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(54) **Food container**

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(56) References cited:
**CH-A5- 613 907**
**GB-A- 2 136 775**



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## Description

**[0001]** The object of the present invention is a food container and, more particularly, items of gastronomy, ice-cream, or confectionery such as puffs, ice-creams or the like.

**[0002]** Known food containers generally comprise a tray having varying shapes, the food item being accommodated thereon, and a lid that is often transparent such that the food item is visible and thus more inviting to the user-consumer.

**[0003]** These prior art containers are shaped such that a stable contact is ensured between the tray and the lid in the closed position (i.e. when the container is closed) while allowing the consumer to mutually unfasten and fasten them (i.e. to open and close the container).

**[0004]** The stable contact between tray and lid is typically provided by connecting means providing a form coupling throughout a contact perimeter. The tray, in fact, comprises a relief extending all around the perimeter thereof, which in the cross-section keeps substantially a constant shape all around this perimeter and is housed in a corresponding perimetric seat that is comprised within the lid and also has, in the cross-section thereof, a substantially constant shape all around the perimeter thereof, which is substantially complementary to the relief of the tray, such as to prevent said relief from coming off said seat (i.e. avoiding that the container may be inadvertedly opened) when the container is in the closed position.

**[0005]** Furthermore, the lid is provided with pre-cut or weakened portions such as to facilitate the breakage thereof and open the container thus allowing access to the product.

**[0006]** Although this opening is simple and substantially effective, yet it is not suitable for small sized products, such as pastries, cakes or little pies. In fact, it has been observed that a sudden movement of the container is easily caused upon breaking said portions, which results in that the product violently hits the walls thereof or overturns, thus deteriorating.

**[0007]** Alternatively, containers exist which are provided with tubs engaging purposely-made lids. These containers, however, do not allow using the commonly used food trays.

**[0008]** Further containers according to the preamble of claim 1 are known from GB-A-2 136 775 and CH-A-613 907.

**[0009]** The technical problem at the heart of the present invention is thus to provide a container that can be opened without causing deterioration to the products contained therein, mainly in the event of small-sized food products, and that allows using conventional trays.

**[0010]** This problem is solved by a food container comprising an opening system that does not require sudden movements of the container and that can use conventional trays for food, such as covered by the annexed main claim.

**[0011]** In order to better understand the invention and appreciate the advantages thereof, some embodiments will be described herein below, with reference to the annexed figures, in which:

**[0012]** - Fig. 1 is a schematic, exploded, perspective view of the container according to an embodiment of the invention;

**[0013]** - Fig. 2a and 2b are two schematic, sectional views of the container from Fig. 1 in two different planes, respectively;

**[0014]** - Fig. 3 is a schematic top view of a detail of the container from Fig. 2a and 2b in a first condition of use;

**[0015]** - Fig. 4 is a schematic top view similar to that of Fig. 2 of the container in a second condition of use;

**[0016]** - Fig. 5 is a perspective view of the assembled container.

**[0017]** With reference to the figures, a food container is generally designated with numeral 1. The container 1 comprises a lid 2 and a tray 3. Particularly, said lid 2 comprises a side wall 13 and a bottom wall 9 defining a blind cavity 12 suitable to accommodate the tray 3 and a food item (not shown in the figures).

**[0018]** The container 1 comprises means 5 for removably connecting the lid 2 and the tray 3, which are shaped such as to ensure a stable coupling in the closed position and an easy uncoupling upon opening.

Said connecting means 5 comprise a seat 10 formed in said lid 2 which is suitable to releasably engage said edge 7, said seat 10 comprising diametrically opposite deformable engaging portions 27 alternating with deforming portions 28 such that when a pressure force is applied to said deforming portions 28 that causes the same to approach each other, the engaging portions 27 are consequently deformed by moving away from each other, thereby allowing said edge 7 to be disengaged. Particularly, the seat 10 is formed on an inner surface of the side wall 13 of the lid 2 and extends throughout the perimeter thereof, whereas the edge 7 is formed in the tray 3 and extends throughout the perimeter thereof.

**[0019]** In accordance with an embodiment of the invention, the lid 2 is substantially shaped as a truncated cone extending along an axis A-A, which is preferably tapered towards the bottom wall 9. The side wall 13 has an undulated development due to a plurality of waves 16 (Fig. 5), whereas the bottom wall 9 is substantially plane.

**[0020]** The wall 13 preferably has a projecting perimetric ring 6 at the free end thereof. This perimetric ring 6 forms, inside the lid 2, an abutment surface 24 that is substantially plane and faces said free end. Furthermore, said ring 6 comprises the seat 10.

**[0021]** The seat 10, having a substantially circular, preferably substantially elliptical shape having almost overlapped foci, comprises two engaging portions 27 that are curved and diametrically opposite relative to the axis A-A of the lid 2 and connected to two deforming portions 28, which are also curved and diametrically opposite relative to said axis A-A. Preferably, the engaging portions 27 comprise an undercut suitable for snap-receiving the

edge 7 of the tray 3, such as will be detailed below, and a prompt surface 30 for inserting said edge 7 (Fig. 2b). The deforming portions 28 comprise, on the other hand, a substantially plane, preferably flared surface 29.

**[0022]** From the ring 6 there starts an annular rim 18 extending away from the axis A-A. Due to this annular rim 18, the lid 2 or, if required, the whole assembled container 1 can be stably placed on a support surface.

**[0023]** Further advantageously, the lid 2 is either transparent or opaque, such that the food item contained therein is visible from the outside.

**[0024]** The side wall 13 advantageously comprises pressure regions 8 such that, when pressure forces are applied thereto, deformations are induced on the lid 2 that allow, starting from the closed position, uncoupling said lid 2 and said tray 3, as will be detailed below.

**[0025]** Preferably, the pressure regions 8 are formed by two portions 23 of the side wall 13 having a substantially plane outer surface. Furthermore, said portions 23 are preferably positioned in diametrically opposite positions.

**[0026]** Advantageously, said pressure region 8 comprise alphanumeric markers 17 such that the region on which the pressure forces must be applied is visible to the user. An example of alphanumeric marker is the wording "PUSH".

**[0027]** The tray 3 has a generally plane and circular shape, on which food items are rested. Said tray 3 comprises the edge 7 for said engagement with the seat 10 of the lid 2 and advantageously a perimetric abutment surface 25 that, by abutting against the abutment surface 24 of the ring 6 of the lid 2, avoids that the tray 3 may axially move upwards when the container is closed. Preferably, the tray 3 is substantially shaped as a flat truncated cone having a blind cavity 4 that is defined by a side wall 19 and a bottom wall 20. Preferably, particularly, its height is dimensionally lower than its width. Said cavity 4 acts as the housing for the food item.

**[0028]** Advantageously, the side wall 19 has a substantially stepped development.

**[0029]** Further advantageously, the bottom wall 20 comprises an elevation 21 on which the food item can be placed. Preferably, this elevation 21 has an knurled upper surface, in order to ensure a suitable friction with the food item and avoid that the same may undesirably move.

