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(54) **STEP-LIKE FOLDABLE DISPLAY STAND AND ASSEMBLY METHOD OF SUCH A STEP-LIKE FOLDABLE DISPLAY STAND**

STUFENFÖRMIGER FALTBARER SCHAUSTÄNDER UND VERFAHREN ZUM ZUSAMMENBAU EINES SOLCHEN STUFENFÖRMIGEN FALTBAREN SCHAUSTÄNDER

PRÉSENTOIR PLIABLE EN FORME DE MARCHE ET PROCÉDÉ D'ASSEMBLAGE D'UN TEL PRÉSENTOIR PLIABLE EN FORME DE MARCHE

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Description

Technical Field

[0001] The present invention generally finds application in the field of paper processing and advertising and particularly relates to a folding display stand.

Background art

[0002] Folding stands have been long known to be used in small- and large-scale retail applications to display various types of products, such as cosmetic or pharmaceutical products.

[0003] A first drawback of this display stands is their very large size in the assembled or folded state.

[0004] In an attempt to at least partially obviate this drawback folding display stands have been developed, which are collapsed to reduce the space required thereby when they do not perform their function, e.g. during transportation or storage.

[0005] US2011011814 discloses a product display stand formed with a single specially-shaped cardboard panel and having a single shelf.

[0006] The panel comprises a substantially rectangular main portion having a pair of foldable side edges formed by corresponding vertical fold lines and an upper portion that extends upwards from a horizontal fold line located on the top edge of the top panel.

[0007] This stand has various panels and folds, as well as various joints and mountings which stiffen its structure.

[0008] A first drawback of this display stand, and of prior art display stands in general, is that they have complex structures in terms of both numbers of panels in use and fold lines to be formed to obtain the structure in the operating configuration.

[0009] A further drawback of these arrangements is that the systems that are used to fix the panels together and hence stiffen the structure are rather complex to make.

[0010] Another common drawback of these arrangements is that they are very difficult to assemble, which increases assembly times.

[0011] This drawback leads to an increase of manufacturing times and final production costs.

[0012] A further folding display stand is known from US76110547A.

Technical Problem

[0013] In view of the prior art, the technical problem addressed by the present invention is to provide a folding display stand that can be easily manufactured and assembled and has a sturdy construction.

Disclosure of the invention

[0014] The object of the present invention is to obviate the above drawback, by providing a folding display stand that is highly efficient and relatively cost-effective.

[0015] A particular object of the present invention is to provide a folding display stand of the aforementioned type that affords simple manufacture and assembly.

[0016] A further object of the present invention is to provide a folding display stand that has a stiff structure, suitable to support the articles on display.

[0017] Yet another object of the present invention is to provide a folding display stand of the aforementioned type that can be simply folded and stacked.

[0018] A further object the present invention is to provide a folding stand of the aforementioned type that provides stable support to the products on display.

[0019] Another object of the present invention is to provide a folding display stand of the aforementioned type that allows products to be on display in lower shelves in their entirety without being covered by the upper shelves.

[0020] These and other objects, as more clearly explained hereinafter, are fulfilled by a folding display stand made of a sheet material as defined in claim 1, comprising at least one substantially flat and vertical rear wall, at least one pair of substantially vertical side walls and a plurality of substantially horizontal shelves interposed between the side walls, wherein the rear wall, the side walls and the shelves are formed from a front sheet element, a rear sheet element and at least one intermediate sheet element, which are coupled together to define a foldable structure that is able to alternate from an idle configuration with the sheet elements in mutually overlapping relationship to an operating configuration with the sheet elements in mutually spaced relationship and with the shelves in step-like staggered relationship.

[0021] In addition, each of the sheet elements has a central portion and a pair of lateral end portions which are defined by substantially parallel first, second and third fold lines.

[0022] Moreover, the sheet elements are joined together by fastening means which fasten the respective lateral end portions to each other in such a manner that the first, second and third fold lines will be parallel to each other, the front element and the at least one intermediate element have respective cut-out central portions to form respective flat panels designed to be folded along respective fourth fold lines, substantially perpendicular to the first, second and third fold lines and to form, when folded into the operating configuration, at least two step-like staggered shelves. Furthermore, the front element has a bottom edge and the fourth fold line is located proximate to the bottom edge to define a crosspiece adapted to further stiffen the foldable structure when the latter is in the operating state.

[0023] Therefore, the display stand has the advantage of being particularly simple to form, assemble and collapse.

[0024] Furthermore, this structure is particularly stiff and sturdy, thereby providing stable support to the products on display.

[0025] In a further object, the invention relates to a method of assembling the aforementioned display stand, as defined in claim 8.

[0026] Advantageous embodiments of the invention are defined in accordance with the dependent claims.

Brief description of the drawings

[0027] Further characteristics and advantages of the invention will be more apparent from the detailed description of a few preferred, non-exclusive embodiments of a folding display stand according to the invention, which are described as non-limiting examples with the help of the following drawings, in which:

FIGS. 1 and 2 are perspective views, from the front and the rear respectively, of a folding display stand of the present invention in the operating state;
FIG. 3 is a front perspective view of the folding display stand of Fig. 1 in its idle state;
FIG. 4 is a front view of the front panel of Fig. 1 in the deployed state;
FIG. 5 is a perspective view of front panel of Fig. 4 in the folded state;
FIG. 6 is a front view of the rear panel of the display stand of Fig. 1 in the deployed state;
FIG. 7 is a perspective view of the rear panel of Fig. 6 in the folded state;
FIG. 8 is a front view of the at least one intermediate panel of the display stand of Fig. 1 in the deployed state;
FIG. 9 is a front view of the at least one intermediate panel of Fig. 8 in the folded state;
FIG. 10 is a perspective view of the display stand of Fig. 1 in a partially assembled state.

Detailed description of a preferred exemplary embodiment

[0028] Particularly referring to the figures, there is shown a folding display stand, generally referenced by numeral 1, which is made of a sheet material and comprises at least one substantially flat and vertical rear wall 2, at least a pair of substantially vertical side walls 3', 3" and a plurality of substantially horizontal shelves 4 interposed between the side walls 3', 3".

[0029] The display stand 1 may be intended for use in shops or other points of sale for displaying a multiplicity of products or articles for sale, such as cosmetics, pharmaceuticals, stationery articles, candies or other similar products.

[0030] The rear wall 2, the side walls 3', 3" and the shelves 4 are formed from a front sheet element 6, a rear sheet element 7 and at least one intermediate sheet element 8.

[0031] In addition, the sheet elements 6, 7, 8 are coupled together to define a foldable structure that can be alternated from an idle configuration with the sheet elements 6, 7, 8 in mutually overlapping relationship, as shown in FIG. 3, to an operating configuration with the sheet elements 6, 7, 8 in mutually spaced relationship and with the shelves 4 in vertically and horizontally step-like staggered relationship, as shown in FIG. 1.

[0032] Thus, the products on display in the lower shelves may be viewed in their entirety without being covered by the upper shelves.

[0033] As used hereinafter, the term "idle configuration" is intended to designate a collapsed configuration in which the sheet elements 6, 7, 8 overlap to form a collapsed and flattened structure during storage to minimize bulk.

[0034] In addition, as used hereinafter the term "operating configuration" is intended to designate a configuration in which the display stand 1 forms a deployed structure for displaying the products or articles, which is vertically arranged, substantially orthogonal to a support surface.

[0035] In a well-known manner, the sheet material of the elements 6, 7, 8 may be selected from the group comprising paper, cardboard, plastic or similar material, such as copper, as long as it has high ductility properties.

[0036] Therefore, as shown in FIGS. 1 to 9, the front element 6 defines the side walls 3', 3" and the rear element 7 defines the rear wall 2.

[0037] As best shown in the figures, the front element 6 has a central portion 9 and two lateral end portions 10A, 10B defined by substantially parallel first fold lines 11A, 11B.

[0038] It shall be noted that the central portion 9 of the front element 6 is in the form of a strip and has the lateral end portions 10A, 10B extending from its lateral ends with a substantially inclined shape to define the pair of side walls 3, 3".

