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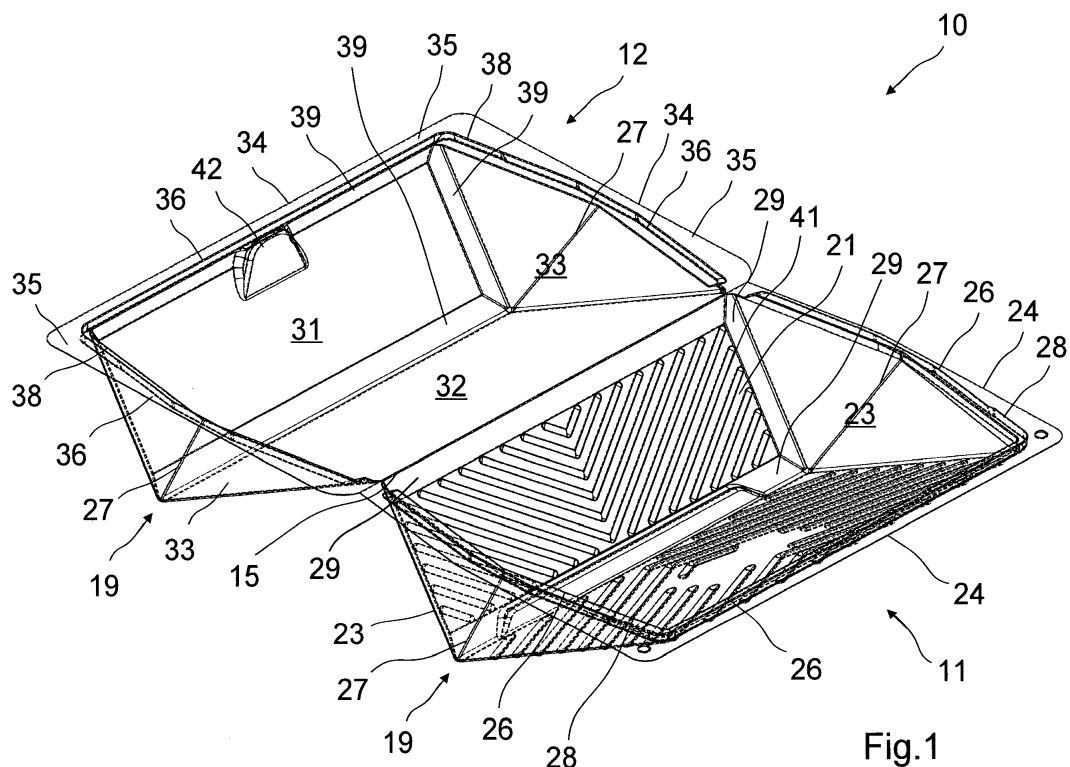
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(54) CONTAINER FOR FOOD PRODUCTS

(57) A container (10) for food products comprising: a base (11) and a cover (12) mutually hinged; 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); the cover (12) comprises a front

face (31) with stiffening means (39) of the cover; the base (11) comprises a rear face (21) with stiffening means (29) of the base; and the front face (31) of the cover (12) further comprises a reinforcing element (42) for airtight closing the cover (12) on the base (11) and to prevent the cover (12) from opening following a compression of the lower face (22).

**Fig.1****EP 3 208 209 A1**

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.

[0005] Documents US-A1-2015/060455, US-A-5 092 479, US-A1-2010/276419, US-A1-2014/041343 and US-A1-2007/045317 disclose containers according to the preamble 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] It is intended that all enclosed claims are an integral part of the present description.

[0011] 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.

[0012] 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.

[0013] 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.

[0014] Preferably, the base 11 and the cover 12 are made in a single piece of plastic material, for example moulded, thermo-formed, transparent, anti-fog 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.

[0015] Preferably, the container 10 has the shape of a polyhedron, and the base 11 and the cover 12 preferably have substantially mutually equal shapes.

[0016] 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.

[0017] 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.

[0018] 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.

[0019] 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.

[0020] 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.

[0021] 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.

[0022] 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.

[0023] 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.

[0024] 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.

[0025] 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.

[0026] 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.

[0027] 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.

[0028] 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.

[0029] 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.

[0030] Preferably, 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.

[0031] Preferably, 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.

[0032] 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.

[0033] Preferably, the lower face 22 of the base 11 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.

