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(54) **CONTAINER**

(57) The present invention falls within the technical field of storage using containers, preferably cardboard containers. In a particular embodiment, said containers are intended for packaging food products, available in a variety of shapes and sizes, depending on the products to be packaged. In particular, the present invention re-

lates to a container for packaging products. Said container is obtained from the folding at various points and the attachment to one another of elements of an extended flat sheet, particularly made of cardboard, which after its assembly configures said product packaging container.

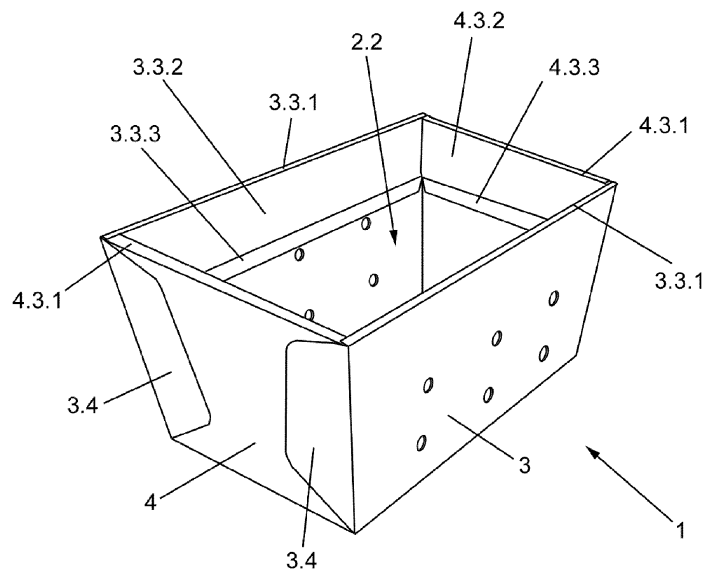


FIG.2

Description

OBJECT OF THE INVENTION

[0001] The present invention falls within the technical field of storage using containers, preferably cardboard containers. In a particular embodiment, said containers are intended for packaging food products, available in a variety of shapes and sizes, depending on the products to be packaged.

[0002] In particular, the present invention relates to a container for packaging products. Said container is obtained from the folding at various points and the attachment to one another of elements of an extended flat sheet, particularly made of cardboard, which after its assembly configures said product packaging container.

BACKGROUND OF THE INVENTION

[0003] The present invention is encompassed in the product packaging sector, specifically by means of containers configured from an extended flat sheet, in particular by means of folding and attachment operations of elements of said extended flat sheet.

[0004] This technical field currently has various containers for packaging products, which allow not only their storage but also the protection thereof. For this, the state of the art contemplates plastic, cardboard or wooden containers that allow the storage of the products.

[0005] For optimal and economical storage, these containers allow the stacking of several of said containers. However, said stacking causes the accumulation of weight on the lower containers, which causes the deterioration thereof, as well as of their content.

[0006] Likewise, said storage conditions require that the container be rigid enough to withstand both the products packed inside same and the stresses to which it is subjected during transport and, above all, during stacking. Solutions of this type are shown, for example, in document EP 3542670 A1, where reference is made to elements that make it possible to obtain a partially rigid container, but which show drawbacks for the correct stacking of several containers due to the configuration of the reinforcement elements.

[0007] Containers that do not have sufficient rigidity do not allow aligned stacking, which results in a lack of space and deterioration of containers and products. Likewise, the containers are often covered by plastic elements located in the upper portion of the container, as described in document EP 3768118 A1.

[0008] However, excessively rigid containers imply a high weight of the container, a greater volume occupied by same, and a higher manufacturing cost, both in terms of quantity of material and in the steps for assembling the containers. Likewise, containers with a high rigidity reduce the possibility of stacking between them, which in turn hinders the efficient storage of the products.

[0009] Currently, containers attempt to solve the prob-

lem of rigidity by means of elements, configured from elements of the container itself, which project towards the outside of the volume intended to house the products, and which allow not only supporting the possible cover located on the top of the container, but also improve stacking between equal containers.

[0010] However, these projections cause adjacent containers to snag one another, thus generating deformations in the containers. Likewise, the projections of each container occupy an additional volume, which extends along the perimeter around the container, which cannot be used, which results in the need for a much larger storage space.

DESCRIPTION OF THE INVENTION

[0011] The present invention makes it possible to solve the aforementioned problems, so that it allows products to be stored and packaged in a rigid container, which facilitates stacking and, therefore, storage and transport logistics, while protecting the corresponding product. Likewise, it avoids the generation of empty spaces adjacent to any projection of the container, which results in an increase in available space for stacking containers.

[0012] Thus, the first inventive aspect is directed to a *container for packaging products, configured from an extended flat sheet, wherein the container comprises:*

- *a lower wall, comprised in a perimeter delimited by at least four straight lower edges,*
- *at least two front walls, each of them coupled to a corresponding lower edge of the lower wall, said lower edges being opposed to one another, wherein each of the front walls is comprised in a perimeter delimited by at least two first front edges that are straight and opposed to one another, and two second front edges that are straight and opposed to one another, and wherein a first front edge coincides with the lower edge of the lower wall to which the front wall is coupled,*
- *at least two lateral walls, each of them coupled to a corresponding lower edge of the lower wall, said lower edges being opposed to one another, wherein each one of the lateral walls is comprised in a perimeter delimited by at least two first lateral edges that are straight and opposed to one another, and two second lateral edges that are straight and opposed to one another, and wherein a first lateral edge coincides with the lower edge of the lower wall to which the lateral wall is coupled,*

wherein each front wall comprises a first flange, coupled to a first front edge opposed to the lower edge of the lower wall to which the front wall is coupled, and wherein each lateral wall comprises a second flange, which in turn comprises:

- a first portion that extends along a longitudinal direction $X-X'$, coupled to the first lateral edge opposed to the lower edge of the lower wall to which the lateral wall is coupled,
- a second portion that extends along the longitudinal direction $X-X'$, coupled to the first portion, and
- a third portion that extends along the longitudinal direction $X-X'$, coupled to the second portion,

wherein the lower wall, the front walls and the lateral walls form an internal cavity configured to house products,

wherein the first portion of each second flange is folded and located substantially parallel to the lower wall, coplanar with each first flange of each front wall, wherein the second portion of each second flange is folded and substantially perpendicular to the first portion of each second flange, said second portion being substantially coupled to the first portion along its longitudinal direction $X-X'$, and

wherein the third portion of each second flange is folded after the second portion, wherein the third portion is in turn coupled to the sides of the lateral walls shaping the internal cavity, and

wherein the container further comprises an inner space between each side of the lateral wall shaping the internal cavity and the second portion of each second flange.

[0013] In this way, an extended flat sheet allows, by configuring various sections, to obtain by assembly a container that defines an internal cavity for packaging products with adequate rigidity for better stacking and storage. Said sections are the lower wall, the lateral walls and the front walls.

[0014] In this way, the lower wall makes it possible, in an operative situation, i.e., once the container is assembled, to configure a base or depth of said internal cavity, while the arrangement of the front and lateral walls makes it possible to generate the walls, arranged around the base, which define the height or depth of said internal cavity.

[0015] Both the lower wall and the front and lateral walls are defined in specific spaces. Particularly, its perimeter is delimited by a series of edges that determine its extension.

[0016] In this way, the lower wall shares each one of its edges with one of the front or lateral walls, since said sections are joined through the corresponding shared edge.

[0017] Thus, the lower wall is joined alternatively, and through one of its edges, to a front wall and to a lateral wall.

[0018] In a particular embodiment, the lower edges and/or the first front edges and/or the second front edges and/or the first lateral edges and/or the second lateral

edges of the front and lateral faces of the container comprise folding lines.

[0019] In other words, said edges allow the sections of the flat sheet to be folded more adequately for the configuration of the container, allowing a more efficient folding of each section and thus ensuring the position of each element during assembly.

