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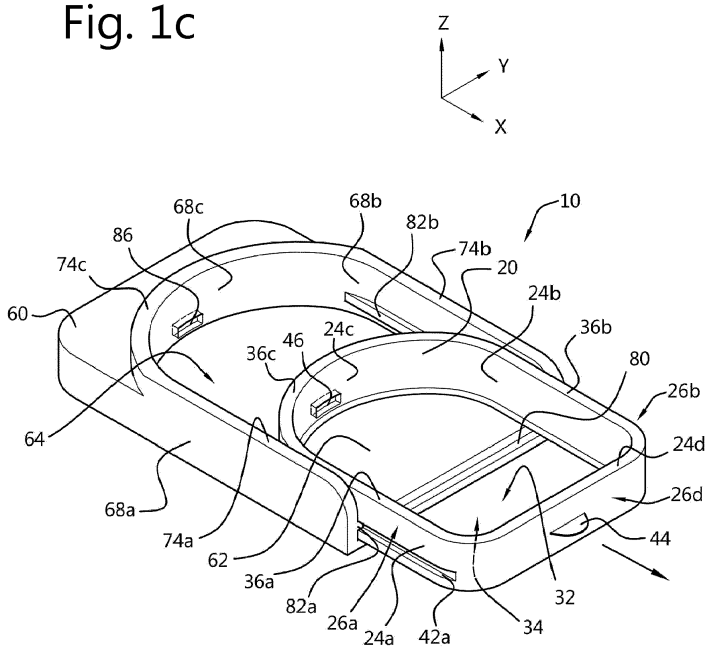
(54) **FOOD PACKAGE WITH SLIDABLE CONTAINER MEMBERS**

(57) A food package (10), comprising: an inner member (20) with inner lateral walls (24a, 24b) that define a lateral space (30) in-between, and a lower aperture (34); and an outer member (60) including a support (62) with a receiving surface (64). The inner and outer members are slidably arranged along a longitudinal direction (X) between: an engaged position, wherein the support portion engages the inner lateral walls, so that the space and the receiving surface jointly form a receptacle for holding food (16), and a released position, wherein the inner lateral walls and support portion are mutually displaced to expose the lower aperture. The outer member has outer lateral portions (68a, 68b) for enclosing the inner lateral walls in the engaged position, and which extend upwards to second upper edges (74a, 74b) that are level with or protrude beyond first upper edges (36a, 36b) of the inner lateral walls.

Fig. 1c



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Description

TECHNICAL FIELD

[0001] The invention relates to a package for holding a food portion, and comprising an inner package member and an outer package member that are slidingly arranged and adapted for transferring the food portion to a serving surface.

BACKGROUND ART

[0002] There is a considerable consumer market for ready-to-serve meals that are easy to prepare. Accordingly, there have been significant developments in disposable food packages for ready-to-serve meals. Such packages are often stored and sold with a pre-made meal contained inside under a protected atmosphere. Typically, such a package with the meal can be heated in an oven, a microwave, or in hot water. After heating and opening of the package, the meal can be consumed directly out of the package. Alternatively, the heated meal may first be transferred from the food package to a plate or the like.

[0003] Patent document WO2006/115457A1 (Gillblad et al.) describes a food package for first heating and then transferring a food portion to a serving surface. One of the described food packages comprises a box-shaped container part wherein upper and lower surfaces have been omitted, and a rigid rectangular bottom part that is insertable into the container part via a slit and along grooves provided at a lower side of the container part. The bottom part is adapted to be inserted into and removed from the container part via a sliding motion along the grooves and through the slit. In an inserted state, the resulting container part and the bottom part jointly form a receptacle for holding a portion of food. The food may be removed from the package by removing the bottom part while keeping the container part steady above a serving surface, so that the food will fall onto a serving surface.

[0004] This known food package is relatively difficult to seal in an air-tight manner. The maximum preservation time for the packaged food portion will be severely limited in the absence of an (adequate) air-tight seal. Hence, for the known food package, the types of food that can be held and the conditions under which food can be stored seem rather limited.

SUMMARY OF INVENTION

[0005] It would be desirable to provide a food package with slidable members that enables an improved sealing of the package, e.g. to improve the preservability of the food, and/or to improve the handling or storage of the package.

[0006] Therefore, according to an aspect, there is provided a food package, comprising: an inner package member including lateral walls that define an interspace along a lateral direction, and a lower aperture in a vertical direction; and an outer package member including a support portion with a receiving surface. The inner package member is slidably arranged with respect to the outer package member along a longitudinal direction between: an engaged position, wherein the support portion is engaged with the lateral walls, so that the interspace and the receiving surface jointly form a receptacle for holding a food portion, and a released position, wherein the lateral walls are displaced with respect to the support portion to expose the lower aperture. The outer package member comprises lateral portions for enclosing the lateral walls of the inner package member in the engaged position. The lateral portions extend from the support portion to second upper edges, which are level with or protrude beyond first upper edges of the lateral walls along the vertical direction.

[0007] In the proposed food package with mutually slidable inner and outer package members, lateral food confinement is provided by the inner package member, while vertical food confinement and sealing regions are provided by the outer package member. The inner package member in the engaged position comprises lateral walls but omits a surface (region) for supporting food in the vertical direction. Due to gravity, separation of the package members will cause an enclosed food portion to be discharged from the food package via the lower aperture of the inner package member. The outer package member restricts movability of the inner package member along lateral and vertical directions, but allows separation of the inner package member from the outer package member along the longitudinal direction. By providing the outer package member with lateral portions and upper edges that extend up to or even beyond upper edges of the inner package member, the inner package member is allowed to be (temporarily) bounded from the lateral and vertical sides, for example by attaching a releasable sealing sheet or foil that temporarily forms a top wall.

[0008] Each of the inner and outer package members of the food package according to the invention is preferably composed of a plastic material, which is integrally formed (e.g. via thermoforming, casting or molding processes) into a semi-rigid unibody structure with fluid-tight walls and/or surfaces. The term "semi-rigid" is used herein to refer to structures that may have some flexibility but retain their general shape under normal handling conditions (i.e. standard gravity, typical package measurements of 3 centimeters to 40 centimeters per transversal dimension, 3 centimeters to 20 centimeters in a height dimension, and meal portions with typical mass densities of 200 to 1200 kilograms per meter cubed [kg/m^3] and total weights of about 50 grams to 1 kilogram). The term "fluid tight" pertains to the wall and surface structures per se, but not to any void (e.g. aperture or slot) that is deliberately formed in the structure for a functional reason. Such voids may be sealed by other means, for example by the sealing foil mentioned herein above.

[0009] According to embodiments, the food package may comprise a releasable sealing foil that, when the inner and outer package members are in the engaged position, is fixed to the second upper edges of the outer package member and is spanned across the first upper edges of the inner package member.

[0010] According to an embodiment, the outer package member comprises a raised edge provided on a front side of the support portion. The raised edge forms a boundary of the receiving surface in the longitudinal direction. The raised edge may provide a mechanical resistance that helps to keep the inner package member fixed in the engaged position with respect to the outer package member.

[0011] According to a further embodiment, the raised edge is adapted for abutting the lower edge of the inner package member when the inner and outer package members are in the engaged position. The raised edge may thus improve sealing between the inner and outer package members, to keep (fluid components of) the food contained inside the food package.

[0012] According to an embodiment, the inner package member comprises a flange that extends along the lower edge, and which is directed inwards along the longitudinal and lateral directions, wherein the flange is adapted for abutting the receiving surface when the inner and outer package members are in the engaged position. The flange may further improve the sealing between the inner and outer package members.

[0013] According to embodiments, the lateral portions of the outer package member comprise curved wall sections that protrude in the longitudinal direction beyond the lateral walls of the inner package member, when the inner and outer package members are in the engaged position. The curved wall sections provide continuous smoothly curved edges for conveniently attaching a sealing foil, to seal off the food receiving region inside the food package from the environment, both in the vertical direction as well as in the longitudinal direction.

[0014] In embodiments, the inner package member comprises a rear wall along the lateral direction. The lateral walls are connected via the rear wall and jointly define an inner U-shape. This U-shape is preferably smoothly curved, to retain the food in a predetermined arrangement, even when the inner package member and outer package member are moved from the engaged position back towards the released position (which eventually causes the food to be discharge from the lower aperture of the inner package member).

[0015] According to embodiments, the inner package member comprises outer lateral surfaces with first sliding members. In addition, the outer package member comprises inner lateral surfaces with second sliding members. The first and second sliding members are adapted to cooperate to allow a sliding motion between the inner and the outer package members along the longitudinal direction. Preferably, the sliding members are formed by simple rails structures, which are easy to manufacture integrally with the package members from a wide range of materials (e.g. plastics, metals, etc) and production techniques (e.g. thermoforming, molding, casting, etc.).

