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(54) RESEALABLE CONTAINER FOR FOOD

(57) Container for food comprising a vessel that defines a cavity designed to contain the food, and that has an opening for an access to the cavity, the opening being delimited by a rim, and a lid having a stop surface, the lid being configured to assume a closure configuration in which the stop surface rests on the rim, so that said lid closes said opening, the container further comprising an opening element comprising a contact portion, the opening element being supported respectively by the lid or the vessel so as to be able to perform a translation movement along an axis with respect to respectively the lid or the vessel between a closure position and an extracted position, and a rotation movement around the axis with respect to respectively the lid or the vessel between the extracted position and an opening position, so that, when the lid is in the closure configuration, the rotation movement causes a force to be exerted by the contact portion respectively on the rim or on the stop surface, separating the rim from the stop surface and removing the lid from the closure configuration.

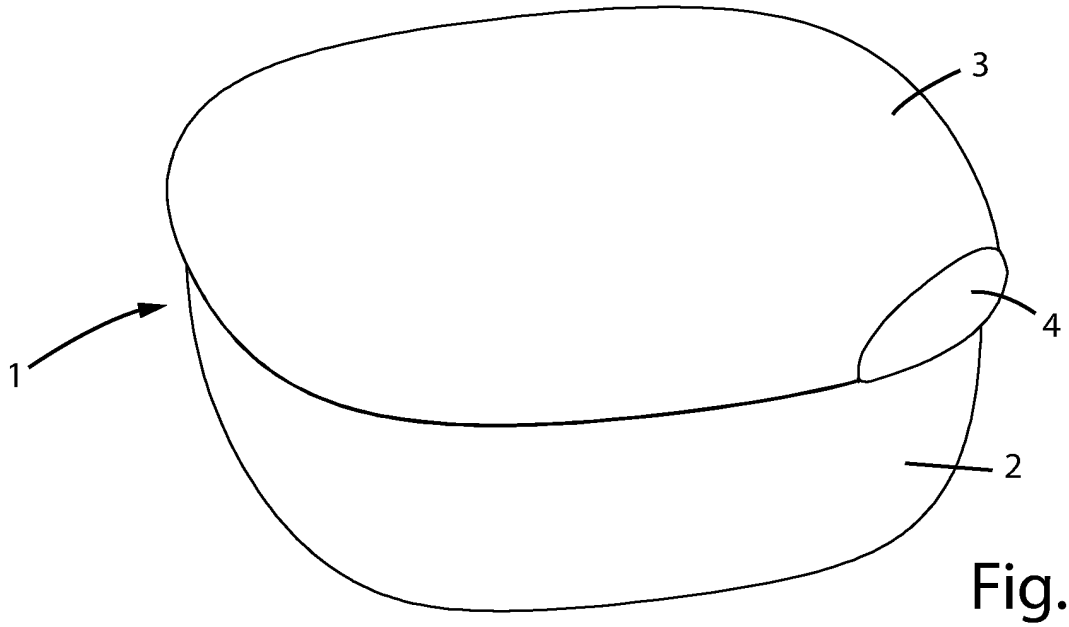

Fig. 1

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Description

[0001] The present invention relates to a resealable container for food, and in particular to a resealable container for food comprising a vessel and a lid.

[0002] In the field of kitchen tools, resealable containers designed to contain food have long been known, such containers being typically employed to preserve the food from potential external contamination or to transport the food inside bags, backpacks, or purses, avoiding its dispersion.

[0003] Generally, a resealable container for food comprises a vessel, that defines therein a cavity designed to house the food and has an opening for an access to the cavity, and a lid, which can assume a closure configuration in which it is coupled to the vessel and closes the opening, insulating the cavity from the environment external to the container. The container is often made so as to be airtight closable, so as to prevent, when the lid is coupled to the vessel in the closure configuration, both the contaminants transported by air from entering the cavity and the liquid components of the food from leaking: to this end, the vessel and/or the lid can be made of elastically deformable materials, so as to deform, achieving an airtight seal therebetween when being coupled by pressing the lid against the opening of the vessel, or the container can comprise an additional gasket (fixed to the lid or the vessel) that is interposed between the lid and the opening of the vessel when they are pressed together, achieving an airtight seal.

[0004] In order to allow the container to be opened when the lid is coupled to the vessel in the closure configuration, the lid generally has one or more handles and/or lateral protrusions that can be grasped and pulled by the user with one hand, while the vessel is retained with the other hand, decoupling the lid from the vessel. However, such solution has some drawbacks.

[0005] First of all, such opening system can require the user to exert even very high forces to achieve the decoupling between the vessel and the lid, in particular in the case where the container closure is of the airtight type and a negative pressure is created inside the container with respect to the external environment (a condition that typically occurs when hot food is inserted in the container). Furthermore, such opening system requires the use of both hands by the user to obtain the decoupling between the vessel and the lid, which is not always convenient for the user itself, in particular when the shape of the vessel is cylindrical, hemispherical, or otherwise does not have easily graspable holding points. Finally, when the container is transported in bags, backpacks, or purses along with other objects, the handles and/or lateral protrusions can easily become entangled with such objects and cause an accidental opening of the container, causing the dispersion of the food contained therein.