[0020] In a particular embodiment, the number of lateral walls and front walls is the same.

[0021] Additionally, the extended flat sheet has additional sections, attached either to the front walls or to the lateral walls, which advantageously allow the formation of sections for the definition of a platform that enables closing means for closing the internal cavity to be supported.

[0022] That is, first of all, each front wall has a first flange which, in an operative situation, i.e., once the container is assembled, has a portion that is substantially parallel to the lower wall and is located at the point of maximum height of the internal cavity, attached to one of the first front edges of said front wall.

[0023] Simultaneously, each lateral wall in turn comprises a second flange which, in an operative situation, also has a portion that is also substantially parallel to the lower wall, and therefore substantially parallel to said portion of each first flange, the first flanges and the second flanges thus being coplanar. In the same way, each second flange is also located at the point of maximum height of the internal cavity, attached to one of the first lateral edges of said lateral wall.

[0024] In this way, advantageously, the set of first and second flanges configure a platform or support, substantially parallel to the base of the internal cavity and located at its point of maximum height, which extends towards the interior of the internal cavity, i.e., occupying part of the space of said internal cavity. In this way, the shaped support does not involve the projection of any protrusion outside the front and/or lateral walls delimiting the container. Advantageously, this avoids interactions with adjacent containers since, according to this configuration, there are no protruding elements that interact with external elements from the space delimited by the container. That is, undesired snags between the container and any external element, such as another adjacent container, are avoided.

[0025] Likewise, this allows the storage and stacking of a plurality of containers in a smaller space, since the contour of the container is completely contained by the plurality of front and lateral walls.

[0026] The support obtained from the set of first and second flanges is configured to allow more efficient stacking between identical containers. Said stacking is carried out without contact between the support configured in each container, thus the stacked containers remain in contact through the front and lateral walls.

[0027] Moreover, the support obtained from the set of first and second flanges is also configured to support, on same, closing means for closing the internal cavity. In

this way, since the support is located at the furthest point from the lower wall of the interior cavity, the support makes it possible to support closing means that totally or partially cover the entire internal volume of the internal cavity.

[0028] This allows the rigidity and mechanical resistance of said support, and therefore of each one of the first and second flanges, to be greater than any of the flanges projected towards the outside of the container, present in the state of the art, which advantageously improves the stacking of the containers.

[0029] In addition, said flanges projecting towards the outside of the container, known in the state of the art, are configured by coupling them on the exteriors of the front and lateral walls, i.e., on the sides opposed to the internal cavity of said walls, thus leaving a portion of the material of said projections superimposed on the extension of said walls.

[0030] In the case of the container according to the first inventive aspect, the first and second flanges, which make up the perimeter platform, are configured by the coupling thereof to the front and lateral walls, in particular to the sides of same that are located in the internal cavity. In this way, the surfaces corresponding to the opposite sides of the internal cavity do not comprise any overlapping element, so the surface is flat and smooth. Advantageously, this allows any method for decorating said surface, preferably by means of printing or screen-printing processes, to be continuous, which reduces manufacturing time and the number of steps in said methods.

[0031] Specifically, each second flange is configured from at least the following portions:

- a first portion shaped along a longitudinal direction X-X' and coupled to the first lateral edge opposed to the lower edge of the lower wall to which said lateral wall is coupled,
- a second portion also shaped along the longitudinal direction X-X', which extends after the first portion, and
- a third portion also shaped along the longitudinal direction X-X', which extends after the second portion and therefore the first portion.

[0032] Thus, said first, second and third portions are arranged in a concatenated fashion two by two, joined to one another by means of common edges along the longitudinal direction X-X'. Thus, the first portion is joined to one of the lateral edges of a lateral wall, while the second portion is joined to the first portion and the third portion is joined to the second portion.

[0033] Said first, second and third portions are folded, in an operative situation, such that they configure the second flange as part of the aforementioned support.

[0034] In this way, the first portion of the second flange is folded and located substantially parallel to the lower wall, coplanar with the first portion of each second flange of each lateral wall, as well as coplanar with a portion of

each first flange of each front wall, while the second portion is folded and substantially perpendicular to the first portion, and the third portion of each second flange is folded, forming an angle α with the second portion. In turn, said third portion is coupled to the sides of the lateral walls shaping the internal cavity.

[0035] Said angle α thus allows the third portion to be coupled to the side of the lateral wall that forms the internal cavity, these elements being parallel to one another, while the first portion is parallel to the lower wall. In a particular embodiment, the angle α is less than 180° . In a particular embodiment, the angle α fulfils the relationship:

$$90^\circ < \alpha < 180^\circ$$

[0036] In a particular embodiment, the third portion of the second flange and the side of the lateral wall shaping the internal cavity, with which it is coupled, are fixed to one another by means of adhesive.

[0037] Advantageously, this configuration allows the second flange, once assembled in its position, to maintain said position and have sufficient rigidity to act as a support for closing means that cover the products inside the internal cavity, as well as to act as a support for additional containers when same are stacked on top of each other.

[0038] In this way, the first and second flanges, by means of the present configuration, make it possible to obtain a structure that extends, in an operative situation, along the perimeter around the container, in particular around the internal cavity, said flanges projecting and extending towards the interior of said internal cavity. Said perimeter structure improves the stacking of containers one on top of the other as well as the rigidity and stability of same, which also prevents the containers from being deformed by the weight of other supported containers or by impacts with external elements.

[0039] In a particular embodiment, the first portion of each second flange is rectangular, which allows the perimeter structure to be a flat and smooth surface in an operative situation, which contributes to increasing the rigidity and stability for the stacking of a plurality of containers.

[0040] Additionally, the container comprises an inner space between each side of the lateral wall shaping the internal cavity and the second portion of each second flange.

[0041] In other words, in an operative situation, the first portion of each second flange is configured such that it extends parallel to the lower wall, while the second portion extends perpendicular to the first portion and the third portion forming an angle α with said second portion. Likewise, the third portion is attached, in a parallel manner, to the interior side of the lateral wall, i.e., to the side delimiting the internal cavity. In this way, the second portion is configured such that, between its connection with

the first portion, parallel to the lower wall, and the third portion, perpendicular to said lower wall, an inner space is configured between the interior side of the lateral wall and the second portion, which is confined by said first, second and third portions together with the interior side of the front wall, due to the formation of said angle α .

[0042] In a particular embodiment, the inner space has a decreasing dimension from its connection with the first portion towards its connection with the third portion.

[0043] In a particular embodiment, the inner space comprises a prismatic volume. In a particular embodiment, said prismatic volume is a pyramidal, or wedge-shaped, volume.

[0044] In a particular embodiment, the inner space is completely hollow along its length.

[0045] In a particular embodiment, the length of the second portion of each second flange along its longitudinal direction X-X' is:

- equal to the length of the first portion of each second flange along its longitudinal direction X-X' at the junction of both portions,
- greater than the length of the third portion of each second flange along its longitudinal direction X-X' at the junction of both portions. That is, the dimension of the first and second portion of the second flange is the same in their junction, their common edge being of the same length. However, from said junction of the first and second portions, to the junction between the second and third portions, the length of the second portion increases by at least one segment, the joining edge between the second and third portions thus being longer than the joining edge between the first and second portions.

[0046] Advantageously, this allows that in an operative situation, the assembly of the lateral wall is adequate, allowing a correct configuration of the inner space.

[0047] In a particular embodiment, the length of the lateral wall along its longitudinal direction X-X' is increasing in at least one segment from the first lateral edge where the first portion is coupled to the first lateral edge coinciding with the lower edge of the lower wall to which the lateral wall is coupled.