**[0030]** In accordance with a further embodiment of the invention, the edge 7 of the tray 3 comprises decorative petals 22, on which there is formed a corner 11. The tray 3 comprising said decorative petals 22 can be substantially inscribed in a circle (not shown in Fig. 5).

**[0031]** In accordance with a further embodiment, the tray 3 is covered on top with a layer of material capable of reflecting the light, for example a layer of gilded material.

**[0032]** The operation of the container will be now described with reference to the figures.

**[0033]** Opening and closing the container according to the invention are very simple operations. To close the container 1, it is sufficient to place the lid 2 on the tray 3, approximately coaxially thereto, and apply a slight pressure on the lid 2, for example on the bottom surface 9. Following said pressure, the edge 7 is constrained by the prompt surface 30 until it overcomes the same and is snap-expanded into the substantially diametrically opposite engaging portions 27 comprised within the seat 10 which form the undercut. Due to the provision of the undercut, the tray 3 can't come off the lid 2 in the absence of forces applied by the user.

**[0034]** To open the container 2, a slight pressure force must be applied at the pressure regions 8, where the alphanumeric markers 17 suitable to identify them are provided. This operation of opening the container 1 can also be easily carried out with only two fingers of a hand. The result of applying these pressure forces is that the seat 10 deforms thereby releasing the edge 7 from the engagement within the engaging portions 27. The coming off of the tray 3 is facilitated by the fact that the seat 10, in addition to the engaging portions 27 comprises the deforming portions 28 forming a substantially plane deformable wall 26, which thus favours the coming off of the tray 3.

**[0035]** In accordance with an embodiment of the invention, the wall 26 of the deforming portions 28 has a flared profile suitable to generate downward thrusts on the tray 3 that further facilitate the same to come off.

**[0036]** In order to better understand the uncoupling system of the lid 2 and tray 3, reference should be made to Fig. 2a and 2b, in which a particular embodiment of the invention is reported by way of non-limiting example.

**[0037]** The Fig. 2a shows a sectional view of the lid 2 and the tray 3 in a plane P represented in Fig. 1, passing through the pressure regions 8 (section B-B), which are symmetrical relative to an axis A substantially perpendicular to the surface of the bottom wall 9. Fig. 2b shows a sectional view of the lid 2 and tray 3 in a plane P' also represented in Fig. 1, which forms a certain angle with the plane P, for example a right angle (section C-C).

**[0038]** Inserting the tray 3 in the lid 2 is carried out by engaging the edge 7 of the tray 3 within the seat 10 of the lid 2.

**[0039]** Advantageously, the edge 7 comprises the corner 11 that identifies a radial dimension D5.

**[0040]** Further advantageously, the seat 10 comprises a corner 15 identifying a radial dimension of a different size in the two planes of section B-B and C-C, particularly a size D1 in the plane of section B-B and a dimension D3 in the plane of section C-C.

**[0041]** In accordance with a preferred embodiment, moving along the axis A in the coming off direction of the tray 3 from the lid 2, the seat 10 has, in the cross-section, a profile with a varying radial dimension. Particularly, in the plane of section B-B the radial dimension changes from the dimension D1 to the dimension D2, whereas in the plane of section C-C, the radial dimension changes from a dimension D3, generally different from D1, to a

dimension D4, generally different from D2.

**[0042]** The undeformed condition of the lid 2 will be considered, i.e. the condition in which no external force is applied to the lid 2. This condition occurs in the closing position and opening position, whereas it does not occur when the container 1 is being opened by the user.

**[0043]** The dimension D3 is greater than the dimension D4, such that the projecting edge 7 of the tray 5, after it has been inserted in the seat 10, is not able to come off. The profile of the seat 10 in this region thus has a converging development in the coming off direction of the tray 3 from the lid 2, thereby forming said undercut.

**[0044]** By passing from the dimension D1 to the dimension D2, the seat 10 forms the substantially plane wall 26. The dimension D2 is preferably greater, or at least, equal to the dimension D1, thereby providing a profile of the seat 10 with a diverging or at least radially constant development in the coming off direction of the tray 3 from the lid 2.

**[0045]** Preferably, the dimension D1 is greater than the dimension D3.

**[0046]** Advantageously, the dimension D5 is substantially equal to the dimension D3 and consequently greater than the dimension D4, such that a stable coupling is ensured between the lid 2 and the tray 3 when the edge 7 is engaged within the seat 10.

**[0047]** The action of opening the container 1 will be now considered. This operation is made possible by applying external pressure forces to the pressure regions 8.

**[0048]** By applying said forces, the wall 13 of the lid 2, which is advantageously made with a small thickness, preferably of plastic material, will be deformed. Consequently, several among the above-mentioned radial dimensions will be sensibly modified.

**[0049]** The dimension D5 is not subjected to considerable changes, since no significant force is applied to the tray 3 from the outside.

**[0050]** The dimensions subjected to the greatest changes are the dimensions D1, D2, D3 and D4. By applying said forces, due to the deformations induced on the perimeter of the lid 2, the dimension D3 and the dimension D4 tend to increase. Particularly, the dimension D3, which in the undeformed condition was substantially equal to D5, if the forces applied are sufficiently strong, though still being of small entity, will increase until it exceeds the dimension D5, thereby disengaging in this region the edge 7 of the tray 3 from the seat 10 of the lid 2.

**[0051]** Vice versa, the dimension D1, which in the undeformed condition was greater than D5, after said forces have been applied, tends to become equal to D5, possibly until it becomes lower than D5 when the applied forces are sufficiently strong and the initial ratio of D1 to D5 is not excessively high, as is preferred. If this is the case, a thrust is originated in this region which has a direct component parallel to the axis A that tends to cause the tray 3 to come off the lid 2. This coming off movement is further facilitated by the preferred provision of the tapering diverging in the coming off direction of the tray 3 of the profile of the seat 10 in the plane of section B-B, i.e. by the fact that the dimension D2, even in a deformed condition, is greater than the dimension D1.

**[0052]** with "deformation profile" will be designated the transversal profile of the seat 10 of the lid 2 with the characteristics described with reference to the section B-B (Fig. 2a), and with "engaging profile" will be designated the transversal profile of the seat 10 of the lid 2, with the characteristics described with reference to the section C-C (Fig. 2b).

**[0053]** The configurations of the seat 10 with deformation profile and engaging profile, described above with reference to the two planes of section B-B and C-C for convenience, are not only limited to discrete and point regions of the perimeter of the container 1, rather they involve variously extended portions thereof. Particularly, the seat 10 comprises engaging portions 27 substantially diametrically opposite and alternating with deforming portions 28.

**[0054]** In accordance with an embodiment of the invention, the container comprises two deforming portions 28, in which the seat 10 is shaped with a deforming profile.

**[0055]** The edge 7 of the tray 3 and the seat 10 of the lid 2 advantageously form perimeters with different shapes from each other.