[0006] An object of the present invention is to overcome the above-mentioned drawbacks, and in particular, to make a resealable container for food that can be easily opened with one hand, without the need to exert high forces, and that is safe against the risk of accidental openings. These and other results are achieved according to the present invention by making a container for food according to claim 1.

[0007] Further features of the container for food are the object of the dependent claims.

[0008] The present invention will now be described, for illustrative but not limiting purposes, according to its preferred embodiments, with reference to the figures of the attached drawings, in which:

- Figure 1 is a three-dimensional perspective view of a container according to the invention, in which the lid is in a closure configuration and the opening element is in a closure position;
- Figure 2 is a three-dimensional perspective view of a detail of Figure 1 from a different viewpoint;
- Figure 3 is a three-dimensional perspective view, with parts removed for clarity, of Figure 2 from a different viewpoint;
- Figure 4 is a three-dimensional perspective view of the container in which the lid is in a closure configuration and the opening element is in an extracted position;
- Figure 5 is a three-dimensional perspective view, with parts removed for clarity, of Figure 4 from a different viewpoint;
- Figure 6 is a three-dimensional perspective view of the container in which the lid is partially separated from the vessel and the opening element is in an opening position;
- Figure 7 is a three-dimensional perspective view of a detail of Figure 6 from a different viewpoint;
- Figure 8 is a three-dimensional perspective view, with parts removed for clarity, of Figure 7 from a different viewpoint;
- Figure 9 is a three-dimensional perspective view of the container in which the lid is completely separated from the vessel.

[0009] With reference to Figure 1, 1 indicates as a whole a resealable container for food, which comprises a vessel 2, a lid 3 (which in Figure 1 is coupled to the vessel 2 in a closure configuration), and an opening element 4 supported by the lid 3.

[0010] With reference to Figure 9, which shows the same container 1 with the lid 3 decoupled and completely separated from the vessel 2, the vessel 2 comprises a plurality of walls 20 that define a cavity 21 inside the vessel 2, such cavity 21 being arranged to house the food. The walls 20 end at the top with a rim 22 that delimits an opening 23 for an access to the cavity 21. The vessel 2 has been shown with a "squircle" section (i.e., similar to a square with four rounded corners) and a substantially flat bottom, but it is apparent that such section could also consist of a circle, square, rectangle, or any other geometric shape suitable for the purpose, as well as the

bottom can also be curved or have other geometries suitable for the purpose.

[0011] Still with reference to Figure 9, the lid 3 has a sufficient extension to entirely cover the opening 23 and has a stop surface 30: when the lid 3 is coupled to the vessel 2 in the closure configuration of Figure 1, the stop surface 30 rests on part of the rim 22, so that the lid 3 closes the opening 23, separating the cavity 21 from the environment external to the container 1. However, when the lid 3 is in the closure configuration, a portion of the rim 22 does not serve as a rest for the stop surface 30 and is therefore free (hereinafter such portion will be also referred to as the free portion of the rim 22) and the opening element 4 can act thereon as described below.

[0012] The lid 3 further has a circular-sectioned pass-through hole 32 made in a lateral portion of the lid 3 itself and extending radially along an axis A. In particular, such hole 32 is made in a position corresponding to the free portion of the rim 22 and has an internal mouth (on the side of the cavity 21) and an external mouth (on the side of the environment external to the container 1). Preferably, the lid 3 comprises first fluid-dynamic insulation means 31 that, when the lid 3 is in the closure configuration, achieve an airtight seal between the lid 3 and the vessel 2. Such first fluid-dynamic insulation means 31 can consist, for example, of a gasket that extends along the entire perimeter of the lid 3 and that, when the lid 3 is in the closure configuration, rests on an internal annular portion of the rim 22: in this sense, the first fluid-dynamic insulation means 31 form at least part of the stop surface 30 of the lid 3. However, the first fluid-dynamic insulation means 31 can also be part of the vessel 2, in which case they are, for example, fixed to the innermost annular portion of the rim 22.

[0013] Still with reference to Figure 9, the opening element 4 comprises a handling portion 40, which can be grasped and manually maneuvered by a user, a contact portion 41, and an engagement portion 42 (visible in Figure 3). The engagement portion 42 has a circular section and is inserted in the hole 32 of the lid 3: therefore, the opening element 4 is supported by the lid 3 so as to be able to perform

- a translation movement along the axis A with respect to the lid 3, between a closure position (shown in Figures 1 to 3, in which the engagement portion 42 is mostly inserted inside the hole 32) and an extracted position (shown in Figures 4 and 5, in which the engagement portion 42 is radially extracted outward and is minimally inserted inside the hole 32), by sliding the engagement portion 42 along the hole 32;
- a rotation movement around the axis A with respect to the lid 3, between the extracted position and an opening position (shown in Figures 6 to 8, in which the opening element 4 is rotated by 90 degrees with respect to the extracted position), by rotating the engagement portion 42 inside the hole 32.

[0014] With reference to Figure 3, the engagement portion 42 has an end part 43 that is enlarged and has a diameter greater than that of the hole 32. In this way, the end part 43 limits the translation movement of the opening element 4 once the extracted position is reached, when the end part 43 abuts against the internal mouth of the hole 32.