[0048] That is, taking the first portion as a reference, the length arrangement of the adjacent elements is as follows:

- on the one hand, at the junction between the first portion and the second portion, the length of the second portion is increasing in at least one segment from said junction to the junction between the second and third portions, and
- on the other hand, at the junction between the first portion and the lateral wall, through the first lateral edge, the length of said lateral wall is increasing in at least one segment from said junction to the junction between the lateral wall and the lower wall.

[0049] In this way, in a particular embodiment, taking the first portion as reference, the arrangement of lengths of the elements adjacent to one side and the other is symmetrical.

[0050] In a particular embodiment, the container further comprises closing means, in particular a lid, configured to cover the internal cavity.

[0051] These closing means are fixed on each first flange, preferably on the first portion of each first flange, and on the first portion of each second flange. That is, the closing means are located on the perimeter structure shaped by the first and second flanges once they have been folded to configure the container.

[0052] In a particular embodiment, the closing means are substantially parallel to the lower wall, thus being fixed to the perimeter structure formed by the first and second flanges, which extends towards the interior of the internal cavity. Advantageously, this makes it possible to completely cover the internal cavity, generating by means of the closing means, a support surface parallel to the lower wall and supported by the first and second flanges, which also allows the stacking of filled containers.

[0053] In a particular embodiment, the configuration of at least one of the first flanges comprises the following elements:

- a first portion that extends along a longitudinal direction X-X', coupled to the first front edge opposed to the lower edge of the lower wall to which the front wall is coupled,
- a second portion that extends along the longitudinal direction X-X', coupled to the first portion, and
- a third portion that extends along the longitudinal direction X-X', coupled to the second portion,

wherein the first portion of each first flange is folded and located substantially parallel to the lower wall, wherein the second portion of each first flange is folded and substantially perpendicular to the first portion of each first flange, said second portion being substantially coupled to the first portion along its longitudinal direction X-X',

wherein the third portion of each first flange is folded after the second portion, wherein said third portion is in turn coupled to the sides of the front walls shaping the internal cavity, and

wherein the container further comprises an inner space between each side of the front wall shaping the internal cavity and the second portion of each first flange.

[0054] In this way, in an operative situation, the first portion of each first flange is configured so that it extends parallel to the lower wall, while the second portion is folded substantially perpendicular to the first portion, and the third portion is folded, forming an angle β with the second

portion. Likewise, the third portion is attached in a parallel manner to the inner side of the front wall, i.e., attached to the side delimiting the internal cavity. In this way, the second portion is configured such that, between its connection with the first portion, parallel to the lower wall, and the third portion, perpendicular to said lower wall, an inner space is configured between the interior side of the front wall and the second portion of the first flange. In this way, said angle β allows that the third portion is coupled to the side of the lateral wall shaping the internal cavity as mentioned, these elements being parallel to each other, while the first portion is configured parallel to the lower wall. In a particular embodiment, the angle β is less than 180° . In a particular embodiment, the angle β fulfils the relationship:

$$90^\circ < \beta < 180^\circ$$

[0055] In a particular embodiment, the third portion of the first flange and the side of the lateral wall shaping the internal cavity, with which it is coupled, are fixed to one another by means of adhesive.

[0056] In a particular embodiment, the inner space has a decreasing dimension from its connection with the first portion towards its connection with the third portion of the first flange.

[0057] In a particular embodiment, the inner space of the first flange comprises a prismatic volume. In a particular embodiment, said prismatic volume is a pyramidal, or wedge-shaped, volume.

[0058] In a particular embodiment, the inner space is completely hollow along its length.

[0059] Advantageously, the present configuration allows the first flange, once assembled in its position, which extends towards the interior of the internal cavity, to maintain said position and have sufficient rigidity to act as a support for closing means that cover the products inside the internal cavity as well as to act as a support for additional containers when same are stacked on top of each other.

[0060] In a particular embodiment, the container according to the first inventive aspect also comprises assembly flaps on each front wall that allow, in an operative situation, to be coupled on each adjacent lateral wall, in particular on each side of the lateral wall opposed to the internal cavity.

[0061] In a particular embodiment, at least one of said assembly flaps is coupled to one of the second front edges of the front wall.

[0062] Advantageously, this configuration provides rigidity to the container, since each assembly flap acts as a reinforcement of the structure that configures the internal cavity. In this way, each assembly flap partially embraces the adjacent lateral wall, so that each front wall maintains its position on the lower wall more robustly.

[0063] In a particular embodiment, at least one of the following junctions of the container is made by means of

adhesive or heat sealing:

- the attachment of at least one of the assembly flaps to a lateral wall,
- the attachment of the closing means,
- the attachment of at least one of the junctions of the first and/or the second flange to the sides of the front walls and/or the lateral walls, respectively, which shape the internal cavity.

[0064] Advantageously, this allows efficient and simple joining of the indicated segments.

[0065] In a particular embodiment, at least one front wall further comprises a plurality of holes, distributed inside the perimeter delimited by the first front edges and the second front edges.

[0066] Said holes allow ventilation of the internal cavity, as well as fluidic communication between the interior of the internal cavity and the exterior. It also allows a slight weight reduction of the container.

[0067] In a particular embodiment, the container is made of cardboard, and preferably the closing means are made of plastic.

[0068] In a particular embodiment, the internal cavity is lined with a material configured to withstand a certain degree of humidity.

DESCRIPTION OF THE FIGURES

[0069] To complete the description, and for the purpose of helping to make the features of the present invention more readily understandable, this description is accompanied by a set of figures constituting an integral part of the same, which by way of illustration and not limitation represents the following:

Figure 1A shows a first particular embodiment of an extended flat sheet which, after being folded and assembled, configures a first particular embodiment of a container.

Figure 1B shows a detail view of a portion of Figure 1A.

Figure 2 shows a perspective view of a particular embodiment of the container, obtained from the extended flat sheet shown in Figure 1.

Figure 3 shows a plan view of the particular embodiment of the container shown in Figure 2.

Figure 4A shows a lateral view of two containers of the state of the art, while Figure 4B shows a lateral view of a particular embodiment of two containers according to the first inventive aspect.

Figures 5A and 5B show two perspective cross-sectional views of a particular embodiment of the container, obtained from the extended flat sheet shown in Figure 1.

PREFERRED EMBODIMENT OF THE INVENTION

[0070] Figure 1A shows a first particular embodiment of an extended flat sheet (1.1) which, after folding its segments around the different edges, configures a first embodiment of a container (1).

[0071] As can be seen in the present Figure 1A, the extended flat sheet (1.1) comprises a lower wall (2), delimited by four lower edges (2.1), said lower edges (2.1) being straight and configuring a rectangular lower wall (2).

[0072] According to the plan view provided in Figure 1A, two front walls (3) extend from two facing sides of the lower wall (2), in this case the left and right sides, one on each side of said lower wall (2).

[0073] Each front wall (3) is essentially rectangular, and is delimited by two first front edges (3.1) and two second front edges (3.2), all of them straight. Additionally, the first front edges (3.1) are facing one another, as well as the second front edges (3.2).

[0074] Additionally, as shown in Figure 1A, each front wall (3) extends from the lower wall (2) from one of the lower edges (2.1), which in turn coincides with one of the first front edges (3.1) of said front wall (3). A first flange (3.3) extends along a longitudinal direction X-X' on the first opposite front edge (3.1) on each front wall (3).

[0075] This first flange (3.3) is made up of a first portion (3.3.1), of a length substantially equal to the length of the first front edge (3.1), a second portion (3.3.2) located after the first portion (3.3.1) and joined thereto. Lastly, the first flange (3.3) also comprises a third portion (3.3.3), located after the second portion (3.3.2) and joined thereto. The first (3.3.1), second (3.3.2) and third (3.3.3) portions are substantially parallel to each other and are integrally machined in the same area of the extended flat sheet (1.1). Additionally, the first portion (3.3.1) is rectangular, while the second portion (3.3.2) and the third portion (3.3.3) have a decreasing dimension, from its connection with the adjacent portion to the end of its extension, i.e., according to the view provided in Figure 1A, decreasing from right to left.

