

(19)



(11)

EP 3 208 209 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention of the grant of the patent:

29.03.2023 Bulletin 2023/13

(21) Application number: **17000187.9**

(22) Date of filing: **07.02.2017**

(51) International Patent Classification (IPC):

B65D 43/16 ^(2006.01)

(52) Cooperative Patent Classification (CPC):

B65D 43/162; B65D 2543/00212;
B65D 2543/00296; B65D 2543/00462;
B65D 2543/0062; B65D 2543/00731

(54) **CONTAINER FOR FOOD PRODUCTS**

BEHÄLTER FÜR LEBENSMITTELPRODUKTE

RÉCIPIENT POUR PRODUITS ALIMENTAIRES

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **22.02.2016 IT UB20160933**

(43) Date of publication of application:

23.08.2017 Bulletin 2017/34

(73) Proprietor: **Vincenzo, Ventura**

13044 Crescentino (VC) (IT)

(72) Inventor: **Vincenzo, Ventura**

13044 Crescentino (VC) (IT)

(74) Representative: **Garavelli, Paolo**

A.BRE.MAR. S.R.L.

Consulenza in Proprietà Industriale

Via Servais 27

10146 Torino (IT)

(56) References cited:

WO-A2-2014/152615 US-A- 3 937 389

US-A- 5 092 479 US-A1- 2007 045 317

US-A1- 2010 276 419 US-A1- 2014 041 343

US-A1- 2015 060 455

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

[0001] The present invention refers to a container for food products, in particular a container for packaging foods and for showing them in a point of sales.

[0002] Containers for food products are known in the art, which are used for packaging foods, for example slices or pieces of confectionery products.

[0003] These containers however are not satisfactory and has the following problems: a problem of known containers for food products is caused by the fact that, to guarantee the closing of the package in order to avoid that the product contained therein is contaminated, these containers require relatively complex closing operations, which cannot be completed in a short time.

[0004] A further problem is caused by the fact that known packages do not guarantee a good air tightness against the external environment, air which, by entering into the package, can generate contamination of the contained product or the formation of mist in the package, preventing the product from being viewed from the outside. US-A-5092479 discloses a container according to the preamble of claim 1.

[0005] Documents US-A1-2015/060455, US-A1-2010/276419, US-A1-2014/041343 and US-A1-2007/045317 disclose containers having some features of Claim 1.

[0006] Object of the present invention is solving the above prior art problems, by providing a container for food products which can be closed with a simple operation and which requires a short time to be completed, guaranteeing the package closing.

[0007] Another object of the present invention is making a container for food products which guarantees the package seal, preventing the contamination of the product and the formation of condensate therein.

[0008] A further object of the present invention is making a container for food products which guarantees the package closing, preventing accidental openings of the container.

[0009] The above and other objects and advantages of the invention, as will appear from the following description, are obtained with a container for food products as claimed in claim 1. Preferred embodiments and non-trivial variations of the present invention are the subject matter of the dependent claims.

[0010] The present invention will be better described by some preferred embodiments thereof, provided as a non-limiting example, with reference to the enclosed drawing, in which:

- Figure 1 is a perspective view of an embodiment of a container 10 according to the present invention in an open configuration;
- Figure 2 is a bottom view of an embodiment of a container 10 according to the present invention in an open configuration;
- Figure 3 is a side sectional view of an embodiment

of a container 10 according to the present invention in an open configuration;

- Figure 4 is a side sectional view of an embodiment of a container 10 according to the present invention in a closed configuration; and
- Figure 4A is a view of an enlarged part of the side sectional view of Figure 4.

[0011] It will be immediately obvious that numerous variations and modifications ((for example related to shape, sizes, arrangements, various colours and parts with equivalent functionality) can be made to what is described, without departing from the scope of the invention as appears from the enclosed claims.

[0012] The container 10 for food products of the present invention comprises a base 11 and a cover 12 mutually connected as a hinge on a common side 15.

[0013] Preferably, the base 11 and the cover 12 are made in a single piece of plastic material, for example moulded, thermo-formed, transparent, antifog PET, PET, PS, PP or the like, adapted to be bent in a known way along the common side 15 in order to be able to rotate the cover 12 with respect to the base 11 around the axis composed of the common side 15 itself.

[0014] Preferably, the container 10 has the shape of a polyhedron, and the base 11 and the cover 12 preferably have substantially mutually equal shapes.

[0015] The base 11 comprises a rear face 21 connected to a lower face 22, and two side faces of the base 23, each having a side connected to the rear face 21 and another side connected to the lower face 22.

[0016] The cover 12 comprises a front face 31 connected to an upper face 32, and two side faces of the cover 33, each having a side connected to the front face 31 and another side connected to the upper face 32.