[0015] Still with reference to Figure 3, the engagement portion 42 also has a groove 44 that extends in length along the axis A starting from the end part 43, and that selectively allows a fluid-dynamic communication through the hole 32 between the cavity 21 and the external environment when the lid 3 is in the closure configuration. Indeed, the groove 44 extends only along a part of the engagement portion 42; in particular, the length of the groove 44 is selected so that, when the opening element 4 is in the closure position, the groove 44 does not extend to the external mouth of the hole 32 (thus preventing fluid-dynamic communication through the hole 32 between the cavity 21 and the external environment), but that when the opening element 4 is in the extracted position, the groove extends to the external mouth of the hole 32 (thus allowing fluid-dynamic communication through the hole 32 between the cavity 21 and the external environment).

[0016] In order to ensure the airtight seal of the container 1 when the opening element 4 is in the closure position, the part of the engagement portion 42 closest to the contact portion 41 has a first tapering, with the related section widening as it approaches the contact portion 41; the part of the hole 32 closest to the external mouth has a second tapering designed to cooperate with the first tapering, with the related section widening as it approaches the external mouth: in this way, when the opening element 4 is in the closure position, the contact between the tapered part of the engagement portion 42 and the tapered part of the hole 32 ensures the airtight seal of the container 1, preventing fluid-dynamic communication through the hole 32.

[0017] Alternatively, the lid 3 can comprise second fluid-dynamic insulation means, such as for example an O-ring (not shown in the figures), disposed at the external mouth of the hole 32, which achieve an airtight seal between the external surface of the engagement portion 42 and the external mouth of the hole 32, preventing fluid-dynamic communication through the hole 32 when the opening element 4 is in the closure position, and therefore the groove 44 does not extend to the external mouth of the hole 32.

[0018] With reference to Figure 2, the handling portion 40 comprises a holding part 45 that protrudes upward with respect to the lid 3. In this way, it is particularly comfortable for the user to grasp the handling portion 40 and extract the opening element 4 towards the extracted position. Furthermore, as better observed in Figure 3, the handling portion 40 also protrudes laterally with respect to the lid 3.

[0019] With reference to Figures 4 to 8, the contact

portion 41 has an eccentric sliding surface 46 that, during the rotation movement of the opening element 4, is arranged to slide on the free portion of the rim 22. The sliding surface 46 is made so that its sliding on the rim 22 during the rotation movement of the opening element 4 causes a force to be exerted by the contact portion 41 on the rim 22, causing a separation of the stop surface 30 of the lid 3 from the rim 22 of the vessel 2.

[0020] Preferably, the sliding surface 46 extends over the contact portion 41 symmetrically with respect to a plane comprising the axis A and which, when the opening element 4 is in the closure position, is perpendicular to the plane defined by the rim 22, so as to obtain the same force being exerted on the rim 22 with a rotation of the opening element 4 in either the clockwise or counterclockwise direction.

[0021] With reference to Figures 6 and 7, when the opening element 4 is in the opening position, the sliding surface 46 rests on the free portion of the rim 22 and keeps the lid 3 and the vessel 2 at least partially separated, keeping therefore the container 1 at least partially open.

[0022] Furthermore, with reference to Figures 4 and 6, when the opening element 4 is in the closure position, the contact portion 41 is at least partially housed, substantially by shape, in a seat 33, that runs parallel to the axis A and has an eccentric shape corresponding to the sliding surface 46, and at whose bottom the external mouth of the hole 32 is disposed. In this way, when the opening element 4 is in the closure position, the rotation movement of the opening element 4 is prevented.

[0023] In use, when the container 1 is closed, it appears as in Figure 1, i.e., with the lid 3 coupled to the vessel 2 in the closure configuration.

[0024] In order to open the container 1, the user grasps the handling portion 40 of the opening element 4 using the holding part 45 and first extracts the opening element 4 radially along the axis A with respect to the lid 3, achieving the translation movement described above towards the extracted position, obtaining the configuration of Figure 4. In this way, the groove 44 made in the engagement portion 42 of the opening element 4 establishes fluid-dynamic communication between the cavity 21 and the external environment, eliminating any pressure differences that could make opening the container 1 difficult. Furthermore, in this way, the contact portion 41 is entirely extracted from the seat 33, so that the rotation of the opening element 4 is allowed, and so that the sliding surface 46 is above the free portion of the rim 22.

[0025] At this point, the user rotates the opening element 4 around the axis A towards the opening position. By doing so, the sliding surface 46 of the contact portion 41 of the opening element 4 slides on the free portion of the rim 22 of the vessel 2, exerting a force on the rim 22 that causes the separation between the stop surface 30 and the rim 22 itself, removing therefore the lid 3 from the closure configuration and obtaining the configuration of Figure 6.

[0026] The user can finally lift the lid 3 with respect to the vessel 2, completing the opening of the container 1 and obtaining the configuration of Figure 9.

[0027] In order to reseal the container 1, it is sufficient to first return the opening element 4 to the extracted position, then press the lid 3 against the opening 23 of the vessel 2, coupling the lid 3 and the vessel 2, and finally return the opening element 4 to the closure position.