[0076] As can be seen in Figure 1A, each front wall (3) further comprises two rows of three holes (3.5) for fluidic communication between the interior of the container (1) and the exterior.

[0077] Moreover, each front wall (3) further comprises, from each of its second front edges (3.2), an assembly flap (3.4). Said assembly flap (3.4) extends, integrally, from a first front edge (3.2) of the front wall (3) and is substantially perpendicular to the first flange (3.3.1). Additionally, it has a rounded contour, which is coupled on the adjacent lateral wall (4), in particular on the exterior side of the lateral wall (4).

[0078] As can be seen in Figure 1A, from the two remaining sides, also facing one another, of the lower wall (2), in this case the upper and lower sides according to the view of the present Figure 1A, two lateral walls (4) extend, one on each side of said lower wall (2).

[0079] Each lateral wall (4) is essentially rectangular, and is delimited by two first lateral edges (4.1) and two second lateral edges (4.2), all of them being straight. Additionally, the first lateral edges (4.1) are facing one another, as well as the second lateral edges (4.2).

[0080] Moreover, as shown in Figure 1A, each lateral wall (4) extends from the lower wall (2) from one of the lower edges (2.1), which in turn coincides with one of the first lateral edges (4.1) of said lateral wall (4). A second flange (4.3) extends along a longitudinal direction X-X' on the first opposite lateral edge (4.1) on each lateral wall (4).

[0081] This second flange (4.3) is made up of a first portion (4.3.1), of a length equal to the length of the first lateral edge (4.1), a second portion (4.3.2) located after the first portion (4.3.1) and joined thereto. Lastly, the second flange (4.3) also comprises a third portion (4.3.3), located after the second portion (4.3.2) and joined thereto. The first (4.3.1), second (4.3.2) and third (4.3.3) portions are substantially parallel to each other and are integrally machined in the same area of the extended flat sheet (1.1). Additionally, the first portion (4.3.1) is rectangular, while the second portion (4.3.2) is of increasing section and the third portion (4.3.3) has a decreasing dimension, from its connection with the adjacent portion to the end of its extension, i.e., according to the view provided in Figure 1A, from the bottom up.

[0082] This feature is shown more clearly in Figure 1B.

[0083] Said figure 1B is the detail view of the segment indicated, by means of a circle in dashed lines, of one of the lateral walls (4) shown in Figure 1A.

[0084] In this way, it is specifically observed in Figure 1B how the area adjacent to the first portion (4.3.1) of the second flange (4.3) has a symmetrical profile with respect to the longitudinal direction X-X' in the centre of said first portion (4.3.1).

[0085] That is, according to the orientation of Figure 1A, which is kept the same in Figure 1B, it is observed how the second portion (4.3.2) has a segment that increases upwards, i.e., towards the third portion (4.3.3), and the area of the lateral wall (4) from said first portion (4.3.1) towards the lower edge (2.1) is also increasing downwards, i.e., towards the lower wall (2), so that the assembly of the container (1) is made without overlaps between the elements of the second flange (4.3).

[0086] Additionally, Figures 2 and 3 show a container (1), already assembled and in an operative situation. Said container (1) is obtained by assembling an extended flat sheet (1.1) like the one shown in Figure 1. In particular, by folding said extended flat sheet (1.1) and attachment thereof by means of adhesive in the indicated areas.

[0087] As can be seen in Figure 2, which shows a perspective view of the container (1), said container (1) has an internal cavity (2.2) where the products are stored, delimited by the lower wall (2) as depth of said internal cavity (2.2), as well as by the front walls (3) and the lateral walls (4), the internal cavity (2.2) being open to the outside on the side facing the lower wall (2). Said internal

cavity (2.2) is communicated with the exterior through the through holes (3.5), which are machined on each of the front walls (3).

[0088] The internal cavity (2.2) is delimited, in its interior volume, by the first (3.3) and second (4.3) flanges. In particular, as shown in Figure 2, the first portions (3.3.1, 4.3.1) of the first (3.3) and second (4.3) rectangular flanges, are parallel to the lower wall (2), shaping a horizontal and perimeter platform, which projects from the upper end of the container (1) towards the interior of the internal cavity (2.2).

[0089] The same Figure 2 shows how the second portions (3.3.2, 4.3.2) and the third portions (3.3.3, 4.3.3) of the first (3.3) and second (4.3) flanges are essentially perpendicular to said first portions. (3.3.1, 4.3.1) and therefore respectively parallel to the front (3) or lateral (4) walls.

[0090] Additionally, Figure 2 shows how the assembly flaps (3.4) overlap the lateral walls (4), particularly on the exterior side of said lateral wall (4), i.e., the side opposite to the side delimiting the internal cavity (2.2).

[0091] Figure 3 shows a plan view of the container (1) shown in Figure 2, wherein the internal cavity (2.2) can be seen more clearly, where the products are stored, and the perimeter platform generated by the set of the first (3.3) and second (4.3) flanges, in particular by the first portions (3.3.1, 4.3.1) of the first (3.3) and second (4.3) flanges, which allow supporting and fixing the sealing means (3.5), not shown in the present Figure 3.

[0092] Said first portions (3.3.1, 4.3.1) are rectangular and, once assembled and in an operative situation, they do not interfere with one another, i.e., they do not overlap one another, as can be seen in Figure 3.

[0093] Additionally, it is also observed how the internal cavity (2.2) comprises a prismatic volume, communicated with the outside through the through holes (3.5) in the front walls.

[0094] Figures 4A and 4B show the interaction between containers of the same type.

[0095] In particular, Figure 4A shows a lateral view of two containers (R) of the state of the art, which comprise a perimeter flange (B), which projects outwards, i.e., towards the opposite side of the internal cavity of the container (R). Said perimeter flange (B) configures an adjacent space (E), in which easy access is not allowed.

[0096] Both the perimeter flange (B) and said adjacent space (E) cause collisions and/or snags between adjacent containers (R), as shown in area (C), indicated in Figure 4A.

[0097] However, Figure 4B shows a lateral view of a particular embodiment of two containers (1) as shown in Figures 2 and 3, wherein said containers (1), when placed adjacent, do not collide or snag with one another, since the first (3.3) and second (4.3) flanges extend towards the interior of the internal cavity (2.2). Likewise, the closing means (5) are delimited on the first (3.3) and second (4.3) flanges of the container (1), so they do not generate interaction between them either.

[0098] In order to show the details of the interior of the container (1), already shown in Figures 2 and 3, the cross-sections in Figures 5A and 5B show a perspective view of said container (1).

[0099] In particular, Figure 5A shows a cross-section of the lateral wall (4) of the container (1), the inner space (4.3.4) generated between the second portion (4.3.2) and the internal side of the lateral wall (4) being visible. This figure also shows the angle α , formed between the second portion (4.3.2) and the third portion (4.3.3) after folding and assembling said portions for the configuration of the second flange (4.3).

[0100] Likewise, Figure 5B shows a cross-section of the front wall (3) of the container (1), the inner space (3.3.4) generated between the second portion (4.3.2) and the internal side of the lateral wall (4) being visible. This figure also shows the angle β , formed between the second portion (3.3.2) and the third portion (3.3.3) after folding and assembling said portions for the configuration of the second flange (3.3).