[0016] According to embodiments, the space in the inner package member is formed as a through opening extending through the inner package member along the vertical direction. The through opening opens into an upper aperture delimited by the first upper edge and in a lower aperture delimited by the lower edge.

[0017] In embodiments, the inner package member comprises a first locking member. In addition, the outer package member comprises a second locking member. The first locking member and second locking member are adapted to establish a clamping engagement if the first and second package members are in the engaged position.

[0018] According to embodiments, the inner package member comprises a first gripping member provided on an outer front surface, for moving the first package member with respect to the second package member between the engaged position and the released position.

[0019] According to embodiments, the outer package member comprises a cross beam, which is provided between frontal corner regions of the lateral upper edges, and which defines upper front edges for attaching first and second releasable sealing foils to upper and front regions of the outer package member, when the inner and outer package members are in the engaged position. The separate package openings facilitate the application and/or removal of the respective sealing foils, and the resulting food package may be made structurally more robust.

[0020] According to embodiments, the outer package member comprises an upper wall, which is provided at the upper edges, and which defines an upper front edge for attaching a releasable sealing foil to a front region of the outer package member, when the inner and outer package members are in the engaged position. This embodiment allows manufacturing of food packages with a significantly higher mechanical robustness.

[0021] In preferred embodiments, the inner package member and the outer package member consist essentially of Crystalline Polyethylene Terephthalate (CPET). The (partially) crystalline structure of CPET retains its shape at relatively high temperatures. CPET is particularly suitable for use with food products that are to be heated in microwaves and ovens. CPET forms a barrier against atmospheric constituents (e.g. water, oxygen, carbon dioxide, and nitrogen), and retains its shape, while providing good impact resistance from relatively low to high temperatures, e.g. within a temperature range of 0° to 220°.

BRIEF DESCRIPTION OF DRAWINGS

[0022] Embodiments will now be described, by way of example only, with reference to the accompanying schematic drawings in which corresponding reference sym-

bols indicate corresponding parts. In the drawings, like numerals designate like elements. Furthermore, multiple instances of an element may each include separate letters appended to the element number. For example two instances of a particular element "20" may be labeled as "20a" and "20b". In that case, the element label may be used without an appended letter (e.g., "20") to generally refer to every instance of the element, while the element label will include an appended letter (e.g., "20a") to refer to a specific instance of the element.

Figures 1a-1c show perspective views of a food package according to an embodiment;
Figures 2a-2b show perspective views of a food package according to another embodiment;
Figures 3a-3d show perspective views of a food package according to yet another embodiment, and
Figure 4 shows a perspective view of a food package according to yet another embodiment.

[0023] The figures are meant for illustrative purposes only, and do not serve as restriction of the scope or the protection as laid down by the claims.

DESCRIPTION OF EMBODIMENTS

[0024] The following is a description of certain embodiments of the invention, given by way of example only and with reference to the figures. In the figures, various directions are indicated for defining positions, orientations, and motions of the described objects. Cartesian coordinates are used herein to describe spatial relations for exemplary embodiments of the food package shown in several of the figures.

[0025] In general, the food package embodiments described herein comprise two separate package members that are arranged movably with respect to each other along a predominantly linear trajectory. The label "X" is used herein to indicate a longitudinal direction, corresponding to this linear direction of motion. Prepositions "front" and "rear" pertain to this longitudinal direction X. The label "Y" is used to indicate a lateral direction that is transverse to X, and relates to terms like "left", "right", and "lateral". The longitudinal direction X and transversal direction Y jointly span a plane that preferably is substantially parallel to the horizontal during use of the food package embodiments. The longitudinal direction X and the lateral direction Y may generally be transverse with respect to each other, but are preferably mutually perpendicular. The label "Z" is used to indicate a vertical direction that is perpendicular to both X and Y. Terms like "above", "below", "upper", "lower" pertain to the vertical direction Z.

[0026] The spatial definitions presented herein relate to preferred orientations in which described objects are to be used. The described embodiments are preferably used for holding a food portion inside while keeping the food package in a specific orientation with respect to gravity (e.g. with a food supporting surface facing predominantly opposite to the gravity vector). The concepts of the invention described herein are, however, not limited to these directional definitions. It should be understood that when the orientation of the food package is changed with respect to the gravity vector, the directional relations ("upper" "lower", "lateral", "vertical", etc) should be changed accordingly. The terms "longitudinal", "lateral", and "vertical" may therefore be substituted by the terms "first", "second", and "third" respectively, wherever appropriate.

[0027] The term "surface" is used herein to generally refer to two-dimensional parametric surface regions, which may have either a planar (e.g. a polygonal surface), curved (e.g. cylindrical, spherical, parabolic surface, etc), recessed (e.g. saw-tooth or undulated surface), or even a complex shape. The term "plane" is used herein to refer to a flat surface (i.e. a simple surface spanned by two intersecting non-coinciding lines).

[0028] Figures 1a-1c illustrate a food package 10 according to a first embodiment. The food package 10 comprises two package parts: an inner package member 20 and an outer package member 60, which are slidably arranged with respect to each other along a first direction X (the "longitudinal direction"). The inner and outer package members 20, 60 form separate package bodies that are slidably joinable into a releasable interlocking configuration. In this configuration, the inner package member 20 and the outer package member 60 are adapted to slide along the longitudinal direction X between an "engaged position" and a "released position", which will be explained in more detail below.

[0029] The inner package member 20 comprises an annular body (elements 24a-24d, jointly indicated by reference numeral 24) that is formed as a peripheral wall, which extends in the vertical direction Z, and which traces out a closed path in an XY-plane spanned by the longitudinal direction X and a lateral direction Y. The annular body 24 comprises two first lateral walls 24a, 24b, a first rear wall 24c, and a first front wall 24d. The first front wall 24d and the first lateral walls 24a, 24b are connected by wall portions that are curved in the XY-plane. The first rear wall 24c and the first lateral walls 24a, 24b are connected to form a curved semi-circular profile on a rear side. A projection of the resulting annular body 24 onto the XY-plane resembles a rounded D-shape, which assists in laterally retaining a meal 16 in a predetermined arrangement.

[0030] The inner package member 20 comprises a through opening 30 in a center region, which is surrounded by the first walls 24a-24d of the annular body 24. Viewed along the lateral direction Y, the through opening 30 forms a space between the first lateral walls 24a, 24b. The inner package member 20 defines an upper surface with an upper aperture 32, and a lower surface with a lower aperture 34 opposite to the upper aperture 32. The through opening 30 extends along the vertical direction Z from the upper aperture 32 through the inner package

member 20 to the lower aperture 34. The through opening 30 defines a void with a size that is typically suitable for receiving the meal 16 or portion thereof.

[0031] The upper aperture 32 of the inner package member 20 is delineated by an upper aperture perimeter corresponding to an upper edge 36 of the annular body 24. The upper edge 36 traces out a D-shaped trajectory that extends predominantly in a plane parallel with the XY-plane. Similarly, the lower aperture 34 of the inner package member 20 is delineated by a lower aperture perimeter corresponding to a lower edge 38 of the annular body 24. The lower edge 38 traces out a D-shaped trajectory that extends predominantly in another plane parallel with the XY-plane.

[0032] The inner package member 20 may optionally comprise a flange 40 along the lower edge 38. The flange 40 is directed transversely inwards, and along the longitudinal and lateral directions X and Y. The flange 40 is adapted to abut against the receiving surface 64 of the outer package member 60, to establish a nearly sealing engagement when the inner and outer package members 20, 60 are in the engaged position.

[0033] The annular body 24 of the inner package member 20 defines a set of outer surfaces 26a-26d, which face laterally outwards away from the through opening 30. The outer surfaces 26a-26d comprise two outer lateral surfaces 26a, 26b, an outer rear surface 26c, and an outer front surface 26d. The outer surfaces 26a-26d do not necessarily form planar surfaces. In general, the outer surfaces 26a-26d (and other surfaces) may comprise various kinds of structures, like ridges, recesses, flanges, embossments, etc. Such structures may be provided to perform specific functions, or may be a result of a selected construction technique.

[0034] The inner package member 20 may for example be provided with a couple of first sliding members 42a, 42b on the outer lateral surfaces 26a, 26b. In this embodiment, the first sliding members 42a, 42b are formed by a pairs of ridges and recesses, which jointly form a rails arrangement that is adapted to engage with second sliding members 82a, 82b, to allow a sliding motion of the inner package members 20 along the longitudinal direction X (see Figure 1c).