[0028] Preferably, the sliding surface 46 is made so that, when the opening element 4 is in the opening position, pressing the lid 3 against the opening of the vessel 2 is sufficient to return the opening element 4 to the extracted position. In this way, it is not necessary to manually return the opening element 4 to the extracted position, as such operation is performed automatically by pressing the lid 3 against the opening of the vessel 2.

[0029] Therefore, it is clear that the container 1 according to the invention allows to achieve the prefixed objects. In particular, both the translation movement and the rotation movement of the opening element 4 can be performed by the user employing only one hand, regardless of the shape of the container 1. Furthermore, since any negative pressure of the cavity 21 with respect to the external environment is eliminated due to the translation movement of the opening element 4, performing the rotation movement of the opening element 4 does not require high forces to be exerted. Finally, due to the need to perform two distinct movements of the opening element 4 to open the container 1, the event of an accidental opening of the container 1 caused by the opening element 4 becoming entangled is highly improbable.

[0030] The present invention has been described, for illustrative but not limiting purposes, according to its preferred embodiments, but it is to be understood that variations and/or modifications can be made by a person skilled in the art without departing from the related scope of protection as defined in the attached claims.

[0031] A possible alternative embodiment, not shown in the figures, comprises an opening element supported by the vessel instead of the lid. In such case, the opening element is made substantially as described above, but the related engagement portion is inserted in a pass-through hole made in the upper portion of a lateral wall of the vessel, just below the rim, while the lid does not have holes.

[0032] In this alternative embodiment, when the lid is in the closure configuration, a portion of the stop surface of the lid does not rest on the rim of the vessel: therefore, such portion is free and can be acted upon by the opening element. Indeed, the rotation movement of the opening element causes a sliding of the sliding surface of the relative contact portion on the stop surface, in particular on the portion of the stop surface that does not rest on the rim.

[0033] Such sliding causes a force to be exerted on the stop surface, that, similarly to what is described above, causes the separation between the stop surface of the lid and the rim of the vessel, i.e., the opening of the contain-

er.

Claims

1. Container (1) for food comprising:

   - a vessel (2) that defines a cavity (21) designed to contain said food, and that has an opening (23) for an access to said cavity (21), said opening (23) being delimited by a rim (22);
   - a lid (3) having a stop surface (30), said lid (3) being configured to assume a closure configuration in which said stop surface (30) rests on said rim (22), so that said lid (3) closes said opening (23); **characterized in that** it further comprises an opening element (4) comprising a contact portion (41), said opening element (4) being supported respectively by said lid (3) or by said vessel (2) so as to be able to perform:
   - a translation movement along an axis (A) with respect to respectively said lid (3) or said vessel (2) between a closure position and an extracted position, and
   - a rotation movement around said axis (A) with respect to respectively said lid (3) or said vessel (2) between said extracted position and an opening position, so that when said lid (3) is in said closure configuration said rotation movement causes a force to be exerted by said contact portion (41) respectively on said rim (22) or on said stop surface (30), separating said rim (22) from said stop surface (30) and removing said lid (3) from said closure configuration.

2. Container (1) according to claim 1, **characterized in that** said opening element (4) has a handling portion (40) able to be maneuvered to manually perform said translation movement and/or rotation movement.

3. Container (1) according to claim 2, **characterized in that** said handling portion (40) has a holding part (45) that protrudes with respect to respectively said lid (3) or said vessel (2).

4. Container (1) according to any of the preceding claims, **characterized in that** said contact portion (41) has an eccentric sliding surface (46) designed to slide respectively on said rim (22) or on said stop surface (30) .

5. Container (1) according to any of the preceding claims, **characterized in that** said opening element (4) has an engagement portion (42) extending along said axis (A), respectively said lid (3) or said vessel (2) having a pass-through hole (32) in which said engagement portion (42) is inserted so as to allow said translation movement and rotation movement.

6. Container (1) according to claim 5, **characterized in that** said engagement portion (42) has a groove (44) that, when said lid (3) is in said closure configuration and said opening element (4) is in said extracted position, allows a fluid-dynamic communication of said cavity (21) with an environment external to said container (1) through said hole (32).

7. Container (1) according to claim 6, **characterized in that** said engagement portion (42) and said hole (32) have respectively a first tapering and a second tapering designed to cooperate, when said lid (3) is in said closure configuration and said opening element (4) is in said closure position, to prevent said fluid-dynamic communication of said cavity (21) with said external environment through said hole (32).

8. Container (1) according to any of the claims 5 to 7, **characterized in that** said engagement portion (42) has an enlarged end part (43) that limits said translation movement of said opening element (4) when it reaches said extracted position.

9. Container (1) according to any of the preceding claims, **characterized in that** it comprises first fluid-dynamic insulation means (31) that, when said lid (3) is in said closure configuration, achieve an airtight seal between said lid (3) and said vessel (2).

10. Container (1) according to claim 9, **characterized in that** said first fluid-dynamic insulation means (31) are part of said lid (3) and define at least part of said stop surface (30).

