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(54) DEVICE FOR PRESENTING PRODUCTS AND USE THEREOF

(57) The invention relates to a device for presenting products, and a method for unfolding such a device. The invention comprises a rear wall (7), a front wall (10), two side walls (1, 3) and a tray (12) which is pivotably connected to both the rear wall and the front wall and comprises a bearing surface (14), wherein at least a part of a top side of the bearing surface is configured to bear products to be presented. The device can be folded from a folded-up state to an unfolded state and vice versa, wherein, in the unfolded state, the bearing surface of the tray spans a, preferably substantially flat, plane, wherein the bearing surface of the tray is substantially completely enclosed by the rear wall, the front wall and the side walls.

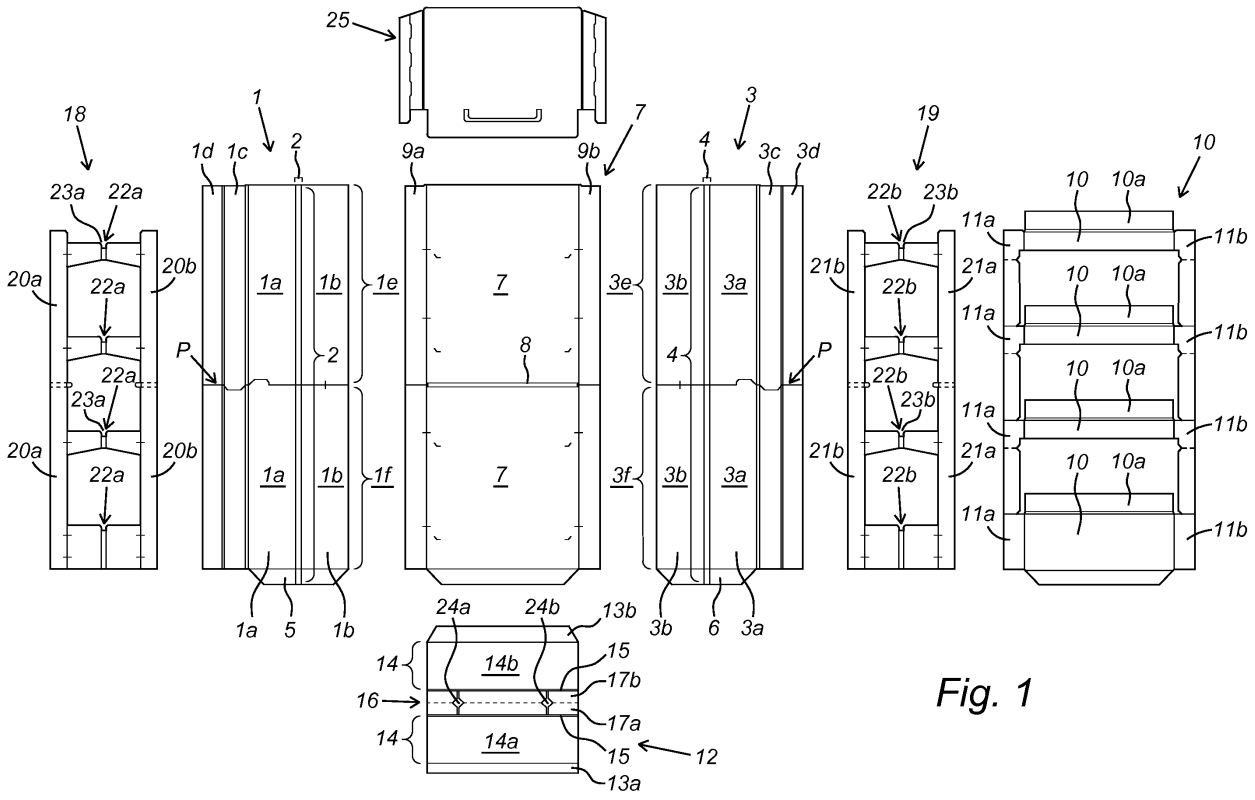


Fig. 1

EP 3 586 684 A1

Description

[0001] The invention relates to a device for presenting products. The invention also relates to a method for folding a device for presenting products from a folded-up state to an unfolded state.

[0002] Devices, or displays, for displaying products are already available on the market in various types and sizes. Such displays are usually made of cardboard and may be configured to be either durable or disposable. It is desirable for the device to have a relatively flat transport volume, so that it can be transported in a simple and space-efficient way. One drawback of the already known devices is, for example, that the devices with a flat transport volume are often relatively difficult to set up into the ultimately desired voluminous display form.

[0003] It is an object of the invention to provide an alternative to the existing devices for presenting products. It is a further object of the invention to provide an improved device, wherein the flat transport volume is not at the expense of the degree of difficulty in setting up the device.

[0004] To this end, the invention provides a device for presenting products, in particular goods for sale, comprising at least one first side wall, wherein the first side wall comprises at least one first folding zone which divides the first side wall into at least two mutually pivotable first side wall parts situated one behind the other, at least one opposite second side wall, wherein the second side wall comprises at least one second folding zone which divides the second side wall into at least two mutually pivotable second side wall parts situated one behind the other, a rear wall pivotably connected to the first side wall and the second side wall, at least one front wall pivotably connected to the first side wall and the second side wall, at least one tray which is pivotably connected to both the rear wall and the front wall and comprises a bearing surface, wherein at least a part of a top side of the bearing surface is configured to directly and/or indirectly bear products to be presented, at least two supporting structures for supporting the tray, in particular the bearing surface, wherein a first supporting structure is at least partially connected to the first side wall, and a second supporting structure is at least partially connected to the second side wall, wherein the device can at least be folded from a folded-up state to an unfolded state and vice versa, wherein, in the unfolded state, the bearing surface of the tray is substantially completely enclosed by the rear wall, the front wall and the side walls, and wherein the tray rests on underlying supporting structures, wherein the bearing surface of the tray comprises at least two bearing surface parts, wherein adjacent bearing surface parts are connected to one another by means of a third folding zone which forms a hinge, in such a way that the bearing surface parts are hingeable with respect to one another at the location of the third folding zone, and wherein the tray comprises at least one securing element which is connected to a bottom side of the bearing surface, preferably at the location of at least one third folding zone of the bearing surface, and is configured to interact with the first and/or the second supporting structure, in such a way that, in the unfolded state of the device, at least a part of the securing element engages with the first and/or the second supporting structure, as a result of which the tray, the first side wall and the second side wall are substantially secured with respect to one another. In the unfolded state, the bearing surface parts are preferably substantially situated in the same, preferably horizontally oriented, plane.

[0005] The rear wall usually defines the height of the device in the unfolded state. The height can vary strongly depending on the specific application, but usually varies from 30 centimetres to 200 centimetres (or more). The height of each front wall is usually (considerably) smaller than the height of the rear wall. The height of each front wall is preferably between 3 and 12 centimetres, more preferably between 5 and 10 centimetres.

[0006] With the device according to the invention, a volume display that can be easily folded up and unfolded is obtained, having a relatively large bearing strength and a relatively small transport volume. An advantage of the device according to the invention is that the presence of the first and second folding zone means that the front wall, the rear wall and the side walls can be connected to one another in both the folded-up state and the unfolded state and that the presence of the third folding zone means that the front wall, the rear wall and at least one tray can be connected to one another in both the folded-up state and the unfolded state. Due to the presence of said mutual connections in both states, it is particularly simple to unfold the device from the folded-up state to the unfolded state. The first side wall, the second side wall and the bearing surface must for this purpose be unfolded until they each extend in a substantially flat plane. In the unfolded state, the first side wall and the second side wall usually span a vertically oriented plane. In the unfolded state of the device, the bearing surface will usually be oriented substantially horizontally. The securing element can be used as an engagement element for a user in order to simplify unfolding the bearing surface. As a result of the (manual) unfolding of the bearing surface, the side walls will unfold substantially simultaneously due to the mutual connection of the tray to the front wall and the rear wall, and due to the mutual connection of the front wall and the rear wall to the side walls. This is because unfolding the bearing surface causes the front wall and the rear wall to move away from one another, as a result of which the front and rear side wall parts, which usually face outwards, come to rest in line with one another. Likewise, the (manual) unfolding of the side walls will also lead to the unfolding of the bearing surface without the user needing to actively contribute to this. It is therefore possible to unfold the device from the folded-up state to the unfolded state in only a few seconds.