Claims

1. Container (1) for packaging products, configured from an extended flat sheet (1.1), wherein the container (1) comprises:

- a lower wall (2), comprised in a perimeter delimited by at least four straight lower edges (2.1),
- at least two front walls (3), each of them coupled to a corresponding lower edge (2.1) of the lower wall (2), said lower edges (2.1) being opposed to one another,

wherein each of the front walls (3) is comprised in a perimeter delimited by at least two first front edges (3.1) that are straight and opposed to one another, and two second front edges (3.2) that are straight and opposed to one another, and wherein a first front edge (3.1) coincides with the lower edge (2.1) of the lower wall (2) to which the front wall (3) is coupled,

- at least two lateral walls (4), each of them coupled to a corresponding lower edge (2.1) of the lower wall (2), said lower edges (2.1) being opposed to one another,

wherein each of the lateral walls (4) is comprised in a perimeter delimited by at least two first lateral edges (4.1) that are straight and opposed to one another, and two second lateral edges (4.2) that are straight and opposed to one another, and wherein a first lateral edge (4.1) coincides with the lower edge (2.1) of the lower wall

- (2) to which the lateral wall (4) is coupled,
- wherein each front wall (3) comprises a first flange (3.3), coupled to a first front edge (3.1) opposed to the lower edge (2.1) of the lower wall (2) to which the front wall (3) is coupled, and wherein each lateral wall (4) comprises a second flange (4.3), which in turn comprises:
- a first portion (4.3.1) that extends along a longitudinal direction X-X', coupled to the first lateral edge (4.1) opposed to the lower edge (2.1) of the lower wall (2) to which the lateral wall (4) is coupled,
 - a second portion (4.3.2) that extends along the longitudinal direction X-X', coupled to the first portion (4.3.1), and
 - a third portion (4.3.3) that extends along the longitudinal direction X-X', coupled to the second portion (4.3.2),
- wherein the lower wall (2), the front walls (3) and the lateral walls (4) make up an internal cavity (2.2) configured to house products,
- wherein the first portion (4.3.1) of each second flange (4.3) is folded and located substantially parallel to the lower wall (2), coplanar with each first flange (3.3) of each front wall (3),
- wherein the second portion (4.3.2) of each second flange (4.3) is folded and substantially perpendicular to the first portion (4.3.1) of each second flange (4.3), said second portion (4.3.2) being substantially coupled to the first portion (4.3.1) along its longitudinal direction X-X',
- wherein the third portion (4.3.3) of each second flange (4.3) is folded after the second portion (4.3.2), wherein the third portion (4.3.3) is in turn coupled to the sides of the lateral walls (4) shaping the internal cavity (2.2), forming an angle α , less than 180 degrees, with said portion (4.3.2) and
- wherein the container (1) further comprises an inner space (4.3.4) between each side of the lateral wall (4) shaping the internal cavity (2.2) and the second portion (4.3.2) of each second flange (4.3).
2. Container (1) according to claim 1, wherein the inner space (4.3.4) comprises a prismatic volume.
 3. Container (1) according to claim 1, wherein the inner space (4.3.4) is hollow.
 4. Container (1) according to any of the preceding claims, wherein the first portion (4.3.1) of each second flange (4.3) is rectangular.
 5. Container (1) according to claim 4, wherein the

length of the second portion (4.3.2) of each second flange (4.3) along its longitudinal direction X-X' is:

- equal to the length of the first portion (4.3.1) of each second flange (4.3) along its longitudinal direction X-X' at the junction of both portions (4.3.2, 4.3.1),
- greater than the length of the third portion (4.3.3) of each second flange (4.3) along its longitudinal direction X-X' at the junction of both portions (4.3.2, 4.3.3).

6. Container (1) according to claim 5, wherein the length of the lateral wall (4) along its longitudinal direction X-X' also increases by at least one portion from the first lateral edge (4.1) where the first portion (4.3.1) is coupled towards the first lateral edge (4.1) coinciding with the lower edge (2.1) of the lower wall (2) to which the lateral wall (4) is coupled.
7. Container (1) according to any of the preceding claims, wherein the lower edges (2.1) and/or the first front edges (3.1) and/or the second front edges (3.2) and/or the first lateral edges (4.1) and/or the second lateral edges (4.2) comprise folding lines.
8. Container (1) according to any of the preceding claims, wherein at least one first flange (3.3) comprises:
 - a first portion (3.3.1) that extends along a longitudinal direction X-X', coupled to the first front edge (3.1) opposed to the lower edge (2.1) of the lower wall (2) to which the front wall (3) is coupled,
 - a second portion (3.3.2) that extends along the longitudinal direction X-X', coupled to the first portion (3.3.1), and
 - a third portion (3.3.3) that extends along the longitudinal direction X-X', coupled to the second portion (3.3.2),

wherein the first portion (3.3.1) of each first flange (3.3) is folded and located substantially parallel to the lower wall (2),

wherein the second portion (3.3.2) of each first flange (3.3) is folded and substantially perpendicular to the first portion (3.3.1) of each first flange (3.3), said second portion (3.3.2) being substantially coupled to the first portion (3.3.1) along its longitudinal direction X-X',

wherein the third portion (3.3.3) of each first flange (3.3) is folded after the second portion (3.3.2), wherein the third portion (3.3.3) is in turn coupled to the sides of the front walls (3) shaping the internal cavity (2.2), forming an angle β , less than 180 degrees, with said portion (3.3.2) and wherein the container (1) further comprises an inner space (3.3.4) between each side of the

front wall (3) shaping the internal cavity (2.2) and the second portion (3.3.2) of each first flange (3.3).

9. Container (1) according to any of the preceding claims, which further comprises closing means (5), configured to cover the internal cavity (2.2), wherein the closing means (5) are fixed on the first portion (3.3.1) of each first flange (3.3) and on the first portion (4.3.1) of each second flange (4.3). 5
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10. Container (1) according to claim 9, wherein the closing means (5) are substantially parallel to the lower wall (2). 15
11. Container (1) according to any of the preceding claims, wherein each front wall (3) further comprises an assembly flap (3.4) coupled to each of the second front edges (3.2). 20
12. Container (1) according to claim 11, wherein each assembly flap (3.4) of each front wall (3) is coupled to the sides of the lateral walls (4) opposed to the internal cavity (2.2). 25
13. Container (1) according to any of the preceding claims, wherein at least one of the following junctions is made by means of adhesive or heat sealing:
 - the attachment of at least one of the assembly flaps (3.4) to a lateral wall (4), 30
 - the attachment of the closing means (5),
 - the attachment of at least one of the junctions of the first (3.3) and/or the second (4.3) flange to the sides of the front walls and/or the lateral walls (4), respectively, which shape the internal cavity (2.1). 35
14. Container (1) according to any of the preceding claims, wherein at least one front wall (3) further comprises a plurality of holes (3.5), distributed inside the perimeter delimited by the first front edges (3.1) and the second front edges (3.2). 40
15. Container (1) according to any of the preceding claims made of cardboard, wherein preferably the closing means (5) are plastic. 45