[0017] The container 10 further comprises sealing means 26 and closing means 28 arranged on an upper edge 24 of the base 11 and adapted to be associated or connected to complementary sealing means 36 and to complementary closing means 38 arranged on a lower edge 34 of the cover 12 for airtight closing the cover 12 on the base 11; in a preferred way, the closing means 28 and the complementary closing means 38 are obtained respectively on the sealing means 26 and on the complementary sealing means 36 and cooperate therewith for airtight closing the cover 12 on the base 11 of the container 10.

[0018] Preferably, the base 11 comprises an upper peripheral surface 25 obtained on its upper edge 24, and the cover 12 comprises a lower peripheral flange 35 obtained on its lower edge 34.

[0019] When the container 10 is closed, the upper edge 24 is in contact with the lower edge 34, and preferably the upper peripheral flange 25 is in contact with the lower peripheral flange 35.

[0020] Preferably, said sealing means 26 and said complementary sealing means 36 extend for the whole length of the sides respectively of the base 11 and of the

cover 12, and instead are not present on the common side 15.

[0021] Preferably, the sealing means are composed of a projecting groove 26 obtained on the upper edge 24 of the base 11, for example obtained next to the internal wall of the lower face 22 and of the side faces 23 of the base 11.

[0022] Preferably, the complementary sealing means are composed of a groove 36 obtained on the lower edge 34 of the cover 12, for example obtained next to the internal wall of the front face 31 and of the side faces 33 of the cover 12; for example, the groove 36 obtained on the lower edge 34 of the cover 12 is composed of a step 36 obtained between the lower edge 34 and the internal wall of the front face 31 and of the side faces 33 of the cover 12.

[0023] In an alternative configuration, the sealing means can for example be composed of a recessed groove on the upper edge 24 of the base 11, and the complementary sealing means be composed of a projecting groove obtained on the lower edge 34 of the cover 12.

[0024] The sealing means 26 and the complementary sealing means 36 have such sizes and position as to mutually cooperate to airtight close the cover 12 and the base 11.

[0025] In the embodiment of the container 10 of the invention in which the sealing means are composed of a projecting groove 26 and the complementary sealing means are composed of a recessed groove 36, the projecting groove 26 is adapted to be inserted inside the recessed groove 36, with the external surface of the projecting groove 26 in contact with the surface of the recessed groove 36, for airtight closing the cover 12 on the base 11, preventing the contamination of the product and the formation of condensate on the internal walls of the container 10.

[0026] Preferably, the closing means are composed of projections 28 obtained on the sealing means 26, for example on their part near the lower face 22 of the base 11, and the complementary closing means are composed of recesses 38 obtained on the complementary sealing means 36, for example on their part near the front face 31 of the cover 12; preferably, the projections 28 are obtained on the projecting groove 26 and the recesses 38 are obtained on the recessed groove 36.

[0027] The projections 28 obtained on the sealing means 26 of the base are adapted to get stuck on the recesses 38 obtained on the complementary sealing means 36 of the cover 12, to close the cover 12 on the base 11 of the container 10.

[0028] Preferably, the side faces 23, 33 of the base and of the cover each comprise lateral stiffening means 19, for example composed of two triangular walls shown in the figures, having a contact side 27 of the two walls projecting towards outside with respect to the side edges of the rear face 21 and of the lower face 22 of the base 11 and with respect to the side edges of the front face

31 and of the upper face 32 of the cover 12, so that the side faces 23, 33 of the base and of the cover project outwards.

[0029] The rear face 21 of the base 11 comprises stiffening means of the base 29 made next to its edges and which are for example composed of connection surface of the base 29; said stiffening means of the base 29 are adapted to connect the rear face 21 to the lower face 22 and to the side faces 23 of the base 11, and to the upper face 32 of the cover, in order to project the rear face 21 outwards; in a preferred way, the connection surface of the base 29 are connection planes.

[0030] The front face 31 of the cover 12 comprises stiffening means of the cover 39 made next to its edges and which are for example composed of connection surfaces of the cover 39; said stiffening means of the cover 39 are adapted to connect the front face 31 to the upper face 32 and to the side faces 33 of the cover 12 in order to project the front face 31 outwards; in a preferred way, the connection surfaces of the cover 39 are connection planes.

[0031] Preferably, the lower face 22 and/or the rear face of the base 11 comprise reinforcing ribs 41 slanted with respect to their sides which stiffen and toughen the structure of the base 11; in a preferred way, the ribs 41 are obtained to prevent the product contained in the container 10 from adhering to its base 11.

[0032] The front face 31 of the cover 12 comprises a reinforcing element 42, comprising a surface 44 recessed with respect to the front face 31 of the cover 12, obtained in a preferred way in the central part of the front face 31, next to the lower edge 34.

[0033] In Figure 4A an enlarged detail is shown of a section of the reinforcing element 42, which comprises a shaped edge 43 having a section with a double curvature shapes as an "S".