[0007] Vice versa, it is obviously also particularly sim-

ple to fold the device from the unfolded state to the folded-up state. A further advantage of the abovementioned mutual connections is that all primarily essential parts of the device are thus connected to one another initially. The device therefore consists of one whole and not of separate parts that must be connected to one another by the user, which considerably facilitates the unfolding and thus the setting up of the device. Due to the simplicity of the device, there is no doubt for the user as to how the device must be unfolded, as a result of which any user can install the device without specific prior knowledge being required. The fact that the device consists of one whole also facilitates transport.

[0008] In the folded-up state of the device, at least the side walls and the tray are in a folded-up position, wherein preferably the first side wall and the second side wall are preferably unfolded outwards. This means that the first side wall and second side wall are unfolded in a direction facing away from one another, wherein the first folding zone and the second zone are further away from one another than in the unfolded state. This means that there is space centrally in the device in which the tray can be secured in the folded-up position. One advantage achieved thereby is that the number of material layers situated on or behind one another in the folded-up state remains limited in this way, as a result of which the thickness of the device in the folded-up state and thus the transport volume is minimized. In the folded-up position of the tray, the bearing surface parts are substantially hinged towards one another, wherein the third folding zone, in the folded-up state, is usually situated more towards a top side of the device than in the unfolded state. The bearing surface parts are usually configured to hinge in a downwards direction during the unfolding of the device from the folded-up state to the unfolded state. The downwards movement must continue until the bearing surface parts substantially span a flat plane. In order to further allow the bearing surface parts to hinge or unfold in the direction of a bottom side of the device, a relatively high external force will need to be exerted on the bearing surface parts, as a result of which the risk of this happening due to the force of gravity of the products to be presented which are positioned on the bearing surface is considered to be small. In this case, when the bearing surface extends in a substantially flat plane, it will be supported by at least one supporting structure, as a result of which the risk of further hingeing and/or unfolding of the bearing surfaces is counteracted. In the unfolded state, the sides of the bearing surface can both engage with the side walls and are situated at a certain distance therefrom. There may, for example, be a distance of 1 centimetre or less between a side wall and the side of the bearing surface.

[0009] The device has a relatively high stability in the unfolded state due to the mutual interaction between the securing element and the first and/or the second supporting structure. Due to the fact that at least a part of the securing element engages with the first and/or the second supporting structure, the tray, the first side wall and the second side wall are substantially secured with respect to one another. There is, in particular, a downwards vertical securing of the tray and a horizontal securing of the side walls. This ensures stabilization of the device and substantial fixation of the device as such. In this case, the tray, in the unfolded state, extends substantially horizontally in the device and the bearing surface rests on underlying supporting structures. Due to the combination of the high stability of the construction per se and the support that the bearing surface experiences, the device has a relatively large bearing strength. Preferably, each bearing surface part is at least partially supported. The stability of the device can be further improved by resting at least one supporting structure on the substrate on which the device is positioned.

[0010] In an advantageous variant embodiment, the first and/or the second supporting structure comprises at least one rib or strip, wherein the rib is connected to the first or second side wall, respectively, on either side of the first or second folding zone. In this case, a first end of the rib is connected to a front side wall part and a second end of the rib to a rear side wall part. The rib forms a connection between the front side wall part and the rear side wall part, which can benefit the stability of the side wall. The rib can also ensure an improved distribution of forces which are exerted indirectly on the side wall by products positioned on the bearing surface. During unfolding of a side wall connected to the rib, the rib may also perform a guiding function. The rib preferably offers at least support to the tray at the location of the third folding zone, for the further prevention of undesired unfolding or hingeing of the bearing surface parts. The rib preferably supports at least two adjacent bearing surface parts, which benefits the stability of the bearing surface.

[0011] In a further advantageous variant embodiment, at least one rib, in the unfolded state of the device, defines substantially a V shape. In particular, this relates to a V shape directed inwards when viewed from above. In this case, the V shape, together with the side wall to which the rib is connected, defines substantially a triangle, which provides a relatively strong construction from a structural perspective. The V-shaped rib may, in this case, increase the maximum bearing strength of the device. A first part of the rib and a second part of the rib may, for example, be connected to one another by means of a fourth folding zone. Preferably, the first part of the rib and second part of the rib may at least partially engage with one another in the folded-up state of the device. It is also conceivable for the rib to be at least partially or substantially completely enclosed by the side wall parts connected to the rib in the folded-up state of the device. Such a configuration may have a positive contribution to the compactness of the device in the folded-up state.

[0012] In a possible variant embodiment, at least one securing element is at least partially formed by a pivotable projection connected to at least one bearing surface part.

In the unfolded position of the device, the pivotable projection extends on the bottom side of the bearing surface at the location of the third folding zone of the bearing surface. In this way, the securing element is formed in a structurally relatively simple way from a part which already forms part of the device. The securing element is therefore an integral part of at least one bearing surface part. As a result, the risk that the connection between the securing element and the bearing surface is damaged or even broken due to frequent folding and unfolding of the device is reduced in comparison with a separate element which is connected to the bearing surface. The pivotable projection may, for example, be formed by folding over a part of at least one bearing surface part. In an advantageous variant embodiment, it is possible for the securing element to be formed at least partially by a first pivotable projection connected to a first bearing surface part and by a second pivotable projection connected to a second bearing surface part, wherein the first and second pivotable projections are connected to one another. In this way, adjacent first and second bearing surface parts are connected to one another by the mutually connected pivotable projections. The hinge-forming third folding zone will extend at the location of the connection between the adjacent bearing surface parts, wherein the bearing surface parts are hingeable with respect to one another at the location of the third folding zone. It is also possible for the securing element to extend substantially over the entire width of the bearing surface part. It is also possible for at least two securing elements to be connected to the bearing surface, wherein each securing element is configured to interact with a supporting structure.

[0013] In a possible variant embodiment, the tray is made of at least two mutually connected parts. Preferably, the mutual connection between the two tray parts is at the location where the third folding zone is desirable. In other words, the third folding zone is simple to provide by making a hingeable mutual connection between the tray parts. In this way, the third folding zone can be relatively simply provided in the tray. An example of a tray which can consist of at least two mutually connected parts has already been given above for the variant embodiment in which the securing element forms an integral part of at least one bearing surface part due to the fact that it is formed by at least one or preferably two pivotable projections of the bearing surface parts.

[0014] In an advantageous variant embodiment, the first and/or the second supporting structure comprises at least one receiving space for receiving at least a part of at least one securing element. The interaction between the receiving space of the supporting structure and the securing element may, in this case, provide improved mutual securing. Both the downwards vertical securing of the tray and the horizontal securing of the side walls can thus be improved due to the fact that, by using the receiving space, a horizontal and/or vertical boundary can be formed. It is also conceivable for at least one securing element to comprise at least one further receiving space for receiving at least a part of the first and/or the second supporting structure. The interaction between the receiving space of the securing element receiving space and at least one supporting structure can also provide an improved mutual securing between securing element and first and/or second supporting structure. Both the downwards vertical securing of the tray and the horizontal securing of the side walls can thus be improved. A device in which the first and/or the second supporting structure comprises at least one receiving space for receiving at least a part of at least one securing element and in which at least one securing element comprises at least one further receiving space for receiving at least a part of the first and/or the second supporting structure is also conceivable. Preferably, the first and/or second supporting structure are configured to interact with the securing element, wherein there is mutual engagement at the location of the receiving space and the further receiving space. It is advantageous if, in the unfolded state of the device, the horizontal movement space between the supporting structure and the securing element is no more than 7 millimetres, and preferably no more than 5 millimetres and further preferably no more than 3 millimetres. In this way, the horizontal movement space of the tray in the device can remain limited. The desired maximum horizontal movement space can be realized by adapting the dimensions of the abovementioned receiving space and/or the abovementioned further receiving space thereto.

