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(54) PACKAGE FOR FOOD WITH COVER HAVING SNAP ENGAGEMENT

(57) Package (1) for displaying food products, particularly cakes and the like, the package comprising at least one food cooking mould (2) of paper material and a covering element (3) of plastic material suitable for being removably engaged with the mould (2). The mould (2) exhibits a curled edge (4) and the covering element (3) exhibits a plurality of projections (5). The projections (5) exhibit different lengths (L'; L") and different extensions (P'; P") in a radial direction for ensuring a removable optimal coupling.

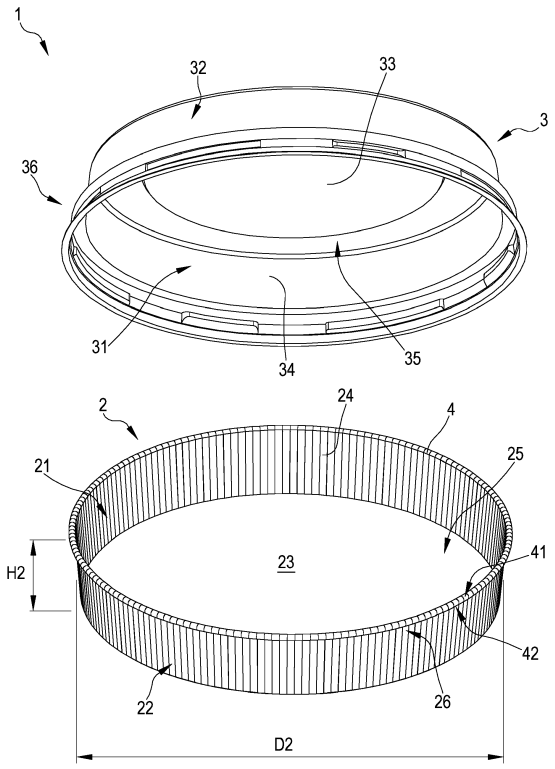

FIG.1

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Description

FIELD OF THE INVENTION

[0001] The present invention refers to a package for displaying, storing and/or transporting food products, particularly for cakes or the like. Further, the invention refers to a distinct covering element, particularly for food packages and containers.

STATE OF THE ART

[0002] Packages for displaying and storing cakes and the like are known. The known packages can consist of a containing body and an associated cover made in one piece, usually (but not necessarily) of paper material, and assembled by folding the different portions forming the flat blank; alternatively, the packages, according to the state of the art, can consist of a base element and a cover distinct and separated from each other. Possibly, the cover can be transparent, in order to enable to see and display the food also when this latter is inside the package. The cover is usually adapted to be applied to the base; however, the covering element can be coupled to the base in different ways. As hereinbefore mentioned, covers non- detachably associated to the base which can be for example hinged to the base, are known. Such coupling enables to open and close the package by rotating the cover around the axis of the hinge itself. The packages made in one piece and the packages provided with a cover undetachably coupled to the base however do not exhibit a satisfying convenience and flexibility of use, because they enable to remove the covering element only by compromising the integrity of the package itself. Further, under this situation, typically the base and the cover are made of the same material (in other words paper or plastics).

[0003] In case the package is made of paper, obviously the food product is hidden to the view; viceversa, in case the package is completely made of plastics, the product could not be cooked in an oven by using the plastic container. Such disadvantages are solved by known arrangements wherein the covers can be removably coupled to the base so that the covers can be made of more suitable materials.

[0004] For example, covers which can be simply abutted on the base are known; however, such covers and packages using such covers do not ensure a stable coupling of the base to the cover. The instability of such coupling is particularly disadvantageous for example when the package itself is transported.

[0005] Lastly, snap-fit couplings between a cover and a respective base are known; however, also this approach appears improvable under some aspects, particularly with reference to the type and arrangement of the closing means in order to solve the problems of couplings having an insufficient resistance to the opening, in other words packages which are prone to separate from each other, or joined by too strong couplings wherein the forces applied for opening them are such that during the opening operation there is the risk of spoiling the food product and/or the package.

OBJECT OF THE INVENTION

[0006] It is a main object of the present invention to solve one or more of the problems found in the prior art.

[0007] An object of the present invention consists of providing a covering element and a package using such covering element capable of ensuring a high flexibility of use. A further object of the present invention consists of providing a covering element and a package using such covering element capable of simplifying the opening and closure of the package itself, by maintaining anyway an optimal reliability when the package itself is used.

[0008] These and also other objects, which will better appear in the following description, are substantially met by a covering element and a package using such covering element according to what is set forth in one or more of the accompanying claims, considered alone or in combination with each other.

SUMMARY

[0009] Aspects of the invention will be described herein below.

[0010] In a 1st aspect, it is provided a package (1) for displaying food, particularly cakes or the like, the package (1) comprising:

- a food cooking mould (2) made of paper material and exhibiting an inner surface (21) and an outer surface (22), particularly the inner surface (21) being coated by an oleophobic and/or hydrophobic film, the mould (2) comprising a bottom wall (23) having a substantially circular perimeter and a lateral wall (24) emerging from and perimetrally developing with respect to the bottom wall (23), under operative conditions of the mould (2) the lateral wall (24) and bottom wall (23) defining a cavity (25), the cavity (25) being delimited, at the bottom, by the bottom wall (23) and laterally by the lateral wall (24), the lateral wall (24) exhibiting an end upper portion (26), opposite to the bottom wall (23), having a substantially circular perimeter, the end upper portion (26) of the lateral wall (24) being at least partially rolled on itself such as to form a curled edge (4), the curled edge (4) perimetrally developing with respect to said cavity (25) and exhibiting an upper portion (41) and a lower portion (42),
- a covering element (3) made of a substantially transparent plastic material, the covering element (3) being removable coupable to said food cooking mould (2), the covering element (3) exhibiting an inner surface (31) and an outer surface (32) and comprising an upper wall (33) having a substantially circular pe-

rimeter and a lateral wall (34) emerging from and perimetrally developing with respect to the upper wall (33), the lateral wall (34) and upper wall (33) defining a cavity (35) delimited, at the top, by the upper wall (33) and laterally by the lateral wall (34), the lateral wall (34) exhibiting a lower portion (36) having a substantially circular perimetral edge, said covering element (3) exhibiting at the lower portion (36) of the lateral wall (34) an abutment surface (37) and a plurality of projections (5), the abutment surface (37) being defined at the inner surface (31) of the covering element (3), the projections (5) emerging towards the cavity (35) at the inner surface (31) of the lateral wall (34) of the covering element (3),

under closed conditions of said package (1), the covering element (3) being coupled to the mould (2), the curled edge (4) of the mould (2) being interposed between said abutment surface (37) and said projections (5) of the covering element (3), the upper portion (41) of the curled edge (4) being at least partially in contact with the abutment surface (37) of the covering element (3) and the lower portion (42) of the curled edge (4) being at least partially in contact with the projections (5) of the covering element (3).

[0011] In a 2nd aspect according to the aspect 1, the mould (2) is of the one-piece type, said bottom wall (23) and said lateral wall (24) of the mould (2) being joined, without interruption, at the circular perimeter of the bottom wall (23).

[0012] In a 3rd aspect according to anyone of the preceding aspects, the bottom wall (23) and lateral wall (24) of the mould (2) are joined in one piece, particularly to define a single body.

[0013] In a 4th aspect according to anyone of the preceding aspects, the mould is made by drawing a flat blank of paper material.

[0014] In a 5th aspect according to anyone of the preceding aspects, the covering element (3) is of a one-piece type.

[0015] In a 6th aspect according to anyone of the preceding aspects, the curled edge (4) develops outwardly the mould (2) cavity (25).

[0016] In a 7th aspect according to anyone of the preceding aspects, the covering element (3) exhibits a diameter (D3) and height (H3) defined along a direction substantially normal to the upper wall (33), the height (H3) being formed by a first portion (H3') and a second portion (H3").