[0039] In a preferred embodiment of the invention, as shown in FIGS. 4 and 5, each inclined lateral end portion 10A, 10B of the front element 6 is divided into two parts, referenced 10', 10" along an inclined fold line 11' and formed such that, as the display stand 1 is being assembled, they may be folded one on top of the other to reinforce the pair of side walls 3', 3" of the display stand 1.

[0040] The rear element 7 comprises a central portion 12 and two lateral end portions 13A, 13B defined by second fold lines 14A, 14B, also substantially parallel, as best shown in FIGS. 6 and 7.

[0041] Furthermore, the at least one intermediate element 8 also has a central portion 15 and two lateral end portions 16A, 16B defined by substantially parallel third fold lines 17A, 17B.

[0042] According to the invention, the lateral end portions 10A, 10B; 13A, 13B; 16A, 16B of the sheet elements 6, 7, 8 are coupled together by fastening means so that the first 11A, 11B, the second 14A, 14B and the third 17A, 17B fold lines will be parallel to each other.

[0043] According to the invention, the central portion 9 of the front element 6 and the central portion 15 of the intermediate element 8 are cut out to form respective flat

panels 18A, 18B that can be folded along respective substantially horizontal fourth fold lines 19A, 19B, perpendicular to the first 11A, 11B, the second 14A, 14B and the third 17A, 17B fold lines.

[0044] Furthermore, the flat panels 18A, 18B have a substantially rectangular shape and may be folded along respective fourth fold lines 19A, 19B into the operating configuration and, once folded, are designed to form at least two of the shelves 4 in step-like staggered relationship, to stiffen the structure in the operating configuration.

[0045] By this arrangement the flat panels 18A, 18B are also substantially perpendicular to the first 11A, 11B, the second 14A, 14B and the third 17A, 17B fold lines.

[0046] It shall be noted that the intermediate element 8 also has a substantially rectangular shape and is divided into two parts, referenced 8', 8" in the figures along its fourth fold line 19B.

[0047] Furthermore, the end portions 16A, 16B of the intermediate element 8 extend on the side of the part 8" of the central portion 15 that faces away from the foldable flat panel 18B.

[0048] According to the invention, the foldable flat panels 18A, 18B have respective free edges 20A, 20B located on the side opposite to that of the fourth fold lines 19A, 19B and adapted to be coupled to the central portion 15 of the intermediate element 8 and the central portion 12 of the rear element 7.

[0049] Conveniently, as shown in FIGS. 4, 5, 8 and 9, the front element 6 and the at least one intermediate element 8 have respective pairs of projections 21A, 21B formed along the free edges 20A, 20B, that can fit into corresponding aligned slits 22A, 22B respectively formed in the central portion 15 of the intermediate element 8, in particular on the part 8", and in the central portion 12 of the rear element 7 to removably couple the sheet elements 6, 7, 8 and keep the structure in the operating configuration.

[0050] A folding display stand 1 may be also formed with more than two, e.g. three or more shelves 4, like in the embodiment of the figures that show a pair of intermediate elements 8, having central portions 15 and lateral end portions 16A, 16B of different heights.

[0051] In addition, each intermediate element 8 has a respective flat panel 18B that can be folded along respective fourth fold lines 19B and with respective free edges 20B.

[0052] Therefore, the foldable panels 18B may be coupled to the central portion 15 of the next intermediate element 8 or the central portion 12 of the rear element 7 respectively.

[0053] According to the invention, the front element 6 has a bottom edge 23 and the fourth fold line 19A of the first foldable panel 18A is spaced apart from the bottom edge 23 of the front panel 6 to define a crosspiece 24 that stiffens the foldable structure when the latter is in the operating state.

[0054] In the operating state of the display stand 1, the bottom edge 23 usually rests on the ground, a shelf or a counter and the fourth fold line 19B of the second foldable panel 18B is spaced apart from the free edge 20A of the first panel 18A.

[0055] The at least one intermediate element 8, and the rear element 7 also have respective bottom edges 25, 26 which, in the operating state of the display stand 1, usually rested on the ground, a shelf or a counter, like the bottom edge 23 of the front element 6.

[0056] Preferably, the pair of aligned slits 22A, 22B formed in the respective central portions 15, 12 of the intermediate 8 and rear 7 elements are respectively parallel to the bottom edge 25, 26.

[0057] In particular, the pair of aligned slits 22A are spaced apart from the bottom edge 25 at a short distance, equal to the height of the crosspiece 24, whereas the second pair of slits 22B of the rear panel 7 is parallel to and spaced apart from the first pair of slits 22A.

[0058] The first and second pairs of slits 22A, 22B are formed in such a manner that, while the display stand 1 is being assembled, the first pair of projections 21A of the first panel 18A fit into the first pair of slits 22A of the central portion 15 of the intermediate element 8 and the second pair of projections 21B of the second panel 18B fit into the second pair of slits 22B of the central portion 12 of the rear element 7.

[0059] Likewise, in the embodiment of the figures, while the display stand 1 is being assembled, the second pair of projections 21B of the flat panel 18B of one of the intermediate elements 8 fit into the second pair of slits 22B of the central portion 12 of the rear element 7, whereas the second pair of projections 21B of the other intermediate element 8 fit into a third pair of slits 22C of the central portion 15 of the next intermediate element 8.

[0060] In a further aspect, the invention relates to a method of assembling a display stand 1 made of sheet material as described above.

[0061] First, the two lateral end portions 10A, 10B in the front element 6 are folded along the first fold lines 11A, 11B respectively, such that they will be substantially perpendicular to the central portion 9 of the same front panel 6. Furthermore, the parts 10', 10" may be folded one on top of the other as described above.

[0062] Then, the two lateral end portions 16A, 16B of each intermediate element 8 are folded along the third fold lines 17A, 17B, such that they will be substantially perpendicular to the central portion 15 of the same intermediate panel 8.

[0063] Also, the first flat panel 18A is folded along the fourth fold line 19A and the second flat panels 18B are folded along the respective fourth fold lines 19B, such that they will be substantially perpendicular to the respective central portions 9, 15 of the elements 6, 8, as shown in FIGS. 5 and 9.

[0064] The first lateral end portion 13A in the rear element 7 is folded along its second fold line 14A and the second lateral end portion 13B is folded along its second fold line 14B, such that the two lateral end portions 13A, 13B are arranged substantially perpendicular to the cen-

tral portion 12 of the rear element 7, as shown in FIG. 7.

[0065] Now the rear element 7 may be simply coupled to the at least one intermediate element 8 and the latter may be coupled to the front element 6, so that:

- their respective bottom edges 26, 25, 23 are coplanar;
- the central portions 12, 15 of the rear element 7 and the intermediate element 8 are vertically arranged between the two lateral end portions 10A, 10B of the front element 6 and substantially perpendicular thereto;
- the first pair of projections 21A of the first flat panel 18A fit into the corresponding first pair of slits 22A of the central portion 15 of the intermediate element 8 so that the panel 18A will be horizontal and substantially parallel to the bottom edges 23, 25, 26 of their respective panels 6, 8, 7;
- the second pair of projections 21B of the second flat panel 18B fits into the corresponding second pair of slits 22B of the central portion 12 of the rear panel 7, once again such that the panel 18B will be horizontal and substantially parallel to the bottom edges 23, 25, 26 of the respective panels 6, 8, 7 or the first panel 18A;
- the two lateral end portions 10A, 10B of the front element 6 overlap and are coupled by fastening means to the two lateral end portions 13A, 13B of the rear element 7 respectively;
- the two lateral end portions 16A, 16B of the intermediate element 8 overlap and are coupled by fastening means to the two respective lateral end portions 10A, 10B of the front element 6.

[0066] Likewise, in the illustrated embodiment, the rear element 7 may be simply coupled to one of the intermediate elements 8, the other intermediate element 8 may be coupled to the front element 6 and the two intermediate elements 8 may be coupled together.

[0067] It will be appreciated that the first flat panel 18A has been folded to form the lower shelf 4', the second flat panels 18B have been used to form the intermediate shelves 4", 4‴, the central portion 12 of the rear element 7 has been used to form the rear wall 2 and the lateral end portions 10A, 10B of the front element 6 have been used to form the respective side walls 3', 3" of the display stand 1.