**[0056]** In accordance with an embodiment of the invention, the corner 11 of the edge 7 of the tray 3 forms a perimeter with a substantially circular shape having a diameter functionally coincident with the radial dimension designated above with D5 (Fig. 3). The corner 15 of the seat 10 of the lid 2 in undeformed conditions, on the other hand, forms a perimeter with a substantially elliptical shape having the greater diameter functionally coincident with the radial dimension designated above with D1 and the lower diameter functionally coincident with the radial dimension designated above with D3. The lower edge of the seat 10 also forms a substantially elliptical perimeter (dotted line) having the greater diameter functionally coincident with the radial dimension designated above with D2 and the lower diameter functionally coincident with the radial dimension designated above with D4.

**[0057]** According to what has been described above, in the undeformed condition, the diameter D5 of the circle representing the corner 11 of the tray 3 is substantially equal to the lower diameter D3 of the ellipse representing the corner 15 of the lid 2 and lower than the greater diameter D1 of the same ellipse. In the engaging portions 27, in which the seat 10 is shaped with an engaging profile, there occurs in the undeformed condition the engagement of the circular edge 7 within the elliptical seat 10.

**[0058]** In the undeformed condition, the shape of the seat 10 thus interferes with the shape of the edge 7, thereby ensuring the stable coupling between the lid 2 and tray 3.

**[0059]** The two perimeter portions in which the seat 10 is shaped with a deformation profile can be identified by

as many angles $\alpha$ and $\beta$ having the vertex in the center C of the ellipse.

**[0060]** Advantageously, said angles $\alpha$ and $\beta$ have a substantially equal width.

**[0061]** Further advantageously, said angles $\alpha$ and $\beta$ are symmetrical relative to the greater dimension D1 of the ellipse, with a width preferably lower than 180°, more preferably ranging between 80-90°.

**[0062]** In accordance with an embodiment of the invention, the pressure regions 8 formed on a side surface 14 of the lid 2, to which the pressure forces are applied by the user, which are required for opening the container, are in angular positions identified by said angles $\alpha$ and $\beta$.

**[0063]** By applying pressure forces F1 and F2 to the pressure regions 8, the ellipse representing the corner 15 of the seat 10 of the lid 2 is deformed (Fig. 4), such that the dimensions designated in Fig. 3 with D1 and D2 are reduced to a dimension D1' lower than D1 and a dimension D2' lower than D2, respectively, whereas the dimensions designated in Fig. 3 with D3 and D4 increase to a dimension D3' greater than D3 and a dimension D4' greater than D4, respectively. The angles $\alpha$ and $\beta$ will be changed due to the deformations in the angles $\alpha$' and $\beta$', respectively. Thereby, the perimetric portion 7 and the seat 10 tend to be disengaged in those perimetric portions of the ellipses where the seat 10 is shaped with an engaging profile, i.e. in the engaging portions 27, as it happened in the undeformed condition, but engage with each other in those perimetric portions of the ellipse where the seat 10 is shaped with a deformation profile, i.e. in the deformation portions 28. By increasing the intensity of the forces F1 and F2, D1' tends to be further reduced, such that, according to what has been explained above, thrusts can be originated which tend to cause the tray 3 to come off the lid 2.

**[0064]** In the deformed configuration, the seat 10 has thus a greater extension than the edge 7. Particularly, due to the fact that the diameters of the lid 2 identifying the engaging portions 27 are greater than the diameter of the tray 2 the interference of the seat 10 with the edge 7 existing in the deformed condition is eliminated, thus allowing the container 1 to be opened.

**[0065]** From the above description, those skilled in the art will appreciate how the food container according to the invention resolves the main problems of the prior art containers, which have been discussed in the initial part of the present description.

**[0066]** Those skilled in the art will particularly appreciate how the food container according to the invention eliminates the problem of the undesired movements made by the tray when the container is being opened, and how the opening system thereof allows the user to use only one hand.

**[0067]** The food container according to the invention further ensures that the product stored therein is suitably protected from the surrounding environment. Particularly, the food is protected from odours, such as emanating from other foods being stored in the same fridge. Furthermore, the container according to the invention ensures that the food stored therein is constantly maintained in suitable hygienic conditions, for example also in dusty or crowded rooms.

**[0068]** Furthermore, due to its shape, the container can be easily reached and grasped by the user, which facilitates its withdrawal from a refrigerator counter, where it is stored together with a number of other food items.

**[0069]** To the preferred embodiment of the food container such as described above, those skilled in the art, aiming at satisfying contingent and specific requirements, may carry out a number of modifications, adaptations and replacements of elements with functionally equivalent ones, without however departing form the scope of the claims below.

**[0070]** For example, the materials used can be conventional plastic materials for food having a suitable thickness as required or preferred. Alternatively, other materials can be provided, such as rubber, which are endowed with elastic characteristics.

**[0071]** Colours and shapes can vary according to particular requirements or preferences, without departing from the main function as described above.

## Claims

**1.** A food container (1) comprising:

- a tray (3) suitable to house a food item and comprising a perimetric edge (7);
- a lid (2) suitable to cover said tray (3);
- means (5) for removably connecting said tray (3) and said lid (2), wherein said connecting means (5) comprise a seat (10) formed in said lid (2), which is suitable to reversibly engage said edge (7), said seat (10) comprising diametrally opposite deformable engaging portions (27) alternating with deforming portions (28) such that, when a pressure force is applied at the level of said deforming portions (28), that causes the same to approach each other, the engaging portions (27) are consequently deformed by moving away from each other, thereby allowing said edge (7) to be disengaged, **characterized in that** in the deforming portions (28) said seat (10) comprises a substantially plane surface (29) formed in a deformable wall (26) which has a radially diverging or at least constant development that passes from a radial dimension (D1), which is identified by a corner (15), to a dimension (D2) either greater than or equal to the latter, such that said deforming portions (28), by approaching each other after said application of the pressure force, generate on said tray (2) thrusts which tend to cause the tray (3) to come off the lid (2), and **in that** in the engaging portions (27) said seat (10) forms a prompt surface (30)

having a radially converging development that passes from a radial dimension (D3), which is identified by said corner (15), to a lower dimension (D4) than the latter, thereby forming a undercut, such that, in an undeformed condition of the lid (2), the projecting edge (7) of the tray (5), after it has been inserted in the seat (10), is not able to come off.

**2.** The container (1) according to the preceding claim, wherein in the undeformed condition, the shape of said seat (10) interferes with the shape of said edge (7) and wherein in the deformed configuration said seat (10) has a greater extension than that of said edge (7).

**3.** The container (1) according to claim 1 or 2, wherein said seat (10) is formed on an inner surface of a side wall (13) of said lid (2) and extends all around the perimeter of the latter; said edge (7) is formed in said tray (3) and extends all around the perimeter of the latter; and said edge (7) of the tray (3) and said seat (10) of the lid (2) form perimeters having shapes different from each other.

**4.** The container (1) according to any preceding claim, wherein said lid (2) comprises pressure regions (8) suitable to be subjected to pressure forces (F1, F2) to deform said seat (10).

**5.** The container (1) according to claim 3 or 4, wherein said wall (13) has, at the free end thereof, a projecting perimetric ring (6) comprising the seat (10); said perimetric ring (6) forms, inside the lid (2), a substantially plane abutment surface (24) facing said free end; and said tray (3) comprises an abutment surface (25) suitable to abut against said abutment surface (24) in the ring (6) of the lid (2).