[0015] The first folding zone and the second folding zone are usually situated substantially parallel to one another in the unfolded state of the device, and the first folding zone and second folding zone preferably have a substantially vertical orientation. A parallel orientation of the first folding zone and the second folding zone can facilitate the folding of the device from a folded-up state to the unfolded state and vice versa. Preferably, the width of the first side wall is substantially equal to the width of the second side wall. In addition, for each side wall the width of the front side wall part is more preferably substantially equal to the width of the rear side wall part. In an advantageous variant embodiment, a vertical cross section of the device situated in the centre of the device, in the unfolded state, defines a plane of symmetry. A substantially symmetrical embodiment of the device can, among other things, have a positive impact on the stability of the device.

[0016] The third folding zone usually has a substantially horizontal orientation in the unfolded state of the device. In this case, the folding zone preferably extends substantially horizontally between the vertically arranged first and second side wall. As already stated above, it is advantageous if the bearing surface parts, in the folded-up state, are folded towards the top of the device. This means that the bearing surface parts need to make a downwards movement in order to form the final substantially flat bearing surface. The folding zone is therefore configured to allow the adjacent bearing surface parts to

undergo a downwards movement during the outwards hingeing of the bearing surface parts.

[0017] In an advantageous variant embodiment, the first folding zone, the second folding zone and the third folding zone, in the unfolded state of the device, are substantially in line with one another. In this case, the third folding zone is substantially enclosed by the first and second folding zone, wherein the pivot axis of the third folding zone intersects the pivot axis of the first and second folding zone. This configuration ensures that folding the device from a folded-up state to an unfolded state and vice versa is simplified. Due to the indirect mutual interaction between the tray and the side walls, it is advantageous, from an energy efficiency perspective, that the folding zones are in line with one another, as mentioned above, since this requires the least amount of force to unfold the tray and the side walls.

[0018] It is conceivable for at least one front wall and at least one tray to be integrally connected to one another. In this way, mutual interaction between the tray and the front wall can be guaranteed in a relatively simple manner.

[0019] In a possible variant embodiment of the device, the rear wall comprises at least one first folding strip pivotably connected to the first side wall and/or at least one second folding strip pivotably connected to the second side wall. By using a first and/or second folding strip, the rear wall and at least one side wall can be connected to one another in a relatively simple way. The first and/or second folding strip may, for example, be provided at least partially and preferably substantially fully with a material layer, such as an adhesive, in order to obtain a connection between the rear wall and first and/or second side wall, respectively. A further advantage provided by the folding strip is that it can fulfil a reinforcing function for the device, as a result of which the stability of the device can be improved in the unfolded state. The folding strip therefore serves as a reinforcing rib. Nevertheless, it is also possible for the pivotable folding strip to form part of a side wall and be connected to the rear wall. It is also possible for the front wall to comprise at least one first folding edge pivotably connected to the first side wall and/or at least one second folding edge pivotably connected to the second side wall. The folding edge may, for example, be connected to the side wall on an inner side of the device. Use of a folding edge may contribute to the stability of, in particular, the front wall to which it is connected. The tray may comprise at least one rear folding strip pivotably connected to the rear wall and/or at least one front folding strip pivotably connected to the front wall. Preferably, the rear folding strip and/or the front folding strip pivot in the direction of the bottom side of the device. In this way, the folding strip can also offer a supporting function for at least a part of the bearing surface.

[0020] The side walls are usually attached, in particular glued, to the front wall and/or the rear wall via at least one intermediate material layer. This creates an in principle non-releasable connection between the side walls and the front wall and/or rear wall. The tray may also be attached, and in particular glued, to the front wall and/or the rear wall via at least one intermediate material layer. This also applies to the first and/or the second supporting structure, which can also be attached, in particular glued, to the first and/or the second side wall, respectively, via at least one intermediate material layer. Using an intermediate material layer, or glueing, can provide an in principle non-releasable connection between said parts. The material layer may, for example, be formed by an adhesive. Using the abovementioned intermediate material layers, or glueing, ensures that pre-assembly of the device can be carried out in a relatively simple way. In the event that the device comprises at least one folding strip and/or folding edge, it can be attached, and in particular glued, to the device part to be connected via at least one intermediate material layer.

[0021] It is conceivable for the device to comprise several trays according to the invention which are pivotably connected to both the rear wall and the front wall. In that case, the device will usually also have a plurality of front walls, wherein each tray is connected to a front wall. It is possible in this case for two or more front walls to be connected to one another. Each tray will also be supported by means of a first and second supporting structure as defined in the present invention. Several trays will usually be connected to a joint rear wall. Each tray will usually be substantially completely enclosed by the joint rear wall, the front wall connected to the tray and two joint side walls, and with each tray resting on underlying supporting structures. A variant embodiment is, for example, possible, in which the device comprises at least two trays pivotably connected to a front wall and to a joint rear wall, wherein each tray comprises a bearing surface, wherein at least a part of a top side of the bearing surface is configured to bear products to be presented, the device can further comprise at least two supporting structures per tray for supporting the tray, in particular the bearing surface, wherein a first supporting structure is at least partially connected to a first joint side wall, and a second supporting structure is at least partially connected to a second joint side wall.

[0022] In a further possible variant embodiment, the joint rear wall can comprise a fifth folding zone which divides the rear wall into two mutually pivotable rear wall parts situated one above the other and the first and second joint side wall each comprise at least two interrupted side wall segments, wherein a top rear wall part is pivotably connected to the top side wall segments of the first and second joint side wall and wherein a bottom side wall part is pivotably connected to the bottom side wall segments of the first and second joint side wall.

[0023] The fifth folding zone is preferably present at the location of the point where the bottom side wall segment and the top side wall segment are connected to one another. This variant embodiment of the device can be folded along the longitudinal direction, which provides a

practical transport format having a small transport volume. The rear wall can be pivoted from an unfolded state to a folded-up state so that a top rear wall part engages with a bottom rear wall part. By pivoting the rear wall from the folded-up state to the unfolded state via the fifth folding zone, the top side wall segments of the first and the second side wall can rest on underlying side wall segments of aforesaid side walls. The top side wall segments and the bottom side wall segments may, for example, comprise a complementary profiling, for improved support. Both the top side wall segments and the bottom side wall segments will usually enclose at least one tray. In the unfolded state, the fifth folding zone will usually be positioned between at least two front walls connected to the aforesaid trays.

[0024] In a possible variant embodiment, the first side wall and/or the second side wall has a double material thickness, and preferably a triple material thickness, at least in part. A double or triple material thickness can have a positive effect on the rigidity of the side wall. The double or triple material thickness can be realized, for example, on a vertical longitudinal side of the side wall by folding over an edge of the side wall once or several times. For the purpose of reinforcement, use may optionally be made of an adhesive or glueing in order to connect the material parts to one another. In a possible variant embodiment, the thickened material part can also have quadruple or greater material thickness.

[0025] A variant embodiment of the device is conceivable in which the first and the second side wall consist of a top side wall segment and a bottom side wall segment, wherein the thickened part of the bottom side wall segment of the first and/or second side wall comprises a profiling which is configured to engage with a complementary profiling of the thickened part of the top side wall segment of the first and/or second side wall, respectively, in such a way that mutual coupling between the bottom side wall segment and the top side wall segment can be achieved. By providing the profiling on the thickened part of the side walls, it is possible to obtain a relatively large contact surface between the top side wall segment and the bottom side wall segment, so that the possibility is created for the top side wall segment to be able to rest at least partially on the bottom side wall segment. If this variant embodiment is used, the rear wall will usually be provided with a folding line, for the purpose of being able to realize further folding up of the device.

[0026] In an advantageous variant embodiment, the device is made substantially completely of cardboard. Cardboard is relatively cheap, sufficiently rigid to allow the device to support itself, and is relatively environmentally friendly compared to plastic, for example. The device may, for example, be made substantially completely from corrugated cardboard. A further advantage of cardboard is that cardboard is easy to glue, wherein a relatively rigid connection can usually be obtained between two cardboard parts. Cardboard can also easily be provided with printing, painting or other forms of providing information and/or decoration in a variety of manners known per se.

[0027] The device is preferably substantially completely assembled before it is supplied to the user, wherein substantially all connections between the device parts are already attached to one another. However, it is also possible that the device is delivered in separate parts and must be assembled by the user themselves.