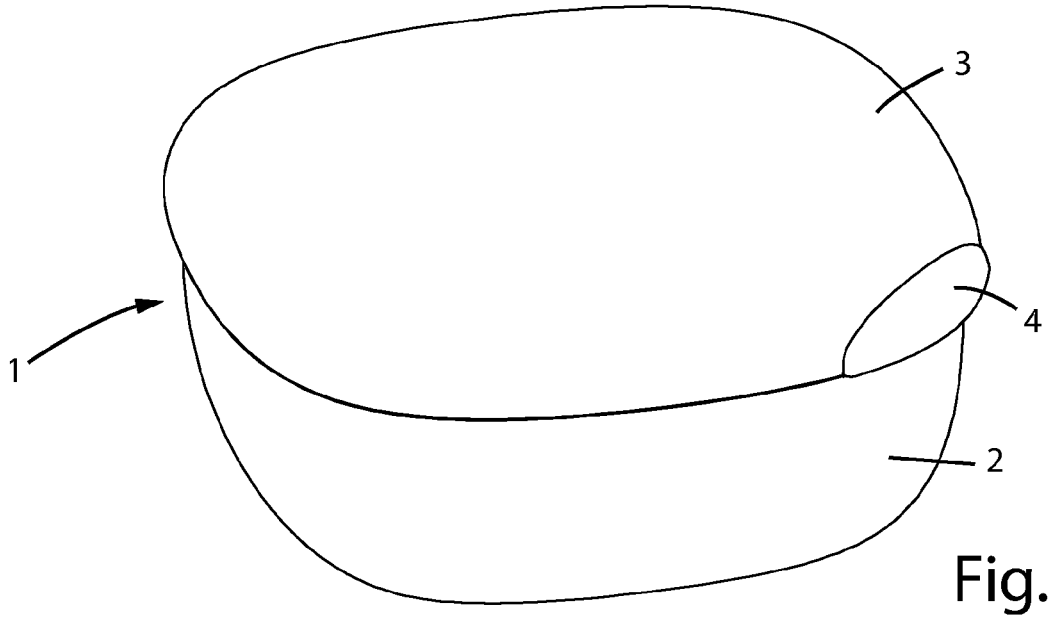

Fig. 1

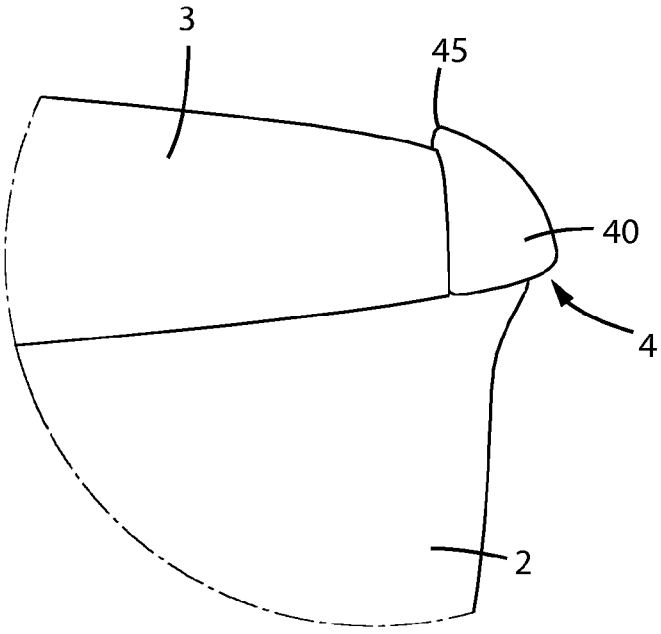

Fig. 2

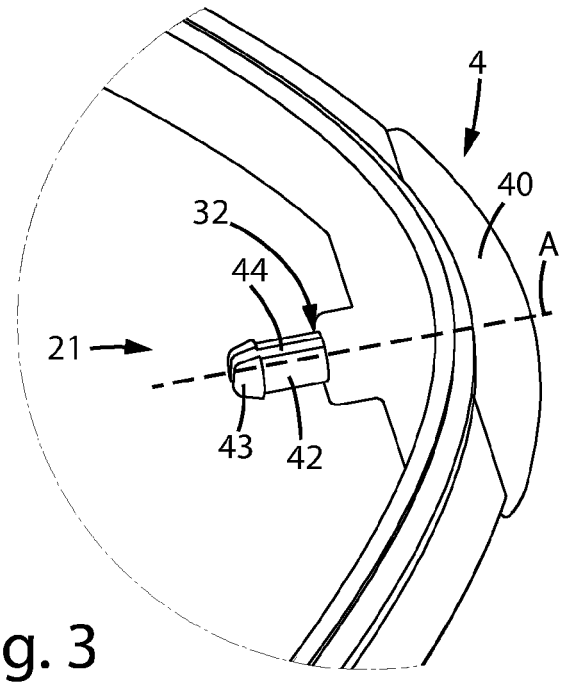

Fig. 3

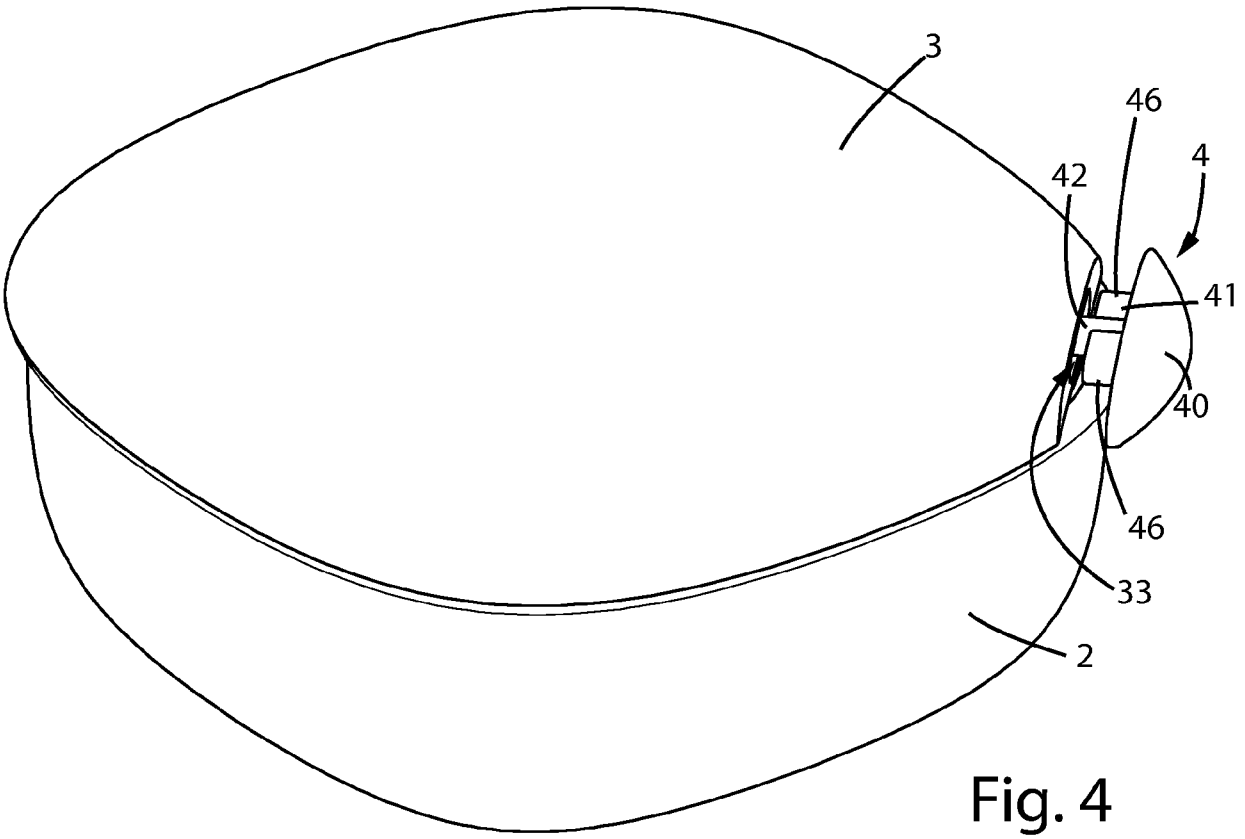

Fig. 4

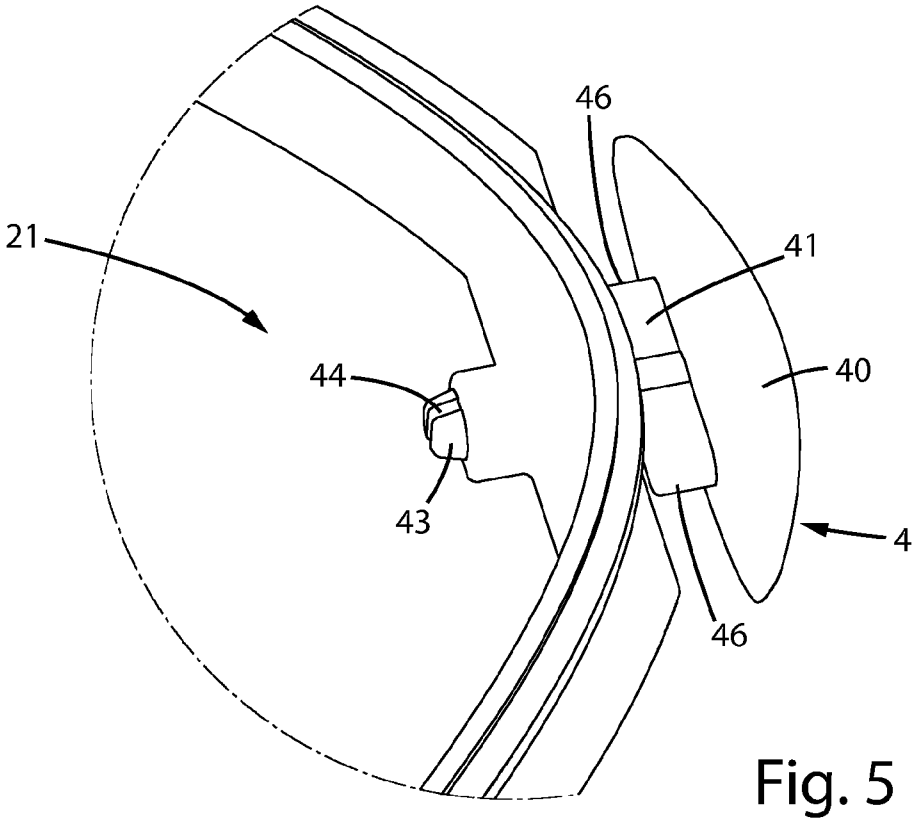

Fig. 5

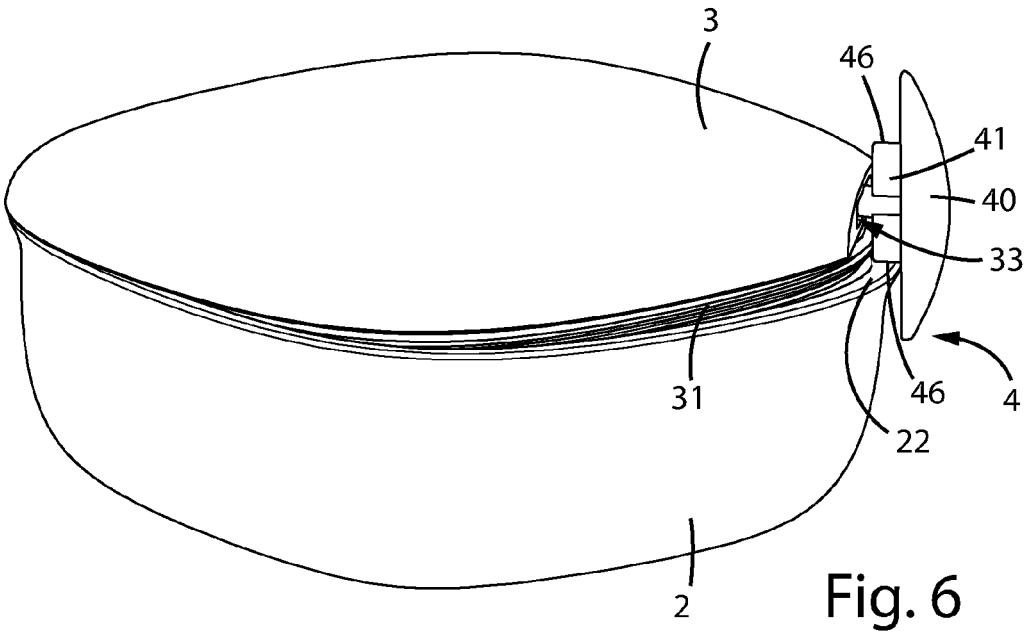

Fig. 6

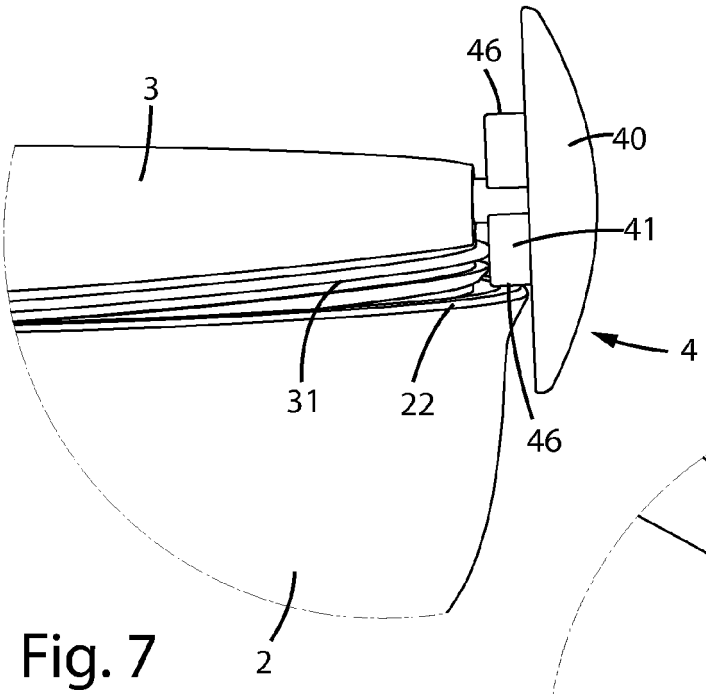