**6.** The container (1) according to any preceding claim, wherein the radial dimension (D1) which is identified by the corner (15) in the deforming portions (28) is dimensionally greater than the radial dimension (D3) which is identified by the corner (15) in the engaging portions (27).

**7.** The container (1) according to any preceding claim, wherein said tray (3) comprises a corner (11) which identifies a radial dimension (D5) that is dimensionally substantially equal to the radial dimension (D3) identified by the corner (15) of the seat (10) in the engaging portions (27).

**8.** The container (1) according to the preceding claim, wherein the corner (11) of the tray (3) forms a substantially circular perimeter, having as the diameter thereof said radial dimension (D5), and the corner (15) of the seat (10) of the lid (2) forms a substantially elliptical perimeter having as the greater diameter said radial dimension (D1) and as the lower diameter said radial dimension (D3).

**9.** The container (1) according to the preceding claim, wherein said lid (2) comprises two deforming portions (28) being identified by two angles ($\alpha$,$\beta$), respectively, which have a center coincident with the center (C) of said ellipse.

**10.** The container (1) according to the preceding claim, wherein said angles ($\alpha$,$\beta$) are substantially equal, preferably symmetrical relative to the greater diameter (D1) of said ellipse.

**11.** The container (1) according to the preceding claim, wherein said angles ($\alpha$,$\beta$) have a width ranging between 80-90°.

**12.** The container (1) according to the preceding claim, wherein said pressure regions (8) are two, which are formed on a side surface (14) of the lid (2) in angular positions that are identified by said angles ($\alpha$,$\alpha$).

**13.** The container (1) according to any preceding claim, wherein said lid (2) substantially has the shape of a truncated cone extending along an axis (A-A) and preferably tapering towards a substantially plane bottom wall (9).

**14.** The container (1) according to the preceding claim, wherein said side wall (13) has an undulated development due to a plurality of waves (16).

**15.** The container (1) according to claim 13 or 14 wherein said lid (2) comprises an annular rim (18) starting from said perimetric ring (6) away from the axis (A-A).

**16.** The container (1) according to any preceding claim, wherein said lid (2) is made of plastic material, either transparent or opaque, **characterized by** a small thickness.

**17.** The container (1) according to any preceding claim, wherein said pressure regions (8) are formed by portions (23) of the side wall (13) of the lid (2) having a substantially plane outer surface.

**18.** The container (1) according to any preceding claim, wherein said pressure regions (8) comprise alphanumeric markers (17), such as the "PUSH" marker.

**19.** The container (1) according to any preceding claim, wherein said tray (3) substantially has the shape of a flat truncated cone having a blind cavity (4) being defined by a side wall (19) and a bottom wall (20), preferably **characterized by** a height that is dimensionally lower than its width.

**20.** The container (1) according to the preceding claim, wherein said side wall (19) has a substantially stepped development.

**21.** The container (1) according to claim 19 or 20, wherein said bottom wall (20) comprises an elevation (21), which preferably has a knurled upper surface.

**22.** The container (1) according to any preceding claim, wherein said edge (7) of the tray (3) comprises decorative petals (22), on which there is formed the corner (11), the tray (3) being substantially capable of being inscribed in a circle.

**23.** The container (1) according to any preceding claim, wherein said tray (3) is covered on top with a layer of material capable of reflecting the light, such as a layer of gilded material.

**Patentansprüche**

**1.** Lebensmittelbehälter (1), enthaltend:

- eine Schale (3), die sich dazu eignet, einen Lebensmittelgegenstand aufzunehmen, und einen Umfangsrand (7) enthält;
- einen Deckel (2), der sich dazu eignet, die Schale (3) zu bedecken;
- eine Einrichtung (5), die die Schale (3) und den Deckel (2) lösbar verbindet, wobei diese Verbindungseinrichtung (5) einen Sitz (10) enthält, der im Deckel (2) ausgebildet ist und sich dazu eignet, reversibel mit dem Rand (7) in Eingriff zu gelangen, wobei der Sitz (10) diametral gegenüberliegende, verformbare Eingriffsabschnitte (27) enthält, die sich mit Verformungsabschnitten (28) derart abwechseln, dass, wenn eine Druckkraft am Hebel der Verformungsabschnitte (28) ausgeübt wird, die bewirkt, dass diese sich einander nähern, die Eingriffsabschnitte (27) demzufolge durch Voneinanderwegbewegen verformt werden, wodurch der Rand (7) gelöst werden kann,

**dadurch gekennzeichnet, dass** in den Verformungsabschnitten (28) der Sitz (10) eine im wesentlichen ebene Oberfläche (29) enthält, die in einer verformbaren Wand (26) ausgebildet ist, die eine radial divergierende oder wenigstens konstante Ausdehnung hat, die von einer Radialabmessung (D1), die durch eine Ecke (15) **gekennzeichnet** ist, zu einer Abmessung (D2) verläuft, die entweder größer oder gleich der letztgenannten ist, so dass die Verformungsabschnitte (28) durch Aufeinanderzubewegen nach Ausüben der Druckkraft an der Schale (3) Schubkräfte erzeugen, die dazu neigen zu bewirken, dass die Schale (3) vom Deckel (2) gelöst wird, und **dadurch**, dass in den Eingriffsabschnitten (27) der Sitz (10) eine Führungsfläche (30) ausbildet, die eine radial konvergierende Ausdehnung hat, die von einer Radialabmessung (D3), die durch eine Ecke (15) **gekennzeichnet** ist, zu einer tieferen Abmessung (D4) als der letztgenannten verläuft und **dadurch** einen Hinterschnitt ausbildet, so dass in einem unverformten Zustand des Dekkels (2) der hervorstehende Rand (7) der Schale (3), nachdem sie im Sitz (10) eingefügt worden ist, nicht gelöst werden kann.

**2.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem im unverformten Zustand die Form des Sitzes (10) die Form des Randes (7) überlagert, und bei dem in der verformten Konfiguration der Sitz (10) eine größere Ausdehnung hat als die des Randes (7).

**3.** Behälter (1) nach Anspruch 1 oder 2, bei dem der Sitz (10) auf einer Innenoberfläche einer Seitenwand (13) des Deckels (2) ausgebildet ist und sich vollständig um den Umfang des letztgenannten erstreckt; der Rand (7) in der Schale (3) ausgebildet ist und sich vollständig um den Umfang der letztgenannten erstreckt; und der Rand (7) der Schale (3) und der Sitz (10) des Deckels (2) Umfänge ausbilden, deren Formen sich voneinander unterscheiden.

**4.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem der Deckel (2) Druckbereiche (8) enthält, die sich dazu eignen, Druckkräften (F1, F2) ausgesetzt zu werden, um den Sitz (10) zu verformen.