[0068] Advantageously, the lateral end portions 10A, 10B; 13A, 13B; 16A, 16B of the respective sheet elements 6, 7, 8 are fastened together by bonding, stapling or with other fastening means.

[0069] Alternatively, a different assembly sequence may be also used, without departure from the scope of the present invention.

[0070] For example, the lateral ends 10A, 10B; 13A, 13B; 16A, 16B of the respective sheet elements 6, 7, 8 may be first folded, the rear element 7 may be later moved close to the intermediate element 8 and the latter may be moved close to the front element 6, as shown in FIG. 10 and the respective lateral end portions 10A, 10B; 13A, 13B; 16A, 16B may be later bonded together with the fastening means.

[0071] Then, the display stand 1 so assembled may be collapsed into the idle configuration, as shown in FIG. 3 and packaged for sale, not shown.

[0072] The alternation from the idle configuration to the operating configuration may be performed by a user once he/she has pulled the display stand 1 out of the package and has folded the flat panels 18A, 18B to fit the respective projections 21A, 21B into the corresponding aligned slits 22A, 22B, and possibly 22C, as discussed above.

[0073] The display stand structure of the invention is susceptible of a number of changes and variants, within the inventive concept as disclosed in the appended claims.

[0074] While the folding display stand structure has been described with particular reference to the accompanying figures, the numerals referred to in the disclosure and claims are only used for the sake of a better understanding of the invention and shall not be intended to limit the claimed scope in any manner.

[0075] Reference herein to "one embodiment" or "the embodiment" or "some embodiments" indicates that a particular characteristic, structure or member that is being described is included in at least one embodiment of the inventive subject matter.

[0076] Furthermore, the particular characteristics, structures or members may be combined together in any suitable manner to provide one or more embodiments.

Industrial applicability

[0077] The present invention may find application in industry, because it can be produced on an industrial scale in the paperprocessing and advertising industries.

Claims

1. A folding display stand (1) made of sheet material, comprising:

- at least one substantially flat and vertical rear wall (2);
- at least a pair of substantially vertical side walls (3', 3");
- a plurality of substantially horizontal shelves (4) interposed between said side walls (3', 3");

wherein said rear wall (2), said side walls (3', 3") and said shelves (4) are formed from a front sheet element (6), a rear sheet element (7) and at least one intermediate sheet element (8),

wherein said sheet elements (6, 7, 8) are coupled together to define a foldable structure that can be alternated from an idle configuration with said sheet elements (6, 7, 8) in mutually over-

lapping relationship, to an operating configuration with said sheet elements (6, 7, 8) in mutually spaced relationship and with said shelves (4) in step-like staggered relationship;
wherein each of said sheet elements (6, 7, 8) has a central portion (9, 12, 15) and a pair of lateral end portions (10A, 10B; 13A, 13B; 16A, 16B) respectively defined by first (11A, 11B), second (14A, 14B) and third (17A, 17B) fold lines which are substantially parallel;
wherein said sheet elements (6, 7, 8) are joined together by fastening means at their respective lateral end portions (10A, 10B; 13A, 13B; 16A, 16B) such that said first (11A, 11B), second (14A, 14B) and third (17A, 17B) fold lines will be parallel to each other, said front element (6) and said at least one intermediate element (8) having respective central portions (9, 15) each comprising a fourth fold line (19A, 19B), said respective central portions (9, 15) being cut out to form respective flat panels (18A, 18B) that can be folded along said respective fourth fold lines (19A, 19B) substantially perpendicular to said first (11A, 11B), second (14A, 14B) and third (17A, 17B)fold lines to form, once folded into said operating configuration, at least two of said shelves (4) in step-like staggered relationship, said front element (6) having a bottom edge (23) and said fourth fold line (19A) being located proximate to said bottom edge (23) to define a crosspiece (24) adapted to further stiffen said foldable structure when the latter is in the operating state;
wherein said foldable flat panels (18A, 18B) have a substantially rectangular shape and have respective free edges (20A, 20B) that can be coupled to the central portion (15) of said at least one intermediate element (8) and the central portion (12) of said rear element (7) respectively;
wherein said free edges (20A, 20B) have respective pairs of projections (21A, 21B) that can fit into corresponding aligned slits (22A, 22B) formed in the central portions (15, 12) of said at least one intermediate element (8) and said rear element (7) to removably couple said sheet elements (6, 7, 8) together and keep the structure in the operating configuration;
wherein in the operating configuration, said rear element (7) is coupled with said at least one intermediate element (8) and the latter with said front element (6), such that their respective bottom edges (26, 25) will be coplanar, said central portions (12, 15) are arranged vertically between said two lateral end portions (10A, 10B; 13A, 13B; 16A, 16B) and substantially perpendicular thereto, said projections (21A, 21B) fit into the corresponding slits (22A, 22B), said lateral end portions (10A, 10B) of said front sheet element (6) overlap and are coupled by said fastening means respectively to said two lateral end portions (13A, 13B) of said rear sheet element (7) and such that said two lateral end portions (16A, 16B) of said at least one intermediate sheet element (8) overlap and are coupled by said fastening means to the respective lateral end portions (10A, 10B) of said front sheet element (6).

2. Display stand as claimed in claim 1, **characterized in that** said at least one intermediate element (8) also has a substantially rectangular shape and is divided into two parts (8', 8") along said fourth fold line (19B), said end portions (16A, 16B) of said intermediate element (8) laterally extending from the side (8") of the central portion (15) that faces away from the foldable flat panel (18B).

3. Display stand as claimed in claim 1, **characterized in that** the central portion (9) of said front element (6) is in the form of a strip and has said lateral end portions (13A, 13B) extending from its lateral ends with a substantially inclined shape to define said pair of side walls (3, 3").

4. Display stand as claimed in claim 1, **characterized in that** it comprises two intermediate elements (8) having said central portions (15) and said lateral end portions (16A, 16B) of different heights.

5. Display stand as claimed in any of the preceding claims, **characterized in that** said sheet material is selected from the group comprising paper, cardboard and plastic.

6. Display stand as claimed in any of the preceding claims, **characterized in that** said fastening means are bonding means.

7. Display stand as claimed in any of the preceding claims, **characterized in that** it comprises two or more intermediate elements (8) having respective panels (18B) that can be folded along respective fourth fold lines (19B) to form three or more shelves (4).

8. A method of assembling a folding display stand (1) made of a sheet material as claimed in one or more of claims 1 to 7, comprising the steps of:

- folding said two lateral end portions (10A, 10B) of said front element (6) along said first fold lines (11A, 11B) respectively, such that they will be substantially perpendicular to the central portion (9);
- folding said two lateral end portions (16A, 16B) of said intermediate element (8) along said third fold lines (17A, 17B), such that they will be sub-

stantially perpendicular to said central portion (15) of said intermediate panel (8);
- folding said first flat panel (18A) along said fourth fold line (19A) and said second flat panels (18B) along respective fourth fold lines (19B), such that they will be substantially perpendicular to the respective central portions (9, 15) of said sheet elements (6, 8);
- folding said first lateral end portion (13A) of said rear element (7) along its respective second fold line (14A) and folding said second lateral end portion (13B) along said second fold line (14B) such that said two lateral end portions (13A, 13B) will be perpendicular to said central portion (12) of said rear element (7);
- coupling said rear element (7) with said at least one intermediate element (8) and the latter with said front element (6), such that their respective bottom edges (26, 25, 23) will be coplanar, said central portions (12, 15) will be arranged vertically between said two lateral end portions (10A, 10B) and substantially perpendicular thereto, said projections (21A, 21B) will fit into the corresponding slits (22A, 22B), said lateral end portions (10A, 10B) will overlap and be coupled by said fastening means respectively to said two lateral end portions (13A, 13B) and such that said two lateral end portions (16A, 16B) will overlap and be coupled by said fastening means to the respective lateral end portions (10A, 10B).