[0035] The inner package member 20 comprises a first locking member 46 provided on the outer rear surface 26c of the first rear wall 24c. The first locking member 46 is adapted to cooperate with a second locking member 86 provided on the outer package member 60, to establish a clamping engagement if the inner and outer package members 20, 60 are in the engaged position. In this example, the first locking member 46 is formed as a semi-rectangular/trapezoidal embossment in the first rear wall 24c, forming a rearwards protrusion.

[0036] In this embodiment, the inner package member 20 comprises a first gripping member 44 provided on the outer front surface 26d. The first gripping member 44 is formed by a tab that extends parallel with the XY-plane, and which protrudes outwards along the longitudinal direction X. The first gripping member 44 allows a user to exert a force in the longitudinal direction X on the inner package member 20, to induce a motion of the inner package member 20 with respect to the outer package member 60 from the engaged position into the released position.

[0037] In the embodiment of figures 1a-1c, the outer package member 60 comprises a planar body portion or support portion 62 on a lower side thereof, and an upright wall portion 68 extending along a perimeter of the support portion 62. The support portion 62 defines a food support surface 64 that, during use, preferably faces upwards along the vertical direction Z to support the food portion 16 and minimize risk of spilling.

[0038] On a front side, the support portion 62 terminates in a front edge 75c. The support portion 62 of the outer package member 60 comprises a raised edge 80 that is near to and extends along the front edge 75c. The raised edge 80 forms a barrier at the boundary of the receiving surface 64. The raised edge 80 is adapted for abutting against the lower edge 38 of the inner package member 20, when the inner and outer package members 20, 60 are in the engaged position.

[0039] The upright wall portion 68 of the outer package member 60 comprises second lateral walls 68a, 68b and a second rear wall 68c, which extend in the vertical direction Z. The support surface 64 forms a central region surrounded by the second rear and lateral walls 68a-68c. In this embodiment, the support portion 62 forms a flat structure that extends on a lower side between the second lateral walls 68a, 68b and the second rear wall 68c. The second lateral walls 68a, 68b continue into the second rear wall 68c, to form a connected wall portion that extends in a U-shaped curved trajectory along part of the support portion 62. The second lateral walls 68a, 68b extend from the support portion 62 upwards to second lateral upper edges 74a, 74b. Similarly, the second rear wall 68c extends from the support portion to a second rear upper edge 74c. The second upper edges 74a-74c jointly form a second upper edge 74.

[0040] On a front side, the lateral walls 68a, 68b comprise curved wall sections 78a, 78b. The curved wall sections 78a, 78b curve from the second upper edge 74, downwards via lateral-frontal edges 75a, 75b along the negative vertical direction -Z towards the front edge 75c.

[0041] The upright wall portion 68 defines two inner lateral surfaces 72a, 72b and an inner rear surface 72c. The outer package member 60 is provided with a couple of second sliding members 82a, 82b on the two inner lateral surfaces 72a, 72b. In this embodiment, the second sliding members 82a, 82b are formed by rails (ridges and recesses), which are adapted for engaging with respective first sliding members 42a, 42b, to restrict relative motion of the first and second package members 20, 60 along the lateral direction Y and the vertical direction Z, while allowing mutual motion along the longitudinal direction X.

[0042] The outer package member 60 comprises a

second locking member 86, which is provided on the inner rear surface 72c of the second rear wall 68c. The second locking member 86 is adapted to cooperate with the first locking member 46 of the inner package member 20, to establish a clamping engagement when the inner and outer package members 20, 60 are in the engaged position. In this example, the second locking member 86 is formed as a second semi-rectangular/trapezoidal embossment in the second rear wall 68c, which is shaped to accommodate the rearwards protrusion of the first locking member 46 in a clamping manner. A slight flexibility of either one or both of the first locking member 46 and the second locking member 86 allows the clamping engagement to be released if a sufficient relative force is exerted between the inner and outer package members 20, 60 along the longitudinal direction X.

[0043] The first sliding members 42a, 42b and second sliding members 82a, 82b are adapted to cooperate to form a releasable interlocking configuration between the first package member 20 and the second package member 60. This interlocking arrangement allows the inner package member 20 and the outer package member 60 to slide linearly with respect to each other along the longitudinal direction X, while restricting motion along the lateral direction Y and along the vertical direction Z. In the interlocking configuration, the inner package member 20 and the outer package member 60 are slidably engaged with respect to each other between the engaged position and the released position.

[0044] In the engaged position (depicted in figures 1a and 1b), the inner package member 20 and the outer package member 60 are positioned in a mutually abutting arrangement, wherein the support portion 62 of the outer package member 60 is engaged with the first lateral walls 24a, 24b of the inner package member 20. In this way, the through opening 30 in the inner package member 20 and the receiving surface 64 on the outer package member 60 jointly form a receptacle for holding the food portion 16.

[0045] In the engaged position, the annular body 24 of the inner package member 20 and the support portion 62 of the outer package member 60 jointly define the receptacle for holding the food portion 16. The first lower edge 38 of the inner package member 20 (e.g. the flange 40) abuts the receiving surface 64 of the outer package member 60, to establish a (nearly) sealing engagement that reduces leakage of fluid food components. In the engaged position, the second lateral walls 68a, 68b of the outer package member 60 enclose the first lateral walls 24a, 24b of the inner package member 20. In this position, the second lateral upper edges 74a, 74b of the outer package member 60 are level with or even protrude beyond the first lateral upper edges 36a, 36b of the inner package member 20 (viewed along the vertical direction Z).

[0046] In the engaged position, the curved wall sections 78a, 78b of the outer package member 60 protrude in the longitudinal direction X beyond the lateral walls 24a, 24b of the inner package member 20.

[0047] In this engaged position, a food portion 16 can be accommodated inside the receptacle defined by the food package 10. The accommodated food portion 16 will be bounded from a lower side by the receiving surface 64, and bounded from lateral sides by the annular body 24. After loading the food portion 16 into the food package 10, a foil 18 may be attached to the second lateral upper edges 74a, 74b of the outer package member 60, to form an upper package boundary. The foil 18 may be attached in a sealing manner along the entire edge formed by the second upper edges 74a-c and (via the curved wall sections 78a, 78b) the front edges 75a-c. The food portion 16 and the inner package member 20 may thus be bounded and sealed by the foil 18 on an upper side as well as a front side. Sealing by the foil 18 may yield a food package 10 in a sealed state, wherein the inner package member 20 and the food portion 16 are accommodated inside the receptacle in an air-tight sealed manner.

[0048] The food package 10 in the sealed state is illustrated in Figure 1a, although the sealing foil 18 has been removed here in one corner to illustrate the principle (it should be understood that removal of the foil will cancel the sealed state).

[0049] In the released position, the inner package member 20 and the outer package member 60 are displaced with respect to each other (via a linear trajectory). In the released position, the first lateral walls 24a, 24b of the inner package member 20 are displaced with respect to the support portion 62, and do no longer jointly define the receptacle for holding the food portion 16.

[0050] Due to the displacement between the first lateral walls 24a, 24b and the support portion 62, the lower aperture 34 becomes exposed. Therefore, the food portion 16 will no longer be supported from the lower side. Under the influence of gravity, the food portion 16 will fall through the lower aperture 34 to a serving surface (e.g. a food plate) below the food package 10. The semi-circular rear section of the first rear wall 24c (in the rounded D-shape of the annular body 24) assists in keeping the food portion 16 in a pre-determined arrangement as it is transferred to the serving surface. Figure 1c illustrates an intermediate state between the engaged position and the released position.

[0051] Figures 2a-2b illustrate a food package 110 according to another embodiment. Features that have already been described above with reference to the first food package embodiment 10 (figures 1a-1c) may also be present in the food package 110 shown in figures 2a-2b, and will not all be discussed here again. For the discussion with reference to figures 2a-2b, similar reference numbers are used for similar features, but differing in one hundred to distinguish the embodiments.

[0052] In this embodiment, the inner package member 120 also comprises an upright wall 124 that extends substantially upwards along the vertical direction Z. The upright wall 124 comprises first lateral walls 124a, 124b, and first rear walls 124c, 124e, but in contrast to the first

embodiment, does not include a first front wall. The first rear wall 124c and the lateral walls 124a, 124b are connected to form a first U-shape on a rear side. Similarly, the second rear wall 124e and the lateral walls 124a, 124b are connected to form a second U-shape on the rear side. A projection of the resulting upright wall 124 onto the XY-plane traces out a nested U-shape. The curved space between the first rear wall 124c and the second rear wall 124e may form a gripping region that allows a user to exert a force in the longitudinal direction X on the inner package member 120, to reposition the inner package member 120 with respect to the outer package member 160 between the engaged position and the released position (e.g. see Figure 2b).