[0034] In the embodiment of the container 10 of the invention in which the sealing means are composed of a projecting groove 26 obtained on the base 11, the projecting groove 26 is adapted to be inserted inside the shaped edge 43, for airtight closing the cover 12 on the base 11, preventing the cover 12 from opening following a compression of the lower face 22 of the base 11, which can cause a distortion of the lower face 22 and the consequent opening of the container 10.

[0035] The reinforcing element 42 is adapted to stiffen and toughen the structure of the container 10 when the cover 12 is closed on the base 11.

[0036] The operation of the container 10 for food products according to the present invention will now be described.

[0037] In a first step, the container 10 is open and the food product which must be packaged, for example a slide or a piece of confectionery product, is deposited on the lower face 22 of the container 10, preferably on the ribs 41.

[0038] In a second, positioning step, the cover 12 is rotated around the common side 15 till it is placed above

the base 11, with the complementary sealing means 36, arranged on the lower edge 34 of the cover 12, which are associated with and/or connected to the sealing means 26 arranged on the upper edge 24 of the base 11.

[0039] For example, in the second positioning step of the embodiment of the container 10 of the invention which comprises the sealing means composed of a projecting groove 26 and the complementary sealing means composed of an obtained groove 36 or of an obtained step 36, at the end of the second positioning step the projecting groove 26 is partially inserted inside the recessed groove 36 when the cover 12 is abutted against the base 11; preferably, the part of projecting groove 26 which is inserted inside the recessed groove 36 is the one which is next to one of the two side faces of the base 23.

[0040] In a third, closing step, the closing means 28 and the complementary closing means 38 are associated and cooperate to close the cover 12 on the base 11, preventing the accidental opening of the container 10 when it is handled upon its storage or its purchase; in this third step, the sealing means 26 are associated with and/or connected to the complementary sealing means 36 and cooperate with the closing means 28 and with the complementary closing means 38 for airtight closing the cover 12 on the base 11.

[0041] In the embodiment of the container 10 of the invention which comprises an upper peripheral flange 25 obtained on the upper edge 24 of the base 11 and a lower peripheral flange 35 obtained on the lower edge 34 of the cover 12, the upper 25 and lower 35 peripheral flanges are mutually in contact at the end of the third closing step.

[0042] Advantageously in the embodiment of the container 10 of the invention which comprises the sealing means 26 and the complementary sealing means 36 that extend for the whole length of the sides respectively of the base 11 and of the cover 12, stiffening the structure of the base 11 and of the cover 12 of the container 10, allow closing the cover 12 on the base 11 with a single operation, without requiring the closing of the single closing means 28 with the respective complementary closing means 38.

[0043] The closing of the cover 12 on the base 11 of the container 10 is obtained by an operator with a single operation by exerting a pressure on the cover 12, thereby closing it on the base 11 associating and/or connecting the closing means 28 to the respective complementary closing means 38.

[0044] In particular, in the embodiment of the container 10 of the invention which comprises the sealing means composed of a projecting groove 26 and the complementary sealing means 36 composed of a recessed groove, at the end of the third closing step, the projecting groove 26 is completely inserted inside the recessed groove 36, with the external surface of the projecting groove 26 in contact with the surface of the recessed groove 36; advantageously, the cover 12, being airtight closed on the base 11, prevents the formation of condensate inside the

container 10.

[0045] In the embodiment of the container 10 of the invention comprising closing means composed of projections 28 obtained on the sealing means 26 and complementary closing means composed of recesses 38 obtained on the complementary sealing means 36, in the third closing step the projections 28 are caught in the recesses 38 obtained on the complementary sealing means 36, and close the cover 12 on the base 11 of the container 10.

[0046] In this case, the operator performs the closing of the cover 12 on the base 11 of the container 10 with a single operation, exerting a pressure on the cover 12, thereby making it close on the base 11 by catching the projections 28 obtained for example on the projecting groove 26 into the recesses 38 obtained for example on the recessed groove 36.

[0047] In the embodiment of the container 10 of the invention comprising closing means composed of projections 28 obtained on the sealing means 26 and complementary closing means composed of recesses 38 obtained on the complementary sealing means 36, the sealing means and the closing means cooperate to make it possible to close the cover 12 on the base 11 with a single operation.

[0048] Advantageously, the embodiment of the container 10 of the invention which comprises the stiffening means of the cover 39 made next to the edges of the front face 31 of the cover 12 and the stiffening means of the base 29 made next to the rear face 21 of the base 11 has a stronger stiffness of the cover 12 and of the base 10, allowing an easier closing of the cover 12 on the base 11 of the container with a single operation.

[0049] Advantageously, also the reinforcing ribs 41 obtained on the lower face 22 and/or on the rear face 21 of the base 11, which stiffen and toughen the structure of the base 11, allow an easier closing of the cover 12 on the base 11 of the container with a single operation, in addition to preventing the product from adhering to the base 11 of the container 10.