[0028] In a possible variant embodiment, the device may comprise at least one secondary bearing surface which is configured to engage with the bearing surface of the tray, wherein the secondary bearing surface is configured to bear products to be presented. Preferably, the surface area of the secondary bearing surface is substantially identical to the surface area of the bearing surface of the device in an unfolded state. The secondary bearing surface is placed onto the bearing surface when the device is in the unfolded state. The secondary bearing surface can provide an improved distribution of the bearing strength over the bearing surface parts. The secondary bearing surface may also prevent undesired folding of the device from the unfolded state to the folded-up state due to the secondary bearing surface forming a boundary between the front wall and the rear wall. The secondary bearing surface is preferably substantially rigid. The secondary bearing surface may, for example, be made from cardboard. The secondary bearing surface may, for example, also be referred to as an inlay sheet.

[0029] The invention also relates to a method for folding a device for presenting products, in particular a device according to the present invention, from a folded-up state to an unfolded state, comprising the steps: A) providing a device for presenting products, in particular a device according to the invention, preferably in a folded-up state, B) pivoting the front and rear side wall parts of the first and the second side wall, respectively, so that the front and rear side wall parts of each side wall come to rest substantially in line with one another, C) hingeing the bearing surface parts, preferably in a downwards direction, in such a way that the bearing surface parts come to rest substantially in line with one another, and D) allowing the at least one securing element of the tray to engage with the first and/or second supporting structure, as a result of which the tray, the first side wall and the second side wall are substantially secured with respect to one another. Preferably, the pivoting of the front and rear side wall parts of the first and the second side wall, respectively, and the hingeing of the bearing surface parts are carried out substantially at the same time. Advantages and variant embodiments of the method according to the invention have already been described in detail above. Collapsing (folding up or dismantling) the device is carried out by performing the above steps B), C) and D) in the reverse order.

[0030] The invention will be explained by means of the following non-limiting clauses.

1. Device for presenting products, comprising:

- at least one first side wall, wherein the first side wall comprises at least one first folding zone which divides the first side wall into at least two mutually pivotable first side wall parts situated one behind the other,
- at least one opposite second side wall, wherein the second side wall comprises at least one second folding zone which divides the second side wall into at least two mutually pivotable second side wall parts situated one behind the other,
- a rear wall pivotably connected to the first side wall and the second side wall,
- at least one front wall pivotably connected to the first side wall and the second side wall,
- at least one tray which is pivotably connected to both the rear wall and the front wall and comprises a bearing surface, wherein at least a part of a top side of the bearing surface is configured to bear products to be presented,
- at least two supporting structures for supporting the tray, in particular the bearing surface, wherein a first supporting structure is at least partially connected to the first side wall, and a second supporting structure is at least partially connected to the second side wall,

wherein the device can at least be folded from a folded-up state to an unfolded state and vice versa, wherein, in the unfolded state, the bearing surface of the tray is substantially completely enclosed by the rear wall, the front wall and the side walls, and wherein the tray rests on underlying supporting structures,
wherein the bearing surface of the tray comprises at least two bearing surface parts, wherein adjacent bearing surface parts are connected to one another by means of a third folding zone which forms a hinge and extends between the first side wall and the second side wall, in such a way that the bearing surface parts are hingeable with respect to one another at the location of the third folding zone, and
wherein the tray comprises at least one securing element which is connected to a bottom side of the bearing surface, preferably at the location of at least one third folding zone of the bearing surface, and is configured to interact with the first and/or the second supporting structure, in such a way that, in the unfolded state of the device, at least a part of the securing element engages with the first and/or the second supporting structure, as a result of which the tray, the first side wall and the second side wall are substantially secured with respect to one another.

2. Device according to clause 1, wherein the first and/or the second supporting structure comprises at least one rib, wherein the rib is connected to the first or second side wall, respectively, on either side of the first or second folding zone.

3. Device according to clause 2, wherein at least one rib, in the unfolded state of the device, defines substantially a V shape.

4. Device according to one of the preceding clauses, wherein at least one securing element is at least partially formed by a pivotable projection connected to at least one bearing surface part.

5. Device according to one of the preceding clauses, wherein the tray is made from at least two parts connected to one another via the third folding zone.

6. Device according to one of the preceding clauses, wherein the first and/or the second supporting structure comprises at least one receiving space for receiving at least a part of at least one securing element.

7. Device according to one of the preceding clauses, wherein at least one securing element comprises at least one further receiving space for receiving at least a part of the first and/or the second supporting structure.

8. Device according to clause 6 or 7, wherein, in the unfolded state of the device, the horizontal movement space between the supporting structure and the securing element is no more than 7 millimetres, and preferably no more than 5 millimetres and further preferably no more than 3 millimetres.

9. Device according to one of the preceding clauses, wherein, in the unfolded state and/or the folded-up state of the device, the first folding zone and the second folding zone are situated substantially parallel to one another, and wherein preferably the first and second folding zone, in the unfolded state, have a substantially vertical orientation.

10. Device according to one of the preceding clauses, wherein, in the unfolded state of the device, the third folding zone has a substantially horizontal orientation.

11. Device according to one of the preceding clauses, wherein, in the unfolded state of the device, the first folding zone, the second folding zone and the third folding zone are substantially in line with one another.

12. Device according to one of the preceding clauses, wherein at least one front wall and at least one tray are integrally connected to one another.

13. Device according to one of the preceding clauses, wherein the rear wall comprises at least one first folding strip pivotably connected to the first side wall

and/or wherein the rear wall comprises at least one second folding strip pivotably connected to the second side wall.

14. Device according to one of the preceding clauses, wherein the front wall comprises at least one first folding edge pivotably connected to the first side wall and/or wherein the front wall comprises at least one second folding edge pivotably connected to the second side wall.

15. Device according to one of the preceding clauses, wherein the tray comprises at least one rear folding strip pivotably connected to the rear wall and/or wherein the tray comprises at least one front folding strip pivotably connected to the front wall.

16. Device according to one of the preceding clauses, wherein the side walls are attached, in particular glued, to the front wall and/or the rear wall via at least one intermediate material layer.

17. Device according to one of the preceding clauses, wherein the first and/or the second supporting structure is attached, in particular glued, to the first and/or the second side wall, respectively, via at least one intermediate material layer.

18. Device according to one of the preceding clauses, comprising at least two trays pivotably connected to a front wall and to a joint rear wall, wherein each tray comprises a bearing surface, wherein at least a part of a top side of the bearing surface is configured to bear products to be presented, the device further comprising at least two supporting structures per tray for supporting the tray, in particular the bearing surface, wherein a first supporting structure is at least partially connected to a first joint side wall, and a second supporting structure is at least partially connected to a second joint side wall.

19. Device according to clause 18, wherein the joint rear wall comprises a fifth folding zone which divides the rear wall into two mutually pivotable rear wall parts situated one above the other and wherein the first and second joint side wall each comprise at least two interrupted side wall segments, wherein a top rear wall part is pivotably connected to the top side wall segments of the first and second joint side wall and wherein a bottom side wall part is pivotably connected to the bottom side wall segments of the first and second joint side wall.

20. Device according to one of the preceding clauses, wherein the first side wall and/or the second side wall has a double material thickness, and preferably a triple material thickness, at least in part.

21. Device according to clause 20, wherein the first and the second side wall consist of a top side wall segment and a bottom side wall segment, wherein the thickened part of the bottom side wall segment of the first and/or second side wall comprises a profiling which is configured to engage with a complementary profiling of the thickened part of the top side wall segment of the first and/or second side wall, respectively, in such a way that mutual coupling between the bottom side wall segment and the top side wall segment can be achieved.

22. Device according to one of the preceding clauses, wherein the device is made substantially completely of cardboard.

23. Device according to one of the preceding clauses, comprising at least one secondary bearing surface configured to engage with the bearing surface of the tray, wherein the secondary bearing surface is configured to bear products to be presented.

