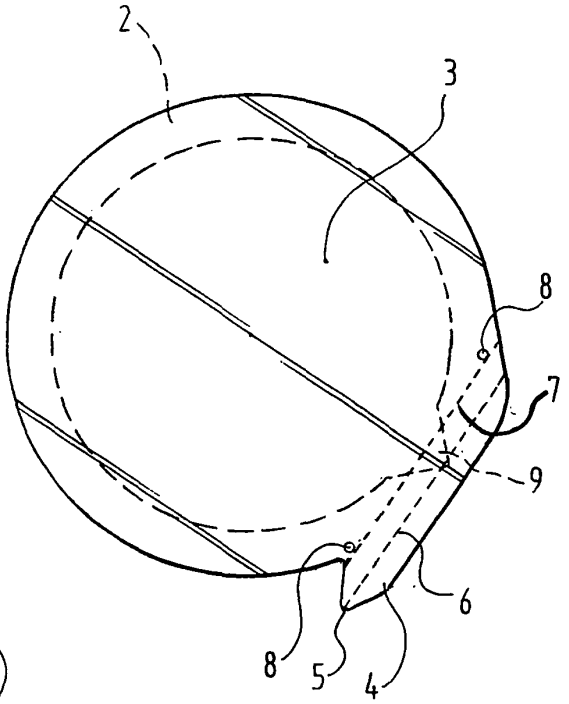


FIG. 2

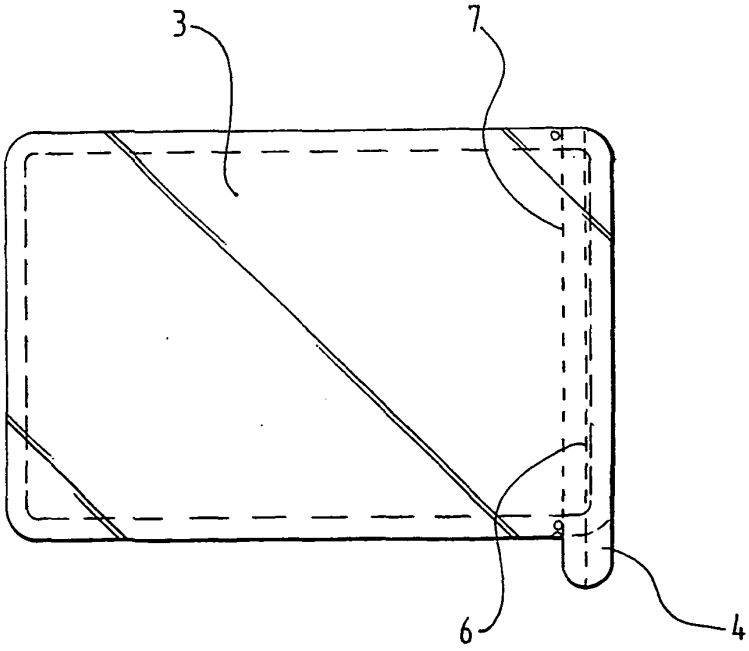
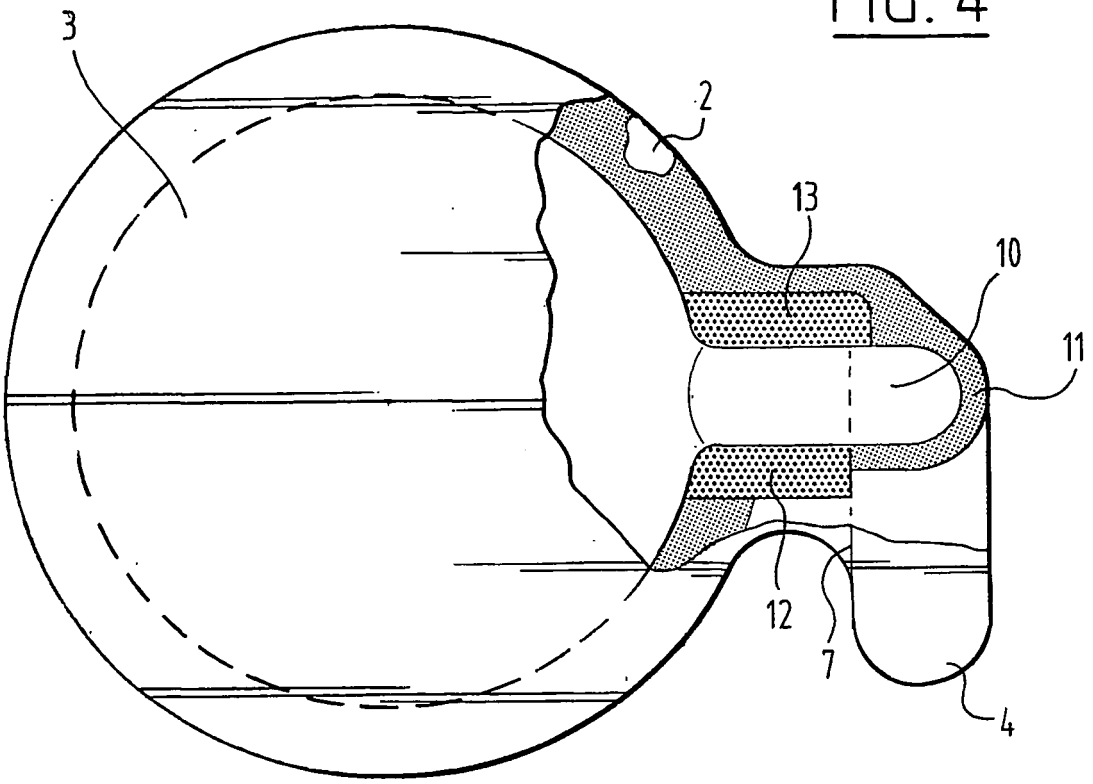