[0050] Moreover, the side faces 23 and 33 of the base and of the cover, in the embodiment of the invention in which each of them is composed of two triangular walls with the outwards projecting contact side 27 of the two walls, increasing the stiffness and the sturdiness of the base 11 and of the cover 12, enabling the closing of the container 10 of the invention with a single operation.

[0051] Advantageously, the embodiment of the container 10 of the invention which comprises the side faces 23, 33 of the base and of the cover each composed of two triangular walls having the outwards projecting contact side 27 of the two walls so that the side faces 23, 33 of the base and of the cover project outwards, and which further comprises the stiffening means 39 of the cover adapted to make the front face 31 project outwards and the stiffening means 29 of the base adapted to make the rear face 21 project outwards, prevents the product contained in the container 10 from adhering to the faces 21,

23, 31 and 33 of the container 10.

[0052] The embodiment of the container 10 of the invention which comprises the reinforcing element 42 having a surface 44 recessed with respect to the front face 31 of the cover 12, obtained in the central part of the front face 31 next to the lower edge 34, has the advantage of preventing the cover 12 from opening following a compression of the lower face 22 of the base 11, preventing the distortion of the lower face 22 and the opening of the container 10.

Claims

1. Container (10) for food products comprising: a base (11) and a cover (12) mutually hinged along a common side (15); sealing means (26) and closing means (28) arranged on an upper edge (24) of the base (11) and adapted to be associated with complementary sealing means (36) and complementary closing means (38) arranged on a lower edge (34) of the cover (12) for airtight closing the cover (12) and the base (11) of the container (10), wherein:

- the cover (12) comprises a front face (31) comprising stiffening means of the cover (39) made next to its edges to increase the stiffness of the cover (12);
- the base (11) comprises a rear face (21) comprising stiffening means of the base (29) made next to its edges to increase the stiffness of the base (11); and
- the front face (31) of the cover (12) further comprises a reinforcing element (42) having a surface (44) recessed with respect to the front face (31) of the cover (12) and a shaped edge (43) having a section with a double curvature for airtight closing the cover (12) on the base (11) and for preventing the cover (12) from opening following a compression of the lower face (22);

characterized in that said sealing means (26) are composed of a projecting groove (26) obtained on the upper edge (24) of the base (11), and said complementary sealing means (36) are composed of a groove (36) recessed on the lower edge (34) of the cover (12), said projecting groove (26) being adapted to be inserted inside the recessed groove (36), said sealing means (26) and said complementary sealing means (36) extending for a whole length of the sides respectively of the base (11) and of the cover (12), and are not present on the common side (15).

2. Container (10) for food products according to claim 1, **characterized in that** said closing means (28) and said complementary closing means (38) are obtained respectively on the sealing means (26) and on the complementary sealing means (36) and co-

operate therewith for airtight closing the cover (12) and the base (11) of the container (10).

3. Container (10) for food products according to any one of the previous claims, **characterized in that** the base (11) and the cover (12) comprise side faces (23, 33), each comprising lateral stiffening means (19) to increase the stiffness of the base (11) and of the cover (12).

Patentansprüche

1. Behälter (10) für Nahrungsmittel, umfassend: eine Basis (11) und einen Deckel (12), die entlang einer gemeinsamen Seite (15) gelenkig miteinander verbunden sind; Abdichtmittel (26) und Schließmittel (28), die an einem oberen Rand (24) der Basis (11) angeordnet und geeignet sind, mit komplementären Abdichtmitteln (36) und mit komplementären Schließmitteln (38) verbunden zu werden, die an einem unteren Rand angeordnet sind (34) des Deckels (12), um den Deckel (12) und die Basis (11) des Behälters (10) abzudichten, wobei:

- der Deckel (12) eine Vorderseite (31) umfasst, die Versteifungselemente des Deckels (39) umfasst, die in der Nähe seiner Ränder hergestellt sind, um die Steifigkeit des Deckels (12) zu erhöhen;
- die Basis (11) eine Rückseite (21) umfasst, die Versteifungselemente der Basis (29) umfasst, die in der Nähe ihrer Kanten hergestellt sind, um die Steifigkeit der Basis (11) zu erhöhen; und
- die Vorderseite (31) des Deckels (12) ferner ein Verstärkungselement (42) mit einer gegenüber der Vorderseite (31) des Deckels (12) zurückgesetzten Fläche (44) und einem geformten Rand (43) mit einem Abschnitt mit doppelter Krümmung, um den Deckel (12) auf der Basis (11) abzudichten und um zu verhindern, dass sich der Deckel (12) nach einem Zusammen-drücken der unteren Fläche (22) öffnet;

dadurch gekennzeichnet, dass die Dichtungsmittel (26) aus einer erhabenen Nut (26) bestehen, die an der Oberkante (24) der Basis (11) ausgebildet ist, und dass die komplementären Dichtungsmittel (36) aus einer ausgehöhlten Nut (36) bestehen dem unteren Rand (34) des Deckels (12), wobei die erhabene Rille (26) in die hohle Rille (36) eingesetzt werden kann, wobei sich die Verschlussmittel (28) und die komplementären Verschlussmittel (38) über die Gesamtheit erstrecken Länge der Seiten des Bodens (11) bzw. des Deckels (12) aufweisen und auf der gemeinsamen Seite (15) nicht vorhanden sind.

