FOLDABLE PRODUCT DISPLAY STRUCTURE

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ABSTRACT
A foldable display structure comprising a base with sides having a substantially vertical face and a substantially horizontal face and a first and second end; a top with sides having a substantially vertical face and a substantially horizontal face and a first and second end; posts with lower and upper ends, the posts containing a first face and a second face substantially perpendicular to said first face, a vertex formed by said first face and said second face of the post oriented towards the outer part of the structure, at least one of said plurality of posts is placed in between the first and second end of one of the sides of the base; and a short post with lower and upper ends, the short post. The display structure further comprises a cover with a front part and a back part, the front part covers part of the section of a front face of the display structure and the back part covers the back face of the display structure.
Fig. 17
FOLDABLE PRODUCT DISPLAY STRUCTURE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Application No. 61/690,826, filed Jul. 5, 2012, which is a continuation-in-part of PCT application No. PCT/IB2012/000121 filed on Jan. 27, 2012, which is a continuation-in-part of PCT application No. PCT/IB2009/007702 filed on Dec. 9, 2009.

FIELD OF THE INVENTION

[0002] The present invention refers to product displaying structures, and more specifically to displays which may be assembled and disassembled for displaying products in a point of sale, and even more specifically to product displays with at least one tray to carry and display products at the point of sale, and an assembly and disassembly method of these displays.

DESCRIPTION OF RELATED ART

[0003] The constant population growth demands a production of large volumes of products to be purchased. In the points of sale, structures that make it possible to carry a large volume of products in reduced space are required, without missing the primary detail of displaying the product. The distributors of consumable products have problems when setting up a display quickly and completely in the least time possible, and also dealing with the display having the adequate capacity to carry and display the consumable products that are being displayed.

[0004] Producers try to solve these problems sending their products packed in a structure that is capable of transporting and exhibiting the products. While this is useful for certain products, there are other products that have to be set up in situ due to the kind of product or to the producer’s preference.

[0005] These exhibitors are known in the art. For example, in the US Publication No. 2009/050589, reference is made to a product exhibiting system that can be assembled quickly and provides an efficient display of the product.

[0006] In US Publication No. 2008/0190872 an assembly of modular platform that includes a plurality of pile-up shelves is released, each shelf has a plurality of supports and at least a divider that extends adjacent to the vertical supports, these adjacent vertical supports with space between them so they can receive the product to be displayed. The vertical supports include a plurality of grooves and dividers that include a blocking hook in each opposite extreme, so that each blocking hook hitches a corresponding groove in the adjacent vertical supports, defining so the determined configuration of platform.

[0007] In Mexican patent application No. PA/a/2005/011459, a packing structure is revealed, and it is used for the containment, transportation, exhibition and sale of the products in points of sale, it is a kind of structure consisting of a cubical three-dimensional frame composed of four cubic posts in a rectangular or quadrangular arrangement, which are put together by their upper and lower extremes with angular crosspieces, generating empty windows on all its faces; these angular posts and crosspieces are made of compressed rigid cardboard and they have two identical arms that define an “I” shape, disposed with their vertex towards the interior of the structure; this structure is placed on the base or dais, characterized because the joint between the angular posts and crosspieces is given through structural angles that include a flat surface with the shape of an octagonal square with a rounded vertex on each side of the square projecting upwards and perpendicularly a fixing flap of a substantially trapezoidal section; these flaps and the flat section with a square shape include holes through which the fixing devices are lodged in order to fix the arms to the crosspieces posts; a rectangular tab is provided exactly at the outer corner of the octagonal square.

[0008] US Publication No. 2007/000857 discloses an adjustable exhibition platform and a method for the manufacture of these platforms.

[0009] Mexican utility model No. 1434 discloses a display-packing and self-standing supply exhibitor that allows the transportation of the product contained from the manufacturer to the points of sale; this self-standing pack has the peculiarity of containing and exhibiting the product, and also that it is the place from where the final customer can grab it at the moment of purchase. It is characterized because it has angular posts that result in a preferably quadrangular or rectangular configuration, with a plurality of angular crosspieces that are jointed at their extremes into the posts by means of fixing devices, generating a plurality of perimetric supports at a same level, at multiple heights and a certain separation space; where panels for containment and exhibition of several products are displayed, these panels are superimposed or fixed with different devices on the angular crosspieces that result from the perimetric supports.