[0034] 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".

[0035] 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.

[0036] 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.

[0037] The operation of the container 10 for food products according to the present invention will now be described.

[0038] In a prima 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.

[0039] 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.

[0040] 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 parte 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.

[0041] 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.

[0042] 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.

[0043] 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.

[0044] 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.

[0045] 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.

[0046] 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.

[0047] 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.

[0048] 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.

[0049] 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.

[0050] 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.

[0051] 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.

[0052] 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 con-

tained in the container 10 from adhering to the faces 21, 23, 31 and 33 of the container 10.

[0053] 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), **characterized in that:**

- 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).

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

3. Container (10) for food products according to claim 1 or 2, **characterized in that** said sealing means (26) and said complementary sealing means (36) extend 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).

4. Container (10) for food products according to any one of the previous claims, **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).

5. Container (10) for food products according to any one of claims 1 to 3, **characterized in that** said sealing means (26) are composed of a recessed groove on the upper edge (24) of the base (11), and said complementary sealing means (36) are composed of a projecting groove obtained on the lower edge (34) of the cover (12).

6. Container (10) for food products according to any one of claims 2 to 5, **characterized in that** the closing means (28) are composed of projections (28) obtained on the sealing means (26), and the complementary closing means (38) are composed of recesses (38) obtained on the complementary sealing means (36), said projections (28) being adapted to be caught in the recesses (38) to close the cover (12) and the base (11) of the container (10).

7. 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).