2. Behälter (10) für Lebensmittelprodukte nach An-

spruch 1, **dadurch gekennzeichnet, dass** die Verschlussmittel (28) und die komplementären Verschlussmittel (38) jeweils auf dem Verschlussmittel (26) und auf dem komplementären Verschlussmittel (36) erhalten sind und zusammenwirken mit ihnen den Deckel (12) und den Boden (11) des Behälters (10) abzudichten.

3. Behälter (10) für Lebensmittelprodukte nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Boden (11) und der Deckel (12) Seitenflächen (23, 33) aufweisen, die jeweils seitliche Versteifungselemente (19) zur Erhöhung der Steifigkeit der Basis (11) und des Deckels (12).

Revendications

1. Récipient (10) pour produits alimentaires comprenant : une base (11) et un couvercle (12) articulés ensemble le long d'un côté commun (15); des moyens d'étanchéité (26) et des moyens de fermeture (28) agencés sur un bord supérieur (24) de la base (11) et adaptés pour être associés à des moyens d'étanchéité complémentaires (36) et à des moyens de fermeture complémentaires (38) agencés sur un bord inférieur (34) du couvercle (12) pour sceller le couvercle (12) et le fond (11) du récipient (10), dans lequel:

- le couvercle (12) comporte une face avant (31) comportant des éléments de rigidification du couvercle (39) réalisés à proximité de ses bords pour augmenter la rigidité du couvercle (12);
- le socle (11) comporte une face arrière (21) comportant des éléments de rigidification du socle (29) réalisés à proximité de ses bords pour augmenter la rigidité du socle (11); et
- la face avant (31) du couvercle (12) comprend en outre un élément de renfort (42) ayant une surface (44) en retrait par rapport à la face avant (31) du couvercle (12) et un bord profilé (43) ayant une section à double courbure pour sceller le couvercle (12) sur le fond (11) et empêcher le couvercle (12) de s'ouvrir suite à une compression de la face inférieure (22);

caractérisé en ce que lesdits moyens d'étanchéité (26) consistent en une gorge surélevée (26) ménagée sur le bord supérieur (24) de l'embase (11), et lesdits moyens d'étanchéité complémentaires (36) consistent en une gorge (36) creusée sur le bord inférieur (34) du couvercle (12), ladite rainure surélevée (26) pouvant s'insérer à l'intérieur de la rainure en creux (36), lesdits moyens de fermeture (28) et lesdits moyens de fermeture complémentaires (38) s'étendant sur toute la longueur des côtés respectivement de la base (11) et du couvercle (12), et ne

sont pas présents sur le côté commun (15).

2. Récipient (10) pour produits alimentaires selon la revendication 1, **caractérisé en ce que** lesdits moyens de fermeture (28) et lesdits moyens de fermeture complémentaires (38) sont obtenus respectivement sur les moyens d'étanchéité (26) et sur les moyens d'étanchéité complémentaires (36) et coopèrent avec eux pour sceller le couvercle (12) et le fond (11) du récipient (10).
3. Récipient (10) pour produits alimentaires selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le fond (11) et le couvercle (12) comportent des faces latérales (23, 33) comportant chacune des éléments de rigidification latéraux (19) pour augmenter la rigidité du fond (11) et du couvercle (12).