**5.** Behälter (1) nach Anspruch 3 oder 4, bei dem die Wand (13) an ihrem freien Ende einen hervorstehenden Umfangsring (6) hat, der den Sitz (10) enthält; der Umfangsring (6) innerhalb des Deckels (2) eine im wesentlichen ebene Anschlagfläche (24) bildet, die dem freien Ende zugewandt ist; und die Schale (3) eine Anschlagfläche (25) aufweist, die sich dazu eignet, gegen die Anschlagfläche (24) im Ring (6) des Deckels (2) anzuschlagen.

**6.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem die Radialabmessung (D1), die durch die Ecke (15) in den Verformungsabschnitten (28) **gekennzeichnet** ist, in den Abmessungen größer ist als die Radialabmessung (D3), die durch die Ecke (15) in den Eingriffsabschnitten (27) **gekennzeichnet** ist.

**7.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem die Schale (3) eine Ecke (11) enthält, die eine Radialabmessung (D5) kennzeichnet, die in den Abmessungen im wesentlichen gleich der Radialabmessung (D3) ist, die durch die Ecke (15)

des Sitzes (10) in den Eingriffsabschnitten (27) definiert ist.

**8.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem die Ecke (11) der Schale (3) einen im wesentlichen kreisförmigen Umfang bildet, dessen Durchmesser die Radialabmessung (D5) ist, und die Ecke (15) des Sitzes (10) des Deckels (2) einen im wesentlichen elliptischen Umfang bildet, der als größeren Durchmesser die Radialabmessung (D1) und als geringeren Durchmesser die Radialabmessung (D3) hat.

**9.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem der Deckel (2) zwei Verformungsabschnitte (28) enthält, die durch jeweils zwei Winkel ($\alpha$, $\beta$) **gekennzeichnet** sind, die eine Mitte haben, die mit der Mitte (C) der Ellipse übereinstimmt.

**10.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem die Winkel ($\alpha$, $\beta$) im wesentlichen gleich und vorzugsweise symmetrisch relativ zum größeren Durchmesser (D1) der Ellipse sind.

**11.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem die Winkel ($\alpha$, $\beta$) eine Breite haben, die zwischen 80° und 90° liegt.

**12.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem es zwei Druckbereiche (8) gibt, die auf einer Seitenfläche (14) des Deckels (2) in Winkelpositionen ausgebildet sind, die durch die Winkel ($\alpha$, $\beta$) **gekennzeichnet** sind.

**13.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem der Deckel (2) im wesentlichen die Form eines Kegelstumpfes hat, der sich entlang einer Achse (A-A) erstreckt und sich vorzugsweise zu einer im wesentlichen ebenen Bodenwand (9) verjüngt.

**14.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem die Seitenwand (13) eine wellenförmige Ausdehnung infolge einer Vielzahl von Wellen (16) hat.

**15.** Behälter (1) nach Anspruch 13 oder 14, bei dem der Deckel (2) eine ringförmige Randkante (18) enthält, die vom Umfangsring (6) entfernt von der Achse (A-A) beginnt.

**16.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem der Deckel (2) aus einem transparenten oder opaken Kunststoffmaterial besteht, das durch eine geringe Dicke **gekennzeichnet** ist.

**17.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem die Druckbereiche (8) durch Abschnitte (23) der Seitenwand (13) des Deckels (2) ausgebildet sind und eine im wesentlichen ebene Außenoberfläche haben.

**18.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem die Druckbereiche (8) alphanumerische Markierungen (17), wie etwa die "PUSH"-Markierung, enthalten.

**19.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem die Schale (3) im wesentlichen die Form eines flachen Kegelstumpfes hat, die einen Blindhohlraum (4) aufweist, der durch eine Seitenwand (19) und eine Bodenwand (20) definiert und vorzugsweise durch eine Höhe **gekennzeichnet** ist, die in den Abmessungen geringer ist als seine Breite.

**20.** Behälter (1) gemäß dem vorhergehenden Anspruch, bei dem die Seitenwand (19) eine im wesentlichen abgestufte Ausdehnung hat.

**21.** Behälter (1) nach Anspruch 19 oder 20, bei dem die Bodenwand (20) eine Erhebung (21) hat, die vorzugsweise eine gerändelte Oberseite hat.

**22.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem der Rand (7) der Schale (3) dekorative Blätter (22) enthält, auf denen die Ecke (11) ausgebildet ist, wobei die Schale (3) im wesentlichen in einen Kreis eingeschrieben werden kann.

**23.** Behälter (1) nach einem der vorhergehenden Ansprüche, bei dem die Schale (3) auf der Oberseite mit einer Schicht aus einem Material bedeckt ist, das Licht reflektieren kann, wie etwa einer Schicht aus einem vergoldeten Material.

**Revendications**

**1.** Récipient alimentaire (1) comprenant :

un plateau (3) approprié pour loger un produit alimentaire et comprenant un bord périphérique (7) ;
un couvercle (2) approprié pour recouvrir ledit plateau (3) ;
un moyen (5) pour raccorder de manière amovible ledit plateau (3) et ledit couvercle (2), où ledit moyen de raccordement (5) comprend un siège (10) formé dans ledit couvercle (2), qui est approprié pour mettre en prise de manière réversible ledit bord (7), ledit siège (10) comprenant des parties de mise en prise déformables diamétralement opposées (27) alternant avec des parties de déformation (28) de sorte que, lorsqu'une force de pression est appliquée au niveau desdites parties de déformation (28), ce

qui revient à les rapprocher les unes des autres, les parties de mise en prise (27) sont par conséquent déformées en les éloignant les unes des autres, permettant ainsi audit bord (7) d'être libéré, **caractérisé en ce que** dans les parties de déformation (28) ledit siège (10) comprend une surface sensiblement plane (29) formée dans une paroi déformable (26) qui a un développement radialement divergeant ou au moins constant qui passe d'une dimension radiale (D1), qui est identifiée par un coin (15), à une dimension (D2) supérieure ou égale à cette dernière, de sorte que lesdites parties de déformation (28), en s'approchant les unes des autres après ladite application de la force de pression, génèrent sur ledit plateau (2) des poussées qui tendent à amener le plateau (3) à se détacher du couvercle (2), et **en ce que** dans les parties de mise en prise (27) ledit siège (10) forme une surface de sollicitation (30) ayant un développement radialement convergeant qui passe d'une dimension radiale (D3), qui est identifiée par ledit coin (15), à une dimension inférieure (D4) à cette dernière, formant ainsi une gorge, de sorte que, dans un état de non-déformation du couvercle (2), le bord en saillie (7) du plateau (5), après avoir été inséré dans le siège (10), ne peut se détacher.

**2.** Récipient (1) selon la revendication précédente, dans lequel dans l'état de non-déformation, la forme dudit siège (10) interfère avec la forme dudit bord (7) et où dans la configuration déformée ledit siège (10) possède une extension supérieure à celle dudit bord (7).

**3.** Récipient (1) selon la revendication 1 ou 2, dans lequel ledit siège (10) est formé sur une surface intérieure d'une paroi latérale (13) dudit couvercle (2) et s'étend tout autour du périmètre de ce dernier ; ledit bord (7) est formé dans ledit plateau (3) et s'étend tout autour du périmètre de ce dernier ; et ledit bord (7) du plateau (3) et ledit siège (10) du couvercle (2) forment des périmètres ayant des formes différentes l'un par rapport à l'autre.