[0010] Other important publications are U.S. Pat. Nos. 6,752,281, 5,896,995, 5,251,753, 4,705,162 and 2,941,772, as well as Mexican industrial design No. 18192.

[0011] None of the previous publications discloses a display that can be of an undetermined size and that can be capable of supporting the weight of the products that are being exhibited, and that at the same time can be folded, assembled and packed easily and promptly, i.e. in a matter of seconds.

BRIEF SUMMARY OF THE INVENTION

[0012] The present invention discloses a foldable display structure for products at a point of sale, which can adopt almost any kind of geometric figure, as long as the display structure contains a base proximate to the floor and a top with similar shape to the base. These kind of geometric figures generally are polyhedrons of any kind, like for example: tetrahedrons, pentahedrons, hexahedrons, octahedrons, dodecahedrons, icosahebdrons, icosidodecahedrons, rhombic triacontahedrons, pentagonal cupolas and octagonal prisms among others. The display comprises a base, a top, a height, at least one tray between the base and the top, and at least five faces.

[0013] The base comprises of a number of sides, each side having a first and second end. At least three sides, a first, second and third side, of the base are composed of a first face which is located in a substantially vertical plane and a second face being substantially perpendicular to the first face, thus the second face being located in a substantially horizontal plane. The vertex formed by the first face and the second face of each of the sides of the base, has an inwardly facing orientation; however said vertex between faces may have an outwardly facing orientation. Each end of the first face in the substantially vertical plane has a specific shape and size, so that when the displaying structure is unfolded, the end of the
first face of a first side has a clear turning point with a back cover. If, for example, the exhibitor is a hexahedron, the first side is separated from the second side by a third and fourth side, thus the first and second sides are opposite in regards to the base, and the third and fourth sides are opposite in regards to the base. The number of sides of the base will depend directly on the number of faces contained in the exhibitor. It is preferred that the number of sides be pair, rather than odd. The vertex between each of the sides provides a corner. The vertex does not need to be an abutting vertex, and may be a proximate vertex, that is, the sides in their corners do not need to be abutting and can simply be proximate. Proximate to the corner, in the first end of at least two of the sides, that is the first and second sides of the base, a post is permanently fixed to said base in a rotatable relationship. When referring to a rotatable relationship, the fixing means between two parts, in this case the at least two sides of the base to the post, is a rotatable fixing means, such as a rivet. Distant to a corner in the second end of at least one of the first or second side of the base, preferably between the first and second end, at least one post is permanently fixed in a rotatable relationship with rotatable fixing means. Furthermore, proximate to the corner, in the second end of at least two of the sides, that is the first and second sides of the base, a post is permanently fixed to said base in a rotatable relationship. Given that the sides may have different lengths the base has a determined area defined by the shape of the base and the length of the different sizes.