[0053] The first lateral walls 124a, 124b define a space 130 along the lateral direction Y. The space 130 forms a void between the first lateral walls 124a-b with an upper opening 132 and a lower opening 134 that face the positive and negative vertical directions +Z and -Z respectively.

[0054] In this embodiment, the support portion 162 comprises a receded region 163 that is lower than a surrounding region of the support portion 162, and which helps to reduce spilling (fluid components) of a meal portion 116. Preferably, transitions between edges of the receded region 163 and the surrounding region have a fillet profile, to facilitate cleaning.

[0055] A sheet of sealing material 118 (not depicted) may be provided on a top side and front side of the outer package member 160, in a manner similar as in the previous embodiment, and Figure 1a in particular.

[0056] Figures 3a-3d illustrate a food package 210 according to yet another embodiment. Features that have already been described above with reference to the first food package embodiments 10 (Figures 1a-1c) may also be present in the food package 210 shown in Figures 3a-3d, and will not all be discussed here again. For the discussion with reference to Figures 3a-3d, similar reference numbers are used for similar features, but differing by two-hundred to distinguish the embodiments.

[0057] Analogous to the embodiment depicted in Figures 1a-1c, the embodiment in Figures 3a-3d comprises an outer package member 260 with second lateral walls 268a, 268b and a second rear wall 268c. In the embodiment of Figures 3a-3d, an upper wall 277 is provided that is connected to upper edges of the second walls 268a-c. Accordingly, the second lateral walls 268a, 268b do not comprise curved wall sections.

[0058] The second walls 268a-c, the support portion 262, and the upper wall 277 may be integrally formed as a single container body that is structurally more robust. Due to the presence of the upper wall 277 without an upper opening, insertion of food 216 into the food package 210 via this direction will be prohibited. Instead, the inner package member 220 is provided with a second tray 290 with an upper surface for temporarily supporting the food 216 prior to sliding the inner package member 220 into the outer package member 260 (see Figure 3a). The tray 290 is separately moveable and slidably accommodated by the annular body 224 of the inner package member 220, at or near a lower edge 238 of the annular body 224. To accommodate the second tray 290, the annular body 224 may for example comprise an insertion slit on a front face and sliding recesses on inner lateral surfaces. The tray 290 is provided with a tab 292 for manipulating the position of the second tray 290 with respect to the annular body 224 and with respect to the outer package member 260.

[0059] After the inner package member 220 with the food 216 has been inserted into the outer package member 260, the second tray 290 may be removed from the inner package member 220 (see Figure 3b). As a result, a lower aperture 234 of the inner package member 220 (only indicated in Figure 3d) will be opened, causing the food 216 to drop until it is carried directly by the support portion 262 of the outer package member 260. This yields the "engaged position" of the package members 220, 260.

[0060] As illustrated in Figure 3c, the food package 210 in the engaged state may then be sealed to isolate the food 216 from the environment. On a front side of the outer package member 260, the support portion 262, the second lateral walls 268a-b and the upper wall 277 terminate in respective front edges 275a-d, which jointly form a front opening, and which are adapted for affixing a sealing foil 219 thereto. The sealing foil 219 may be attached to this front edge region 275a-d to seal off this front opening.

[0061] Figure 3d illustrates that the sealing foil 219 may be removed again at a later stage e.g. after heating of the food package 210 and the food 216 contained therein. The inner package member 220 may then be moved via the front opening into the released position, so that the food 216 may be released via the lower aperture 234 of the inner package member 220, thereby allowing the food 216 to fall through to another surface (e.g. a plate) located directly below the food package 210.

[0062] Figure 4 illustrates yet another embodiment of a food package 310. Features that have already been described above with reference to the previous embodiments may also be present in the food package 310 shown in figure 4, and will not all be discussed here again. For the discussion with reference to figure 4, similar reference numbers are used for similar features, but differing by three-hundred to distinguish the embodiments.

[0063] Analogous to the previous embodiments, the embodiment in Figure 4 comprises an outer package member 360 with second lateral walls 368a, 368b and a second rear wall 368c, which terminate in upper edges 374a, 374b, 374c respectively. The support portion 362 terminates in a front edge 375c. In contrast to the embodiment depicted in Figures 1a-1c, the second lateral walls 368a, 368b do not comprise curved wall sections that curve from the lateral upper edges 374a, 374b downwards to the front edges 375a-c. Instead, a cross beam 379 is provided between the lateral upper edges 374a,

374b. This cross beam 379 extends between frontal corner regions of the upper edges 374a, 374b, and serves as a lateral spacer structure for the second lateral walls 368a, 368b. The cross beam 379 effectively divides the opening delineated by the upper edges 374a-c and front edges 375a-c into an upper opening and a front opening. The cross beam 379 defines two (additional) transversal edges 374d, 375d for affixing sealing foils 318, 319.

[0064] As illustrated in Figure 4, a first sealing foil 318 is attached to an upper edge region 374a-d, and a second sealing foil 319 is attached to a front edge region 375a-d. The first and second sealing foils 318, 319 are selectively attachable and removable, to facilitate insertion and removal of food 316 and sealing of the package. The separation into distinct sealing surfaces facilitates sealing, as it avoids positioning difficulties that may arise during the attachment and sealing of a sheet/foil along curved or sharp-edged wall trajectories.

[0065] Initially, food 316 may be positioned into the food package 310 via the upper opening, followed by attachment of the first sealing foil 318. The second seal 319 may be attached at any time, either before or after attachment of the first sealing foil 318.

[0066] The second sealing foil 319 may be removed again at a later stage e.g. after heating of the food package 310 and the food 316 contained therein. The inner package member 320 may then be moved via the front opening into the released position, so that the food 316 may be released via the lower aperture (not indicated, but similar to Figure 1c) of the inner package member 320, thereby allowing the food 316 to fall through to another surface (e.g. a plate) located directly below the food package 310.

[0067] The descriptions above are intended to be illustrative, not limiting. It will be apparent to the person skilled in the art that alternative and equivalent embodiments of the invention can be conceived and reduced to practice, without departing from the scope of the claims set out below.

[0068] For example, the first and second sliding members may be different, to provide a different motion restriction properties in the lateral direction Y and the vertical direction Z, and/or a different sliding characteristics along the longitudinal direction X. These motion characteristics may be adjusted by altering the mutual distances and play between the sliding members, and/or by changing the rigidity of the materials from which the sliding members are made.

[0069] Note that for reasons of conciseness, the reference numbers corresponding to similar elements in the various embodiments (e.g. elements 110, 210 being similar to element 10) have been collectively indicated in the claims by their base numbers only i.e. without the multiples of hundreds. However, this does not suggest that the claim elements should be construed as referring only to features corresponding to base numbers. Although the similar reference numbers have been omitted in the claims, their applicability will be apparent from a comparison with the figures.

LIST OF REFERENCE SYMBOLS

[0070] Similar reference numbers that have been used in the description to indicate similar elements (but differing only in the hundreds) have been omitted from the list below, but should be considered implicitly included.

10	food package
16	food portion
18	sealing member (sheet)
20	first package member (inner package member)
24	peripheral wall (annular body)
24a-b	first lateral wall (lateral portion of inner package member 2x)
24c	first rear wall (rear portion of inner package member e.g U-shaped)
24d	first front wall (front portion of inner package member)
26a-b	first outer lateral surface
26c	first outer rear surface
26d	first outer front surface
28a-b	first inner lateral surface
28c	first inner rear surface
28d	first inner front surface
30	interspacing (e.g. through opening)
32	upper aperture (top opening of inner package member)
34	lower aperture (bottom opening of inner package member)
36	first upper edge (upper rim of inner package member)
36a-b	first lateral upper edge
36c	first rear upper edge
36d	first front upper edge
38	first lower edge (lower rim of inner package member)
40	inward flange/rim (inward protruding seal member)
42a-b	first sliding member (e.g. rails on inner package member)
44	first gripping member (e.g. tab)
46	first locking member
60	second package member (outer package member)
62	support portion (tray portion)
64	receiving surface (food support surface e.g. recessed region)
68	upright wall portion
68a-b	second lateral wall (lateral portion of outer package member 2x)
68c	second rear wall (rear portion of outer package member e.g. U-shaped)
70a-b	second outer lateral surface
70c	second outer rear surface
72a-b	second inner lateral surface
72c	second inner rear surface