[0017] In an 8th aspect according to the preceding aspect, the second portion (H3") of the height (H3) characterizing the lower portion (36) of the lateral wall (34) of the covering element (3).

[0018] In a 9th aspect according to the aspect 7 or 8, the diameter (D3) of the covering element (3) continuously varies along the first portion (H3') of the height (H3), particularly the diameter (D3) increases in a substantially radial direction at the height (H3') by forming a step at the lower portion (36) of the lateral wall (34) of the covering element (3), optionally the step defining the abutment surface (37) at the inner surface (31) of the covering element (3).

[0019] In a 10th aspect according to anyone of the aspects from 7 to 9, the diameter (D3) varies at the lower portion (36) of the lateral wall (34) of the covering element (3) along said second portion (H3").

[0020] In an 11th aspect according to anyone of the aspects from 7 to 10, the height (H3) of the covering element is not less than 0.5 cm.

[0021] In a 12th aspect according to anyone of the preceding aspect, the upper surface (33) of the covering element (3) exhibits a diameter (D3') not less than 7 cm.

[0022] In a 13th aspect according to anyone of the preceding aspects, the mould (2) exhibits a height (H2) not less than 1 cm.

[0023] In a 14th aspect according to the preceding aspect, the mould (2) exhibits a diameter (D2) varying along the height (H2).

[0024] In a 15th aspect according to anyone of the preceding aspects, the bottom wall (23) of said mould (2) exhibits a diameter (D2) not less than 7 cm.

[0025] In a 16th aspect according to anyone of the preceding aspects, a predetermined number of projections (5) exhibits a first length (L') in a plane substantially parallel to the upper wall (33) and a predetermined number of other projections (5) exhibits a second length (L") in the same plane substantially parallel to the upper wall (33), said second length (L") being greater than said first length (L').

[0026] In a 17th aspect according to the preceding aspect along the circumferential development of the lateral wall (34) a projection (5) characterized by the first length (L') alternates with a projection (5) characterized by the second length (L").

[0027] In an 18th aspect according to anyone of the aspects from 1 to 15, said projections (5) exhibit a same length in a plane substantially parallel to the upper wall (33).

[0028] In a 19th aspect according to anyone of the preceding aspects, at said projections (5) the lateral wall (34) of the covering element (3) exhibits a first and second substantially rectilinear portions (51, 52) and a third portion (53) receding towards the cavity (35) and characterized by a geometric outline at least partially curvilinear and/or rectilinear, the third portion (53) being interposed between the first and second substantially rectilinear portions (51, 52) and defining the outer outline of the projections (5).

[0029] In a 20th aspect according to the preceding aspect, the geometric outline of the third portion (53) is defined by an open polygonal chain.

[0030] In a 21st aspect according to the preceding aspect, the open polygonal chain characterizing the outer outline of said projections (5) comprises at least two substantially rectilinear segments, said two substantially rectilinear segments being reciprocally oriented and with re-

spect to the first and second substantially rectilinear portions (51, 52) in order to define a size of the projections (5), the size radially emerging from the lateral wall (34) at the inner surface (31) of the covering element (3) and projecting inside said cavity (35).

[0031] In a 22nd aspect according to anyone of the preceding aspects, the number of the projections (5) of the covering element (3) is comprised between 2 and 20.

[0032] In a 23rd aspect according to anyone of the preceding aspects, the covering element (3) exhibits at the lower portion (36) of the lateral wall (3) a rectilinear edge (38) perimetrally developing with respect to the cavity (35), the rectilinear edge (38) defining a surface substantially parallel to said abutment surface (37) and developing towards the outside of the cavity (35) of the covering element (3).

[0033] In a 24th aspect according to anyone of the preceding aspects, said film of oleophobic and/or hydrophobic material is based on polyethylene.

[0034] In a 25th aspect according to anyone of the preceding aspects, the mould (2) exhibits a plurality of ribs at at least one of: the inner surface (21) of the lateral wall (24) and the outer surface (22) of the lateral wall (24).

[0035] In a 26th aspect according to anyone of the preceding aspects, the mould (2) exhibits a plurality of ribs at the curled edge (4).

[0036] In a 27th aspect according to anyone of the preceding aspects, said mould (2) exhibits a substantially frusto-conical shape.

[0037] In a 28th aspect according to anyone of the preceding aspects, a plurality of projections (5), and particularly all the projections, comprise, in a cross-section along a plane normal to the upper wall (33), at least one first segment (80) emerging from the outline of the lateral wall (24) towards the inner cavity (35) substantially normal to the outline to define an undercut (81), the plurality of projections (5) further comprising, in the same cross-section, a second segment (82) emerging from the outline of the lateral wall (34) towards the inner cavity (35) with an angle (α) with respect to the outline of the upper wall (33) comprised between 25° and 85°, particularly comprised between 40° and 65°, preferably with an angle of about 45°.

[0038] In a 29th aspect according to the preceding aspect, the plurality of projections (5) further comprises, in the same cross-section, a third segment (83) joining the first and second segments (80, 82), said third segment (83) being sloped with respect to the first and second segments (80, 82), particularly the third segment (83) being substantially normal to the outline of the upper wall (33).

[0039] In a 30th aspect according to the aspect 28 or 29, the second segment (82) defines the outline of a lead-in sloped surface (84) configured for abuttingly receiving and sliding the curled edge (4) during a step of coupling the cooking mould (2) to the covering element (3), and wherein the first segment (80) defines the outline of a flat abutment surface (85) configured for retaining the first curled edge (4) once the cooking mould (2) and covering element (3) are coupled.

[0040] In a 31st aspect according to the preceding aspect, the flat abutment surface (85) is opposite and substantially parallel to the abutment surface (37) of the covering element (3), under coupling conditions of the cooking mould (2) to the covering element (3), the curled edge (4) being interposed between and retained by said abutment surfaces (85, 37).

[0041] In a 32nd aspect according to anyone of the aspects from 28 to 31, the first segment (80) has a length of at least 0.7 mm.

[0042] In a 33rd aspect according to anyone of the preceding aspects, a predetermined number of projections (5) exhibit a first extension (P') in a plane substantially parallel to the upper wall (33) and in a radial direction and a predetermined number of other projections (5) exhibit a second extension (P") in the same plane substantially parallel to the upper wall (33), said first extension (P') being greater than said second extension (P").

[0043] In a 34th aspect according to the preceding aspect, along the circumferential development of the lateral wall (34) a projection (5) characterized by the first extension (P') alternates with a projection (5) characterized by the second extension (P").

[0044] In a 35th aspect according to the aspect 33 or 34, the predetermined number of projections (5) exhibiting the first length (L') exhibits also the first extension (P'), the predetermined number of projections (5) exhibiting the second length (L") exhibits also the second extension (P").

[0045] In a 36th aspect according to anyone of the preceding aspects, all the projections (5) exhibit a same vertical maximum development (H4) in a direction normal to the upper wall (33).

[0046] In a 37th aspect according to anyone of the aspects from 29 to 36, the third segment (83) exhibits a height (H5) in a direction normal to the upper wall (33), greater than 2.5 mm.

[0047] In a 38th aspect according to anyone of the aspects from 29 to 37, the third segment (83) of the predetermined number of projections (5) exhibiting the first length (L') has a height (H5), in a direction normal to the upper wall (33), greater than the height (H5) of the third segment (83) of the predetermined number of projections (5) exhibiting the second length (L").

[0048] In a 39th aspect according to anyone of the aspects from 29 to 38, the third segment (83) of the predetermined number of projections (5) exhibiting the first extension (P') has a height (H5), in a direction normal to the upper wall (33), less than the height (H5) of the third segment (83) of the predetermined number of projections (5) exhibiting the second extension (P").