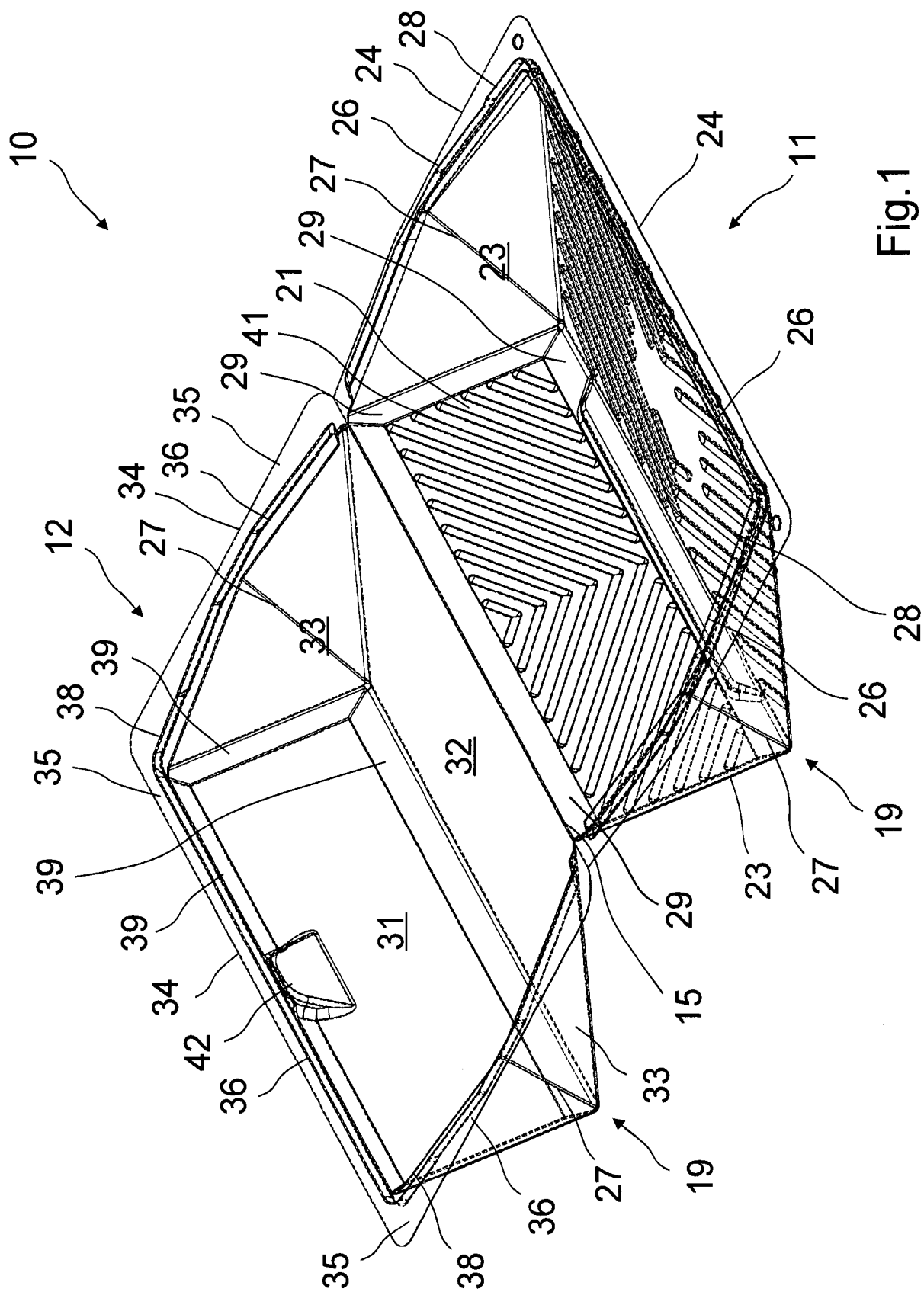
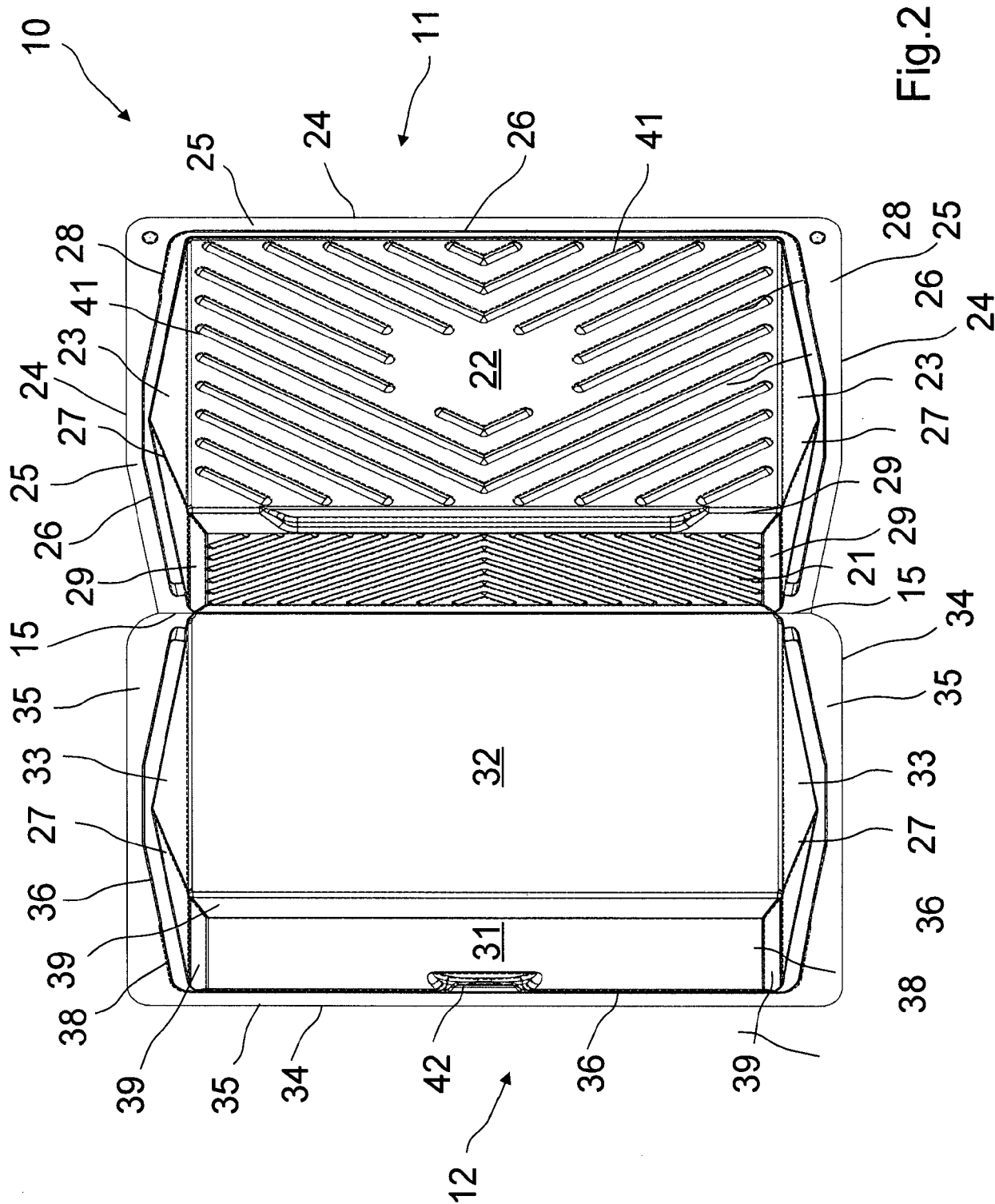