74	second upper edge (upper rim of outer package e.g. rounded U-shape)
74a-b	second lateral upper edge
74c	second rear upper edge
75a-b	lateral front edge
75c	front edge
78a-b	curved wall section (rounded section of second lateral wall on front side)
80	raised edge (e.g. ridge)
82a-b	second sliding member (e.g. rails on second package member)
84	second gripping member (e.g. rear bracket)
86	second locking member
88	receptacle (fluid compartment)
130	further locking member (insert)
277	upper wall
290	further support portion (e.g. tray)
292	third gripping member (e.g. tab)
319	further sealing member (sheet)
379	cross bar
X	first direction (longitudinal direction/ sliding direction)
Y	second direction (lateral direction)
Z	third direction (vertical direction)

Claims

1. A food package (10), comprising:

- an inner package member (20) including lateral walls (24a, 24b) that define an interspace (30) along a lateral direction (Y), and a lower aperture (34) in a vertical direction (Z);
- an outer package member (60) including a support portion (62) with a receiving surface (64);

wherein the inner package member is slidably arranged with respect to the outer package member along a longitudinal direction (X) between:

- an engaged position, wherein the support portion is engaged with the lateral walls, so that the interspace and the receiving surface jointly form a receptacle for holding a food portion (16), and
- a released position, wherein the lateral walls are displaced with respect to the support portion to expose the lower aperture;

wherein the outer package member comprises lateral portions (68a, 68b) for enclosing the lateral walls of the inner package member in the engaged position, and wherein the lateral portions extend from the support portion to second upper edges (74a, 74b), which are level with or protrude beyond first upper edges (36a, 36b) of the lateral walls along the vertical direction (Z).

2. The food package (10) according to claim 1, wherein the space (30) in the inner package member (20) is formed as a through opening (30) extending through the inner package member along the vertical direction (Z), wherein the through opening opens into an upper aperture (32) delimited by the first upper edge (36a-36d) and in a lower aperture (34) delimited by the lower edge (38).

3. The food package (10) according to claim 1 or 2, comprising a releasable sealing foil (18) that, when the inner and outer package members (20, 60) are in the engaged position, is fixed to the second upper edges (74a, 74b) of the outer package member and is spanned across the first upper edges (36a, 36b) of the inner package member.

4. The food package (10) according to any one of claims 1-3, wherein the outer package member (60) comprises a raised edge (80) provided on a front side of the support portion (62), wherein the raised edge forms a boundary of the receiving surface (64) in the longitudinal direction (X).

5. The food package (10) according to claim 4, wherein the raised edge (80) is adapted for abutting the lower edge (38) of the inner package member (20) when the inner and outer package members (20, 60) are in the engaged position.

6. The food package (10) according to any one of claims 1-5, wherein the inner package member (20) comprises a flange (40) that extends along the lower edge (38), and which is directed inwards along the longitudinal and lateral directions (X,Y), wherein the flange is adapted for abutting the receiving surface (64) when the inner and outer package members (20, 60) are in the engaged position.

7. The food package (10) according to any one of claims 1-6, wherein the lateral portions (68a, 68b) of the outer package member (60) comprise curved wall sections (78a, 78b) that protrude in the longitudinal direction (X) beyond the lateral walls (24a, 24b) of the inner package member (20), when the inner and outer package members are in the engaged position, and wherein each curved wall section curves from the respective second upper edge (74) downwards along the negative vertical direction (-Z) toward a front edge (75) of the outer package member.

8. The food package (10) according to any one of claims 1-7, wherein the inner package member (20) comprises a rear wall (24c) along the lateral direction (Y), wherein the lateral walls (24a, 24b) are connected via the rear wall and jointly define an inner U-shape.

9. The food package (10) according to any one of claims 1-8, wherein the inner package member (20) comprises outer lateral surfaces (26a, 26b) with first sliding members (42a, 42b), wherein the outer package member (60) comprises inner lateral surfaces (72, 72b) with second sliding members (82a, 82b), and wherein the first and second sliding members are adapted to cooperate to allow a sliding motion between the inner and the outer package members along the longitudinal direction (X).

10. The food package (10) according to any one of claims 1-9, wherein the inner package member (20) comprises a first locking member (46), wherein the outer package member (60) comprises a second locking member (86), and wherein the first locking member and second locking member are adapted to establish a clamping engagement if the first and second package members are in the engaged position.

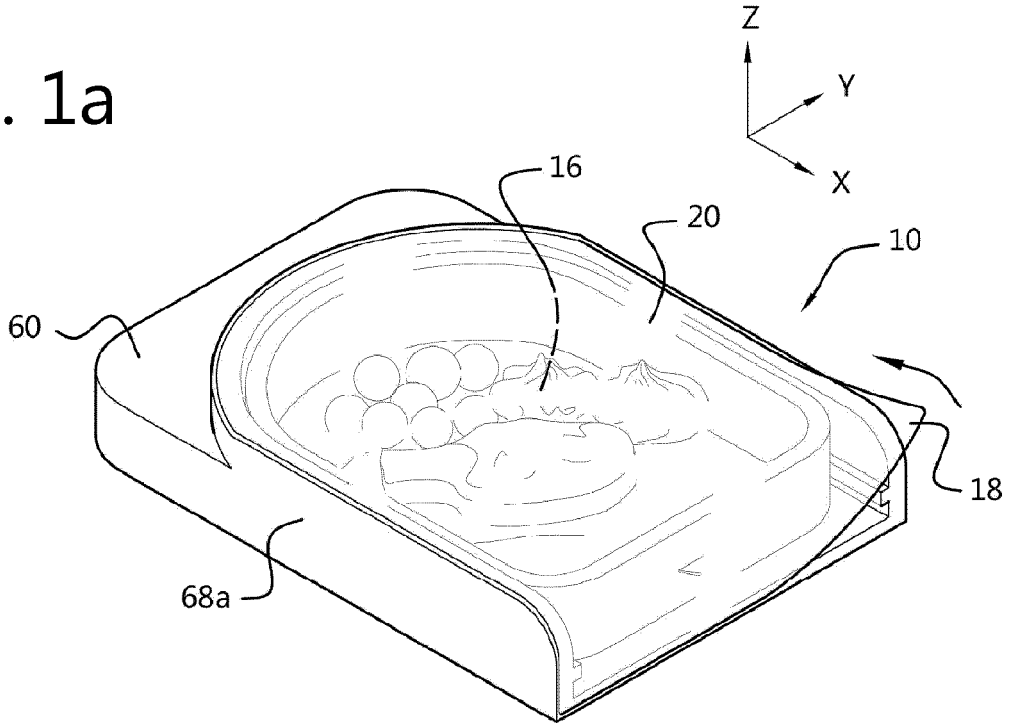
11. The food package (10) according to any one of claims 1-10, wherein the inner package member (20) comprises a first gripping member (44) provided on an outer front surface (26d), for moving the first package member with respect to the second package member (60) between the engaged position and the released position.

12. The food package (310) according to any one of claims 1-11, wherein the outer package member (360) comprises a cross beam (379), which is provided between the lateral upper edges (374a, 374b) and extends between frontal corner regions thereof, which is located between an upper opening and a separate front opening in the outer package member, and which defines upper front edges (374d, 375d) for attaching first and second releasable sealing foils (318, 319) to the upper opening and the front opening when the inner and outer package members (320, 360) are in the engaged position.

13. The food package (210) according to any one of claims 1-11, wherein the outer package member (260) comprises an upper wall (277), which is provided at the upper edges (274a, 274b, 274c), and which defines an upper front edge (275d) for attaching a releasable sealing foil (219) to a front region of the outer package member, when the inner and outer package members (220, 260) are in the engaged position.

14. The food package (10) according to any one of claims 1-13, wherein the inner package member (20) and the outer package member (60) consist essentially of Crystalline Polyethylene Terephthalate (CPET).