[0049] In a 40th aspect, it is provided a package (1) for displaying food, particularly cakes or the like, the package (1) comprising:

- a food cooking mould (2) made of paper material and

exhibiting an inner surface (21) and an outer surface (22), particularly the inner surface (21) being coated by a film of oleophobic and/or hydrophobic material, the mould (2) comprising a bottom wall (23) having a substantially circular perimeter and a lateral wall (24) emerging from and perimetrally developing with respect to the bottom wall (23), under operative conditions of the mould (2) the lateral wall (24) and bottom wall (23) defining a cavity (25), the cavity (25) being delimited, at the bottom, by the bottom wall (23) and laterally by the lateral wall (24), the lateral wall (24) exhibiting an end upper portion (26), opposite to the bottom wall (23), having a substantially circular perimeter, the end upper portion (26) of the lateral wall (24) being at least partially rolled on itself such as to form a curled edge (4), the curled edge (4) perimetrally developing with respect to said cavity (25) and exhibiting an upper portion (41) and a lower portion (42),

- a covering element (3) made of a substantially transparent plastic material, the covering element (3) being removably coupable to said food cooking mould (2), the covering element (3) exhibiting an inner surface (31) and an outer surface (32) and comprising an upper wall (33) having a substantially circular perimeter and a lateral wall (34) emerging from and perimetrally developing with respect to the upper wall (33), the lateral wall (34) and the upper wall (33) defining a cavity (35) delimited, at the top, by the upper wall (33) and laterally by the lateral wall (34), the lateral wall (34) exhibiting a lower portion (36) having a substantially circular perimetral edge, said covering element (3) exhibiting at the lower portion (36) of the lateral wall (34) an abutment surface (37) and a plurality of projections (5), the abutment surface (37) being defined at the inner surface (31) of the covering element (3), the projections (5) emerging towards the cavity (35) at the inner surface (31) of the lateral wall (34) of the covering element (3),

under closed conditions of said package (1) the covering element (3) being coupled to the mould (2), the curled edge (4) of the mould (2) being interposed between said abutment surface (37) and said projections (5) of the covering element (3), the upper portion (41) of the curled edge (4) being at least partially in contact with the abutment surface (37) of the covering element (3) and the lower portion (42) of the curled edge (4) being at least partially in contact with the projections (5) of the covering element (3), a predetermined number of projections (5) exhibiting, in a plane substantially parallel to the upper wall (33) and in a radial direction, a first extension (P') and a predetermined number of other projections (5) exhibiting a second extension (P") in the same plane substantially parallel to the upper wall (33), said first extension (P') being greater than said second extension (P").

[0050] In a 41st aspect according to the preceding aspect, along the circumferential development of the lateral wall (34) a projection (5) characterized by the first extension (P') alternates with a projection (5) characterized by the second extension (P").

[0051] In 42nd aspect according to the aspect 40 or 41, the predetermined number of projections (5) having the first extension (P') exhibits a first length (L') in a plane substantially parallel to the upper wall (33) and the predetermined number of other projections (5) having the second extension (P") exhibit a second length (L") in the same plane substantially parallel to the upper wall (33), said second length (L") being greater than said first length (L').

[0052] In a 43rd aspect according to anyone of the aspects from 40 to 42, a plurality of projections, and particularly all the projections, comprise, in a cross-section along a plane normal to the upper wall (33), at least one first segment (80) emerging from the outline of the lateral wall (34) towards the inner cavity (35) substantially normal to the outline itself to define an undercut (81), the plurality of projections (5) further comprising, in the same cross-section, a second segment (82) emerging from the outline of the lateral wall (34) towards the inner cavity (35) with an angle with respect to the outline of the upper wall (33) comprised between 25° and 85°, particularly comprised between 40° and 65°, preferably with an angle of about 45°.

[0053] In a 44th aspect according to the preceding aspect, the plurality of projections (5) further comprises, in the same cross-section, a third segment (83) joining the first and the second segments (80, 82), said third segment (83) being sloped with respect to the first and second segments (80, 82), particularly the third segment (83) being substantially normal to the outline of the upper wall (33).

[0054] In a 45 aspect according to the aspect 43 or 44, the second segment (82) defines the outline of a lead-in sloped surface (84) configured for abuttingly receiving and sliding the curled edge (4) during a step of coupling the cooking mould (2) to the covering element (3), and wherein the first segment (80) defines the outline of an abutment flat surface (85) configured for retaining the curled edge (4) once the cooking mould (2) and covering element (3) have been coupled.

[0055] In a 46th aspect according to the preceding aspect, the abutment flat surface (85) is opposite and substantially parallel to the abutment surface (37) of the covering element (3),

and wherein, under the conditions of coupling the cooking mould (2) to the covering element (3), the curled edge (4) being interposed and retained by said abutment surfaces (85, 37).

[0056] In a 47th aspect according to anyone of the aspects from 44 to 46, the first segment (80) has a length of at least 0.7 mm.

[0057] In a 48th aspect according to anyone of the aspects from 44 to 47, the third segment (83) exhibits a

height (H5), in a direction normal to the upper surface (33), greater than at least 2.5 mm.

[0058] In a 49th aspect according to anyone of the aspects from 44 to 47, the third segment (83) of the predetermined number of projections (5) exhibiting the first length (L') has a height (H5), in a direction normal to the upper wall (33), greater than the height (H5) of the third segment (83) of the predetermined number of projections (5) exhibiting the second length (L").

[0059] In a 50th aspect according to anyone of the aspects from 44 to 49, the third segment (83) of the predetermined number of projections (5) exhibiting the first extension (P') has a height (H5), in a direction normal to the upper wall (33), less than the height (H5) of the third segment (83) of the predetermined number of projections (5) exhibiting the second extension (P").

[0060] In a 51st aspect it is provided a covering element (3) for packaging food products, made of a substantially transparent plastic material, removably coupable to a food cooking mould (2) and exhibiting an inner surface (31) and an outer surface (32), the covering element (3) comprising an upper wall (33) having a substantially circular perimeter and a lateral wall (34) emerging from and perimetrally developing with respect to the upper wall (33), the lateral wall (34) and upper wall (33) defining a cavity (35) delimited, at the top, by the upper wall (33) and laterally by the lateral wall (34), the lateral wall (34) exhibiting a lower portion (36) having a substantially circular perimetral edge, said covering element (3) exhibiting at the lower portion (36) of the lateral wall (34) an abutment surface (37) and a plurality of projections (5), the abutment surface (37) being defined at the inner surface (31) of the covering element (33), the projections (5) emerging towards the cavity (35) at the inner surface (31) of the lateral wall (34) of the covering element (3), under closed conditions of said package (1), the covering element (3) being removably coupable to the mould (2), a curled edge (4) of the mould (2) being interposable between said abutment surface (37) and said projections (5) of the covering element (3), a predetermined number of projections (5) exhibiting, in a plane substantially parallel to the upper wall (33) and in a radial direction, a first extension (P') and a predetermined number of other projections (5) exhibiting a second extension (P") in the same plane substantially parallel to the upper wall (33), said first extension (P') being greater than said second extension (P"), the predetermined number of projections (5) having the first extension (P') exhibit a first length (L') in a plane substantially parallel to the upper wall (33) and the predetermined number of other projections (5) having the second extension (P") exhibit a second length (L") in the same plane substantially parallel to the upper wall (33), said second length (L") being greater than said first length (L'), particularly a projection (5) characterized by the first extension (P') being alternated with a projection (5) characterized by the second extension (P").