FIG. 3

FIG. 4



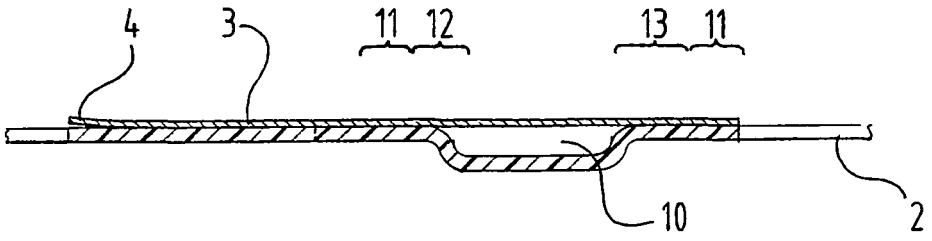


FIG. 5

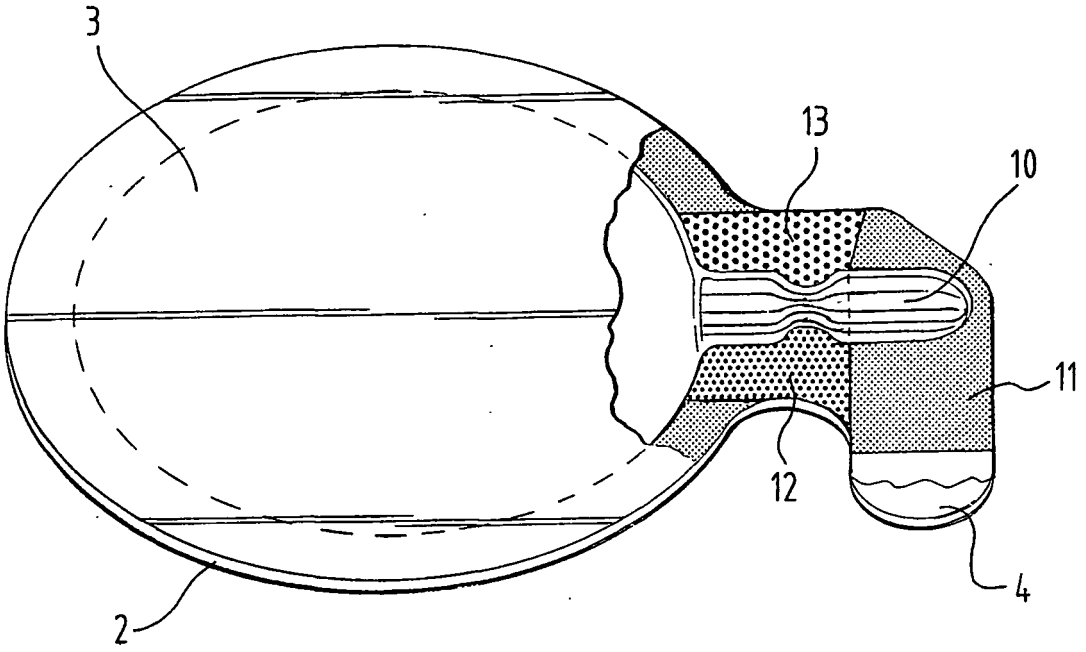


FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 0880455 A **[0002] [0026]**
- EP 1046595 A **[0004]**