24. Method for unfolding a device for presenting products according to one of clauses 1-23 from a folded-up state to an unfolded state, comprising the steps:

A) providing a device for presenting products according to one of clauses 1-23, preferably in a folded-up state,
B) pivoting the front and rear side wall parts of the first and the second side wall, respectively, so that the front and rear side wall parts of each side wall come to rest substantially in line with one another,
C) hingeing the bearing surface parts, preferably in a downwards direction, in such a way that the bearing surface parts come to rest substantially in line with one another,
D) allowing the at least one securing element of the tray to engage with the first and/or second supporting structure, as a result of which the tray, the first side wall and the second side wall are substantially secured with respect to one another.

25. Method according to clause 24, wherein step B) and step C) are performed substantially at the same time.

[0031] The invention will be explained by means of non-limiting illustrative embodiments illustrated in the following figures, in which:

Figure 1 shows a diagrammatic plan view of the parts which can be connected to one another in order to form a possible variant embodiment of a device according to the invention,

Figure 2a shows a diagrammatic representation of a possible variant embodiment of the device according to the invention in a folded-up state,
Figures 2b-2g show the device as shown during various steps, wherein the device is folded from the folded-up state to the unfolded state, and
Figure 2h shows the device as shown in Figure 2a in the unfolded state. In the figures, identical reference numerals refer to identical or equivalent parts or elements.

[0032] Figure 1 shows a diagrammatic plan view of the parts which can be connected to one another in order to form a possible variant embodiment of a device for presenting products according to the invention.

[0033] The figure shows a first side wall 1, wherein the first side wall 1 comprises a first folding zone 2 which divides the first side wall 1 into at least two mutually pivotable first side wall parts 1a, 1b situated one behind the other. The figure also shows a second side wall 3, wherein the second side wall 3 comprises a second folding zone 4 which divides the second side wall 3 into at least two mutually pivotable second side wall parts 3a, 3b situated one behind the other. The first side wall 1 and the second side wall 3 are configured to form a triple material thickness by using the foldable wall parts 1c, 1d, 3c, 3d. The first and the second side wall 1, 3 also consist of a top side wall segment 1e, 3e and a bottom side wall segment 1f, 3f, wherein the thickened part of the bottom side wall segment 1f, 3f obtained in the assembled and unfolded state of the device comprises a profiling P which is configured to engage with a complementary profiling of the thickened part of the top side wall segment 1e, 3e in such a way that mutual coupling can be achieved between the bottom side wall segment and the top side wall segment. The first and second side wall 1, 3 further comprise pivotable resting surfaces on which the device can rest in an unfolded state.

[0034] Reference numeral 7 refers to a rear wall 7 to be pivotably connected to the first side wall 1 and the second side wall 3. In the illustrated variant embodiment, the rear wall 7 comprises a folding line 8 or fifth folding zone 8, wherein the rear wall can be substantially fully folded over. The rear wall 7 further comprises a first folding strip 9a to be pivotably connected to the first side wall 1 and a second folding strip 9b pivotably connected to the second side wall 3.

[0035] Reference numeral 10 refers to a front wall 10 to be pivotably connected to the first side wall 1 and the second side wall 3. The variant embodiment of the front wall 10 as shown is configured to interact with several trays. The front wall 10 further comprises several first folding edges 11a to be pivotably connected to the first side wall 1 and several second folding edges 11b to be pivotably connected to the second side wall. A thickened front wall 10 can be obtained by means of the projections 10a. Although the parts of the device as shown are configured to interact with several trays 12, Figure 1 shows a single tray 12. The tray 12 is configured to be pivotably connected to both the rear wall 7 and the front wall 10. In the variant embodiment shown, this is made possible by using pivotable folding strips 13a, 13b. The tray 12 comprises a bearing surface 14, consisting of two adjacent bearing surface parts 14a, 14b. At least a part of a top side of the bearing surface 14 is configured to bear products to be presented. The adjacent bearing surface parts 14a, 14b are connected to one another by means of a third folding zone 15 which forms a hinge, in such a way that the bearing surface parts 14a, 14b are hingeable with respect to one another at the location of the third folding zone. The securing element 16 can be formed by allowing the pivotable projections 17a, 17b to engage with one another. The pivotable projections 17a, 17b in this case form part of the bearing surface parts 14a, 14b. The figure also shows two supporting structures 18, 19 for supporting the tray 12. The first supporting structure 18 is in this case configured to be connected at least partially to the first side wall 1, and the second supporting structure 19 is configured to be connected at least partially to the second side wall 3. For this purpose, the supporting structures 18, 19 comprise elongate supporting arms 20a, 20b, 21a, 21b. In the variant embodiment shown, the supporting structures 18, 19, as well as the rear wall, are provided with a folding line, or folding zone, indicated by a dashed line, in order to facilitate folding up the device. The first and the second supporting structure 18, 19 comprise several ribs 22a, 22b, wherein each rib is configured to be connected to the first or second side wall 1, 3, respectively, on either side of the first or second folding zone 2, 4. In the variant embodiment shown, the ribs 22a, 22b are configured in such a way that they define substantially a V shape in the assembled and unfolded state of the device. In the variant embodiment shown, each first and second supporting structure 18, 19 comprises at least one receiving space 23a, 23b for receiving at least a part of at least one securing element 16. The securing element 16 comprises further receiving spaces 24a, 24b for receiving at least a part of the first and/or the second supporting structure.

[0036] Optionally, the device comprises a top structure 25, which is configured to be connected to the device, and in particular the rear wall 7 of the device. For this purpose, the top structure 25 comprises an indentation in order to be able to be connected to, in this case, the rear wall 7 in a relatively simple way without any further means.

[0037] Figures 2a-2h show a device 100 according to the invention which is assembled from the parts as shown in Figure 1. Identical reference numerals therefore refer to identical or equivalent parts.

[0038] Figure 2a shows a diagrammatic representation of a possible variant embodiment of the device 100 according to the invention in a folded-up state. In the variant embodiment shown, the side walls 1, 3 comprise top and bottom side wall parts 1e, 1f, 3e, 3f, as a result of which it is possible for the device 100 to be folded once along

the width as in the state shown in Figure 2a. The device 100, as shown, is in the desired state for transport.

[0039] Figure 2b shows the unfolding of a part of the device 100 until the side walls 1, 3 and the rear wall 7 extend substantially fully. The device 100 is in a half-unfolded state. It is clear to the user that the side walls 1, 3 and the rear wall 7 must first be further unfolded because it is not yet possible to unfold the device to a (partial) volume display 100, due to the fact that the top side wall parts 1e, 3e are integrally connected to the bottom side wall parts 1f, 3f. The unfolding of the top side wall parts 1a, 1b, 3a, 3b is hindered by the bottom side wall parts 1a, 1b, 3a, 3b. As a result, the user will be motivated to fold over the device 100 along its width until the device 100 extends substantially fully in the height direction. The arrows indicate the folding direction.

[0040] Figure 2c shows the device 100 in an unfolded, flat state. Although the device 100 in Figure 2c extends substantially fully in the longitudinal direction, the device 100 is still in a folded-up state according to the invention. The side walls 1, 3 and the trays 12 are in a folded-up position, wherein the first side wall 1 and the second side wall 3 are unfolded outwards. This creates space centrally in the device 100 in which the trays 12 can be secured. The arrows indicate where the top and the bottom half of the device 100 engage with one another. This is shown in more detail in Figures 2d and 2e.

[0041] Figure 2d shows the profiling P of a top side wall segment 3e and a bottom side wall segment 3f, wherein the thickened part of the bottom side wall segment comprises a profiling P which is configured to engage with a complementary profiling P of the thickened part of the top side wall segment. The profiling P shown in the figure has a staggered, curved cutting line. Mutual coupling between the bottom side wall segment 3e and the top side wall segment 3f can be obtained by bringing the side wall parts 3e, 3f in line with one another. This is shown in Figure 2e. The top side wall segment 3e is connected to the bottom side wall segment 3f in a substantially dimensionally stable manner.