BRIEF DESCRIPTION OF THE DRAWINGS

[0061] A detailed description of one or more preferred embodiments of the invention will follow in an exemplifying and non limiting way, wherein:

- Figure 1 shows a perspective view of a package according to the present invention under an open condition;
- Figure 2 shows a covering element according to the present invention;
- Figure 3 shows a bottom view of the covering element in Figure 2;
- Figure 4 shows a lateral view of the covering element in Figure 2;
- Figure 5 shows a cross-section of the covering element taken along the sectional plane V-V illustrated in Figure 3;
- Figure 6 shows a cross-section of the covering element taken along the sectional plane VI-VI illustrated in Figure 3;
- Figure 7 shows a cross-section of the covering element taken along the sectional plane VII-VII illustrated in Figure 3;
- Figure 8 shows a detail of the cross-section of the covering element illustrated in Figure 6.

DETAILED DESCRIPTION

[0062] With reference to the figures, 1 generally indicates a package for displaying and/or storing and/or transporting food, particularly cakes or the like. The package 1 consists of a food cooking mould 2 and a covering element 3. The mould 2 forms the base of the package 1, and the covering element 3 is configured for being removably coupable to the mould 2. The package 1 can mainly take an open condition and a closed condition; the two conditions distinguish from each other due to the reciprocal positioning of the covering element 3 and mould 2. Under the open condition, the covering element 3 and mould 2 are not coupled (Figure 1), while under the closed condition, the covering element 3 is removably engaged with the mould 2; the open condition is for example illustrated in Figure 1, the closed condition is not represented.

[0063] The food cooking mould 2 is configured for receiving at least one food product and possibly for enabling to cook it in an oven. In other words, the material forming it, is capable of receiving a dough or similar food product and of withstanding the typical temperatures and the required food cooking times; the same mould 2 exhibits an inner surface 21 and an outer surface 22; particularly, the inner surface 21 can be coated by a film of oleophobic and/or hydrophobic material, preferably based on polyethylene (in order to maintain optimal structural characteristics also in the presence of moisture/water and/or oil). Such coating has also the function of preventing a complete adhesion of the food product to the

inner surface 21 of the mould 2 during its cooking.

[0064] From the structural point of view, the mould 2 exhibits a bottom wall 23 and a lateral wall 24. The lateral wall 24 emerges from and perimetrally develops with respect to the bottom wall 23, which can be characterized by a substantially circular perimeter. Particularly, the lateral wall 24 and bottom wall 23 of the mould 2 are joined, without interruption, at the circular perimeter of the bottom wall 23. Preferably, the mould 2 is made in one piece by drawing a flat blank having a substantially circular shape.

[0065] With reference to the operative conditions of the mould 2, the lateral wall 24 and bottom wall 23 are reciprocally oriented in order to define a cavity 25. Particularly, under operative conditions of the mould 2, the lateral wall 24 emerges away from the bottom wall 23, in order to define a cavity 25 delimited, at the bottom, by the bottom wall 23 and laterally by the lateral wall 24, as illustrated with reference to the mould 2 shown in Figure 1. With reference to the present specification, the term "operative conditions" of the mould 2 means the normal conditions of use of the mould 2. Preferably, under operative conditions, the mould 2 is characterized by a slightly flared and/or frusto-conical shape.

[0066] The mould 2 lateral wall 24 exhibits an end upper portion 26 opposite to the bottom wall 23; the end upper portion 26 exhibits an edge projecting from the lateral wall 24. Preferably, the end upper portion 26 is at least partially rolled on itself such as to form a curled edge 4. The curled edge 4 is the mould 2 portion which, under closed conditions of the package 1, is engaged with the covering element 3 at a respective seat. The curled edge 4 perimetrally develops with respect to the cavity 25, to describe substantially a circumference, as illustrated in Figure 4. The curled edge 4 exhibits an upper portion 41 and a lower portion 42, which are adapted to get at least partially in contact with one or more abutment surfaces of the covering element 3, as will be described herein below.

[0067] The mould 2 can exhibit at least, at the inner surface 21, of the outer surface 22 or curled edge 4, a plurality of ribs. Such ribs are due to the excess of material resulting from the deformation from the flat blank to the three-dimensional arrangement during the step of making the mould itself. The material excess could define a determined number of pleats uniformly distributed along the development of the lateral wall, or, alternatively, could be simply pressed during the drawing step, giving rise to uneven ripples along all the wall.

[0068] From the geometric point of view, the mould 2 exhibits a diameter D2 and a height H2, defined in a plane normal to the bottom wall 23, preferably along a substantially vertical direction. The mould 2 can exhibit a constant diameter D2; alternatively, the diameter D2 can vary along the height H2, for example, by linearly varying along the height H2. The diameter D2 can take a value, for example not less than 7 cm, at the bottom wall 23 of the mould 2, then increases from the bottom wall 23 towards the end upper portion 26 along the height H2. Preferably, the mould 2 has a flared shape and is substantially of the frusto-conical type. Preferably, the height H2 is not less than 1 cm.

[0069] The food cooking mould 2 can be made of paper material; particularly, the mould 2 is of a one-piece type and can be made by drawing a flat blank of paper material.

[0070] With reference to the covering element 3, it is removably coupable to the food cooking mould 2. Preferably, the covering element 3 can be made of a plastic material, for example a flexible one, particularly of a substantially transparent plastic material. The covering element 3 exhibits an inner surface 31 and an outer surface 32. Further, from the structural point of view, the covering element 3 comprises an upper wall 33 and a lateral wall 34. The lateral wall 34 emerges from and perimetrally develops with respect to the upper wall 33, which is preferably characterized by a substantially circular perimeter. Particularly, the lateral wall 34 develops by emerging from the upper wall 33; in other terms, the lateral wall 34 and the upper wall 33 can be reciprocally oriented in order to define a cavity 35. Under a normal condition of use of the covering element 3, the cavity 35 is delimited at the top by the upper wall 33 and laterally by the lateral wall 34.

[0071] The lateral wall 33 of the covering element 3 can exhibit a lower portion 36 having a substantially circular perimetral edge. At the lower portion 36, the covering element 3 exhibits an abutment surface 37 and a plurality of projections 5; the abutment surface 37 is defined at the inner surface 31 of the covering element and exhibits a substantially flat trend parallel to the upper wall 33. The projections 5 emerge from the lateral wall 34, particularly at the inner surface 31 of the lateral wall 34, in a substantially radial direction 34 towards the cavity 35. Preferably, each projection 5 circumferentially develops with respect to the cavity along an arc of circle, as illustrated for example in Figure 3. The abutment surface 37 and projections 5 reciprocally delimit, at the cavity 5, a space which under closed conditions of the package acts as a housing seat of the curled edge 4. The abutment surface 37 and/or projections 5 are adapted to be brought at least partially in contact with the curled edge 4 under closed conditions of the package 1, the abutment surface 37 is in contact with the upper portion 41 of the curled edge 4 and a portion of one or more projections 5 is in contact with the lower portion 42 of the curled edge 4, as it will be more particularly described herein below. In other words, under closed conditions of the package 1, the mould 2 curled edge 4 can be engaged with the covering element 3 between the abutment surface 37 and the projections 5.

[0072] In a preferred embodiment of the present invention, at the lower portion 36 of the lateral wall 34, the covering element 3 does not exhibit a single continuous projection, but a plurality of projections 5. Preferably, the covering element 3 exhibits a number of projections comprised between 2 and 20, more particularly an even

number of projections for example between 4 and 12 and particularly 8 distinct projections.

[0073] At the projections 5, the lateral wall 34 of the covering element 3 exhibits a first and second substantially rectilinear portions 51, 52 and a third portion 53 interposed between the first and second portions 51, 52 and receding towards the cavity 35, as illustrated in Figure 6. The third portion 53 can be characterized by a geometric outline at least partially curvilinear and/or at least partially rectilinear, particularly defined by an open polygonal chain. Preferably, the geometric outline characterizing the third portion 53 defines the outer outline of the projections 5. The geometric outline of the projections 5 can be at least partially of the rectilinear and/or curvilinear type. Particularly, the geometric outline of the projections 5 can be defined by an open polygonal chain which can comprise at least two substantially rectilinear segments reciprocally oriented and/or oriented with respect to the first and second portions 51, 52 in order to define the size of the projections 5.