The height is composed of at least five posts. The number of posts may be related to the number of corners that the base has. That is, if the base has three corners, then five posts are required; if the base has four or more corners, the number of posts required is of at least five posts and preferably six posts. The posts consist of two faces on a Z and W plane, considering that the first and second faces of the first and second sides of the base is on a Y and Z plane, respectively, where a first face of the post is substantially perpendicular to a second face of the post. Some of the faces of the posts must have their vertex facing in an outward direction in regards to the display. Each post is comprised of two ends, a first and second end. Furthermore, some of the faces of the posts may have their vertex facing in an inward direction in regards to the display. A first end of the first face of the first side of the base is fastened by means of the permanent rotatable fixing means to the first face of the first end of a first post, while in between the first end and a second end of the first face of the first side of the base, the first face of the first end of a second post is fastened by means of the permanent rotatable fixing means. A first end of the first face of the second side of the base is fastened by means of the permanent rotatable fixing means to the first face of the first end of a second post; if, for example, the display is a hexahedron and a fourth post is required, in between the first end and a second end of the first face of the second side of the base, the first face of the first end of a fourth post is fastened by means of the permanent rotatable fixing means. The same post configuration than the first side of the base may be repeated for the opposite side of the base. The permanent rotatable fastener of the first end of the first face of the first and second sides of the base to the first face of the posts is located in a substantially upper part in regards to the intersection formed by the first end of the first face of the first and second sides of the base and the first face of the posts. The permanent rotatable fastener of the second end of the first face of the first and second sides of the base to the first face of the posts is located in a substantially central-to-upper part in regards to the intersection formed by the first end of the first face of the first and second sides and the first face of the posts. The second end of the post is fastened to the top with a permanent rotatable fixing means. Other posts which do not run the entire height of the display structure are provided; specifically, in the front end of the display structure, at least one short post is provided, also with an outwardly facing orientation, wherein said at least one short post has a height equal to the distance between the base and the tray base most proximate to the base. Specifically, said at least one post is fastened in a rotatable relationship with the side or front part of the tray base and base. A second end of the first face of the first or second side of the base is fastened by means of the permanent rotatable fixing means to the first face of the first end of yet a further short post, while a second end of the first face of the first or second side of the tray base is fastened by means of the permanent rotatable fixing means to the first face of the second end of the short post. The permanent rotatable fastener of the second end of the first face of the first and second sides of the base and tray base, respectively to the first face of the posts is located in a substantially lower part in regards to the intersection formed by the first end of the first face of the first and second sides of the base and tray base, respectively, and the first face in the second end of the posts.

The top comprises of a number of sides which is the same as the base, each of the sides of the top comprise a first and a second end. All the sides, for example a first, a second, a third and a fourth side, of the top are composed of a first face which is located in a substantially vertical plane and a second face being substantially perpendicular to the first face; thus the second face being located in a substantially horizontal plane. The first and second sides, which are opposite to the other, are fixed by a permanent rotatable means to the second ends of the posts. Specifically, a first end of the first face of the first side of the top is fastened by means of the permanent rotatable fixing means to the first face of the second end of the first post, while a second end of the first face of the first side of the top is fastened by means of the permanent rotatable fixing means to the first face of the second end of the second post. A first end of the first face of the second side of the top is fastened by means of the permanent rotatable fixing means to the first face of the second end of the third post; if, for example, the display is a hexahedron and a fourth post is required, a second end of the first face of the second side of the top is fastened by means of the permanent rotatable fixing means to the first face of the second end of a fourth post. The permanent rotatable fastener of the first end of the first face of the first and second sides of the top to the first face of the posts is located in a substantially upper part in regards to the intersection formed by the first end of the first face of the first and second sides and the first face of the posts. The permanent rotatable fastener of the second end of the first face of the first and second sides of the top to the first face of the posts is located in a substantially central part in regards to the intersection formed by the first end of the first face of the first and second sides and the first face of the posts. The top may have the same surface area as the base, however, the surface area of the top may be less than that of the base, since the first and second sides of the top may have a smaller length than the first and second sides of the base.

Between the first and second ends of the posts, there is at least one tray base. The number of tray bases can or cannot depend on the height of the posts. The number of tray bases can or cannot depend on the number of trays to be set up
on the display. The tray base has a determined number of sides and is formed essentially like the base above disclosed. The manner in which the first tray base, or the tray base which is most proximate to the base, is fastened to the posts is essentially the same as the fastening manners of the base above disclosed. The manner in which other tray bases are fastened to the posts is essentially the same as the fastening manners of the top above disclosed. As does the base, the tray base has a corner between each of the vertexes formed in the converging sides. Proximate to the corner, in the first end of at least two of the sides, that is the first and second sides of the tray base, a post, such as the first and second post in between the first and second end of said first and second post, the tray base is permanently fixed to said posts in a rotatable relationship. Distant to a corner in the second end of at least one of the first or second side of the tray base, preferably between the first and the second end and more proximate to the second end than to the first end, at least one post is permanently fixed to the tray base in a rotatable relationship with rotatable fixing means. It is preferable that the tray base proximate to the base has substantially the same surface area as the base. Tray bases more proximate to the top may have the same surface area as the base, however, the surface area of the tray bases, other than that proximate to the base, may be less than that of the base, since the first and second sides of the tray bases, other than that proximate to the base, may have a smaller length than the first and second sides of the base, which provides an area similar to the top. The permanent rotatable fastener of the first end of the first face of the first and second sides of the tray base to the first face of the posts is located in a substantially upper part in regards to the intersection formed by the first end of the first face of the first and second sides of the tray base and the first face of the posts. The permanent rotatable fastener of the second end of the first face of the first and second sides of the tray base to the first face of the posts is located in a substantially upper part in regards to the intersection formed by the first end of the first face of the first and second sides of the tray base and the first face of the posts.