[0042] After the coupling between the top side wall segment 3e and the bottom side wall segment 3f has been obtained, the device 100 can be brought into the unfolded state. Figure 2f shows that the side walls 1, 3 and the tray 12 must be unfolded; the movement directions are indicated by arrows. The user can grasp the securing element 16 in order to initiate unfolding of the bearing surface 14. It is advantageous if the user, in doing so, moves the front wall 10 of the tray slightly away from the rear wall 7 in order to create space for the unfolding of the tray 12, and in particular the bearing surface 14. As a result of the unfolding of the bearing surface 14, the side walls 1, 3 will unfold substantially simultaneously due to the mutual connection of the tray 12 to the front wall 10 and the rear wall 7, and due to the mutual connection of the front wall 10 and the rear wall 7 to the side walls 1, 3. The figure also shows that the first and the second supporting structure 18, 19 comprise ribs 22a, 22b connected to the first or second side wall 1, 3, respectively. The supporting structures 18, 19 will also need to engage with the securing element 16 in order to be able to offer support. The securing element 16 comprises further receiving spaces 24a, 24b in order to facilitate controlled engagement of the supporting structures 18, 19 and the securing element, as a result of which the tray 12, the first side wall 1 and the second side wall 3 are substantially secured with respect to one another.

[0043] Figure 2g shows that the ribs 22a, 22b substantially define a V shape in the unfolded state. The supporting structures 18, 19 comprise a receiving space 23a, 23b in which a part of the securing element 16 is received. The securing element 16 comprises further receiving spaces 24a, 24b in which a part of the first and/or the second supporting structure 18, 19 is received. As can be seen in the figure, the horizontal movement space between the supporting structure 19 and the securing element 16 is limited, which benefits the stability of the device 100.

[0044] Figure 2h shows the device 100 for presenting products (not shown) as shown in Figure 2a in the unfolded state. The device 100 is also positioned upright, as intended for the presentation of products. The device 100 comprises a first side wall 1 and a second side wall 3, a rear wall 7 pivotably connected to the first side wall 1 and the second side wall 3 and four front walls 10 pivotably connected to the first side wall 1 and the second side wall 3. The device 100 further comprises four trays 12 comprising a bearing surface which are pivotably connected to both the rear wall 7 and a front wall 10. In the variant embodiment shown, the device 100 is provided with a top structure 25. The bearing surface 14 of each tray 12 spans a substantially flat plane, wherein the bearing surface 14 of the tray 12 is substantially completely enclosed by the rear wall 7, the front wall 10 and the side walls 1, 3, and each tray 12 rests on underlying supporting structures 19. In Figure 2h, the device 100 is provided with a secondary bearing surface 26 configured to engage with the bearing surface of the tray 12, wherein the secondary bearing surface 26 is configured to bear products to be presented.

[0045] The variant embodiment of the device 100 shown in Figures 1-2h is made substantially completely of cardboard. The connections between the parts of the device 100 are obtained by means of glueing.

[0046] It will be clear that the invention is not limited to the exemplary embodiments illustrated and described here, but that countless variants are possible within the framework of the attached claims which will be obvious to the person skilled in the art.

[0047] In the context of this patent, the device can also be referred to as a display. Where reference is made in this patent to folding out or unfolding, this is also intended to refer to the setting up or installation of the device. In the context of this patent, a folding zone is understood to be both a single folding line and also a combination of several parallel folding lines located directly next to one

another. In the event that this patent refers to a folding line, this can also be interpreted as a folding zone.

Claims

1. Device for presenting products, comprising:

   - at least one first side wall, wherein the first side wall comprises at least one first folding zone which divides the first side wall into at least two mutually pivotable first side wall parts situated one behind the other,
   - at least one opposite second side wall, wherein the second side wall comprises at least one second folding zone which divides the second side wall into at least two mutually pivotable second side wall parts situated one behind the other,
   - a rear wall pivotably connected to the first side wall and the second side wall,
   - at least one front wall pivotably connected to the first side wall and the second side wall,
   - at least one tray which is pivotably connected to both the rear wall and the front wall and comprises a bearing surface, wherein at least a part of a top side of the bearing surface is configured to bear products to be presented,
   - at least two supporting structures for supporting the tray, in particular the bearing surface, wherein a first supporting structure is at least partially connected to the first side wall, and a second supporting structure is at least partially connected to the second side wall,

   wherein the device can at least be folded from a folded-up state to an unfolded state and vice versa, wherein, in the unfolded state, the bearing surface of the tray is substantially completely enclosed by the rear wall, the front wall and the side walls, and wherein the tray rests on underlying supporting structures,
   wherein the bearing surface of the tray comprises at least two bearing surface parts, wherein adjacent bearing surface parts are connected to one another by means of a third folding zone which forms a hinge and extends between the first side wall and the second side wall, in such a way that the bearing surface parts are hingeable with respect to one another at the location of the third folding zone, and wherein the tray comprises at least one securing element which is connected to a bottom side of the bearing surface, preferably at the location of at least one third folding zone of the bearing surface, and is configured to interact with the first and/or the second supporting structure, in such a way that, in the unfolded state of the device, at least a part of the securing element engages with the first and/or the second supporting structure, as a result of which the tray, the first side wall and the second side wall are substantially secured with respect to one another.

2. Device according to Claim 1, wherein the first and/or the second supporting structure comprises at least one rib, wherein the rib is connected to the first or second side wall, respectively, on either side of the first or second folding zone, preferably wherein at least one rib, in the unfolded state of the device, defines substantially a V shape.

3. Device according to one of the preceding claims, wherein at least one securing element is at least partially formed by a pivotable projection connected to at least one bearing surface part.

4. Device according to one of the preceding claims, wherein, in the unfolded state and/or the folded-up state of the device, the first folding zone and the second folding zone are situated substantially parallel to one another, and wherein preferably the first and second folding zone, in the unfolded state, have a substantially vertical orientation.

5. Device according to one of the preceding claims, wherein at least one front wall and at least one tray are integrally connected to one another.

6. Device according to one of the preceding claims, wherein the rear wall comprises at least one first folding strip pivotably connected to the first side wall and/or wherein the rear wall comprises at least one second folding strip pivotably connected to the second side wall.

7. Device according to one of the preceding claims, wherein the front wall comprises at least one first folding edge pivotably connected to the first side wall and/or wherein the front wall comprises at least one second folding edge pivotably connected to the second side wall.

8. Device according to one of the preceding claims, wherein the tray comprises at least one rear folding strip pivotably connected to the rear wall and/or wherein the tray comprises at least one front folding strip pivotably connected to the front wall.

9. Device according to one of the preceding claims, comprising at least two trays pivotably connected to a front wall and to a joint rear wall, wherein each tray comprises a bearing surface, wherein at least a part of a top side of the bearing surface is configured to bear products to be presented, the device further comprising at least two supporting structures per tray for supporting the tray, in particular the bearing surface, wherein a first supporting structure is at least partially connected to a first joint side wall, and a

second supporting structure is at least partially connected to a second joint side wall.

10. Device according to Claim 9, wherein the joint rear wall comprises a fifth folding zone which divides the rear wall into two mutually pivotable rear wall parts situated one above the other and wherein the first and second joint side wall each comprise at least two interrupted side wall segments, wherein a top rear wall part is pivotably connected to the top side wall segments of the first and second joint side wall and wherein a bottom side wall part is pivotably connected to the bottom side wall segments of the first and second joint side wall.

11. Device according to one of the preceding claims, wherein the first side wall and/or the second side wall has a double material thickness, and preferably a triple material thickness, at least in part.