[0074] Each projection 5 emerges from the lateral wall 34 at the inner surface 31 of the covering element 3, by projecting towards the cavity 35 of the covering element 3 and by defining a substantially radial size.

[0075] From the geometric point of view, the covering element 3 can exhibit a height H3 and a diameter D3. The height H3 can be defined in a plane normal to the upper wall 33, preferably along a substantially vertical direction. The height H3 can consist of a first portion H3' and a second portion H3"; the second portion H3" is the height of the lateral wall 34 of the lower portion 36 of the covering element 3. The diameter D3 can vary along the height H3; particularly the diameter D3 can continuously vary along the first portion H3' of the height H3 and then increase in a substantially radial direction at the height H3' (as illustrated in Figure 4), such as to form a step at the lower portion 36 of the lateral wall 34 of the covering element 3. Such step defines at the inner surface 31 of the lateral wall 34 of the covering element 3 the abutment surface 37 adapted to be brought in contact with the upper portion 41 of the mould 2 curled edge 4.

[0076] Further, the diameter D3 can vary, continuously and/or by steps, at the lower portion 36 of the lateral wall 34 of the covering element 3 along the second portion H3" of the height H3. From the dimensional point of view, the height H3 of the covering element 3 is not less than 0.5 cm and the upper wall 33 of the covering element 3 exhibits a diameter D3' not less than 7 cm.

[0077] Further, the covering element 3 can exhibit at the lower portion 36 of the lateral wall 34 a rectilinear edge 38 which can perimetrally develop, particularly circumferentially, with respect to the cavity 35 of the covering element 3. The rectilinear edge 38 can further define a surface substantially parallel to the abutment surface 37; such surface can radially develop away from the cavity 35 of the covering element 3.

[0078] With reference to the geometric shape of the projections 5, they can longitudinally and radially develop in a plane substantially parallel to the upper wall 33 of the covering element 3 and vertically in a direction substantially normal to the upper wall 33.

[0079] With reference to the longitudinal extension of projections 5, each projections 5 circumferentially extend at the inner surface 31 of the covering element 3 for a determined length defined in a plane substantially parallel to the upper wall 33; the length of the projections 5 can be calculated in a rectilinear direction or along the circumferential development of the projections 5. The projections 5 can have the same length or can exhibit lengths different from each other. Preferably, a predetermined number of projections 5 can exhibit a first length L' in a plane substantially parallel to the upper wall 33 and a predetermined number of other projections 5 can exhibit a second length L" in the same plane. Particularly, the second length L" is greater than the first length L'. Preferably, along the circumferential development of the lateral wall 34, a projection 5 characterized by the first length L' alternates with a projection 5 characterized by the second length L". With reference to the size of the projections 5 towards the cavity 35 of the covering element 3, they extend in a plane substantially parallel to the upper wall 33, along a substantially radial direction; particularly, a predetermined number of projections 5 exhibit a first extension P' and a predetermined number of other projections 5 exhibit a second extension P". The first extension P' is greater than the second extension P", in other words, the projections 5 characterized by the first extension P' exhibit a radial size greater than the one of the projections 5 characterized by the second extension P". The projections 5, exhibiting a radial size characterized by a first or a second extension P', P", enable the covering element 3, under closed conditions of the package 1, to retain the curled edge 4 in the seat defined between the abutment surface 37 and the projections 5. Particularly, the projections 5 responsible for holding the coupling between the covering 3 and the mould 2 are those characterized by the first radial extension P' which, being greater than the second extension P", ensures to more stably retain the curled edge 4 in the respective seat (see Figure 3). Preferably, along the circumferential development of the lateral wall 34, a projection characterized by the first extension P' can alternate with a projection characterized by the second extension P".

[0080] Particularly, the predetermined number of projections 5 characterized by the first length L' radially extend for a first extension P', and the predetermined number of other projections 5 characterized by the second length L" radially extend for a second extension P".

[0081] What hereinbefore explained causes the projections of greater length L to have a smaller radial depth P ensuring a better hold under static conditions of the package, while offering at the same time a smaller hold as soon as the user exerts a force deforming the package in case the same is opened.

[0082] Conversely, the projections of smaller length L (but exhibiting a greater extension P) exhibit a smaller

hold under static conditions, however they better resist to stresses (also random and undesired) which can cause the package to open. This combination of technical characteristics enable an optimal balance between the necessity of a stable coupling and the necessity of easily opening the package.

[0083] With reference to the height of the projections 5, they vertically develop in a direction normal to the upper wall 33; particularly all the projections 5 exhibit a same maximum vertical development H4 along such direction. A plurality of projections 5, particularly all the projections 5, can comprise, in a cross-section along a plane normal to the upper wall 33 (such as the sectional plane VI-VI illustrated in Figure 3 - see Figure 8), at least a first segment 80 and a second segment 82. The first segment 80 emerges from the outline of the lateral wall 34 towards the inner cavity 35 in a direction substantially normal to the outline of the lateral wall 34 such as to form an undercut 81, as illustrated in Figure 8. From the size point of view, the first segment 80 has a length of at least 0.7 mm.

[0084] As illustrated in Figure 8, the first segment 80 defines the outline of an abutment flat surface 85 which is opposite and substantially parallel to the abutment surface 37 of the covering element 3. Under coupling conditions of the cooking mould 2 to the covering element 3, the mould 2 curled edge 4 is interposed between and retained by the abutment surfaces 85, 37 in the seat defined between them. Under coupling conditions of the cooking mould 2 to the covering element 3, the upper portion 41 of the curled edge 4 is at least partially in contact with the abutment surface 37, and the lower portion 42 of the curled edge 4 is at least partially in contact with the abutment surface 85.

[0085] With reference to the second segment 82, it emerges from the outline of the lateral wall 34 towards the inner cavity 35 such as to form an angle α with respect to the outline of the upper wall 33; the angle α is comprised between 25° and 85°, particularly between 40° and 65°, preferably of about 45°. Further, the second segment 82 defines the outline of a lead-in sloped surface 84 configured for abuttingly receiving and sliding the curled edge 4 during the step of coupling the cooking mould 2 to the covering element 3.

[0086] A plurality of projections 5, particularly all the projections 5, can further comprise a third segment 83 defined in a cross-section along a plane normal to the upper wall 33; particularly, the third segment 83 joins the first and second segments 80, 82 and is interposed between them. The third segment 83 is sloped with respect to the first and second segments 80, 82; preferably, the third segment 83 is substantially normal to the outline of the upper wall 33. The reciprocal orientation of the first, second and third segments 80, 82, 83 of a projection 5 is for example illustrated in Figure 8.

[0087] The third segment 83 exhibits a height H5 developing normal to the upper wall 33. From the dimensional point of view, the height H5 is greater than at least 2.5 mm. The third segment 83 of the predetermined number of projections 5 exhibiting the first length L' can have a height H5 greater than the height H5 of the third segment 83 of the predetermined number of projections 5 exhibiting the second length L". The third segment 83 of the predetermined number of projections 5 exhibiting the first extension P' can have a height H5 less than the height H5 of the third segment 83 of the predetermined number of projections 5 exhibiting the second extension P". In other words, a predetermined number of projections 5 radially developing towards the cavity 35 for an extension greater than a predetermined number of other projections can exhibit, with respect to these latter, a smaller height H5 of the third segment 83.

[0088] In an exemplifying and non limiting way, the predetermined number of projections 5 exhibiting the first extension P' and a height H5 of the third segment 83 less than the height H5 of the third segment 83 of the predetermined number of projections 5 exhibiting the second extension P" can further be characterized by the first length L', while the predetermined number of projections 5 exhibiting the second extension P" can be characterized by the second length L".