The shelves or trays have a substantially similar shape as that of the tray bases when the tray bases are in an unfolded position. The tray is preferably made of only one piece of material which is preferably uniform and smooth. The size of the tray (area) is generally given by the size of the tray base. It is required that the size of the tray is such that it can rest on or nestle on the second faces of the sides of the tray base and it is preferred that the faces of the sides of the tray base demark the ends of the shelves.

Depending on the shape of the exhibitor, the exhibitor can have at least three faces. These faces can be substantially hollow or substantially solid. The display is preferably wrapped with a cover or publicity means, here-on-forth referred to only as cover means. The cover means consist of essentially two parts, a front part and a back part. The back part when in an unfolded or in-use position is able to cover the back part as well as at least part of the side parts. Likewise, the front part when in an unfolded or in-use position, is able to cover the front part as well as at least part of the side parts. Both the back part and the front part are able to cover the back part when in an unfolded or in use position, so that said back part and front part provide an equal appearance to the side part of the display.

Therefore, an object of the present invention is to provide a display that can be substantially big in size compared to other displays and that can support the load of the product in spite of the tray’s surface, and at the same time provide a display that can be easily assembled and packed.

Another object of the present invention is to provide a display that can contain a substantially heavy load of products and bear the load of the product despite the surface of the tray, and at the same time that can be easily assembled and packed.

Another object of the invention is to provide a display that is structurally sturdy and at the same time is easy to assemble and pack.

Yet, another object of the present invention is to provide an display substantially foldable as for its assembly and its usefulness.

A further object of the invention is to provide an display that, when folded, occupies less space than other known displays.

A further object of the invention is to provide a display structure that when unfolded, provides publicity means which are easily assembled with the display structure.

BRIEF DESCRIPTION OF DRAWINGS

The particular characteristics and advantages of the invention, as well as other objects of the invention, will be apparent in the following description, given together with the attached figures, which are:

FIG. 1 shows a front conventional perspective of the display structure.

FIG. 2 shows a back conventional perspective of the display structure.

FIG. 3 shows a front view of the display structure.

FIG. 4 shows a back view of the display structure.

FIG. 5 shows a side view of the display structure.

FIG. 6 shows a perspective view of the upper part of the display structure.

FIG. 7 shows a side view of the upper part of the display structure.

FIG. 8 shows a first side view of the display structure.

FIG. 9 shows a second side view of the display structure.

FIG. 10 shows a front view of the side part of the back cover.

FIG. 11 shows a front view of the back cover.

FIG. 12 is a front view of the front cover.

FIG. 13 is a front view of an alternate back cover.

FIG. 14 is a conventional perspective view of the display structure with the back cover in a non-use position.

FIG. 15 is a conventional perspective view of the display structure with the back cover in a use position and the front cover in a non-use position.

FIG. 16 is a conventional perspective view of the display structure when in an unfolded or in-use position.

FIG. 17 is a rear conventional perspective view of the display structure when in an unfolded or in-use position.

FIG. 18 is a front view of the display structure when in an unfolded or in-use position.

FIG. 19 is a side view of the display structure when in an unfolded or in-use position. Both side views are similar.

FIG. 20 is a back view of the display structure when in an unfolded or in-use position.

FIG. 21 is a front view of the fastening device.
DETAILED DESCRIPTION OF THE INVENTION

Definitions

0047 Rotatable Relationship. This term refers to a rotatable relationship between parts which have fixing means between said two parts. For example, the sides of the base may have a rotatable relationship with the post using a rotatable fixing means, such as rivets.