**4.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit couvercle (2) comprend des régions de pression (8) appropriées pour être soumises à des forces de pression (F1, F2) pour déformer ledit siège (10).

**5.** Récipient (1) selon la revendication 3 ou 4, dans lequel ladite paroi (13) possède, à l'extrémité libre de celle-ci, un anneau périphérique faisant saillie (6) comprenant le siège (10) ; ledit anneau périphérique (6) forme, à l'intérieur du couvercle (2), une surface d'aboutissement sensiblement plane (24) faisant face à ladite extrémité libre ; et ledit plateau (3) comprend une surface d'aboutissement (25) appropriée pour abouter contre ladite surface d'aboutissement (24) dans l'anneau (6) du couvercle (2).

**6.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel la dimension radiale (D1) qui est identifiée par le coin (15) dans les parties de déformation (28) est de dimension supérieure à la dimension radiale (D3) qui est identifiée par le coin (15) dans les parties de mise en prise (27).

**7.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit plateau (3) comprend un coin (11) qui identifie une dimension radiale (D5) qui est de dimension sensiblement égale à la dimension radiale (D3) identifiée par le coin (15) du siège (10) dans les parties de mise en prise (27).

**8.** Récipient (1) selon la revendication précédente, dans lequel le coin (11) du plateau (3) forme un périmètre sensiblement circulaire, ayant comme diamètre de celui-ci ladite dimension radiale (D5), et le coin (15) du siège (10) du couvercle (2) forme un périmètre sensiblement elliptique ayant comme plus grand diamètre ladite dimension radiale (D1) et comme plus petit diamètre ladite dimension radiale (D3).

**9.** Récipient (1) selon la revendication précédente, dans lequel ledit couvercle (2) comprend deux parties de déformation (28) étant identifiées par deux angles ($\alpha$, $\beta$), respectivement, qui ont un centre coïncident avec le centre (C) de ladite ellipse.

**10.** Récipient (1) selon la revendication précédente, dans lequel lesdits angles ($\alpha$, $\beta$) sont sensiblement égaux, de préférence symétriques par rapport au grand diamètre (D1) de ladite ellipse.

**11.** Récipient (1) selon la revendication précédente, dans lequel lesdits angles ($\alpha$, $\beta$) ont une largeur comprise entre 80° et 90°.

**12.** Récipient (1) selon la revendication précédente, dans lequel lesdites régions de pression (8) sont au nombre de deux, qui sont formées sur une surface latérale (14) du couvercle (2) dans des positions angulaires qui sont identifiées par lesdits angles ($\alpha$, $\beta$).

**13.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit couvercle (2) a sensiblement la forme d'un cône tronqué s'étendant le long d'un axe (A-A) et de préférence se rétrécissant vers une paroi de fond sensiblement plane (9).

**14.** Récipient (1) selon la revendication précédente, dans lequel ladite paroi latérale (13) a un développement ondulé dû à une pluralité d'ondulations (16).

**15.** Récipient (1) selon la revendication 13 ou 14, dans lequel ledit couvercle (2) comprend un rebord annulaire (18) partant dudit anneau périphérique (6) pour s'éloigner vers l'axe (A-A).

**16.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit couvercle (2) est fait en matériau plastique, transparent ou opaque, **caractérisé par** une faible épaisseur.

**17.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel lesdites régions de pression (8) sont formées par les parties (23) de la paroi latérale (13) du couvercle (2) ayant une surface extérieure sensiblement plane.

**18.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel lesdites régions de pression (8) comprennent des marqueurs alphanumériques (17), tels que le marqueur « PUSH ».

**19.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit plateau (3) a sensiblement la forme d'un cône tronqué plat ayant une cavité aveugle (4) définie par une paroi latérale (19) et une paroi de fond (20), de préférence **caractérisé par** une hauteur qui est de dimension inférieure à sa largeur.

**20.** Récipient (1) selon la revendication précédente, dans lequel ladite paroi latérale (19) a un développement sensiblement étagé.

**21.** Récipient (1) selon la revendication 19 ou 20, dans lequel ladite paroi de fond (20) comprend une élévation (21), qui de préférence a une surface supérieure crénelée.

**22.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit bord (7) du plateau (3) comprend des pétales décoratifs (22), sur lesquels il est formé le coin (11), le plateau (3) étant sensiblement capable d'être inscrit dans un cercle.

**23.** Récipient (1) selon l'une quelconque des revendications précédentes, dans lequel ledit plateau (3) est recouvert sur le dessus d'une couche de matériau capable de réfléchir la lumière, telle qu'une couche de matériau doré.