Fig. 7

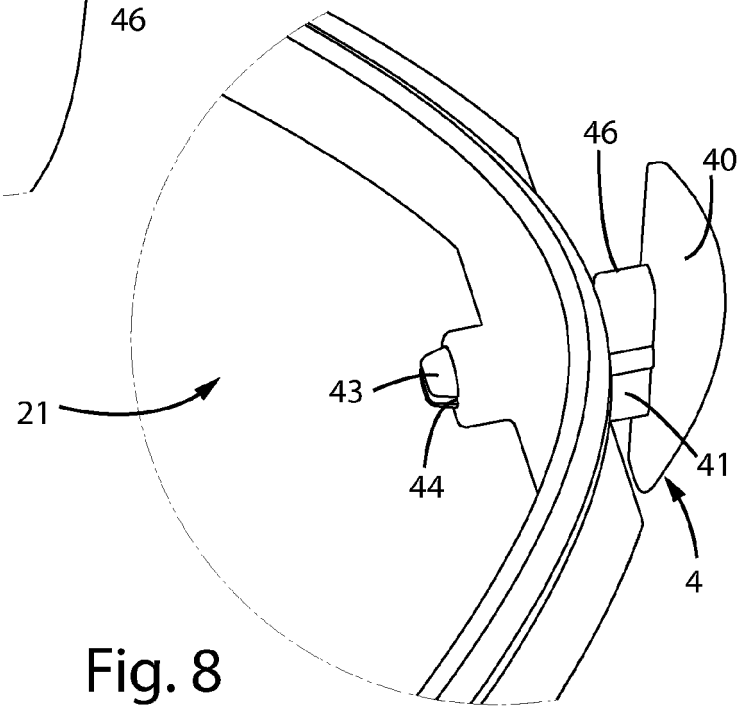

Fig. 8

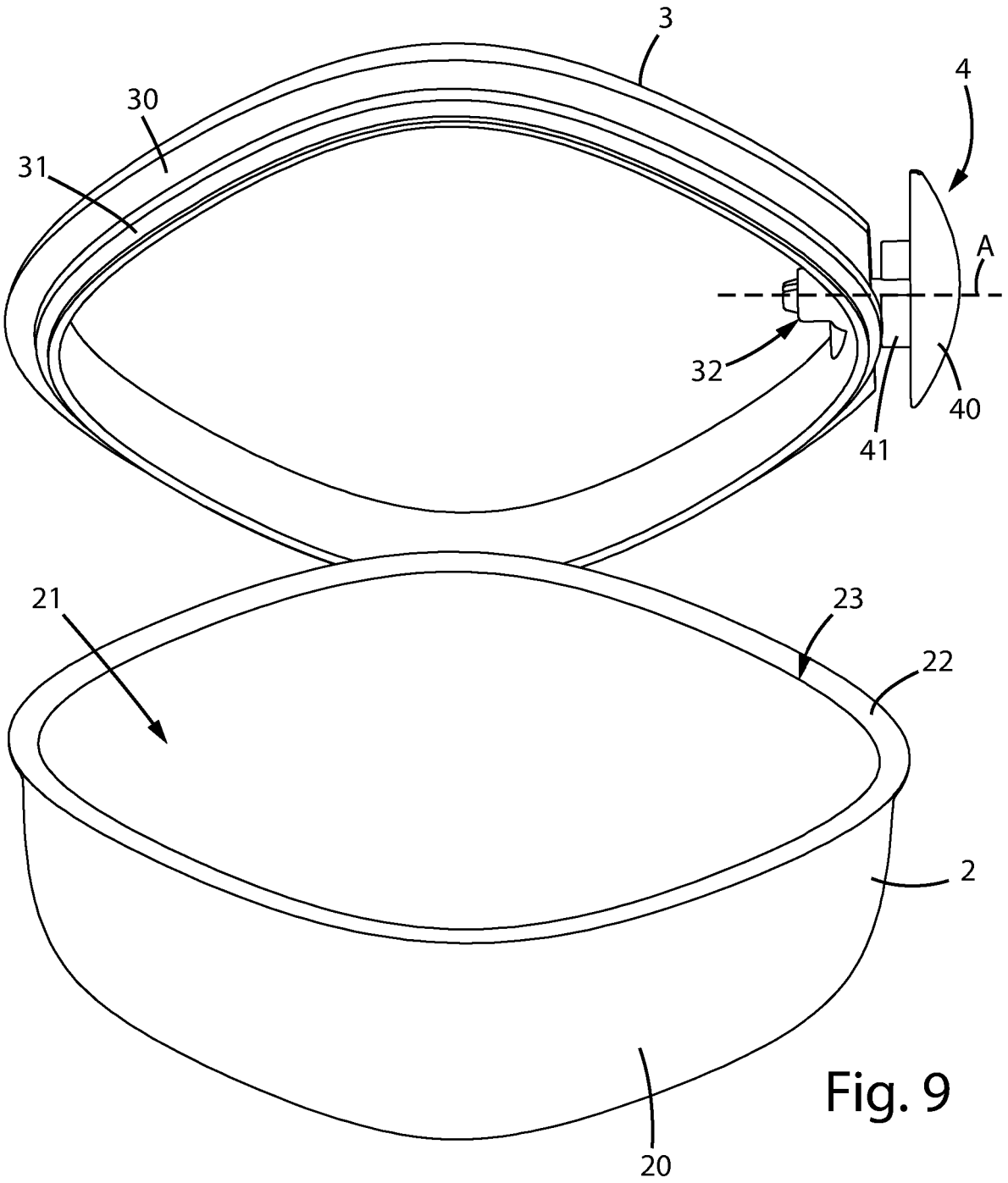

Fig. 9

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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 1 913 409 A (LAWRENCE PURTELL) 13 June 1933 (1933-06-13) * page 1, lines 27-82 *	1-10	INV. A45C11/20 B65D43/08 B65D43/26
A	US 1 154 020 A (HOTHERSALL JOHN M [US]) 21 September 1915 (1915-09-21) * the whole document *	1	A45C13/10
A	US 1 103 126 A (BOYSEN FRIEDRICH C [US]) 14 July 1914 (1914-07-14) * the whole document *	1	
A	US 1 473 892 A (VIETH SR ALBERT B) 13 November 1923 (1923-11-13) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (IPC)

A45C
B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	9 April 2025	Nicolás, Carlos

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 1913409 A	13-06-1933	NONE	
US 1154020 A	21-09-1915	NONE	
US 1103126 A	14-07-1914	NONE	
US 1473892 A	13-11-1923	NONE	

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