Fig. 1a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Y
X
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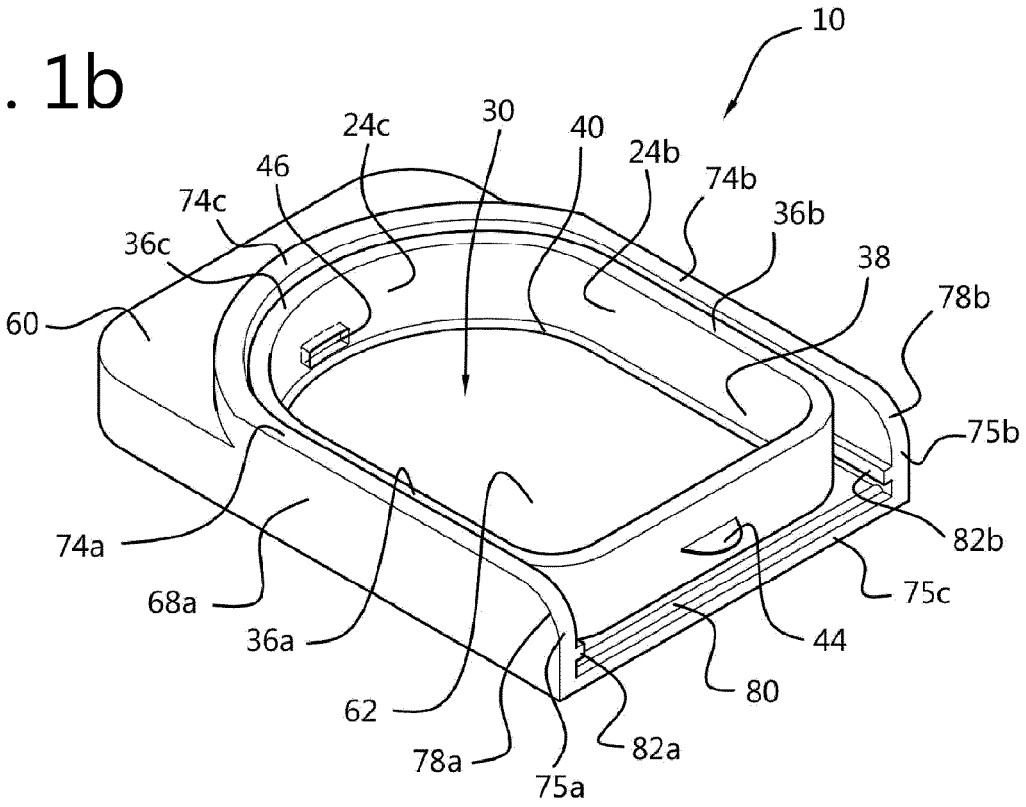
20
10
60
18
68a

Fig. 1b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24c
30
40
24b
46
74b
74c
36b
36c
38
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78b
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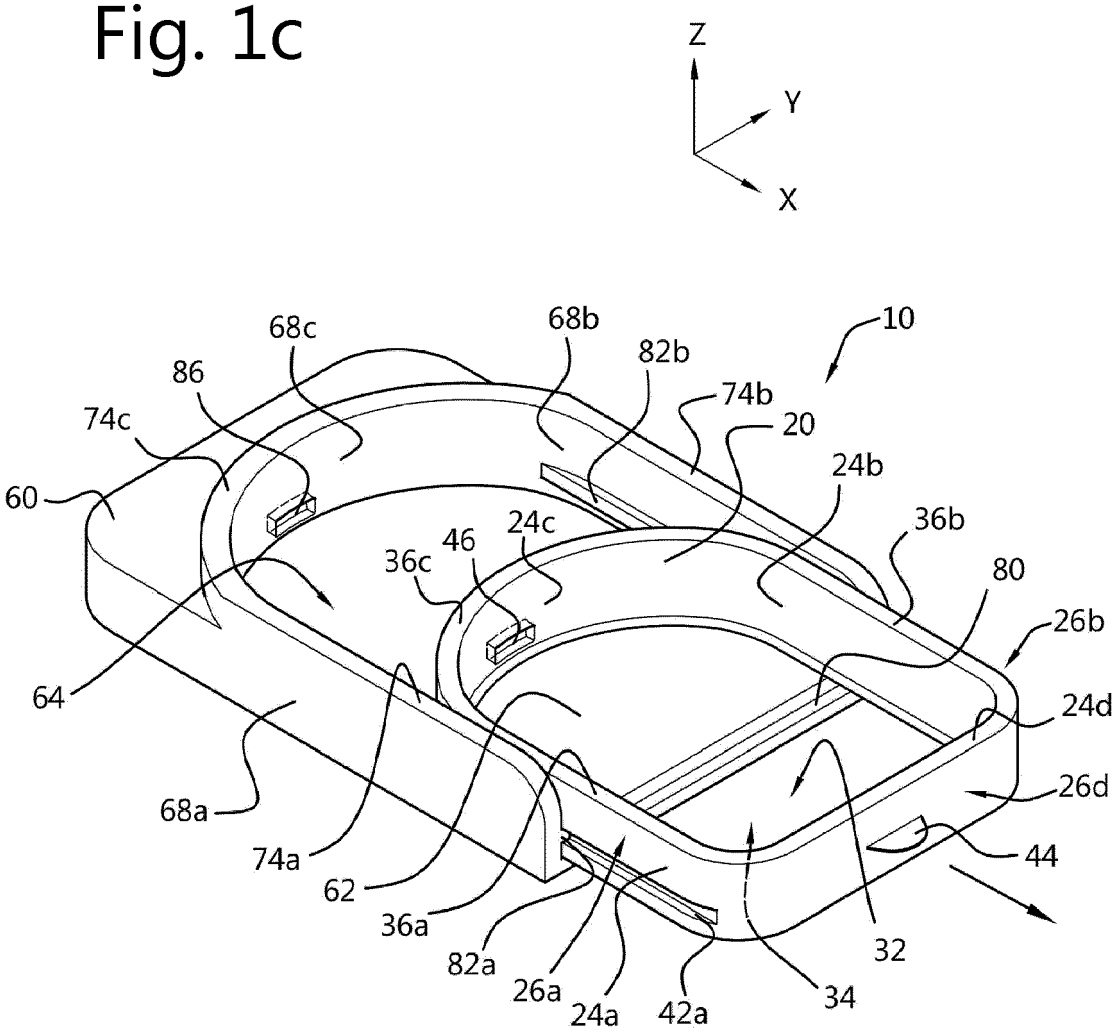
68a
75c
36a
44
62
80
78a
82a
75a

Fig. 1c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Y
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46
36c
80
26b
64
24d
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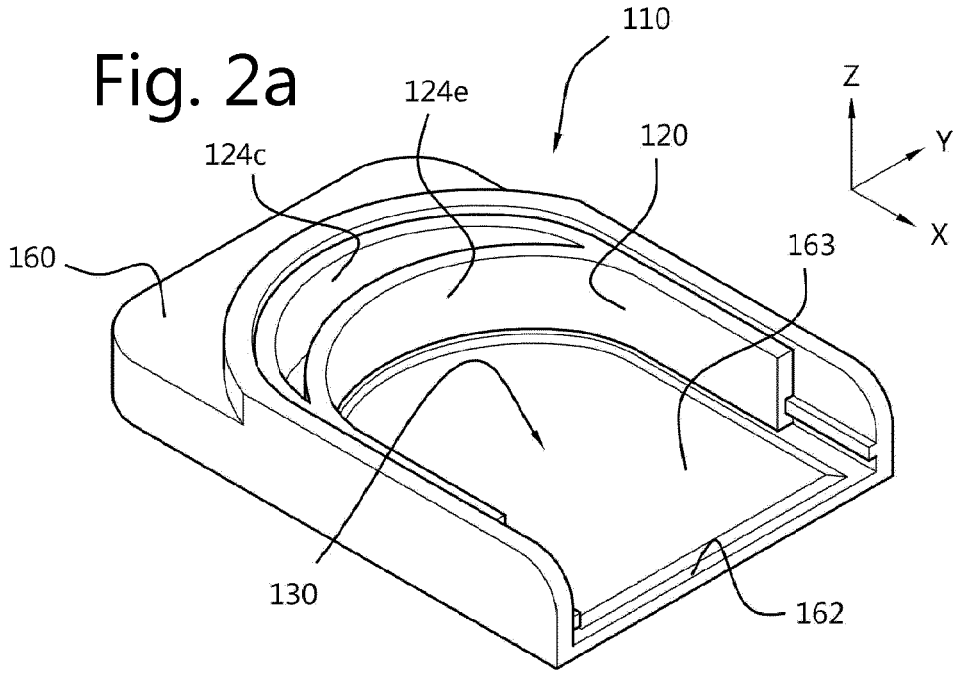
26d
74a
44
62
36a
32
82a
26a
34
24a
42a