Patentansprüche

1. Ein faltbarer Präsentationsständer (1) aus Plattenmaterial, bestehend aus:

- mindestens eine im Wesentlichen flache und vertikale Rückwand (2);
- mindestens ein Paar im Wesentlichen vertikaler Seitenwände (3', 3");
- eine Vielzahl von im Wesentlichen horizontalen Regalen (4), die zwischen den Seitenwänden (3', 3") angeordnet sind;
wobei die Rückwand (2), die Seitenwände (3', 3") und die Regale (4) aus einem vorderen Plattenelement (6), einem hinteren Plattenelement (7) und mindestens einem dazwischenliegenden Plattenelement (8) gebildet sind,
wobei die Plattenelemente (6, 7, 8) miteinander verbunden sind, um eine faltbare Struktur zu definieren, die von einer Ruhekonfiguration mit den Plattenelementen (6, 7, 8) in gegenseitig überlappender Beziehung, zu einer Betriebskonfiguration mit den Plattenelementen (6, 7, 8) in gegenseitigem Abstand und mit den Regalen (4) in stufenartig versetzter Beziehung gewechselt werden kann;
wobei jedes der Plattenelemente (6, 7, 8) einen Mittelabschnitt (9, 12, 15) und ein Paar seitlicher Endabschnitte (10A, 10B; 13A, 13B; 16A, 16B) aufweist, die jeweils durch erste (11A, 11B), zweite (14A, 14B) und dritte (17A, 17B) Faltlinien definiert sind, die im Wesentlichen parallel sind;
wobei die Plattenelemente (6, 7, 8) durch Befestigungsmittel an ihren jeweiligen seitlichen Endabschnitten (10A, 10B; 13A, 13B; 16A, 16B) so miteinander verbunden sind, dass die ersten (11A, 11B), zweiten (14A, 14B) und dritten (17A, 17B) Faltlinien parallel zueinander sind,
wobei das vordere Element (6) und das mindestens eine Zwischenelement (8) jeweilige Mittelabschnitte (9, 15) aufweisen, die jeweils eine vierte Faltlinie umfassen (19A, 19B),
wobei die jeweiligen Mittelabschnitte (9, 15) ausgeschnitten sind, um entsprechende flache Paneele (18A, 18B) zu bilden, die entlang der jeweiligen vierten Faltlinien (19A, 19B) im Wesentlichen senkrecht zu den ersten (11A, 11B), zweiten (14A, 14B) und dritten (17A, 17B) Faltlinien gefaltet werden können, um, sobald sie in die Betriebskonfiguration gefaltet sind, mindestens zwei der Regale (4) in einer stufenartig versetzten Beziehung zu bilden, wobei das vordere Element (6) eine Unterkante (23) aufweist und die vierte Faltlinie (19A) in der Nähe der Unterkante (23) befindet, um ein Querstück (24) zu definieren, das dazu geeignet ist, die faltbare Struktur weiter zu versteifen, wenn sich diese im Betriebszustand befindet;
wobei die faltbaren Flachpaneele (18A, 18B) eine im Wesentlichen rechteckige Form und entsprechende freie Kanten (20A, 20B) haben, die mit dem Mittelabschnitt (15) des mindestens einen Zwischenelements (8) und dem Mittelabschnitt (12) des hinteren Elements (7) verbunden werden können;
wobei die freien Kanten (20A, 20B) jeweilige Paare von Vorsprüngen (21A, 21B) aufweisen, die in entsprechende ausgerichtete Schlitze (22A, 22B) passen, die in den Mittelabschnitten (15, 12) des mindestens einen Zwischenelements (8) und des hinteren Elements (7) ausgebildet sind, um die Plattenelemente (6, 7, 8) abnehmbar miteinander zu verbinden und die Struktur in der Betriebskonfiguration zu halten;
wobei in der Betriebskonfiguration das hintere Element (7) mit dem mindestens einen Zwischenelement (8) gekoppelt ist und Letzteres mit dem vorderen Element (6) gekoppelt ist, so dass ihre jeweiligen Unterkanten (26, 25) koplanar sind, wobei die Mittelabschnitte (12, 15) vertikal zwischen den zwei seitlichen Endabschnitten (10A, 10B; 13A, 13B; 16A, 16B) und im Wesentlichen senkrecht dazu angeordnet sind, wo-

bei die Vorsprünge (21A, 21B) in die entsprechenden Schlitze (22A, 22B) passen, die seitlichen Endabschnitte (10A, 10B) des vorderen Plattenelements (6) überlappen und durch die Befestigungsmittel jeweils an den beiden seitlichen Endabschnitten (13A, 13B) des hinteren Plattenelements (7) gekoppelt sind, so dass die beiden seitlichen Endabschnitte (16A, 16B) des mindestens einen Zwischenplattenelements (8) überlappen und durch diese Befestigungsmittel an den jeweiligen seitlichen Endabschnitten (10A, 10B) des vorderen Plattenelements (6) verbunden sind.

2. Präsentationsständer nach Anspruch 1, **dadurch gekennzeichnet, dass** das mindestens eine Zwischenelement (8) ebenfalls eine im Wesentlichen rechteckige Form aufweist und entlang der vierten Faltlinie (19B) in zwei Teile (8', 8") geteilt ist, wobei die Endabschnitte (16A, 16B) des Zwischenelements (8) sich seitlich von der Seite (8") des Mittelabschnitts (15) erstrecken, die von der faltbaren flachen Platte (18B) abgewandt ist.

3. Präsentationsständer nach Anspruch 1, **dadurch gekennzeichnet, dass** der Mittelabschnitt (9) des Vorderelements (6) die Form eines Streifens hat und die seitlichen Endabschnitte (13A, 13B) hat, die sich im Wesentlichen von seinen seitlichen Enden mit geneigter Form erstrecken, um das Paar Seitenwände (3, 3") zu definieren.

4. Präsentationsständer nach Anspruch 1, **dadurch gekennzeichnet, dass** er zwei Zwischenelemente (8) umfasst, deren mittlere Abschnitte (15) und seitlichen Endabschnitte (16A, 16B) unterschiedliche Höhen aufweisen.

5. Präsentationsständer nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Plattenmaterial aus der Gruppe bestehend aus Papier, Pappe und Kunststoff ausgewählt ist.

6. Präsentationsständer nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Befestigungsmittel Klebemittel sind.

7. Präsentationsständer nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** er zwei oder mehr Zwischenelemente (8) mit entsprechenden Paneele (18B) umfasst, die entlang jeweiliger vierter Faltlinien (19B) gefaltet werden können, um drei oder mehr Regale zu bilden (4).

8. Verfahren zum Zusammenbau eines faltbaren Präsentationsständers (1) aus einem Plattenmaterial nach einem oder mehreren der Ansprüche 1 bis 7, umfassend die Schritte:

- Falten der beiden seitlichen Endabschnitte (10A, 10B) des Vorderelements (6) jeweils entlang der ersten Faltlinien (11A, 11B), so dass sie im Wesentlichen senkrecht zum Mittelabschnitt (9) verlaufen;
- Falten der beiden seitlichen Endabschnitte (16A, 16B) des Zwischenelements (8) entlang der dritten Faltlinien (17A, 17B), so dass sie im Wesentlichen senkrecht zum Mittelabschnitt (15) des Zwischenelements (8) verlaufen;
- Falten des ersten Flachpaneels (18A) entlang der vierten Faltlinie (19A) und des zweiten Flachpaneels (18B) entlang jeweiliger vierter Faltlinien (19B), so dass sie im Wesentlichen senkrecht zu den jeweiligen Mittelabschnitten (9, 15) der Plattenelemente (6, 8) stehen;
- Falten des ersten seitlichen Endabschnitts (13A) des hinteren Elements (7) entlang seiner jeweiligen zweiten Faltlinie (14A) und Falten des zweiten seitlichen Endabschnitts (13B) entlang der zweiten Faltlinie (14B), so dass die beiden seitlichen Endabschnitte (13A, 13B) senkrecht zum Mittelabschnitt (12) des hinteren Elements (7) verlaufen;
- Koppeln des hinteren Elements (7) mit dem mindestens einen Zwischenelement (8) und dieses mit dem vorderen Element (6), so dass ihre jeweiligen Unterkanten (26, 25, 23) koplanar sind und die zentralen Abschnitte (12, 15) vertikal zwischen den beiden seitlichen Endabschnitten (10A, 10B) und im Wesentlichen senkrecht dazu angeordnet werden, die Vorsprünge (21A, 21B) in die entsprechenden Schlitze (22A, 22B) passen, die seitlichen Endabschnitte (10A, 10B) 10B) die beiden seitlichen Endabschnitte (13A, 13B) überlappen und durch die Befestigungsmittel mit diesen verbunden werden, und zwar so, dass die beiden seitlichen Endabschnitte (16A, 16B) sich überlappen und durch die Befestigungsmittel mit den jeweiligen seitlichen Endabschnitte (10A, 10B) verbunden werden.