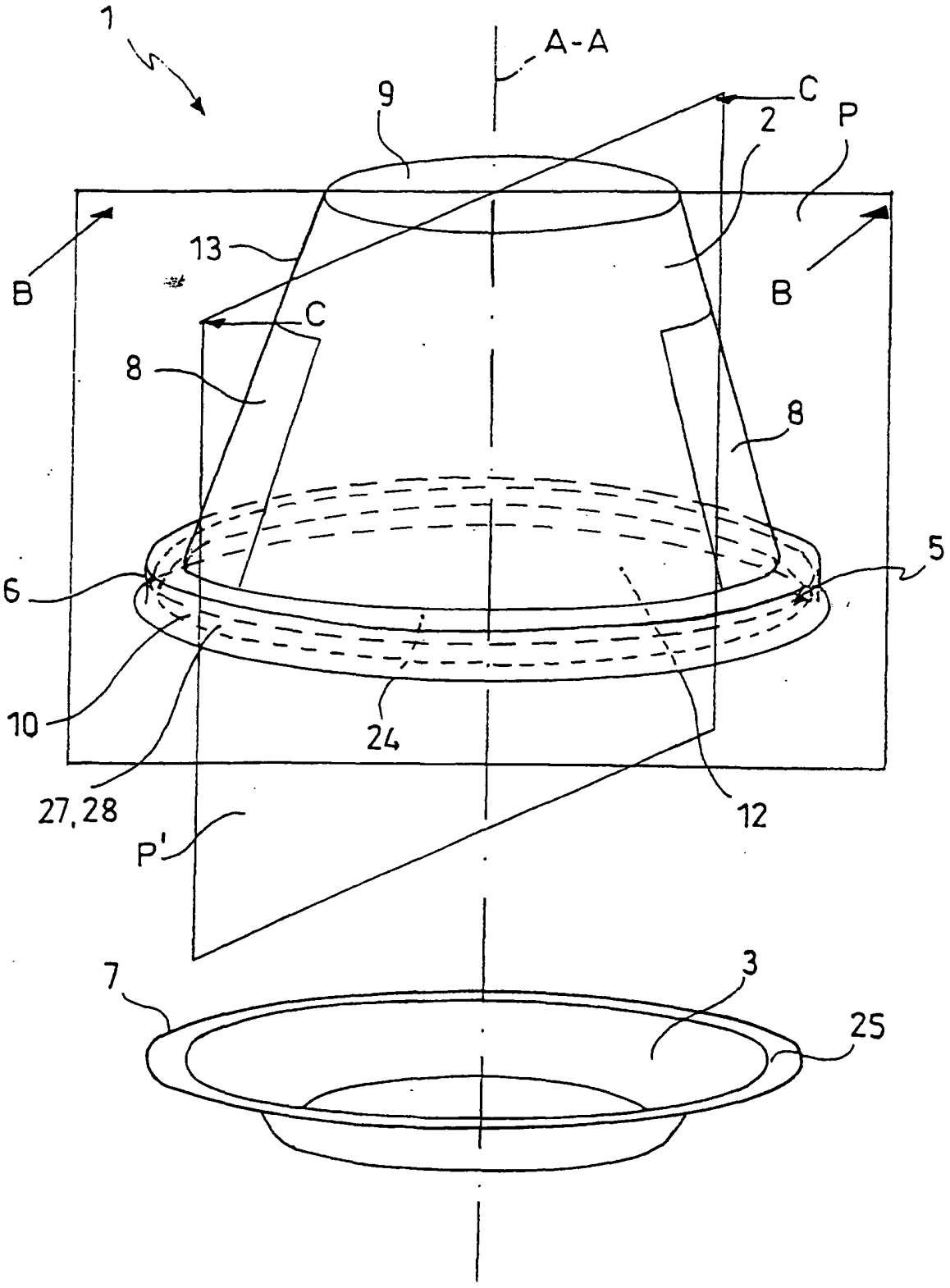
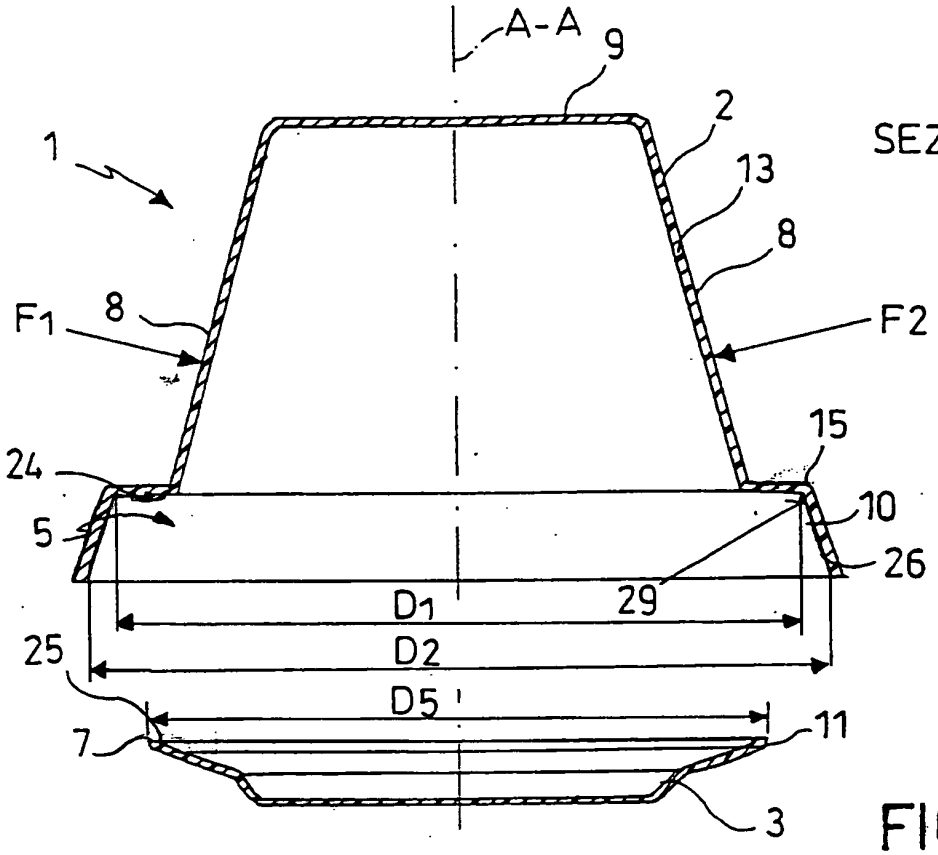
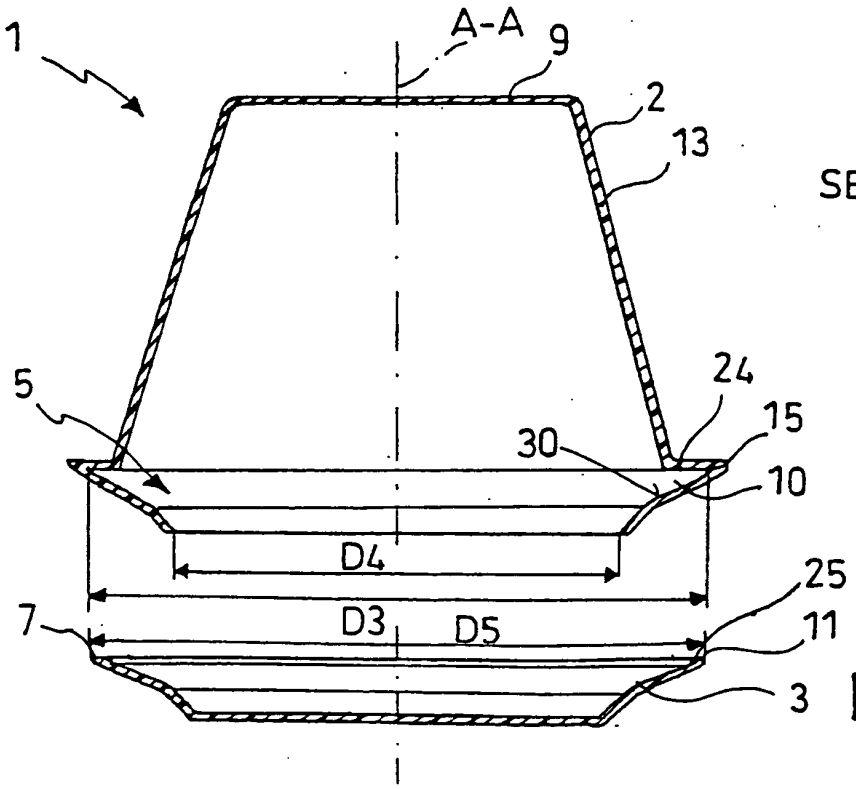