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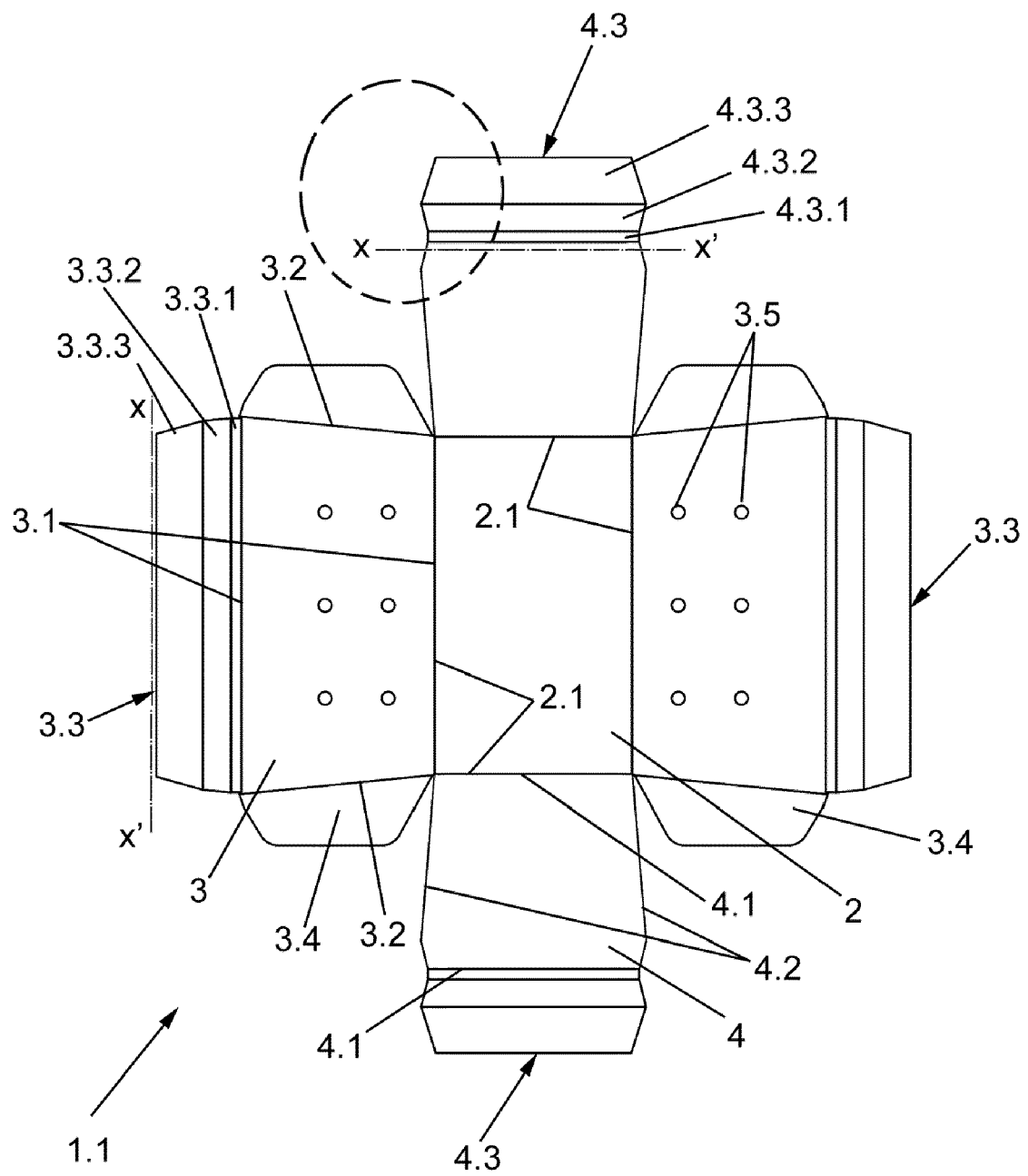