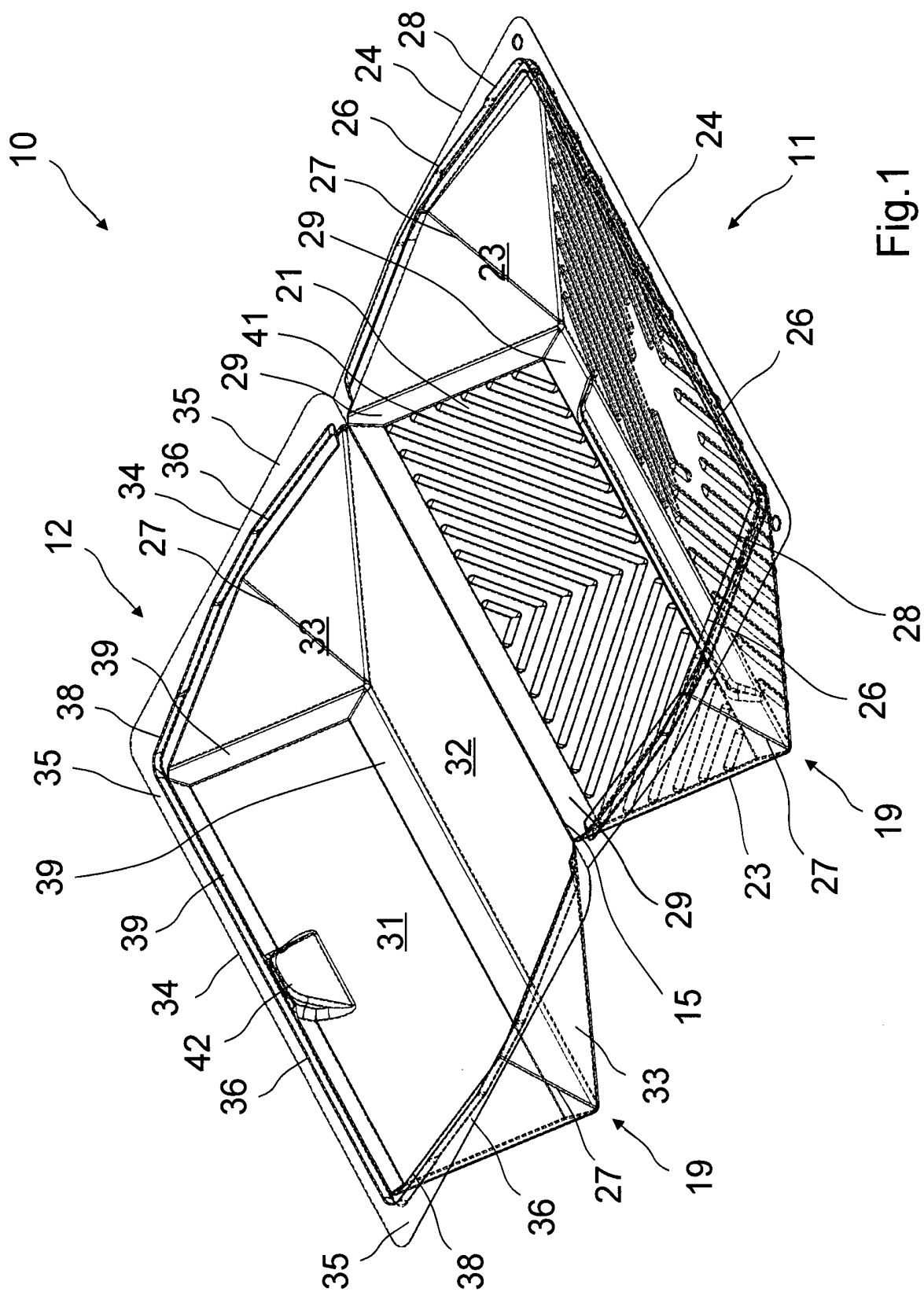
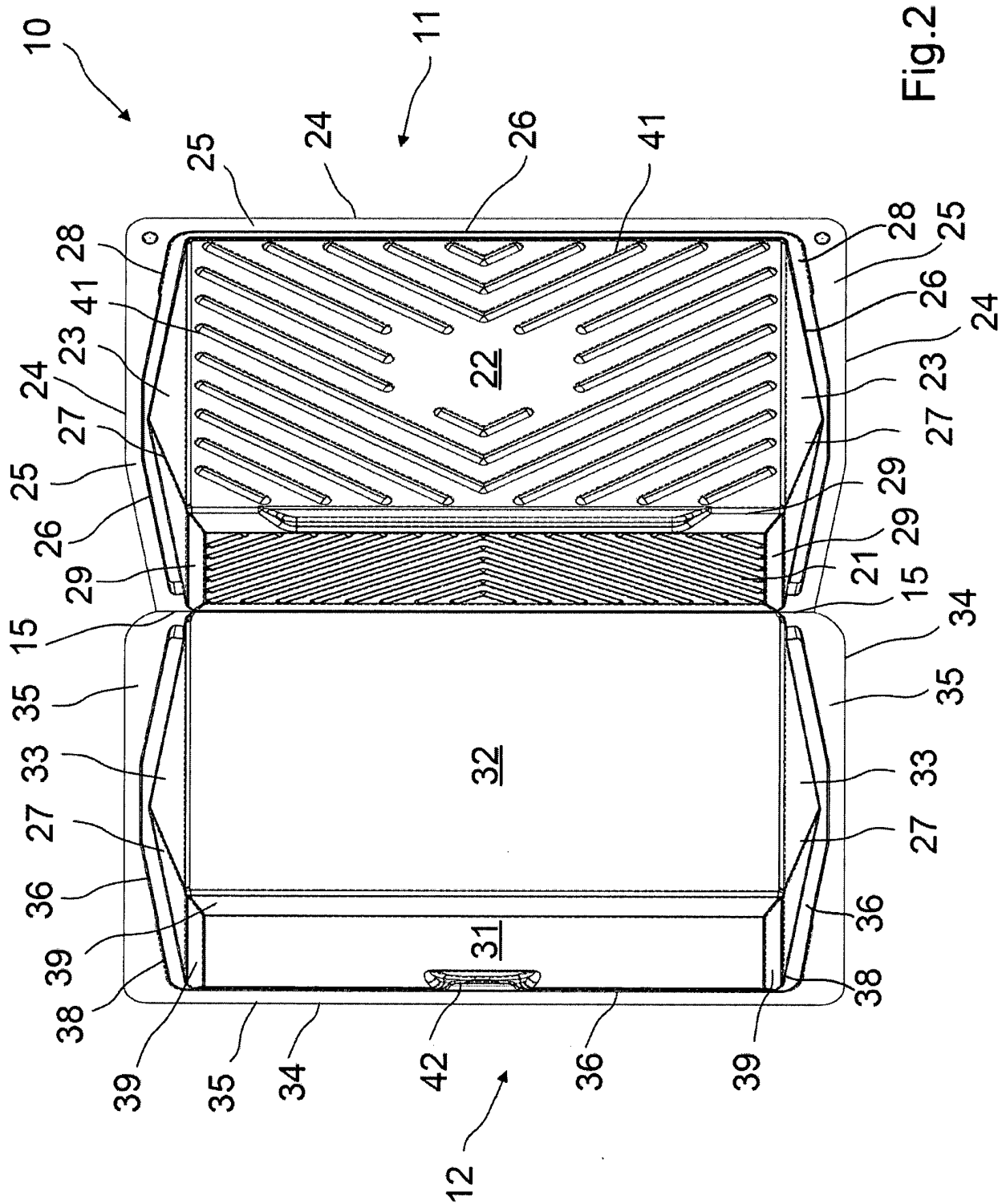