Fig. 2a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124c
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Z
Y
X
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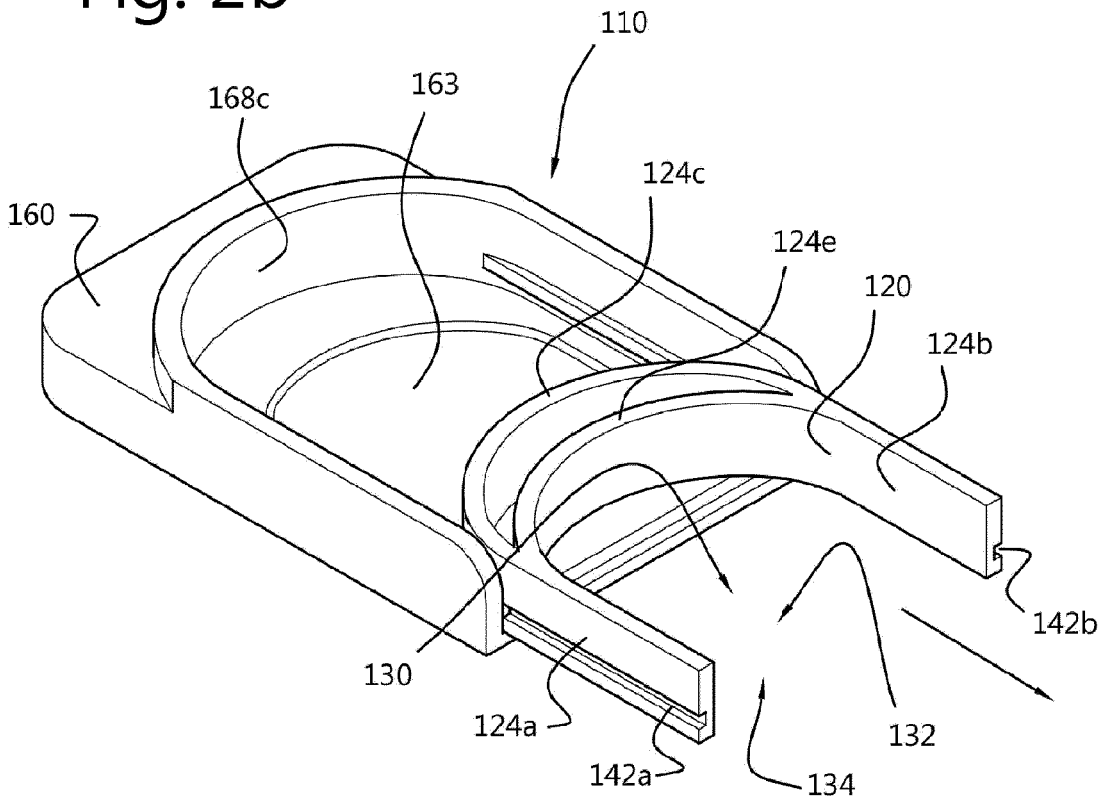
163
130
162

Fig. 2b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124c
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124b
142b
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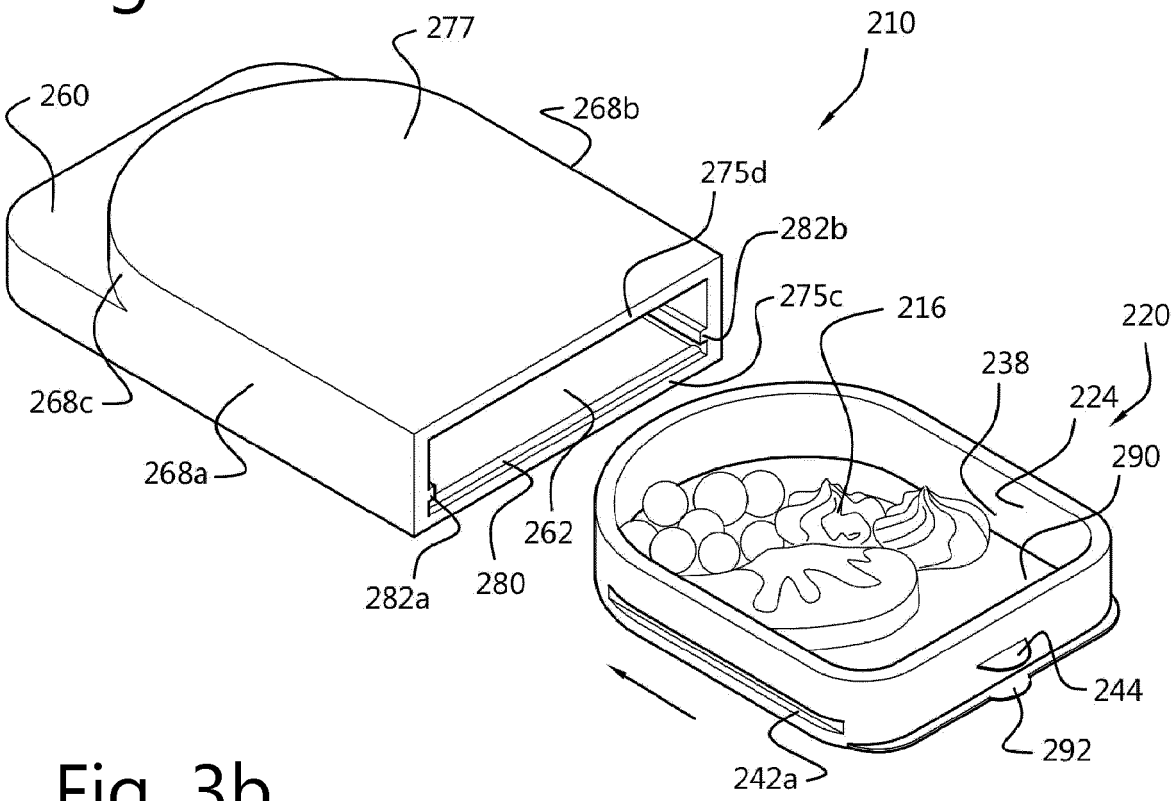
124a
142a
132
134

Fig. 3a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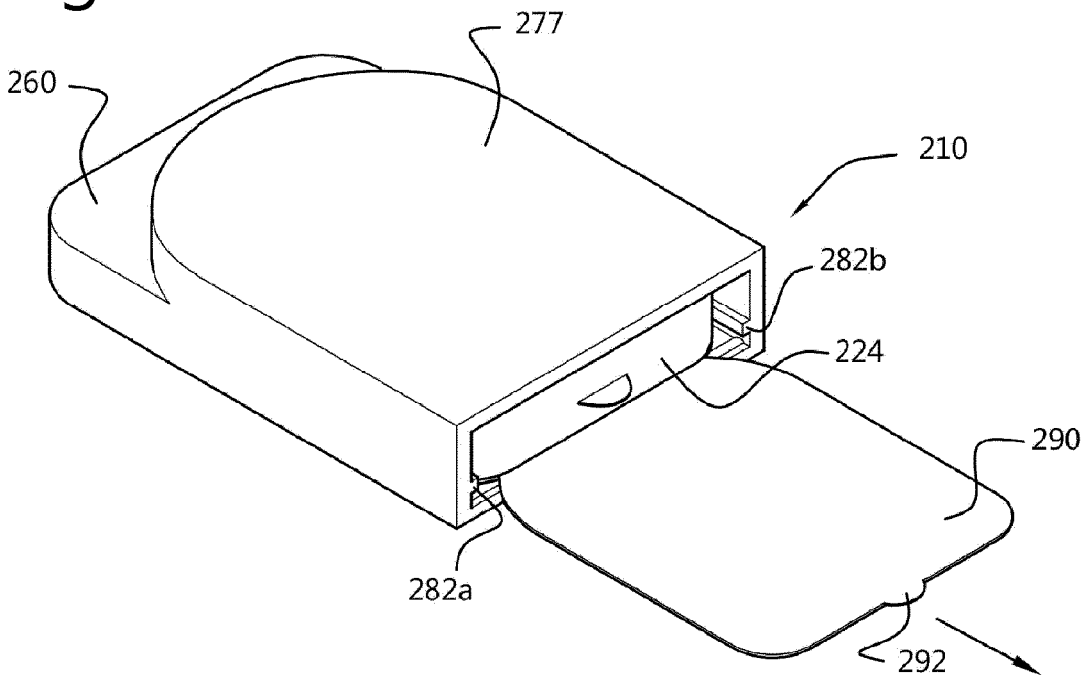
210
260
268b
275d
282b
275c
216
220
238
224
268c
290
268a
262
282a
280
244
292
242a

Fig. 3b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260
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290
282a
292