FIG.1A

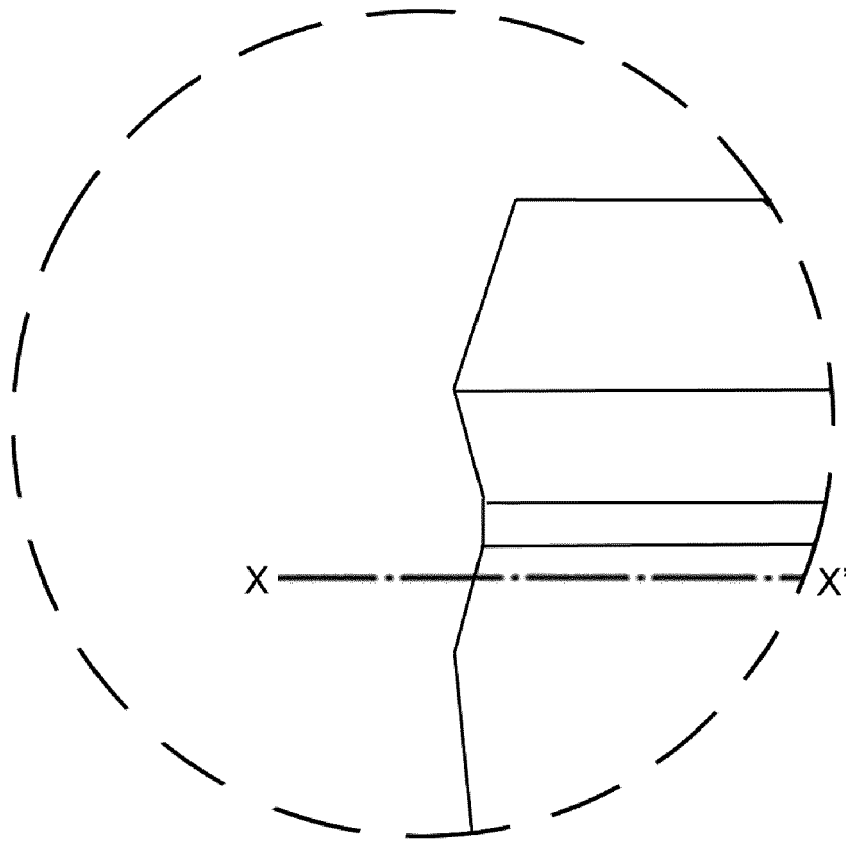


FIG.1B

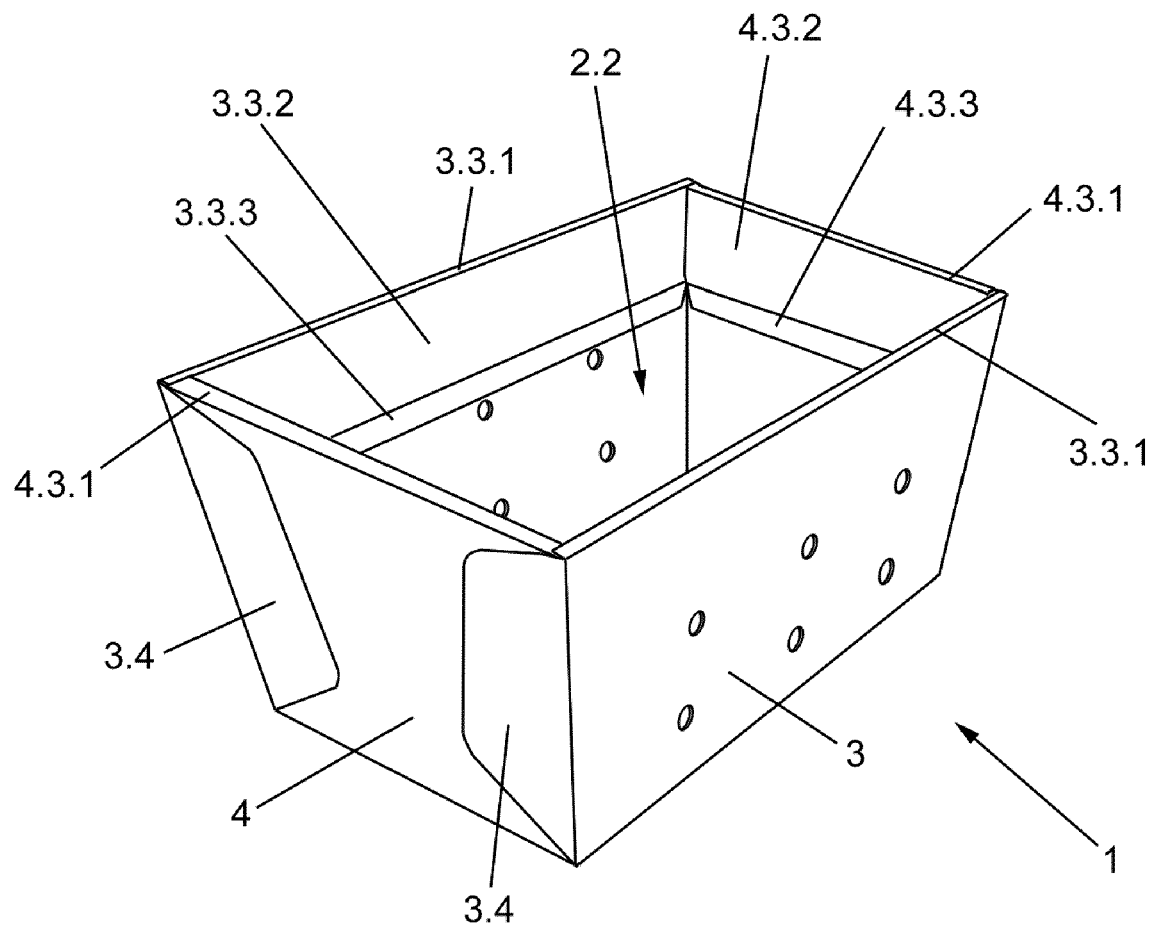


FIG.2

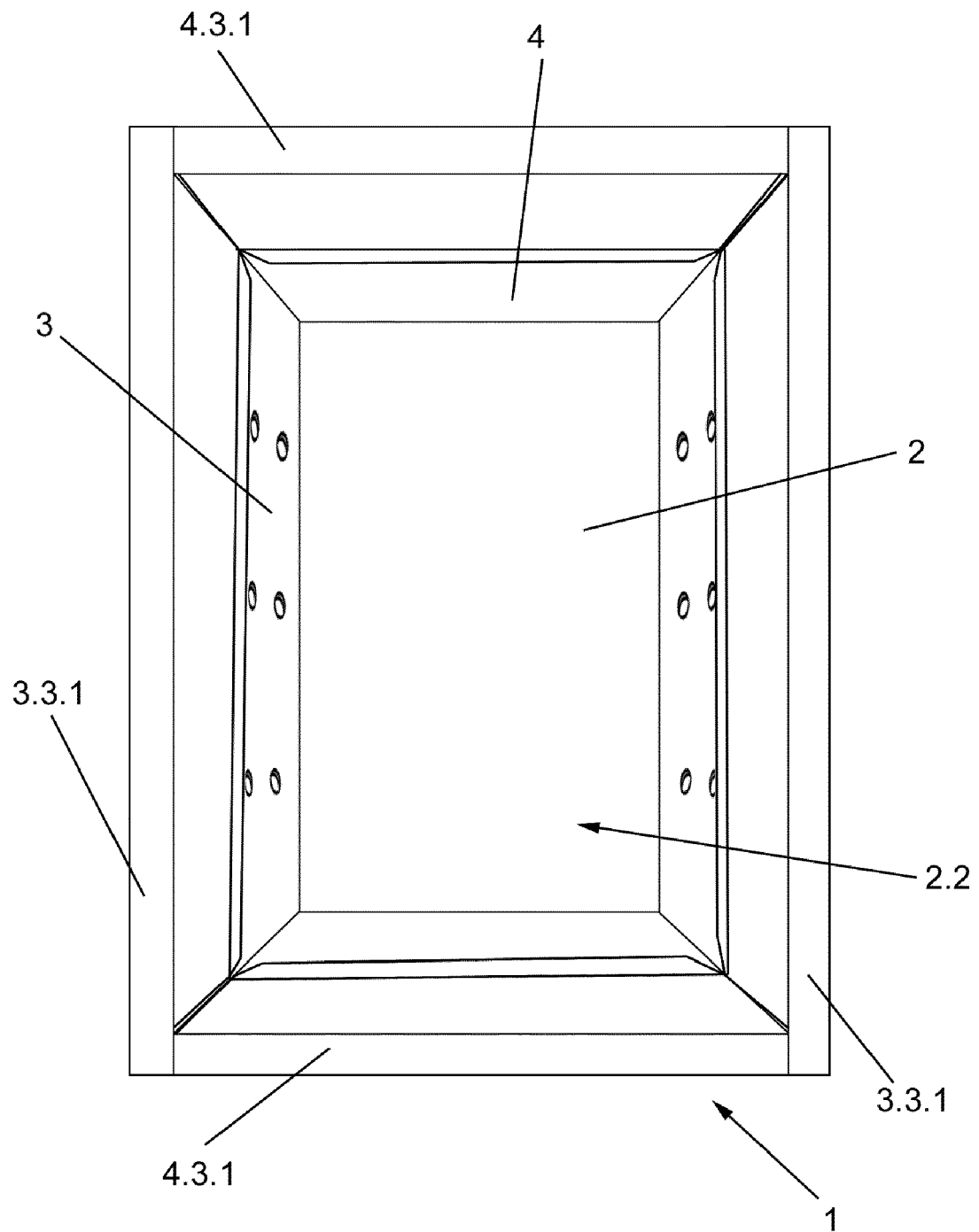


FIG.3

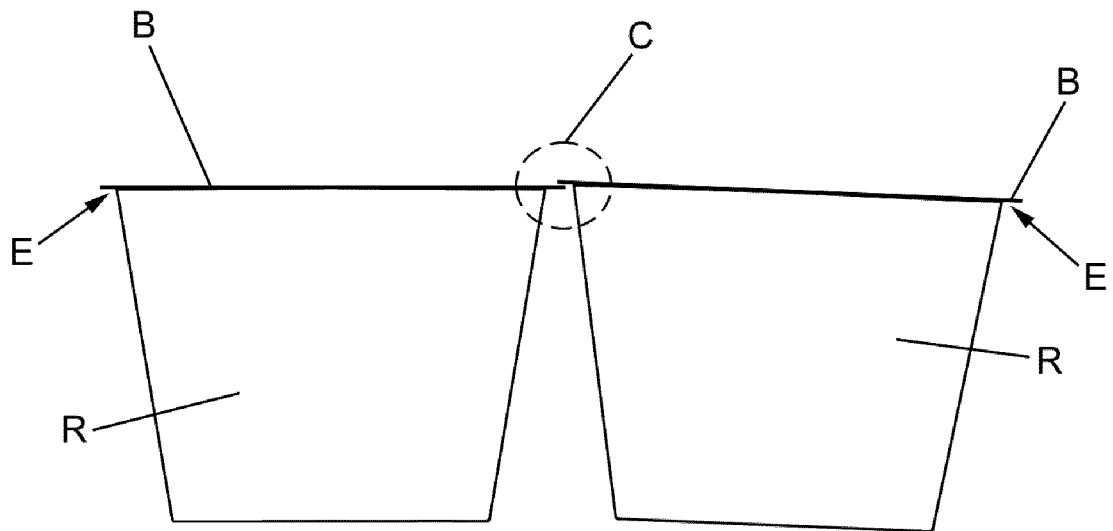


FIG. 4A

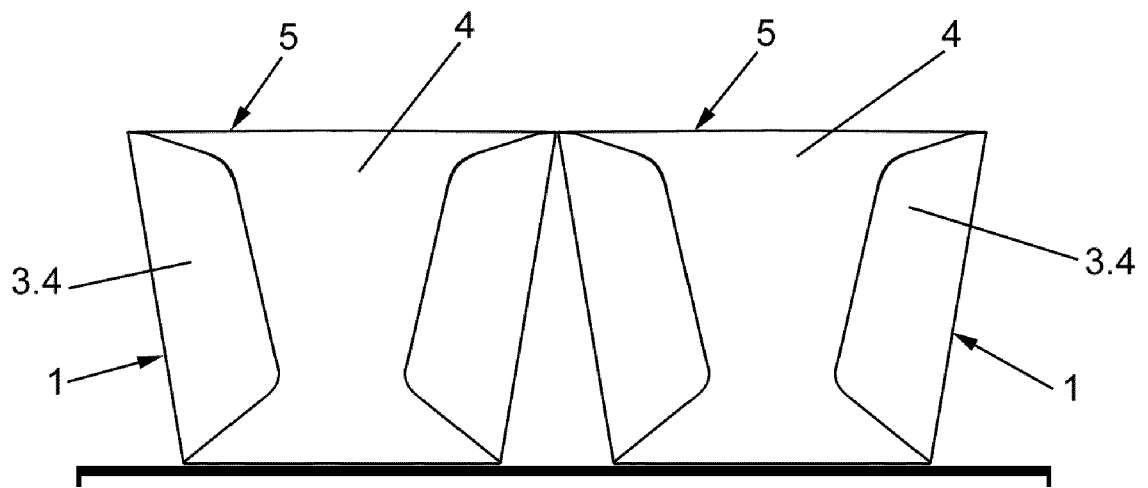