Revendications

1. Présentoir pliable (1) constitué d'un matériau en feuille, comprenant:

- au moins une paroi arrière sensiblement plate et verticale (2);
- au moins une paire de parois latérales sensiblement verticales (3', 3");
- une pluralité d'étagères sensiblement horizontales (4) interposées entre lesdites parois latérales (3', 3");

dans lequel ladite paroi arrière (2), lesdites parois latérales (3', 3") et lesdites étagères (4) sont

formées à partir d'un élément en feuille avant (6), d'un élément en feuille arrière (7) et d'au moins un élément en feuille intermédiaire (8),
dans lequel lesdits éléments en feuille (6, 7, 8) sont couplés ensemble pour définir une structure pliable qui peut passer d'une configuration inactive avec lesdits éléments en feuille (6, 7, 8) dans une relation de chevauchement mutuel, à une configuration de fonctionnement avec ladite feuille des éléments (6, 7, 8) mutuellement espacés et avec lesdites étagères (4) en quinconce en escalier;
dans lequel chacun desdits éléments en feuille (6, 7, 8) possède une partie centrale (9, 12, 15) et une paire de parties d'extrémité latérales (10A, 10B; 13A, 13B; 16A, 16B) définies respectivement par des premières (11A, 11B), deuxièmes (14A, 14B) et troisièmes (17A, 17B) lignes de pliage qui sont sensiblement parallèles;
dans lequel lesdits éléments en feuille (6, 7, 8) sont réunis par des moyens de fixation au niveau de leurs parties d'extrémité latérales respectives (10A, 10B; 13A, 13B; 16A, 16B) de telle sorte que lesdits première (11A, 11B), seconde (14A, 14B) et troisième (17A, 17B) lignes de pliage seront parallèles entre elles, ledit élément avant (6) et ledit au moins un élément intermédiaire (8) présentant des parties centrales respectives (9, 15) comprenant chacune une quatrième ligne de pliage (19A, 19B), lesdites parties centrales respectives (9, 15) étant découpées pour former des panneaux plats respectifs (18A, 18B) qui peuvent être pliés le long desdites quatrièmes lignes de pliage respectives (19A, 19B) sensiblement perpendiculaires à ladite première (11A, 11B), deuxième (14A, 14B) et troisième (17A, 17B) lignes de pliage pour former, une fois pliées dans ladite configuration de fonctionnement, au moins deux desdites étagères (4) en quinconce en escalier, ledit élément avant (6) ayant un bord inférieur (23) et ladite quatrième ligne de pliage (19A) étant située à proximité dudit bord inférieur (23) pour définir une traverse (24) adaptée pour rigidifier davantage ladite structure pliable lorsque cette dernière est en état de fonctionnement;
dans lequel lesdits panneaux plats pliables (18A, 18B) ont une forme sensiblement rectangulaire et ont des bords libres respectifs (20A, 20B) qui peuvent être couplés à la partie centrale (15) dudit au moins un élément intermédiaire (8) et à la partie centrale (12) dudit élément arrière (7) respectivement;
dans lequel lesdits bords libres (20A, 20B) ont des paires respectives de saillies (21A, 21B) qui peuvent s'insérer dans des fentes alignées correspondantes (22A, 22B) formées dans les parties centrales (15, 12) dudit au moins un élément intermédiaire (8) et ledit élément arrière (7) pour coupler de manière amovible lesdits éléments en feuille (6, 7, 8) ensemble et maintenir la structure dans la configuration de fonctionnement;
dans lequel en configuration de fonctionnement, ledit élément arrière (7) est couplé audit au moins un élément intermédiaire (8) et ce dernier avec ledit élément avant (6), de telle sorte que leurs bords inférieurs respectifs (26, 25) seront coplanaires, lesdites parties centrales (12, 15) sont disposées verticalement entre lesdites deux parties d'extrémité latérales (10A, 10B ; 13A, 13B ; 16A, 16B) et sensiblement perpendiculaires à celles-ci, lesdites saillies (21A, 21B) s'insèrent dans les fentes correspondantes (22A, 22B), lesdites parties d'extrémité latérales (10A, 10B) dudit élément de feuille avant (6) se chevauchent et sont couplées par lesdits moyens de fixation respectivement auxdites deux parties d'extrémité latérales (13A, 13B) dudit élément de feuille arrière (7) et de telle sorte que lesdites deux parties d'extrémité latérales (16A, 16B) dudit au moins un élément de feuille intermédiaire (8) se chevauchent et sont couplées par ledites moyens de fixation aux parties d'extrémité latérales respectives (10A, 10B) dudit élément de feuille avant (6).

2. Présentoir selon la revendication 1, **caractérisé en ce que** ledit au moins un élément intermédiaire (8) a également une forme sensiblement rectangulaire et est divisé en deux parties (8', 8") le long de ladite quatrième ligne de pliage (19B), ladite extrémité des parties (16A, 16B) dudit élément intermédiaire (8) s'étendant latéralement à partir du côté (8") de la partie centrale (15) qui est opposé au panneau plat pliable (18B).

3. Présentoir selon la revendication 1, **caractérisé en ce que** la partie centrale (9) dudit élément avant (6) est sous la forme d'une bande et comporte lesdites parties d'extrémité latérales (13A, 13B) s'étendant depuis les extrémités latérales de la dite partie centrale (9) et ont une forme sensiblement inclinée pour définir ladite paire de parois latérales (3, 3").

4. Présentoir selon la revendication 1, **caractérisé en ce qu'**il comprend deux éléments intermédiaires (8) ayant lesdites parties centrales (15) et lesdites parties d'extrémité latérales (16A, 16B) de hauteurs différentes.

5. Présentoir selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ledit matériau en feuille est choisi dans le groupe comprenant le papier, le carton et le plastique.

6. Présentoir selon l'une quelconque des revendica-

tions précédentes, **caractérisé en ce que** lesdits moyens de fixation sont des moyens de collage.

7. Présentoir selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'**il comprend deux ou plusieurs éléments intermédiaires (8) ayant des panneaux respectifs (18B) qui peuvent être pliés le long de quatrièmes lignes de pliage respectives (19B) pour former trois étagères ou plus (4).

8. Procédé d'assemblage d'un présentoir pliant (1) constitué d'un matériau en feuille selon l'une ou plusieurs des revendications 1 à 7, comprenant les étapes consistant à:

- plier lesdites deux parties d'extrémité latérales (10A, 10B) dudit élément avant (6) le long desdites premières lignes de pliage (11A, 11B) respectivement, de telle sorte qu'elles soient sensiblement perpendiculaires à la partie centrale (9);
- plier lesdites deux parties d'extrémité latérales (16A, 16B) dudit élément intermédiaire (8) le long desdites troisièmes lignes de pliage (17A, 17B), de telle sorte qu'elles soient sensiblement perpendiculaires à ladite partie centrale (15) dudit panneau intermédiaire (8);
- plier ledit premier panneau plat (18A) le long de ladite quatrième ligne de pliage (19A) et lesdits seconds panneaux plats (18B) le long de quatrièmes lignes de pliage respectives (19B), de telle sorte qu'ils soient sensiblement perpendiculaires aux parties centrales respectives (9, 15) desdits éléments en feuille (6, 8);
- plier ladite première partie d'extrémité latérale (13A) dudit élément arrière (7) le long de sa deuxième ligne de pliage respective (14A) et plier ladite deuxième partie d'extrémité latérale (13B) le long de ladite deuxième ligne de pliage (14B) de telle sorte que lesdites deux parties d'extrémité latérales (13A, 13B) seront perpendiculaires à ladite portion centrale (12) dudit élément arrière (7);
- coupler ledit élément arrière (7) avec ledit au moins un élément intermédiaire (8) et ce dernier avec ledit élément avant (6), de telle sorte que leurs bords inférieurs respectifs (26, 25, 23) seront coplanaires, lesdites parties centrales (12, 15) seront disposées verticalement entre lesdites deux parties d'extrémité latérales (10A, 10B) et sensiblement perpendiculairement à celles-ci, lesdites saillies (21A, 21B) s'insèreront dans les fentes correspondantes (22A, 22B), lesdites parties d'extrémité latérales (10A, 10B) se chevaucheront et seront couplées par lesdits moyens de fixation respectivement auxdites deux parties d'extrémité latérales (13A, 13B) et de telle sorte que lesdites deux parties d'extrémité latérales (16A, 16B) se chevaucheront et seront couplées par lesdits moyens de fixation à l'extrémité latérale des parties respectives (10A, 10B).