0048 The following description makes reference to drawings 1-21 indistinctly.

0049 The present invention discloses a foldable display structure or exhibitor 10 for products at a point of sale, which can adopt almost any kind of geometric figure, as long as the display structure contains a base proximate to the floor and a top with similar shape to the base. These kind of geometric figures generally are polyhedrons of any kind, like for example tetrahedrons, pentahedrons, hexahedrons, octahedrons, dodecahedrons, icosahedrons, icosidodecahedrons, rhombic triacontahedrons, pentagonal cupolas and octagonal prisms among others. The display 10 comprises a base 20, a top 40, a height 60, at least one tray 80 between the base and the top, and at least five faces 12-17.

0050 The base 20 comprises of a number of sides 22-22", each side 22 having a first 24 and second end 24". At least three sides 22, a first, second and third side, of the base are composed of a first face 26 which is located in a substantially vertical plane and a second face 28 being substantially perpendicular to the first face 26, thus the second face 28 being located in a substantially horizontal plane. The vertex 30 formed by the first face 26 and the second face 28 of each of the sides 22 of the base, has an inwardly facing orientation; however said vertex 30 between faces may have an outwardly facing orientation if so required. Each end of the first face 26 in the substantially vertical plane has a specific shape and size, so that when the displaying structure 10 is unfolded, the end of the first face 26 of a first side has a clear turning point with an end of the back cover of the display structure 10. If, for example, the exhibitor 10 is a hexahedron, the first face 22 is separated from the second side 22" by a third 22 and fourth side 22", thus the first 22 and second 22" sides are opposite to each other in regards to the base 20, and the third 22 and fourth 22" sides are opposite to each other in regards to the base 20. The number of sides 22 of the base will depend directly on the number of faces 12 contained in the exhibitor 10. It is preferred that the number of sides 22 be pair, rather than odd. The vertex between each of the sides 22 provides a corner 32. The vertex does not need to be an abutting vertex, and may be a proximate vertex, that is, the sides 22 in their corners 32 do not need to be abutting and can simply be proximate. Proximate to the corner 32, in the first end 24 of at least two of the sides, that is the third 22 and fourth 22" sides of the base 20, a post 62 is permanently fixed to said base 20 in a rotatable relationship. Distant to a corner 32 in the second end 24 of at least one of the first 22' or second 22" side of the base 20, preferably between the first 24' and the second 24 end, at least one post 62 is permanently fixed in a rotatable relationship with rotatable fixing means. Furthermore, proximate to the corner 32, in the second end 24 of at least two of the sides, that is the first 22' and second 22" sides of the base 20, a short post 64 is permanently fixed said base 20 in a rotatable relationship. Given that the sides 22 may have different lengths, the base 20 has a determined area defined by the shape of the base 20 and the length of the different sizes of the sides 22.