[0089] With reference to the operation of coupling the covering element 3 to the mould 2, it is necessary to push the covering element 3 against the mould 2, preferably in a direction substantially normal to the upper wall 33 of the covering element 3 and to the bottom wall 23 of the mould 2. Pushing the covering element 3 against the mould 2, the lead-in sloped surface 84 of one or more projections 5 of the covering element is brought in contact with the curled edge 4, particularly to the upper portion 41 thereof, enabling the curled edge 4 to slide along the lead-in surfaces 84 of the projections 5. For correctly coupling the mould 2 to the covering element 3, and consequently for correctly closing the package 1, it is necessary an elastic deformation of the mould 2 and/or the covering element 3 because the projections 5, by radially protruding from the inner surface 31 of the lateral wall 34 towards the cavity 35 of the covering element 3 for a first or second extension P', P", stop by interference the mould 2 curled edge 4 when the package 1 is closed. Such interference condition is overcome by the elastic deformation, enabling the curled edge 4 of the mould 2 to slide along the lead-in sloped surfaces 84 of one or more projections 5 of the covering element 3. The curled edge 4, by sliding on the respective lead-in surfaces 84, passes the radial stop formed by the projections 5 by following a substantially "snap" movement with respect to the projections 5, enabling it to be placed between the abutment surface 37 and the abutment surface 85 of the covering element 3.

ADVANTAGES OF THE INVENTION

[0090] The present invention enables to obtain one or more of the following advantages and to solve one or more of the problems encountered in the known art. First

of all, the invention enables to ensure to more reliable couple the mould to the covering element. The present invention further ensures a greater comfort and flexibility of use of the package for displaying and storing food. Further, the invention is user-friendly, can be easily implemented and can be easily and economically manufacturable.

Claims

1. Package (1) for displaying food, particularly cakes or the like, the package (1) comprising:

- a food cooking mould (2) made of paper material and exhibiting an inner surface (21) and an outer surface (22), particularly the inner surface (21) being coated by a film of an oleophobic or hydrophobic material, the mould (2) comprising a bottom wall (23) having a substantially circular perimeter and a lateral wall (24) emerging and perimetrally developing with respect to the bottom wall (23), under operative conditions of the mould (2) the lateral wall (24) and bottom wall (23) defining a cavity (25), the cavity (25) being delimited at the bottom by the bottom wall (23) and laterally by the lateral wall (24), the lateral wall (24) exhibiting an upper end portion (26), opposite to the bottom wall (23), having a substantially circular perimeter, the upper end portion (26) of the lateral wall (24) being at least partially rolled on itself such as to form a curled edge (4), the curled edge (4) perimetrally developing with respect to said cavity (25) and exhibiting an upper portion (41) and a lower portion (42),
- a covering element (3) made of a substantially transparent plastic material, the covering element (3) being removably coupable to said food cooking mould (2), the covering element (3) exhibiting an inner surface (31) and an outer surface (32) and comprising an upper wall (33) having a substantially circular perimeter and a lateral wall (34) emerging and perimetrally developing with respect to the upper wall (33), the later wall (34) and upper wall (33) defining a cavity (35) delimited at the top by the upper wall (33) and laterally by the lateral wall (34), the lateral wall (34) exhibiting a lower portion (36) having a substantially circular perimetral edge, said covering element (3) exhibiting at the lower portion (36) of the lateral wall (34) an abutment surface (37) and a plurality of projections (5), the abutment surface (37) being defined at the inner surface (31) of the covering element (3), the projections (5) emerging towards the cavity (35) at the inner surface (31) of the lateral wall (34) of the covering element (3),

under closure conditions of said package (1), the covering element (3) being coupled to the mould (2), the curled edge (4) of the mould (2) being interposed between said abutment surface (37) and said projections (5) of the covering element (3), the upper portion (41) of the curled edge (4) being at least partially in contact with the abutment surface (37) of the covering element (3) and the lower portion (42) of the curled edge (4) being at least partially in contact with the projections (5) of the covering element (3).

2. Package according to claim 1, wherein said mould (2) is of the one-piece type, said bottom wall (23) and said lateral wall (24) of the mould (2) being joined, without interruption, at the circular perimeter of the bottom wall (23), and wherein said covering element (3) being of a one-piece type.

3. Package according to anyone of the preceding claims, wherein said curled edge (4) develops towards the outside of the cavity (25) of the mould (2).

4. Package according to anyone of the preceding claims, wherein a predetermined number of projections (5) exhibit a first length (L') in a plane substantially parallel to the upper wall (33) and a predetermined number of other projections (5) exhibit a second length (L") in the same plane substantially parallel to the upper wall (33), said second length (L") being greater than said first length (L').

5. Package according to the preceding claim, wherein along the circumferential development of the lateral wall (34) a projection (5) **characterized by** the first length (L') alternates with a projection (5) **characterized by** the second length (L").

6. Package according to anyone of the preceding claims, wherein at said projections (5) the lateral wall (34) of the covering element (3) exhibits a first and second portions (51, 52) substantially rectilinear and a third portion (53) receding towards the cavity (35) and **characterized by** a geometric outline at least partially curvilinear and/or rectilinear, the third portion (53) being interposed between the first and second substantially rectilinear portions (51, 52) and defining the outer outline of the projections (5).

7. Package according to anyone of the preceding claims, wherein a plurality of projections (5), and particularly all the projections, comprise, in a cross-section according to a plane normal to the upper wall (33), at least one first segment (80) emerging from the outline of the lateral wall (34) towards the inner cavity (35) substantially normal to the outline itself to define an undercut (81), the plurality of projections (5) further comprising, in the same cross-section, a

second segment (82) emerging from the outline of the lateral wall (34) towards the inner cavity (35) with an angle (α) with respect to the outline of the upper wall (33) comprised between 25° and 85°, particularly comprised between 40° and 65°, preferably with an angle of about 45°.

8. Package according to the preceding claim, wherein the plurality of projections (5) further comprises, in the same cross-section, a third segment (83) joining the first and second segments (80, 82), said third segment (83) being sloped with respect to the first and second segments (80, 82), particularly the third segment (83) being substantially normal to the outline of the upper wall (33).

9. Package according to anyone of claims 7 or 8, wherein the second segment (82) defines the outline of a lead-in sloped surface (84) configured for abuttingly receiving and sliding the curled edge (4) during a step of coupling the cooking mould (2) to the covering element (3), and wherein the first segment (80) defines the outline of an abutment flat surface (85) configured for retaining the curled edge (4) once the cooking mould (2) and covering element (3) are coupled.

10. Package according to the preceding claim, wherein the flat abutment surface (85) is opposite and substantially parallel to the abutment surface (37) of the covering element (3), under coupling conditions of the cooking mould (2) to the covering element (3) the curled edge (4) being interposed between and retained by said abutment surfaces (85, 37).

11. Package according to anyone of the preceding claims, wherein a predetermined number of projections (5) exhibit a first extension (P') in a plane substantially parallel to the upper wall (33) and in a radial direction, and a predetermined number of other projections (5) exhibit a second extension (P") in the same plane substantially parallel to the upper wall (33), said first extension (P') being greater than said second extension (P").

12. Package according to the preceding claim, wherein along the circumferential development of the lateral wall (34), a projection (5) **characterized by** the first extension (P') alternates with a projection (5) **characterized by** the second extension (P").

13. Package according to claim 11 or 12, wherein the predetermined number of projections (5) exhibiting the first length (L') exhibit also the first extension (P'), the predetermined number of projections (5) exhibiting the second length (L") exhibit also the second extension (P").

14. Package according to anyone of the preceding claims, wherein all the projections (5) exhibit a same vertical maximum development (H4) in a direction normal to the upper wall (33).