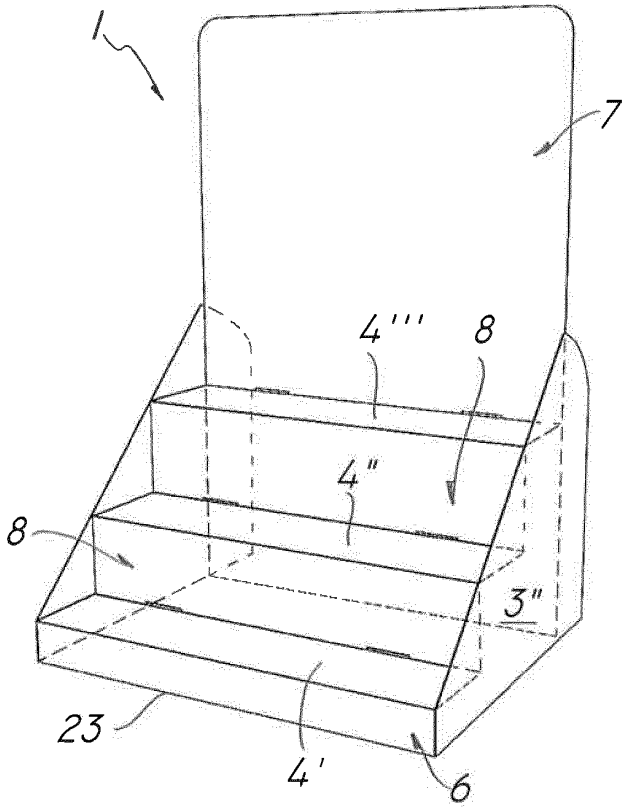

FIG. 1

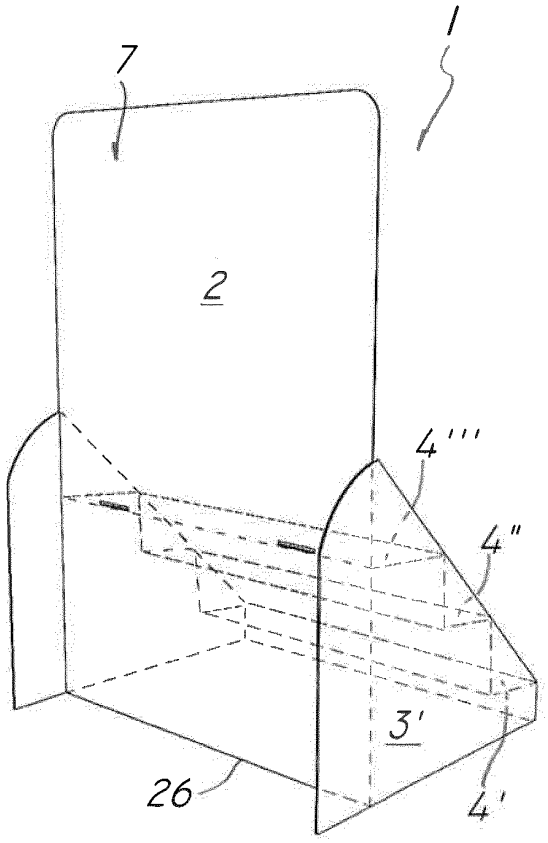

FIG. 2

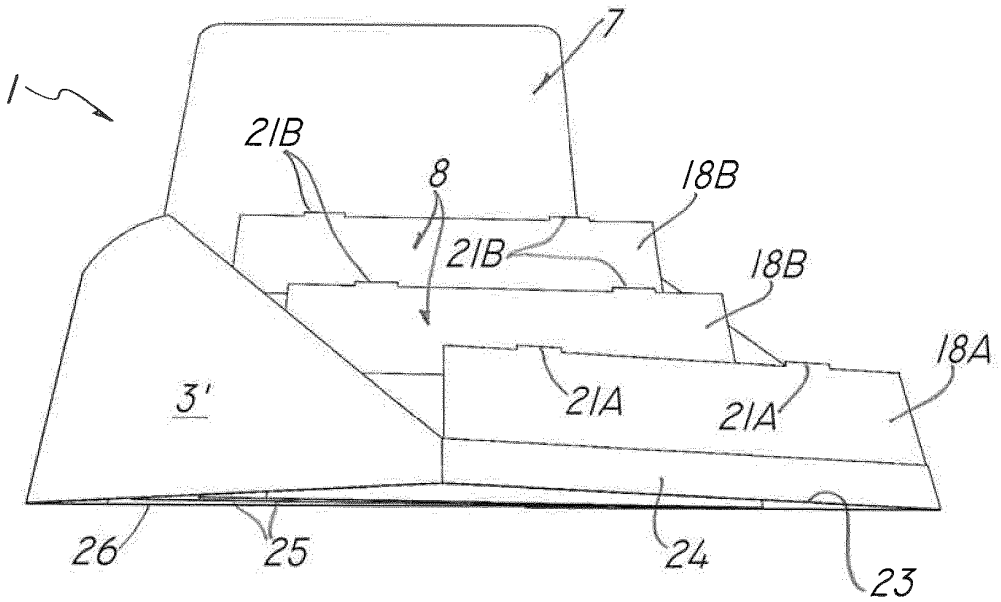

FIG. 3

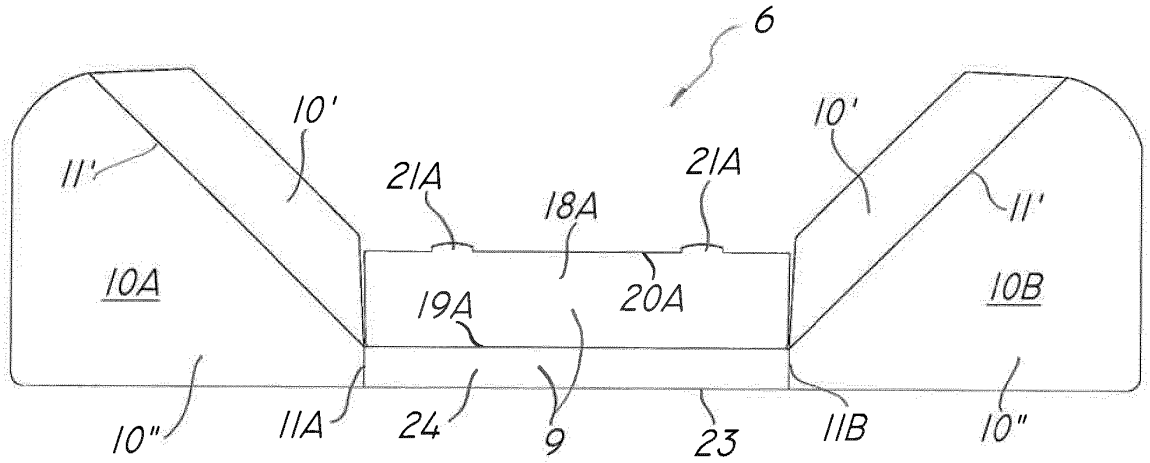
6
10'
10'
11'
21A
18A
21A
11'
10A
19A
20A
10B
10"
11A
24
9
23
11B
10"