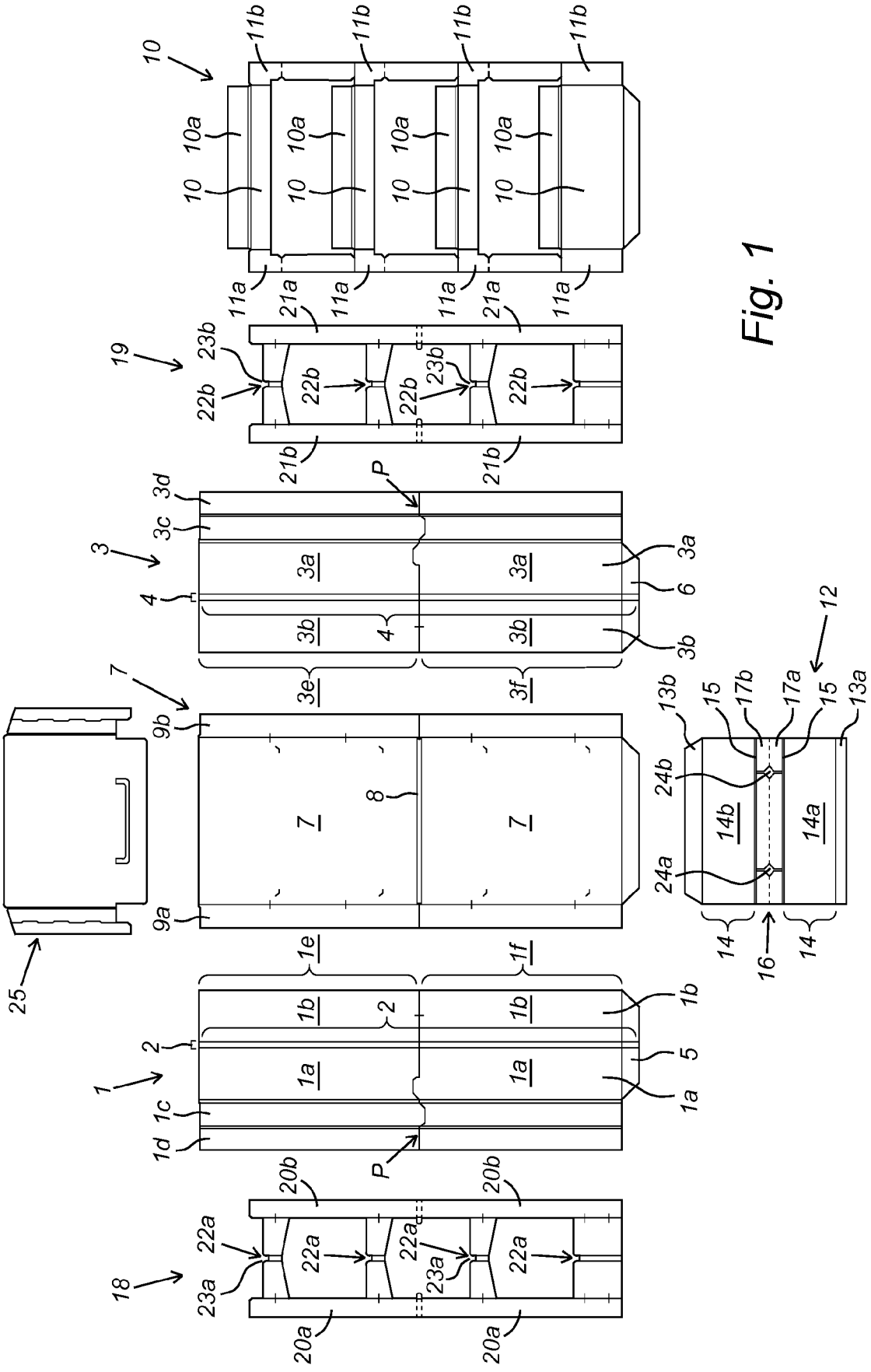
12. Device according to Claim 11, wherein the first and the second side wall consist of a top side wall segment and a bottom side wall segment, wherein the thickened part of the bottom side wall segment of the first and/or second side wall comprises a profiling which is configured to engage with a complementary profiling of the thickened part of the top side wall segment of the first and/or second side wall, respectively, in such a way that mutual coupling between the bottom side wall segment and the top side wall segment can be achieved.

13. Device according to one of the preceding claims, wherein the device is made substantially completely of cardboard.

14. Device according to one of the preceding claims, comprising at least one secondary bearing surface configured to engage with the bearing surface of the tray, wherein the secondary bearing surface is configured to bear products to be presented.

15. Method for unfolding a device for presenting products according to one of Claims 1-14 from a folded-up state to an unfolded state, comprising the steps:

A) providing a device for presenting products according to one of Claims 1-14, preferably in a folded-up state,
B) pivoting the front and rear side wall parts of the first and the second side wall, respectively, so that the front and rear side wall parts of each side wall come to rest substantially in line with one another,
C) hingeing the bearing surface parts, preferably in a downwards direction, in such a way that the bearing surface parts come to rest substantially in line with one another,
D) allowing the at least one securing element of the tray to engage with the first and/or second supporting structure, as a result of which the tray, the first side wall and the second side wall are substantially secured with respect to one another.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11b
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11a
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23b
22b
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3f
7
9b
8
9a
25
12
13b
15
17b
17a
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14
16
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18
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22a
23a
20a

Fig. 1

Fig. 2a

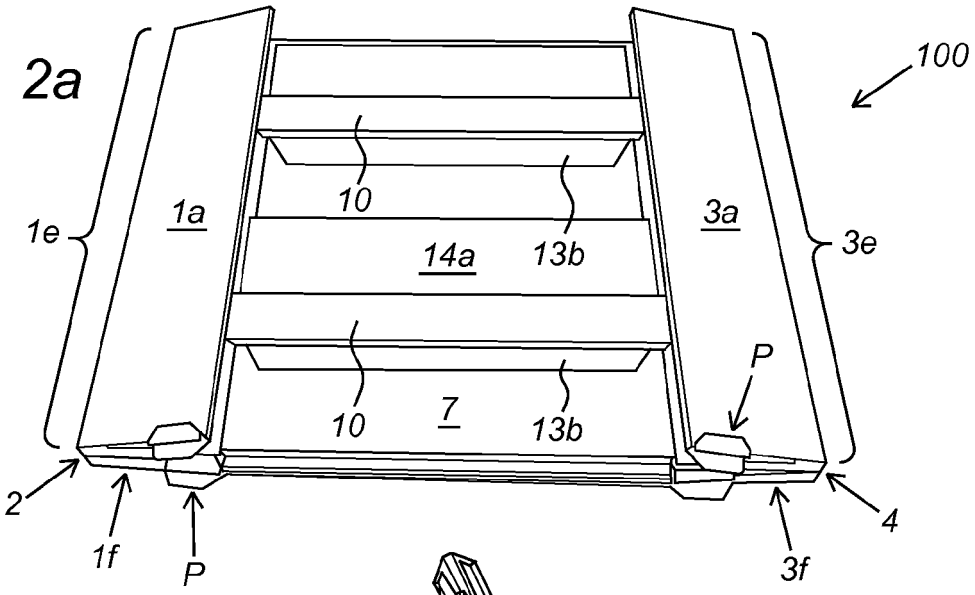


Fig. 2b

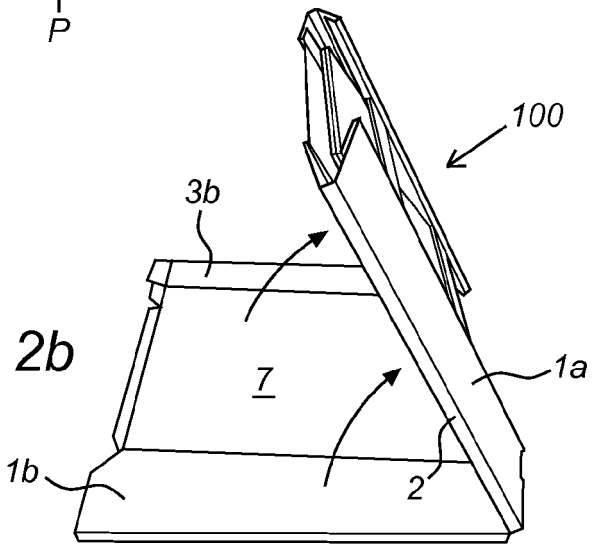
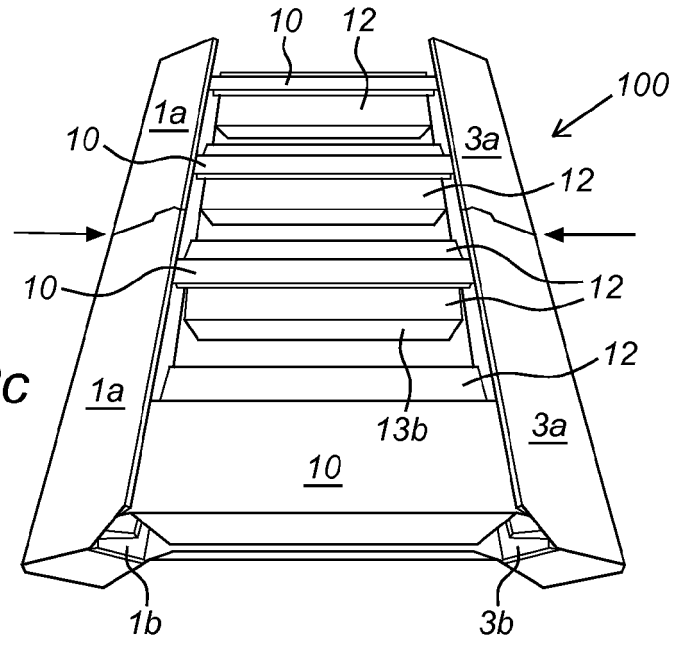