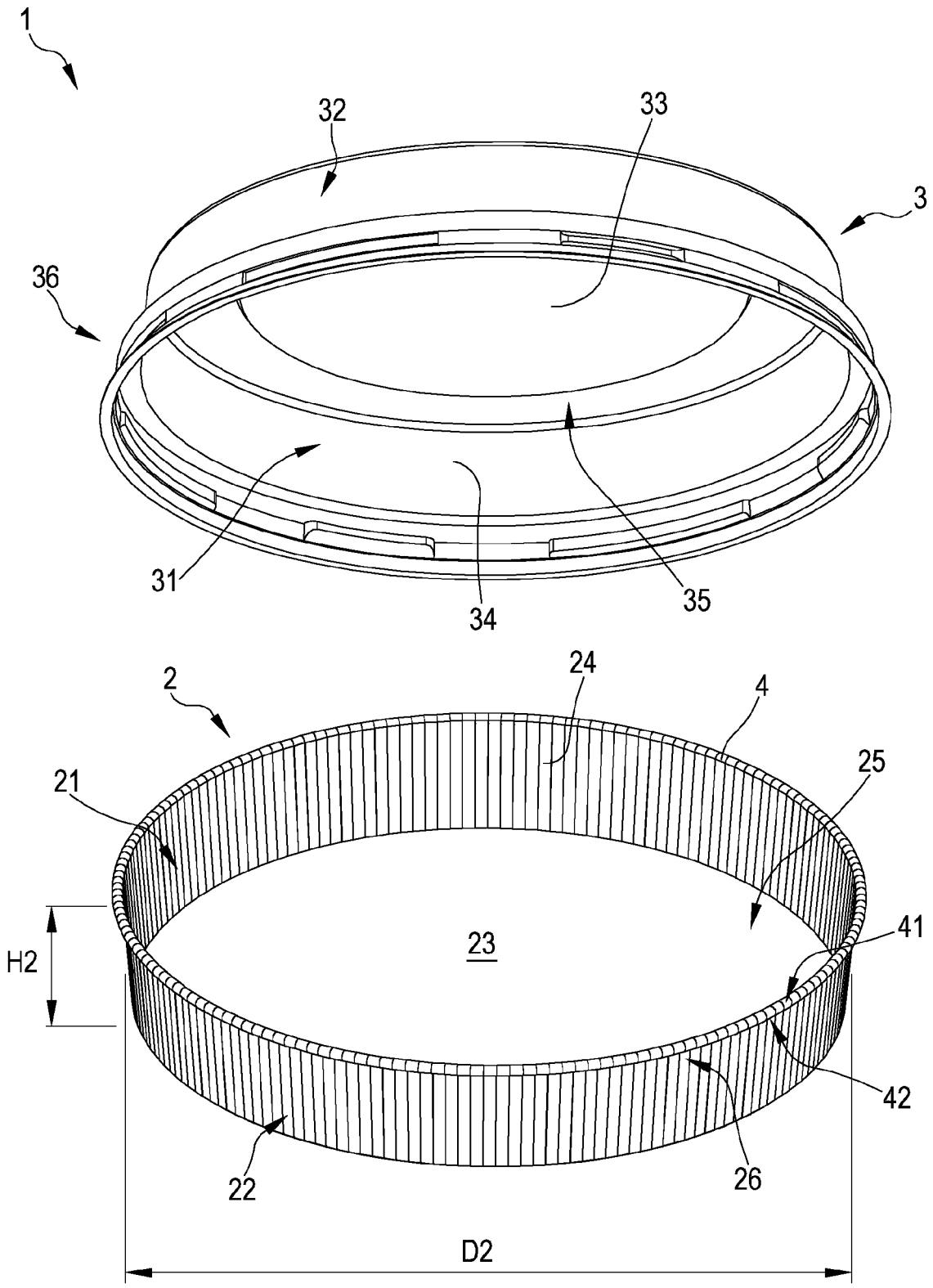


FIG.1

FIG.2

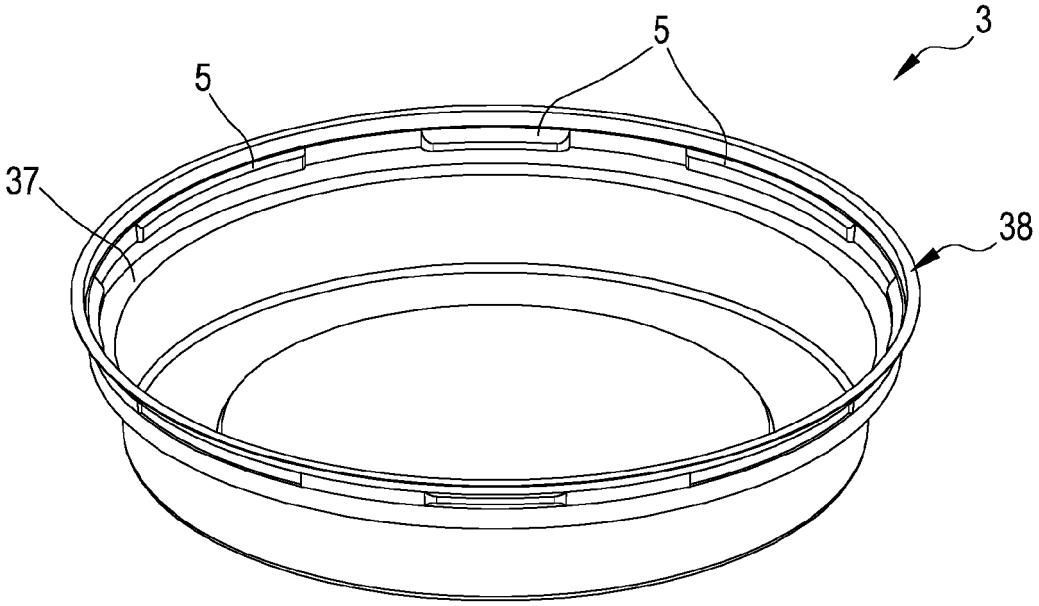


FIG.3

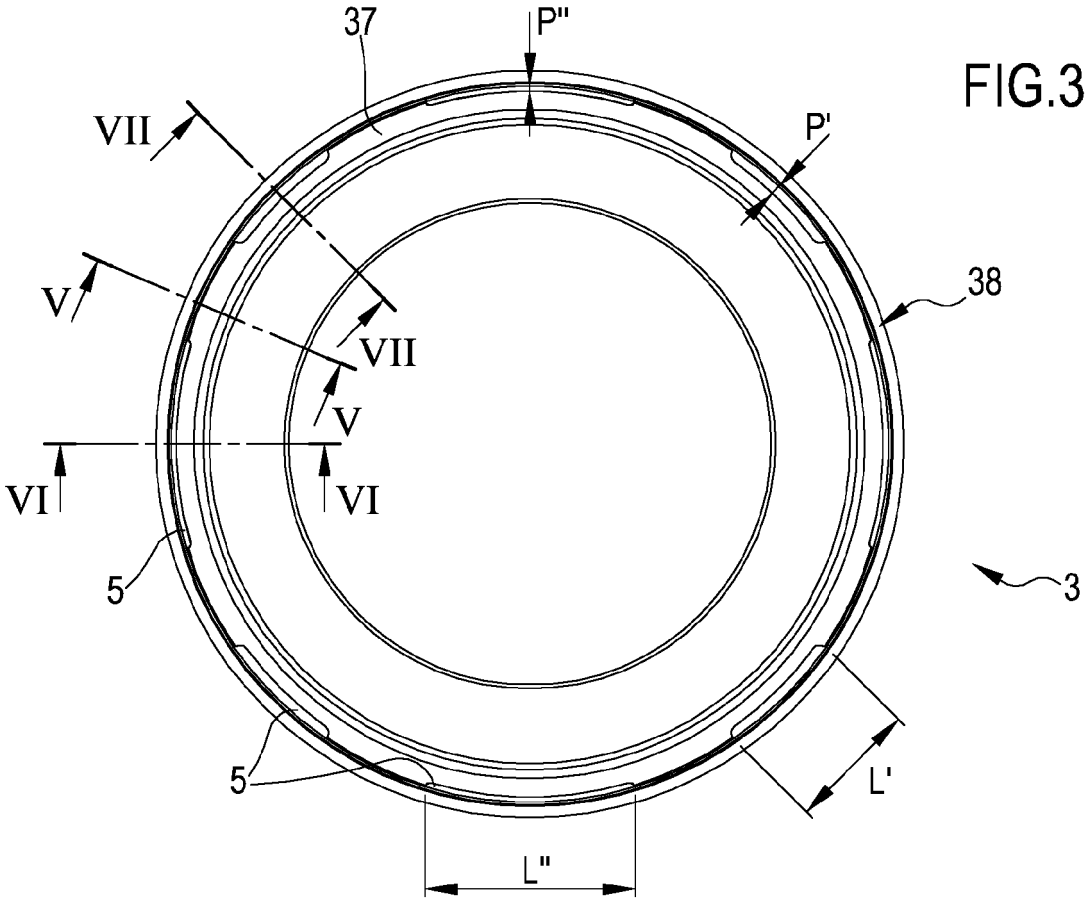
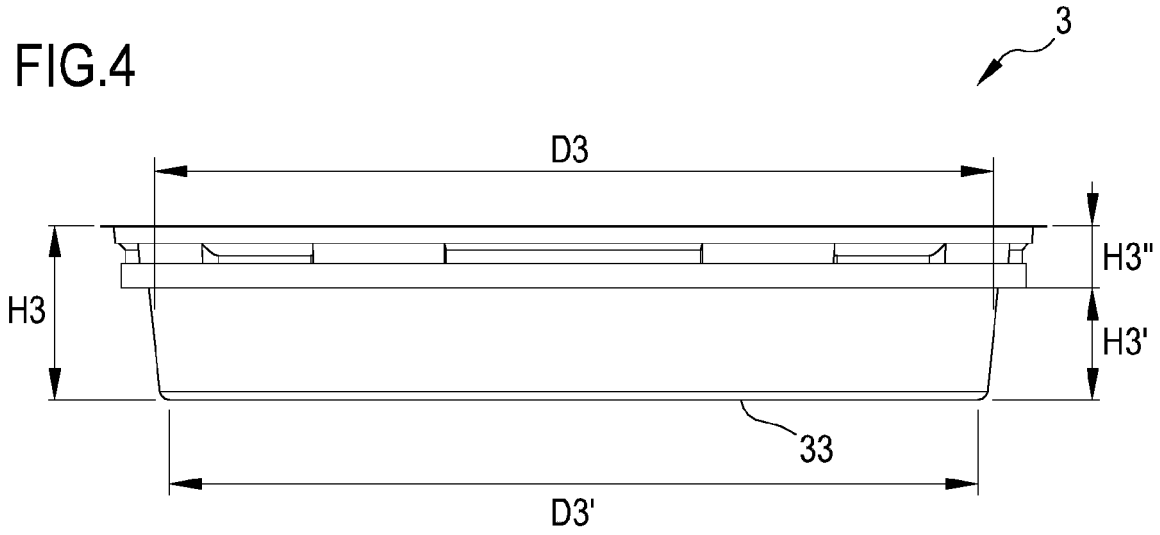


FIG.4



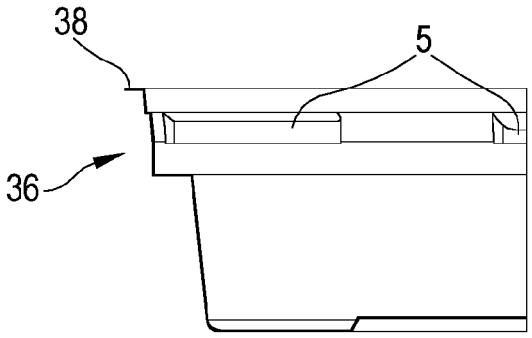


FIG.5

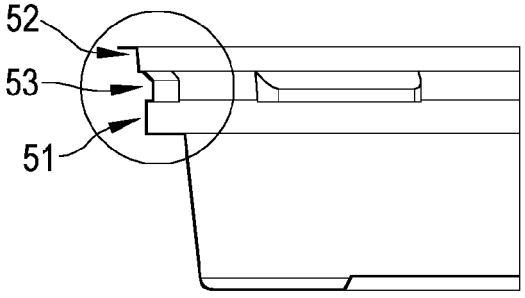


FIG.6

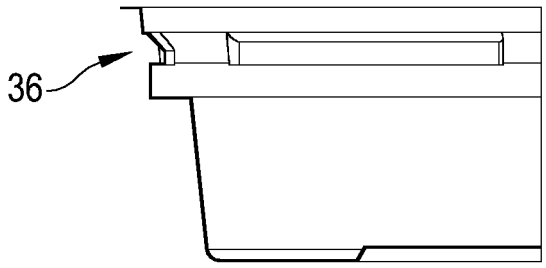


FIG.7