FIG. 4

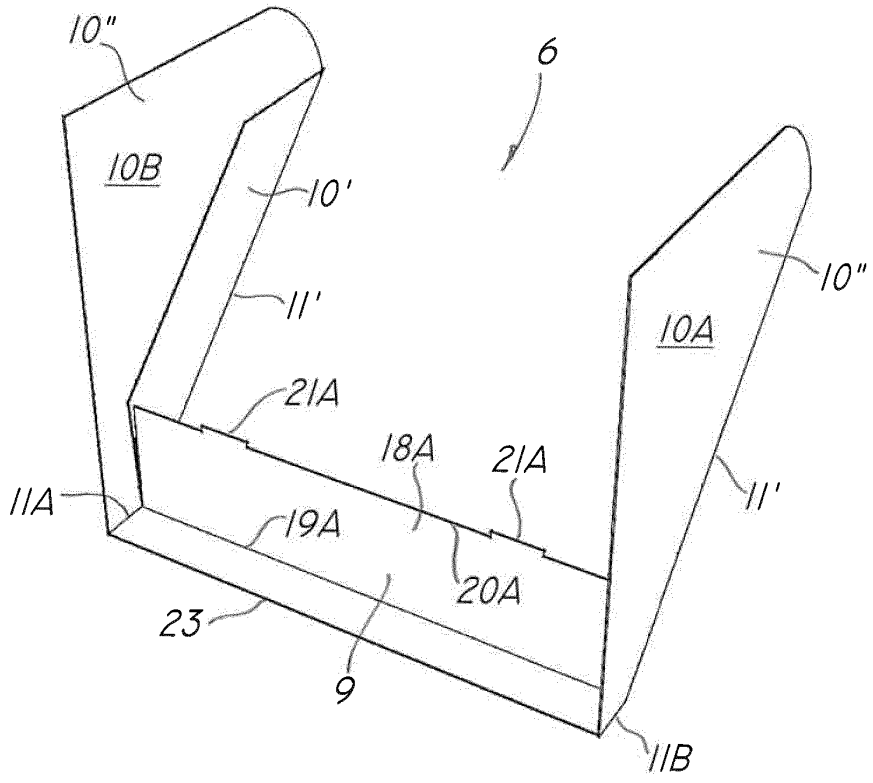
10"
6
10B
10'
11'
10"
10A
21A
18A
21A
11A
19A
11'
20A
23
9
11B

FIG. 5

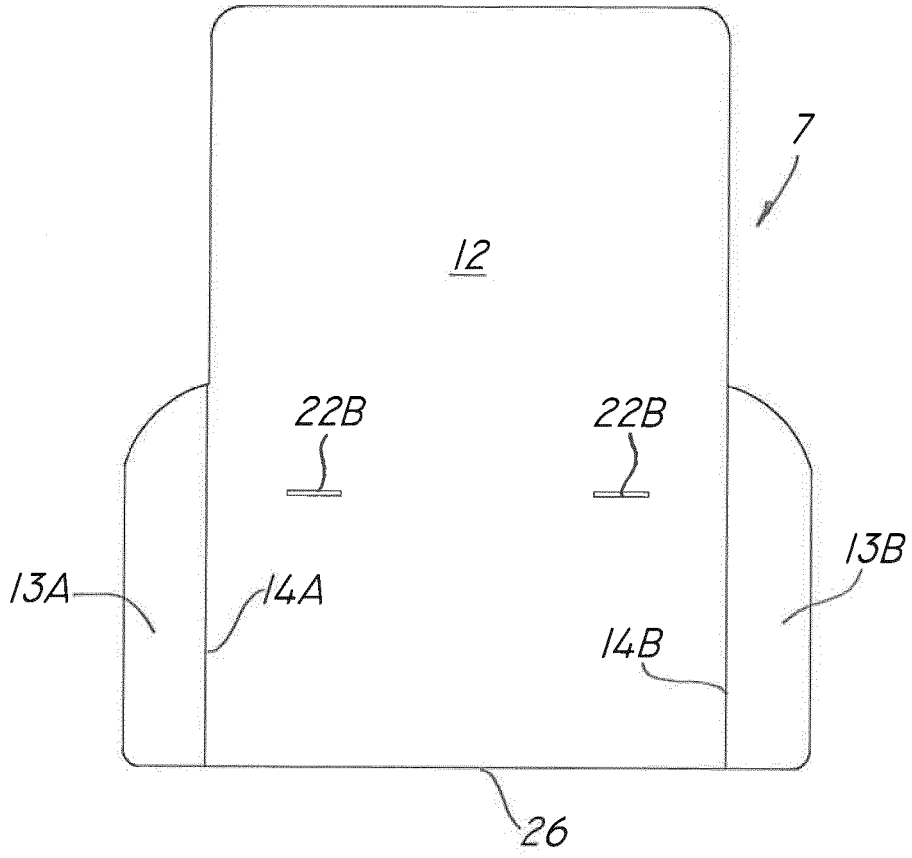

FIG. 6

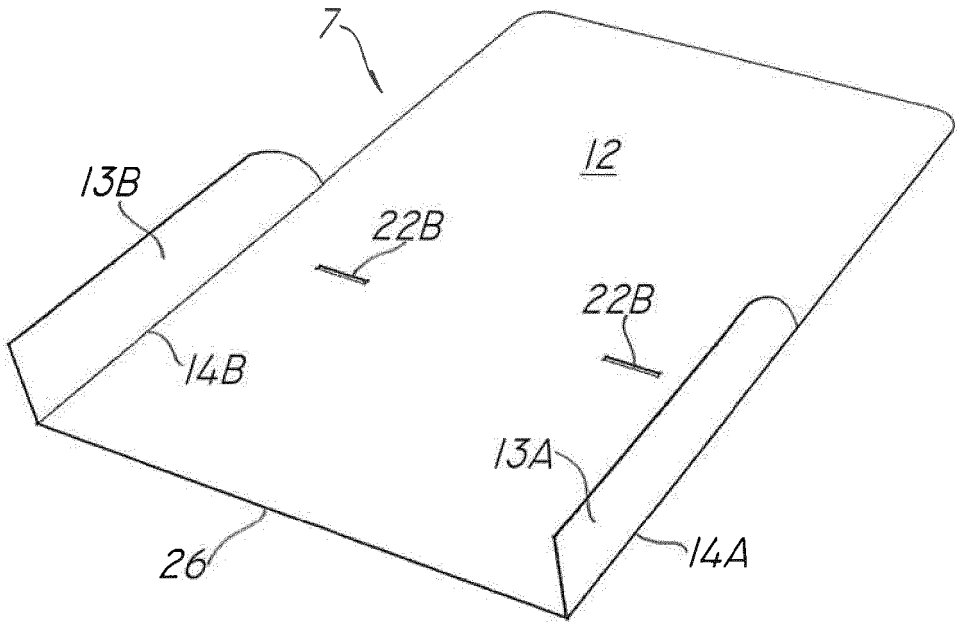

FIG. 7

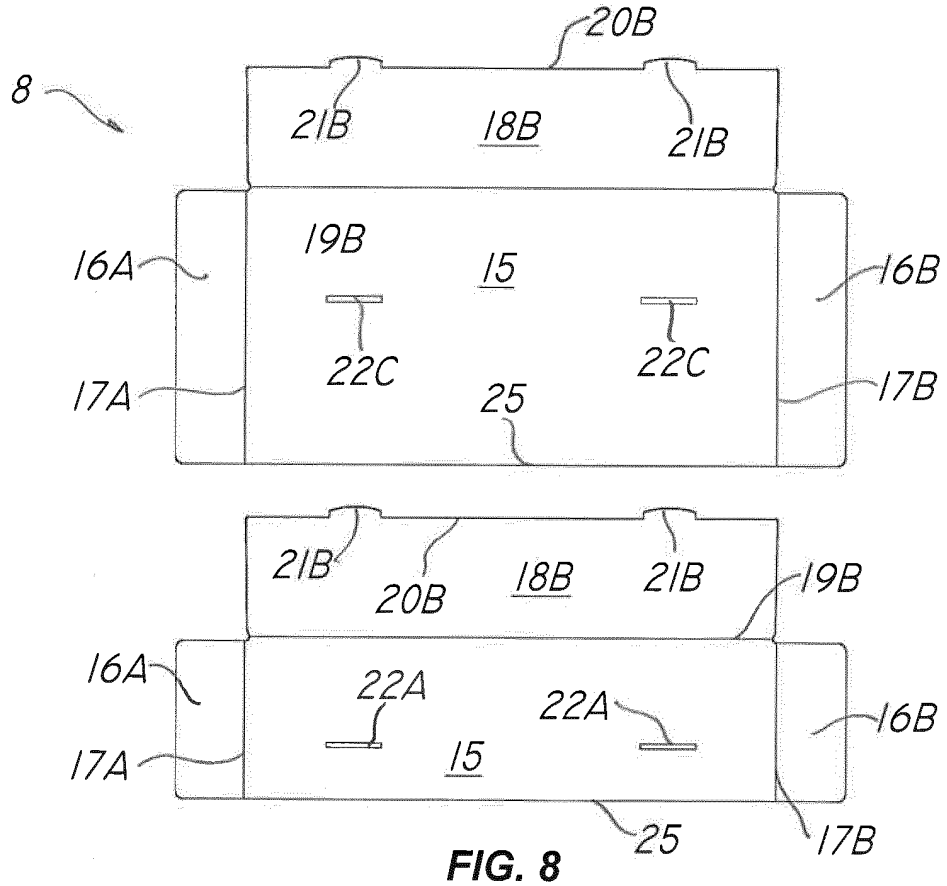
8
20B
21B
18B
21B
19B
16A
15
16B
22C
22C
17A
25
17B
21B
20B
18B
21B
19B
16A
22A
22A
16B
17A
15
25
17B