Fig. 3c

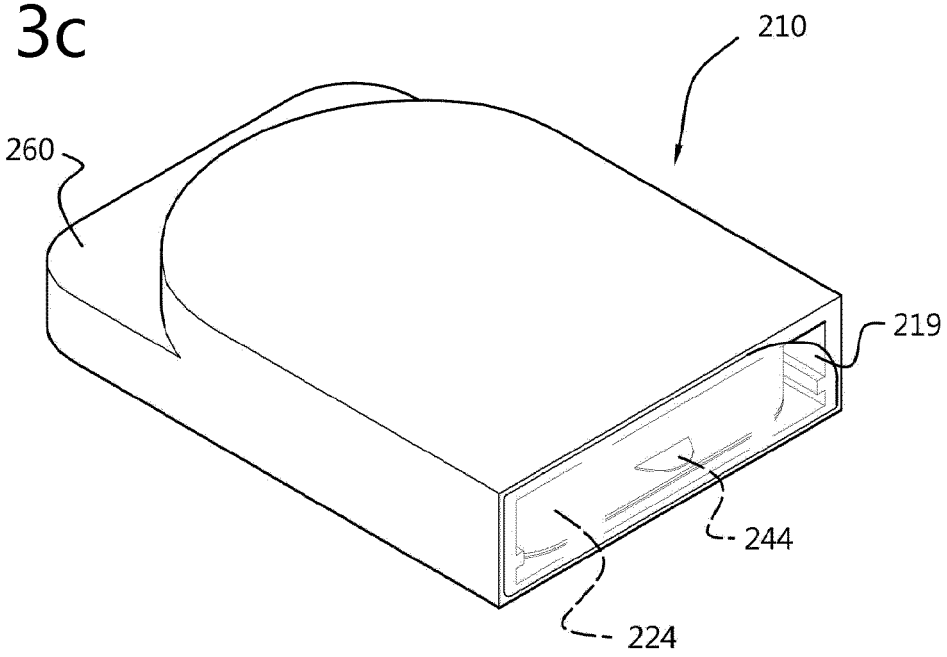


Fig. 3d

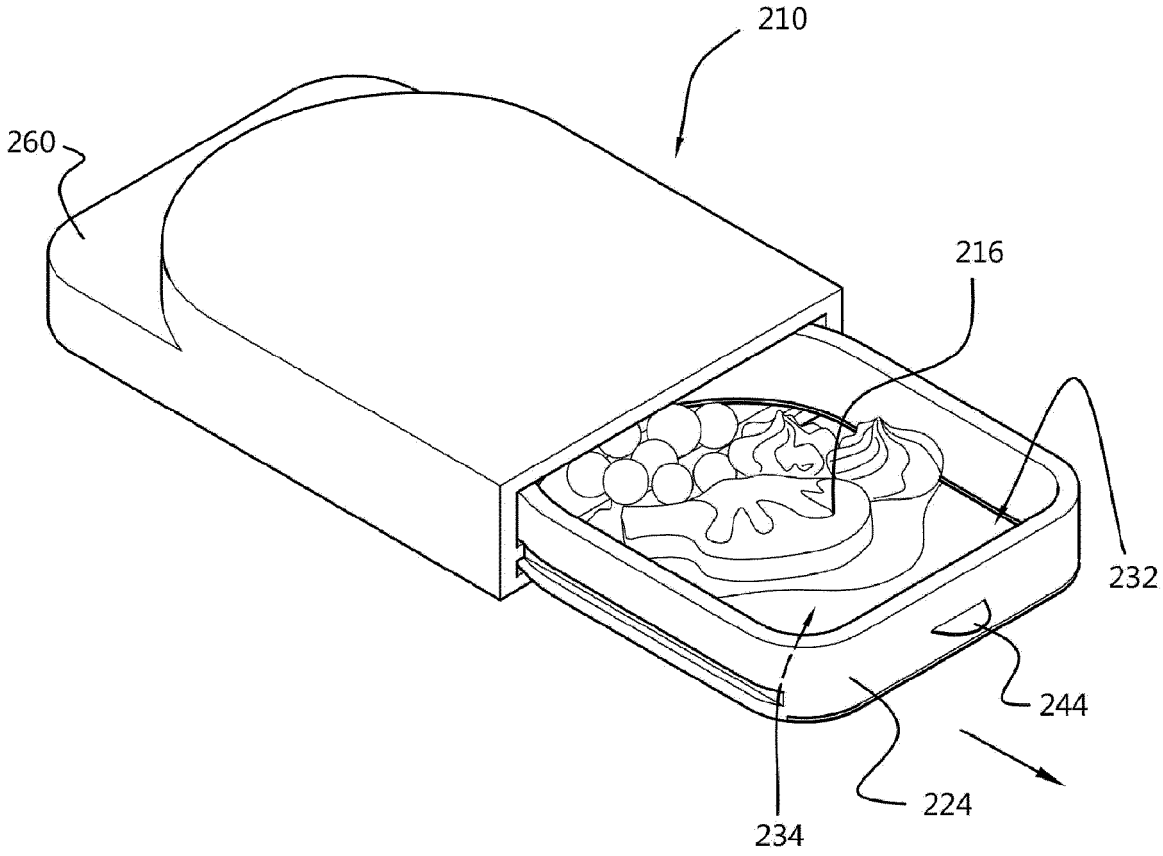
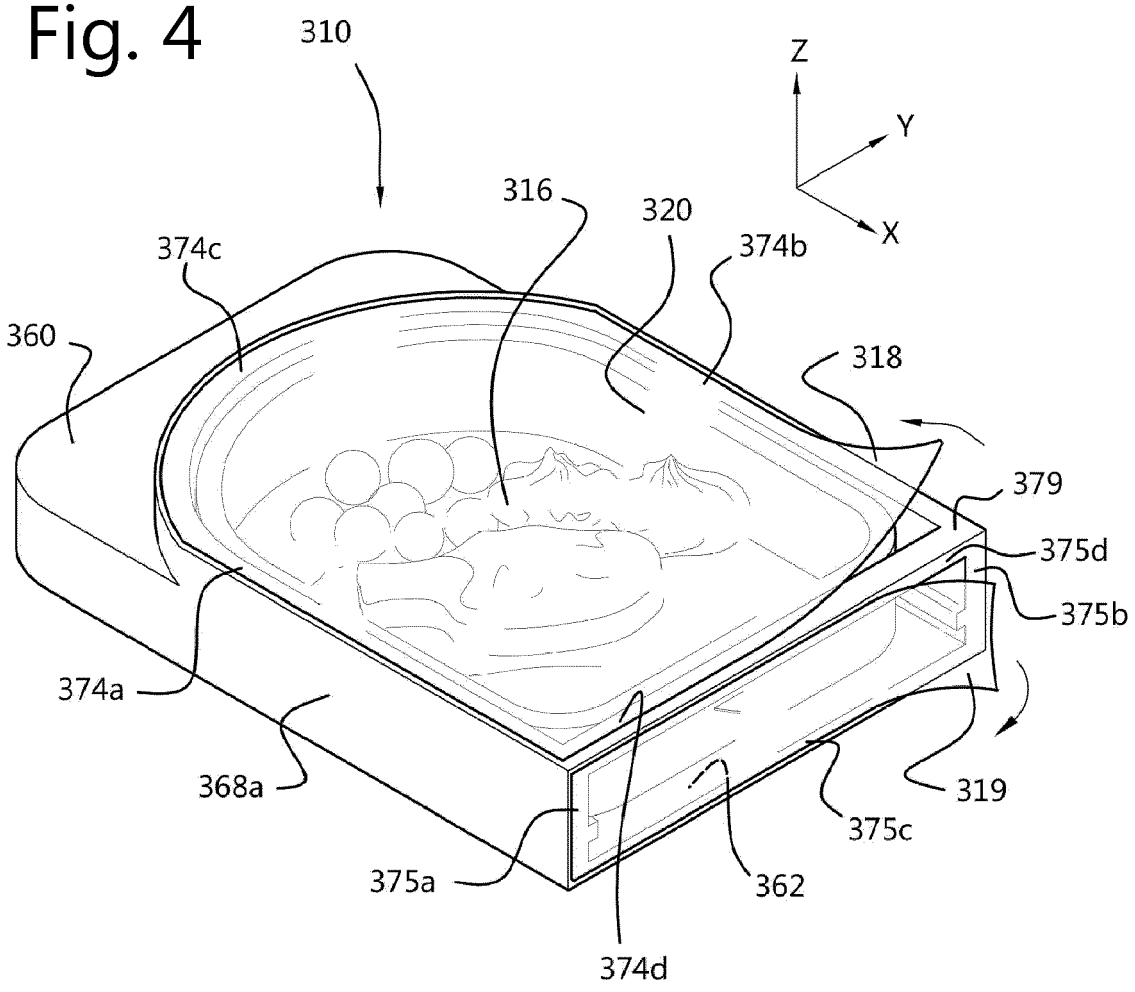


Fig. 4


310
Z
Y
X
316
320
374b
374c
360
318
379
375d
375b
374a
368a
319
375c
375a
362
374d

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EUROPEAN SEARCH REPORT

Application Number
EP 16 18 9053

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Place of search	Date of completion of the search	Examiner
Munich	12 October 2016	Leijten, René

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