Fig.1



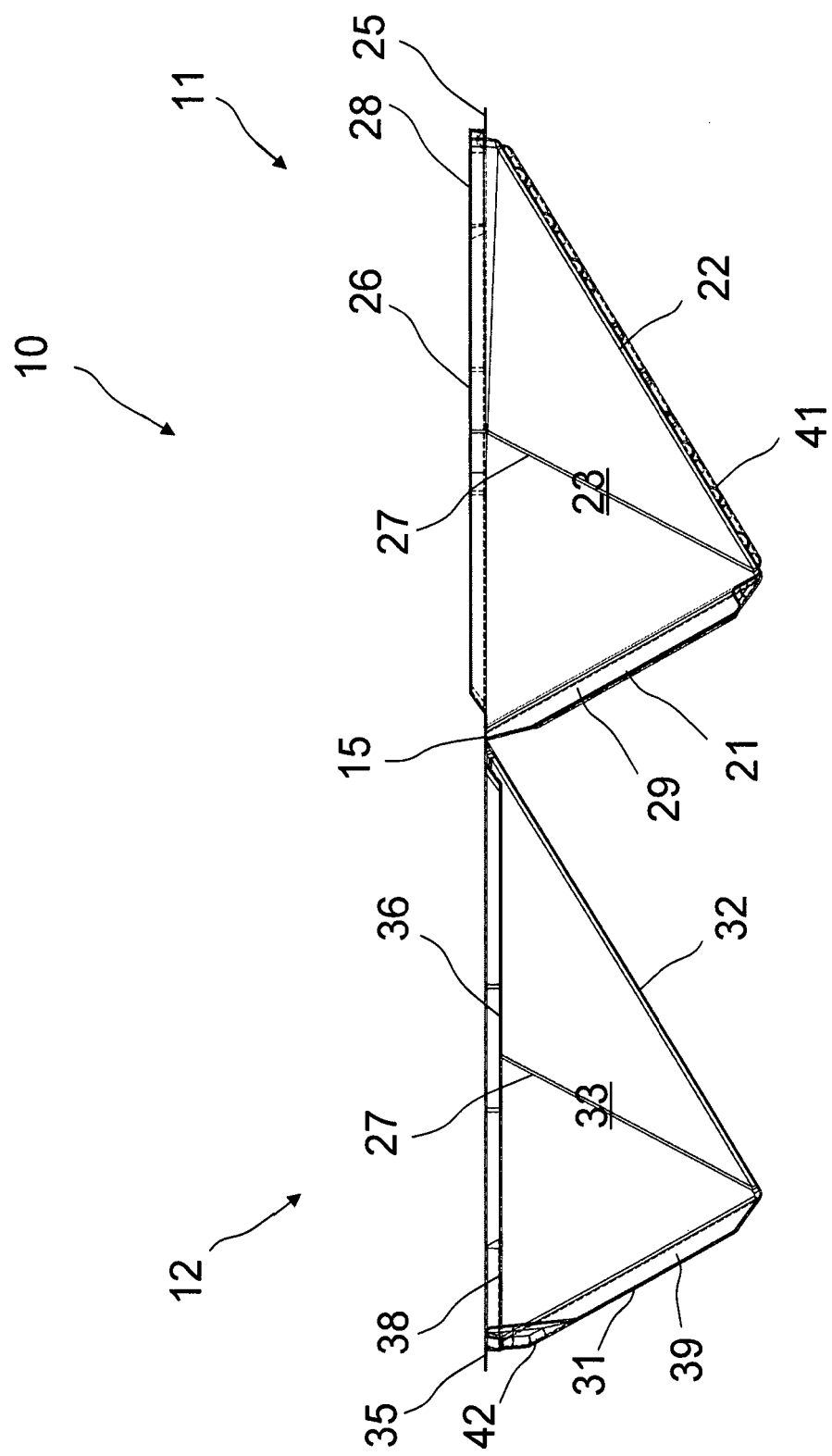


Fig.3

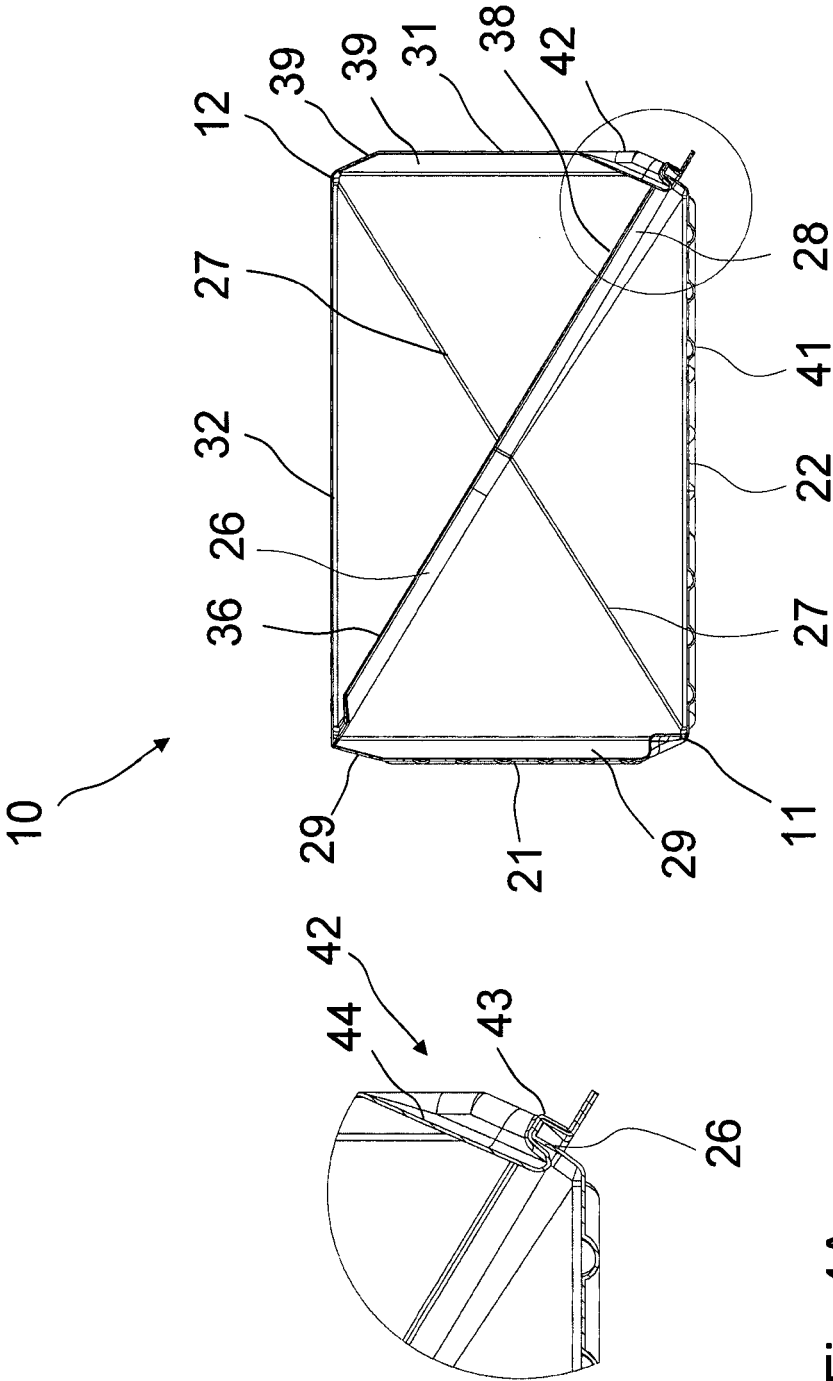


Fig.4A

Fig.4

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 5092479 A [0004]
- US 2015060455 A1 [0005]
- US 2010276419 A1 [0005]
- US 2014041343 A1 [0005]
- US 2007045317 A1 [0005]