FIG. 4B

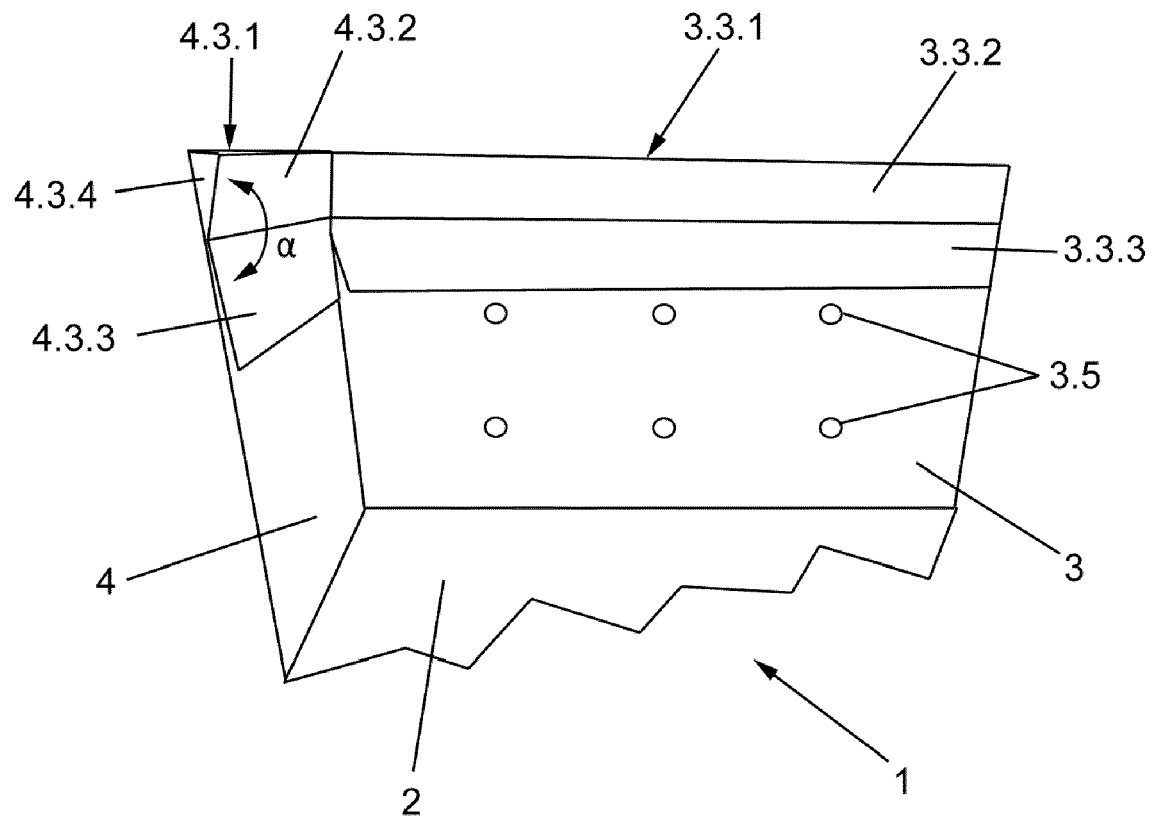


FIG.5A

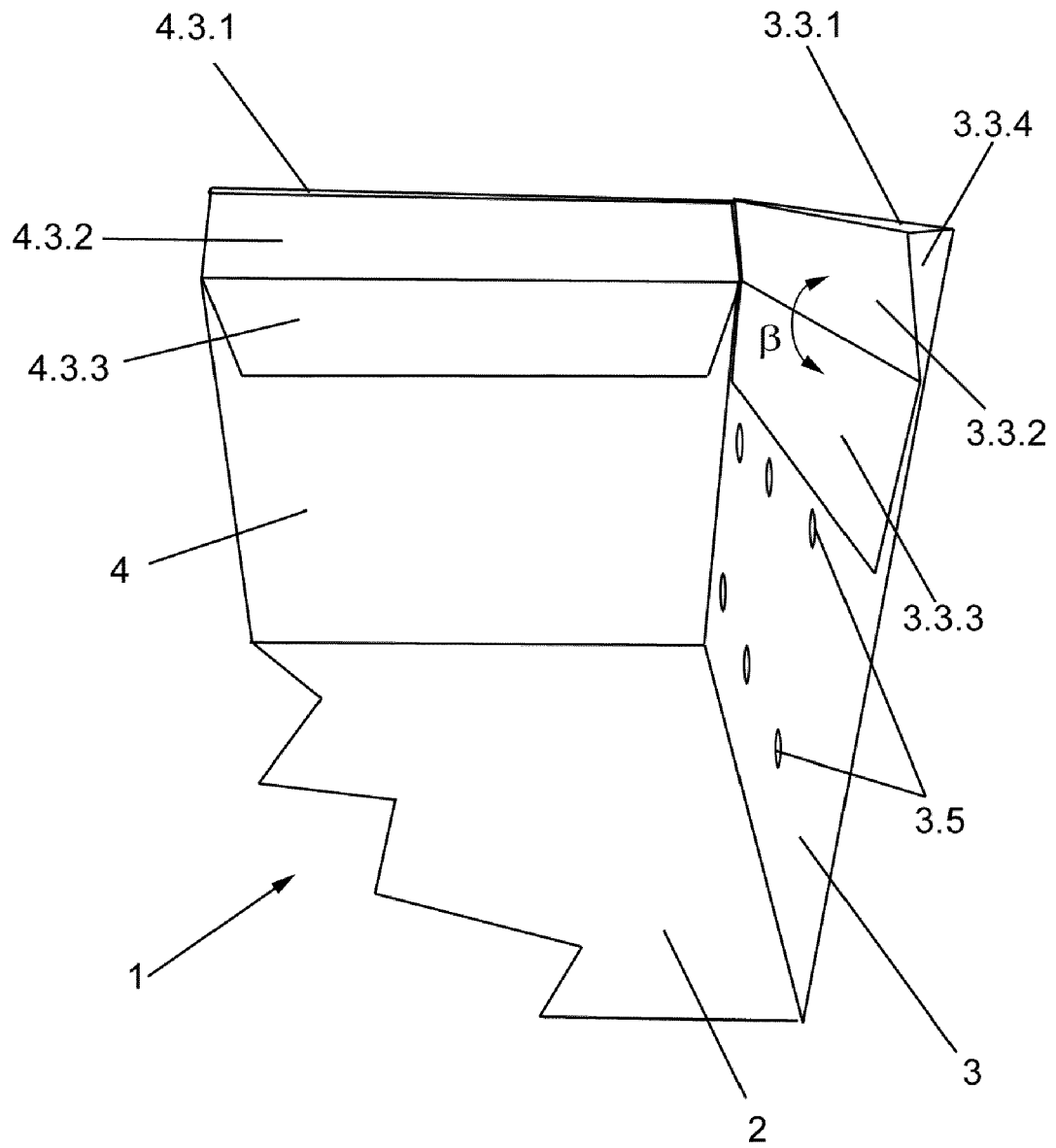


FIG. 5B



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Application Number

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