FIG.1




SEZ. B-B

FIG. 2a




SEZ. C-C

FIG. 2b

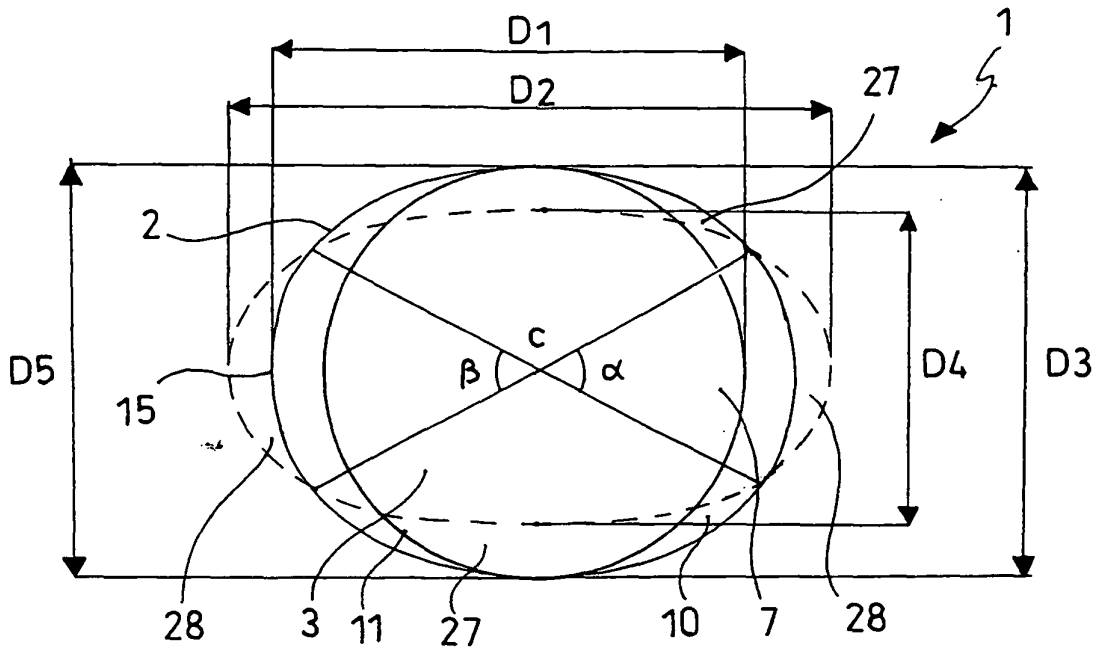

D1
D2
1
27
2
D5
c
β
α
D4
D3
15
28
3
11
27
10
7
28

FIG.3

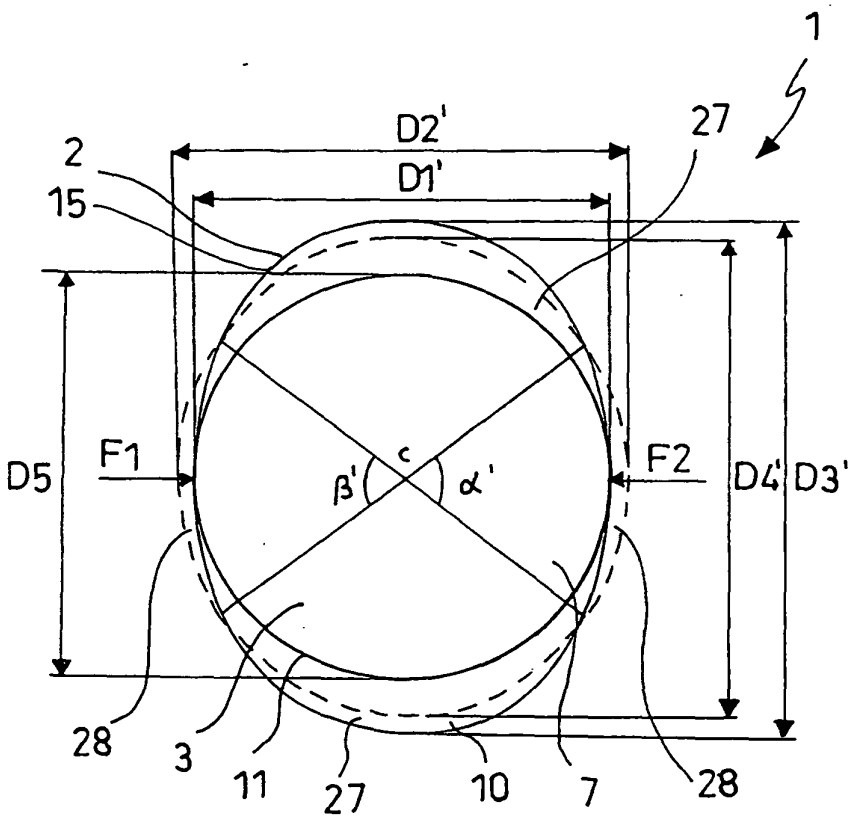

1
D2'
27
2
D1'
15
D5
F1
c
F2
D4'
D3'
β'
α'
28
3
11
27
10
7
28

FIG.4

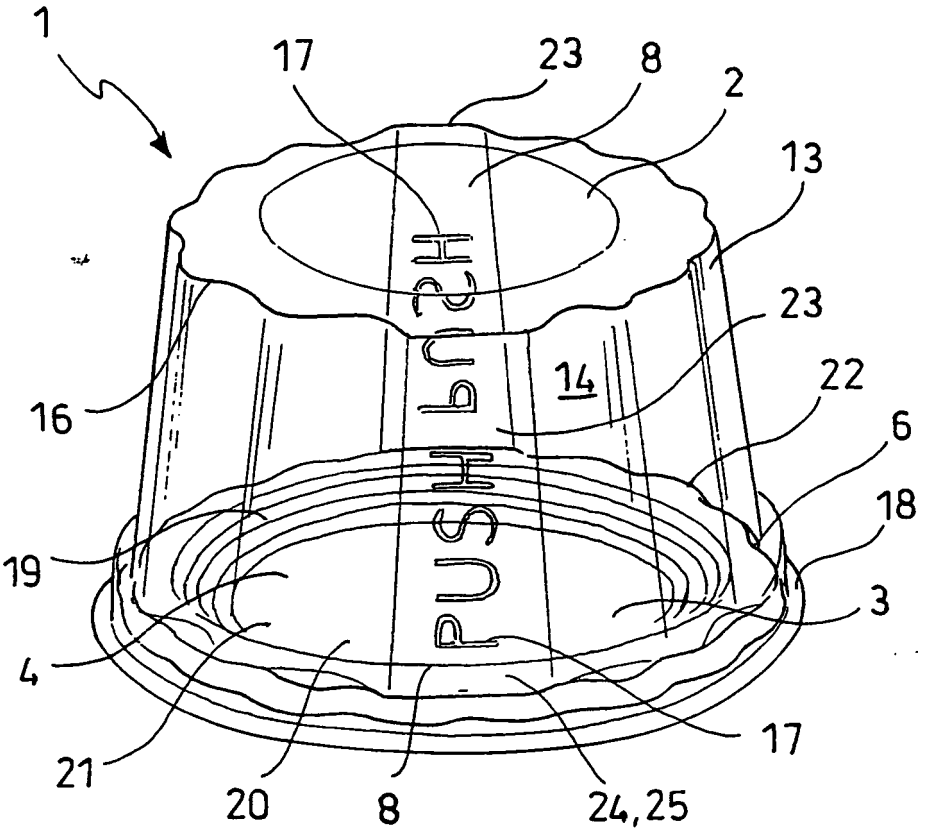



FIG. 5

## REFERENCES CITED IN THE DESCRIPTION

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### Patent documents cited in the description


- GB 2136775 A **[0008]**
- CH 613907 A **[0008]**