Fig. 2c



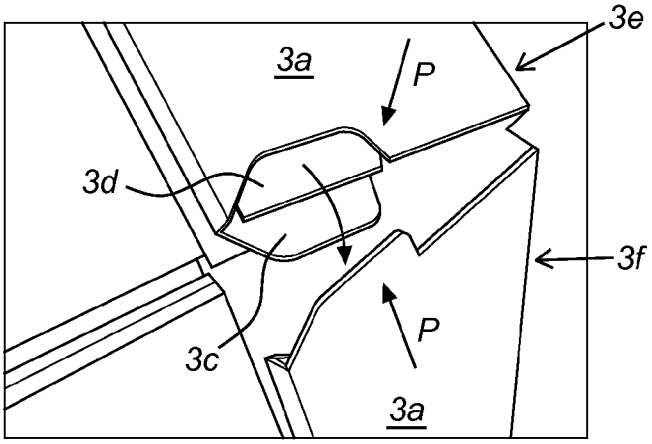


Fig. 2d

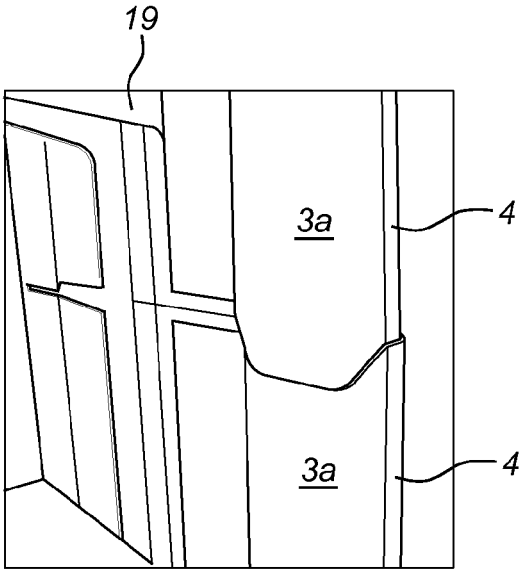


Fig. 2e

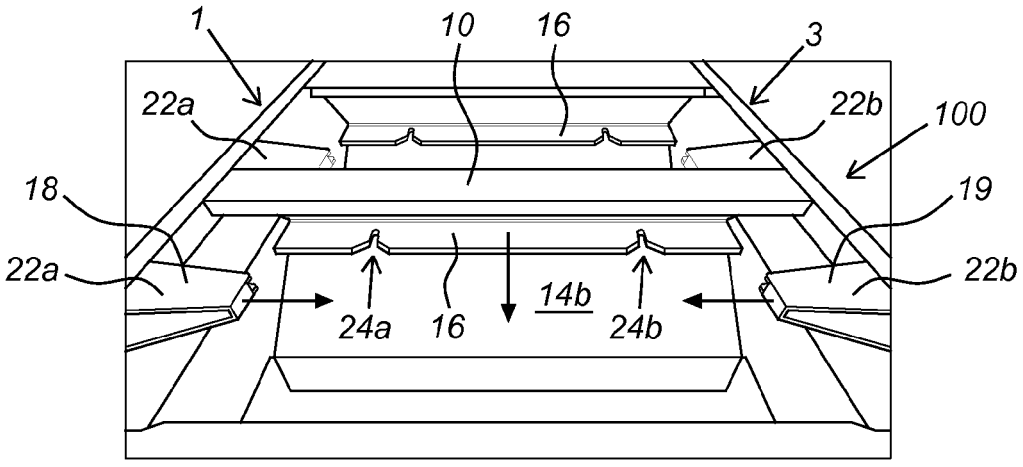
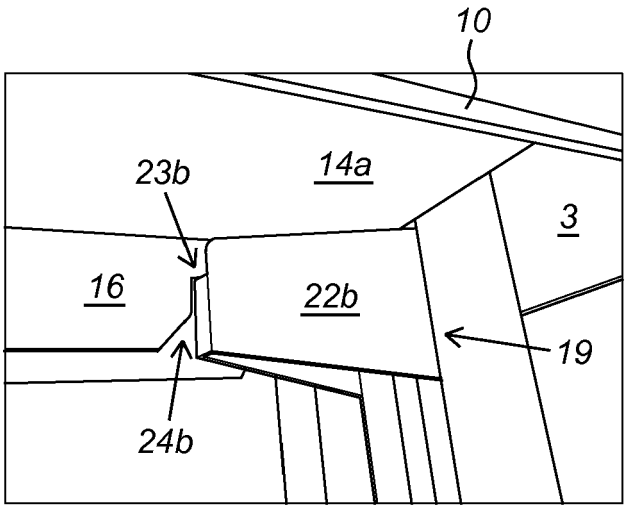


Fig. 2f


10
23b
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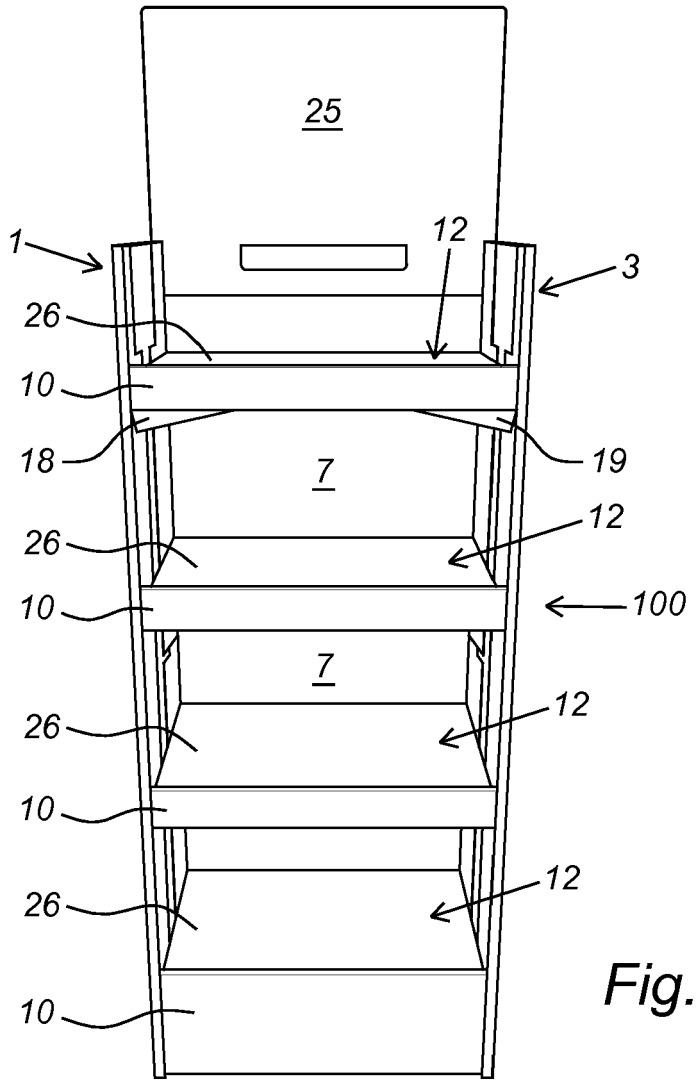
3
16
22b
19
24b

Fig. 2g


25
1
12
3
26
10
18
19
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12
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12
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Fig. 2h

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EUROPEAN SEARCH REPORT

Application Number
EP 19 17 9632

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	6 August 2019	van Hoogstraten, S

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