0051 The height 60 is composed of at least five posts 62, 64. The number of posts 62, 64 may be related to the number of corners 32 that the base 20 has. That is, if the base 20 has three corners 32, then five posts 62, 64 are required; if the base has four or more corners 32, the number of posts 62, 64 required is of at least five posts and preferably six posts 62-62", 64-64". The posts consist of two faces 66, 68 on a Z and W plane, considering that the first 26 and second 28 faces of the sides 22 of the base 20 are on an Y and X plane, respectively, where a first face 66 of the post is substantially perpendicular to a second face 68 of the posts 62, 64. Some of the faces 66, 68 of the posts must have their vertex 70 facing in an outward direction in regards to the display 10. Each post 62, 64 is comprised of two ends 72, 72', a first 72 and second 72 end. Furthermore, some of the faces 66, 68 of the posts 62 may have their vertex 70 facing in an inward direction in regards to the display 10. A first end 24' of the first face 26 of the first side 22 of the base is fastened by means of the permanent rotatable fixing means to the first face 66 of the first end 72 of a first post 62, while in between the first end 24' and a second end 24 of the first face 26 of the first side 22 of the base 20, the first face 66 of the first end 72 of a second post 62' is fastened by means of the permanent rotatable fixing means. A first end 24' of the first face 26 of the second side 22" of the base 20 is fastened by means of the permanent rotatable fixing means to the first face 66 of the first end 72 of a third post 62" if, for example, the display 10 is a hexahedron and a fourth post 62" is required, in between the first end 24" and a second end 24 of the first face 26 of the second side 22" of the base 20, the first face 66 of the first end 72 of a fourth post 62" is fastened by means of the permanent rotatable fixing means. The same post 62 configuration than the first side 22 of the base 20 may be repeated for the opposite side 22" of the base 20. The permanent rotatable fastener 14 of the first end 24" of the first face 26 of the first 22" side of the base 20 to the first face 66 of the posts 62, 62" is located in a substantially upper part in regards to the intersection 74 formed by the first end 24" of the first face 26 of the first 22" and second 22" sides of the base 20 and the first face 66 of the posts 62, 62". The permanent the side 22 of the base, specifically between the first 24" and second end 24 of the first face 26 of the first 22" and second 22" sides of the base 20 to the first face 46 of the post 62, 62" is located in a substantially central-to-upper part in regards to the intersection 74 formed by the section between the first end 24" and the second end 24 of the first face 26 of the first 22" and second 22" sides of the base and the first face 46 of the posts 62, 62". The second 72" of the post 62 is fastened to the top 40 with a permanent rotatable fixing means 14. Other posts which do not run the entire height of the display structure 10 are provided; specifically, in the front face 12 of the display structure 10, at least one short post 64 is provided, also with an outwardly facing orientation, wherein said at least one short post 64 has a height equal to the distance between the base 20 and the tray base 80 most proximate to the base 20. The post short 64 has a similar configuration that the regular post 62, that is, two faces 66, 68 which form a vertex 70 in their abutting ends. Said at least one short post 64 is fastened in a rotatable relationship with the side or front part of the tray base 80 and base 20. Specifically, a second end 24 of the first face 26 of the first 22" or second 22" side of the base is fastened by means of the permanent rotatable fixing means to the first face 46 of the first end of the short post 64, while a second end 84 of the first face 86 of the first side 82 or second side 82" of the tray base 80 is
fastened by means of the permanent rotatable fixing means to the first face 66 of the second end 72 of the short post 64. The permanent rotatable fastener 14 of the second end 24, 84 of the first face of the first 22', 82' and second 22", 82" sides of the base 20 and tray base 80, respectively to the first face 66 of the short posts 64 is located in a substantially lower part in regards to the intersection 74 formed by the second end 24, 84 of the first face of the first 22', 82' and second 22", 82" sides of the base 20 and tray base 80, respectively and the first face 66 in the second end 72 of the short posts 64.

[0052] The top 40 comprises of a number of sides 42 which is the same as the base 20, each of the sides 42 of the top comprise a first 44 and a second 44' end. All the sides 42-42", for example a first 44", a second 44", a third 44 and a fourth 44" side of the top 40 are composed of a first face 46 which is located in a substantially vertical plane and a second face 48 being substantially perpendicular to the first face 46, thus the second face 48 being located in a substantially horizontal plane. The first 44" and second 44" sides, which are opposite one to the other, are fixed by a permanent rotatable means 14 to the second ends 72 of the posts 62. Specifically, a first end 44' of the first face 46 of the first side 42 of the top 40 is fastened by means of the permanent rotatable fixing means to the first face 66 of the second end 72 of the first post 62, while a second end 44 of the first face 46 of the first side 42' of the top 40 is fastened by means of the permanent rotatable fixing means to the first face 66 of the second end 72' of the second post 62'. A first end 44' of the first face 46 of the second side 42" of the top 40 is fastened by means of the permanent rotatable fixing means 14 to the first face 66 of the second end 72' of the second post 62'. The permanent rotatable fastener 14 of the first end 44' of the first face 46 of the first side 42' of the top 40 is fastened by means of the permanent rotatable fixing means 14 to the second face 68 of the second end 72 of the second post 62. The permanent rotatable fastener 14 of the first end 44' of the first face 46 of the first side 42' and second 42" sides of the top 40 to the first face 66 of the posts 62 is located in a substantially upper part in regards to the intersection 74 formed by the first end 84 of the first face 86 of the first 82' and second 82" sides of the tray base 80 and the first face 66 of the posts 62. The permanent rotatable fastener 14 of the second end 84 of the first face 86 of the first 82' and second 82" sides of the tray base 80 and the first face 66 of the posts 62 is located in a substantially upper part in regards to the intersection 74 formed by the second end 84 of the first face 86 of the first 82' and second 82" sides of the tray base 80 and the first face 66 of the posts 62.