FIG. 8

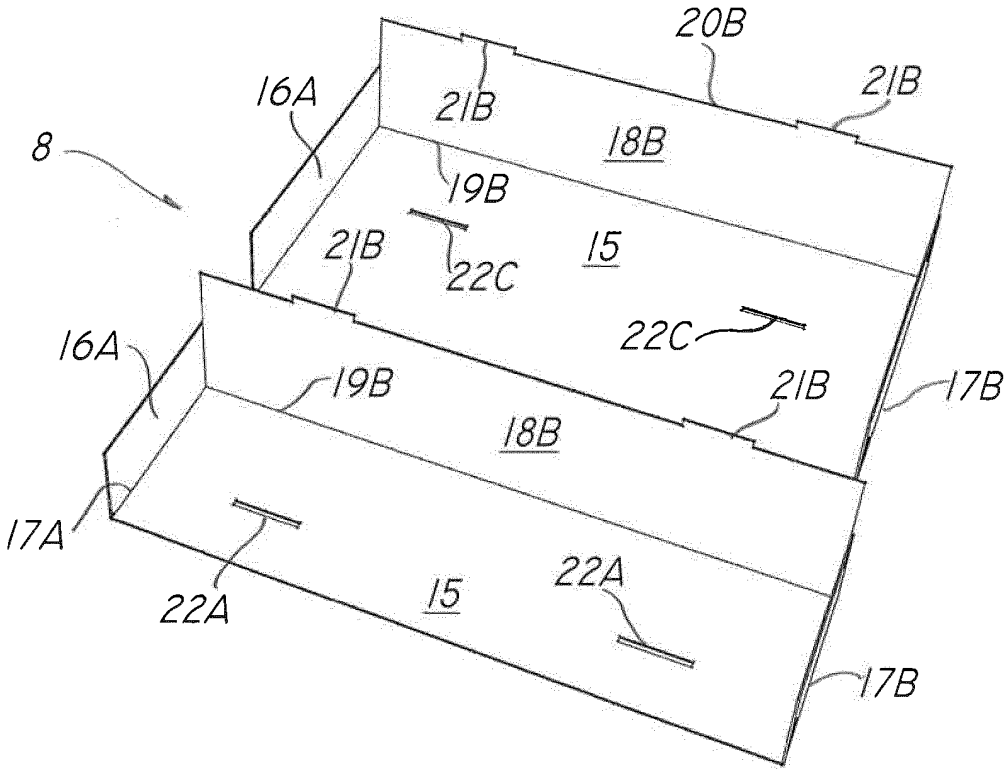
20B
16A
21B
21B
8
18B
19B
21B
22C
15
22C
16A
19B
21B
17B
18B
17A
22A
15
22A
17B

FIG. 9

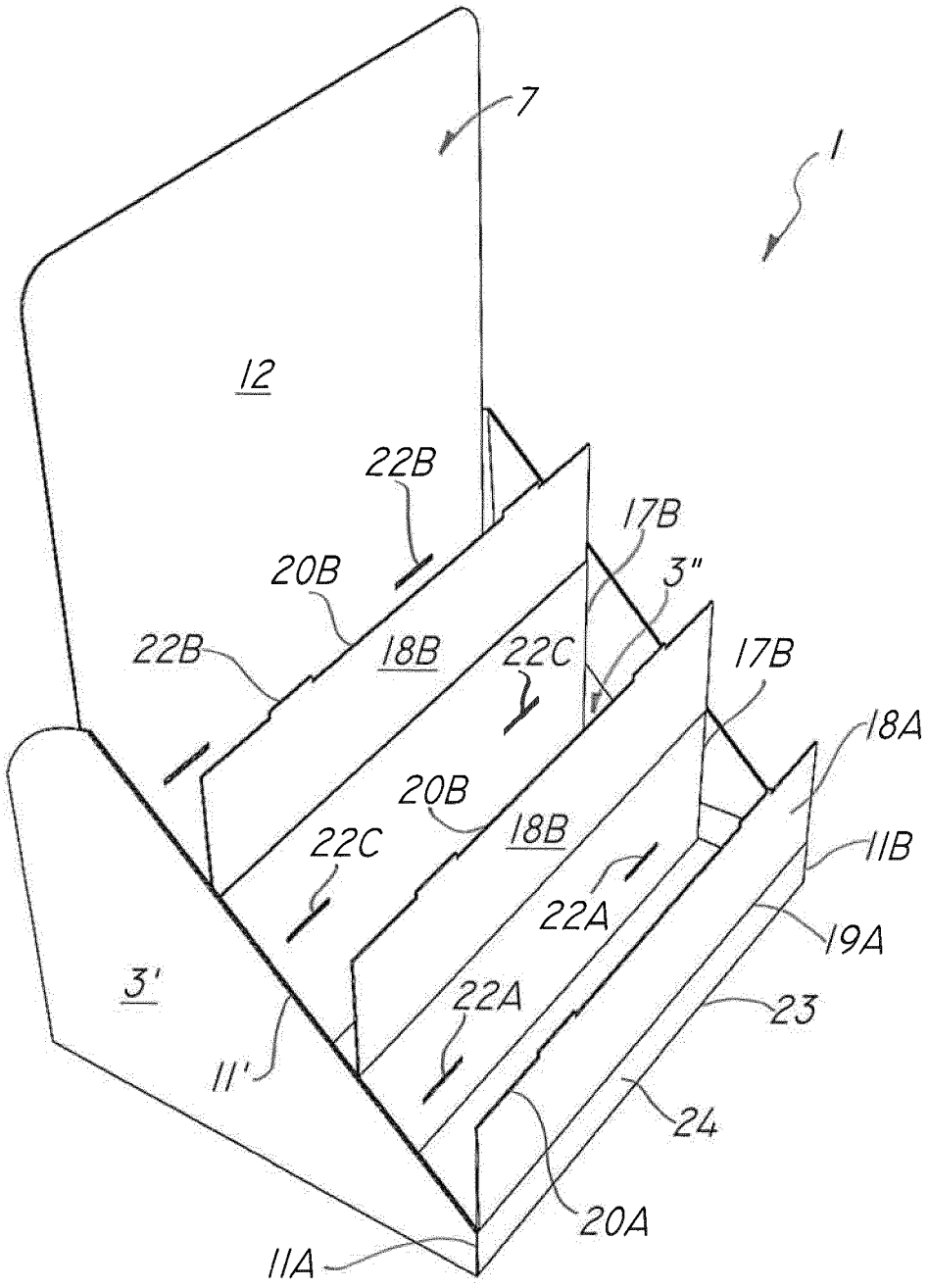
7
1
12
22B
17B
20B
3"
22B
18B
22C
17B
18A
20B
18B
22C
11B
22A
19A
3'
22A
23
11'
24
20A
11A

FIG. 10

REFERENCES CITED IN THE DESCRIPTION

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