Fig. 1



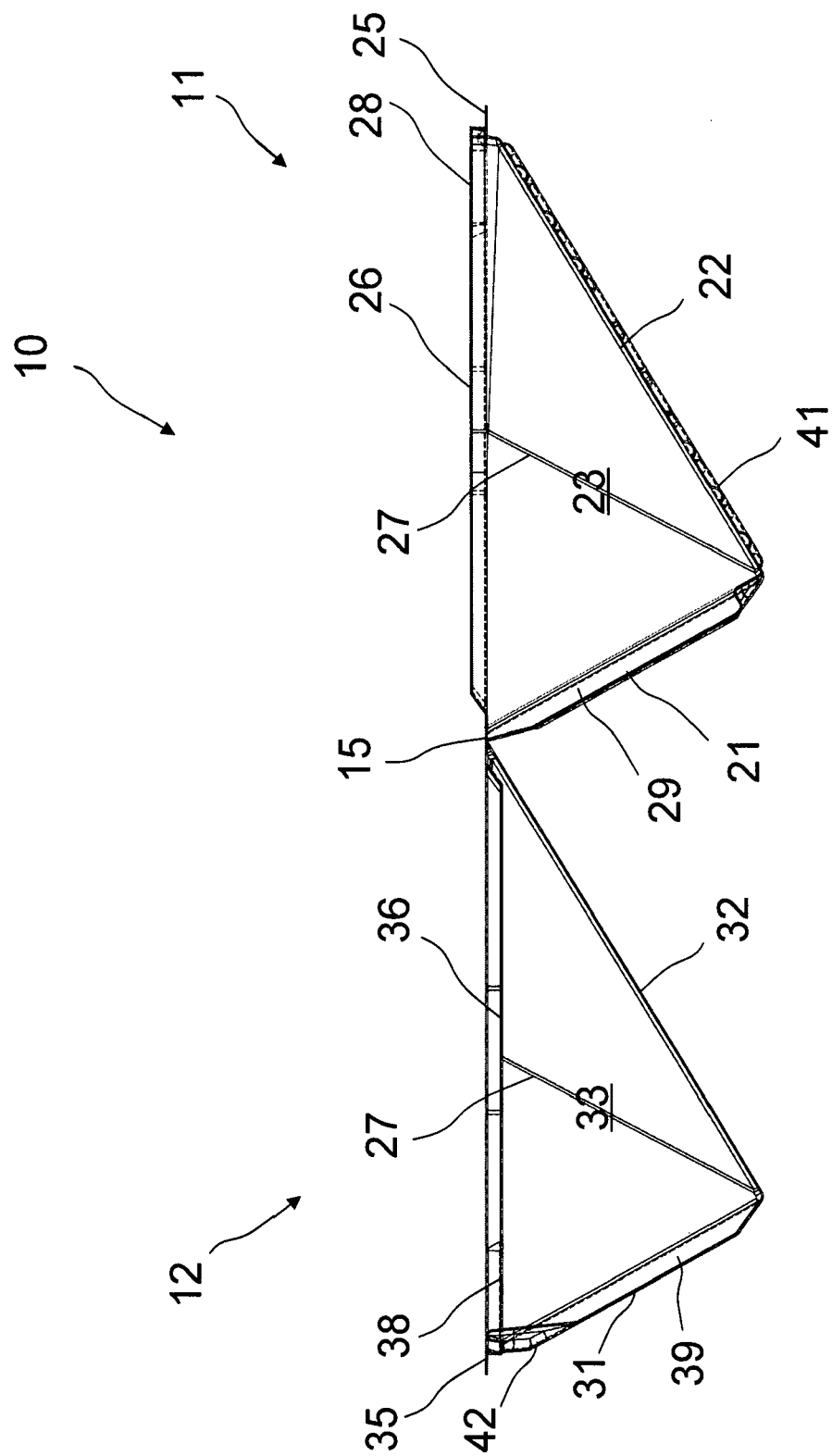


Fig.3

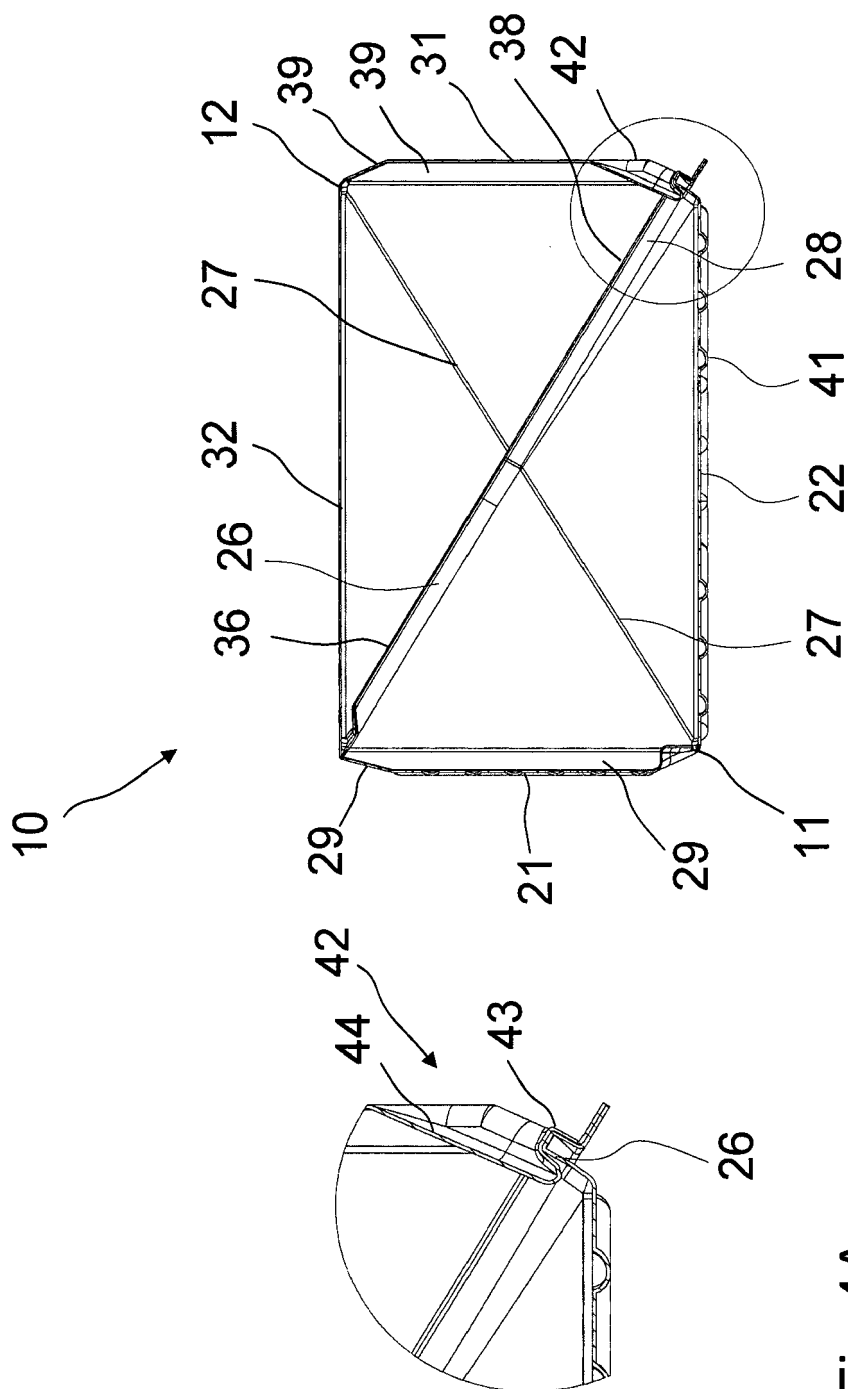


Fig. 4



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Application Number
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Place of search The Hague		Date of completion of the search 12 June 2017	Examiner Gino, Christophe
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