[0054] The shelves or trays 94 have a substantially similar shape as that of the tray bases 80 when the tray bases 80 are in an unfolded position. The tray 94 is preferably made of only one piece of material which is preferably uniform and smooth. The size of the tray 94 (area) is generally given by the size of the tray base 80. It is required that the size of the tray 94 is such that it can rest on or nestle on the second faces 88 of the sides of the tray base 80 and it is preferred that the first faces 86 of the sides 82 of the tray base 80 demark the ends of the shelves.

[0055] Depending on the shape of the exhibitor 10, the exhibitor can have at least three faces 12. These faces can be substantially hollow or substantially solid. The display is preferably wrapped with a cover or publicity means, hereonforth referred to only as cover means 100. The cover means 100 consist of essentially two parts, a front part 110 and a back part 180. The back part 180 when in an unfolded or in-use position is able to cover the back part as well as at least part of the side parts of the display 10. Likewise, the front part 110 when in an unfolded or in-use position, is able to cover the front part as well as at least part of the side parts of the display 10. Both the back part 180 and the front part 110 abut in the side part when in an unfolded or in-use position, so that said back part 180 and front part 110 provide an equal appearance to the side part of the display 10.
The front part 110 of the cover essentially consists of three main divisions: 1) a first division 112 of the front part, which, when said cover 100 is in an unfolded or use position, remains in the front face 12 of the display 10, is proximate to the front side of the base and covers at least part of the front face 12 of the display 10. Said first division 112 of the front face 12 comprises a main portion 114, a lower portion 116 and an upper portion 120. In the lower portion 116, the first division 112 of the front part 110 has a width which is greater than the length of the front or back side of the base 20 and tray base which is proximate 96 to the base, that is, the third 22, 82 or fourth 22”, 82” side of said base 20 or tray base 80. The height of the first division 112 of the front part 110 is preferably equal or substantially similar to the entire length of the front side of the base 20 and the length of the second faces 68 of the short posts 64, which, as stated before, have an outward orientation in regards to the display 10. Therefore, given the width of the first division 112 of the front part 110, said first division 112 of the front part 110 has an exceeding side 118 in each end of the abutting base 20 side, as well as having an exceeding side 118 in each end of the abutting base tray 80 side. The first division 112 is fixed to the abutting base 20 side and the abutting tray base 80 side by means of non-rotatable fixing means such as a bolt, glue or staples. Specifically, the first division 112 is fixed in a non-rotatable relationship to the abutting side of the base 20 and tray base 80 by means of the second face 28, 88 of said base 20 and tray base 80 respectively. The upper portion 120 of the first division 112 has three different sub-portions 122, 124, 132. A first sub-portion 122 of the upper portion 120, which is proximate to the main portion 114 of the first division 112, when folded has a width similar to that of the lower portion 116 of the first division 112. The length is greater than, but similar to, an upper wall of the second face 88 of the tray base 96 which is proximate to the base. A second sub-portion 124 of the upper portion 120 is divided into two different sections 126, 128. A first section 126 of the second sub-portion 124, which is a central section in regards to the first sub-portion 122 of the upper section 120 folds within the tray base 80 and covers, when in a folded position, the inner part of the second face 88 of the tray base which is proximate 96 to the base. A second section 128 proximate to the second sub-portion 124, which corresponds to the ends of the first sub-portion 122 of the upper section 120, when in a folded position, has the same direction of the first sub-portion 122 of the upper section 120. A groove 130 separates the first section 126 and the second section 128. Finally, a third sub-portion 132 of the upper portion when folded, covers the inner part of the first face 86 of the tray base proximate 96 to the base. The ends of the third sub-portion 132 are tapered, and wherein said tapered section contains a protuberance 134 with a width and length which is less than that of the third sub-portion. When in an unfolded position, the main portion 114 has a substantially vertical position in an upward direction, the first sub-portion 122 of the upper portion 120 has a substantially horizontal position in an inward direction, the second sub-portion 124 of the upper portion 120 has a substantially vertical position in a downward direction and the third sub-portion 132 of the upper portion 120 has a substantially horizontal position in an inward direction. When in an unfolded position, the protuberances 134 of the tapered section have the same horizontal position of the third sub-portion 132 of the