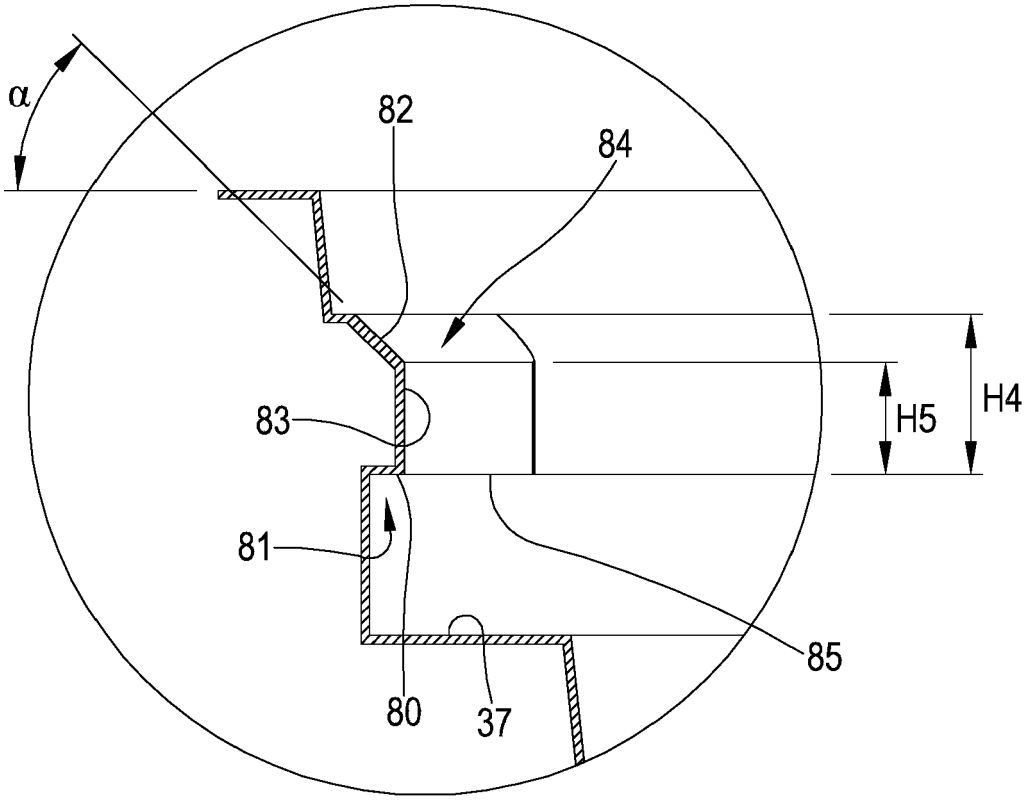


FIG.8

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EUROPEAN SEARCH REPORT

Application Number
EP 15 17 9813

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			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	18 November 2015	Derrien, Yannick

CATEGORY OF CITED DOCUMENTS

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