upper portion, and have an outward direction towards the third 82 and fourth 82” sides, if present, of the tray base proximate 96 to the base. The second 136 and third 138 divisions of the front part 110 of the cover means 100, are flaps in regards to the first division 112. The second 136 and third 138 division are formed in a similar manner, and therefore, the following description applies to both these divisions 136, 138. When said cover means 100 is in an unfolded or in-use position, the second 136 and third 138 division covers part of the side part of the display 10, that is, it is proximate to the side faces 12, 12” of the base 20. Said second 136 and third 138 divisions of the front part 110 comprise a main portion 140, lower portion 142, an upper portion 144 and a side portion 154. The main portion 140, when in an unfolded or in-use position, of the second 136 and third 138 divisions of the front part 110, has a width which runs from the main portion 114 of the first division 112 to the second face 68 of the third 62 and fourth 62” post respectively, abutting thus, when in said unfolded position the main portion 114 of the first division 112 in a first end of the main portion 140 of the second 136 and third 138 divisions, and further abutting the second face 68 of the third 62 and fourth 62” post. When in a folded or stored position, the main part 140 of the second 136 and third 136 divisions is folded in an outwardly direction, so that the outer face of said main part of the second 136 and third 138 divisions, abuts the outer face of the lower part of the first division 112, hence protecting the outer faces, which are the printed faces, of the front part 110 of the cover means 100. The height of the main portion 140 of the second 136 and third 138 divisions, is similar to the height of the main portion 114 of the first division 112. The upper portion 144 of the second 136 and third 138 divisions have three different portions 146, 148, 150. A first portion 146 of the upper portion 144, which is proximate to the main portion 140 of the second 136 and third 138 divisions, when folded has generally a width similar to that of the main portion 140 of the second 136 and third 138 divisions, however, in the outer end, in regards to the center of the display 10, of said first portion 146 of the upper portion 144, in the part of the first portion 146 of the upper portion 144 which is distant to the main portion 140 of the second 136 and third 138 divisions, said first portion 146 is generally tapered in an inwardly direction. The length of the first portion 146 of the upper portion 144 is greater than, but similar to, the width of an upper wall of the second face 88 of the tray base which is proximate 96 to the base, as well as the length of the second section 128 of the second sub-portion 124 of the upper portion 120 of the first division 112. A second portion 148 of the upper portion 144, when folded, has a generally similar width to that of the inner part of the second face 88 of the tray base which is proximate 96 to the base and covers at least part of said second face 88 of said tray base which is proximate 96 to the base. A third portion 150 of the upper portion 140, when folded, has its outer end, in regards to the center of the display 10, in a generally tapered position; the third portion 150 of the upper portion 140 covers at least part of the first face 86 of the tray base which is proximate 96 to the base. The tapered end of the third portion 150 has a protuberance 152 with a width and length which is less than that of the third portion 150. When in a folded position, the main portion 140 has a substantially vertical position in an upward direction, the first portion 146 of the upper portion 144 has a substantially horizontal position in an inward direction, the second portion 148 of the upper portion 144 has a substantially vertical position in an inward direction, the third portion 150 of the upper portion 144 has a substantially horizontal position in an inward direction.
berances 152 of the tapered end have the same horizontal position of the third portion 150 of the upper portion 144, and have an outward direction towards the first 82° and second 82° sides of the tray base proximate 96 to the base. Therefore, when in an unfolded position, the protuberance 152 of the tapered end of the third portion 150 of the upper portion 144 of the second 136 and third 138 divisions mesh with the protuberance 134 of the tapered section of the third sub-portion 132 of the upper portion 120 of the first division 112, while the tapered end and section of the third portion 150, 132 of the upper portion 144, 120 of the second 136 and third 138 and first 112 divisions respectively, abut with each other, but do not mesh. Furthermore, when in an unfolded position, the outer end, in regards to the center of the display 10, of the second portion 148 of the upper part 144 of the second 136 and third 138 divisions, mesh with the groove 130 that separates the first section 126 and the second section 128 of the upper portion 120 of the first division 112. Referring now to the side portion 154 of the second 136 and third 138 divisions, said side portion 154 consists essentially of two different parts. The first part 156 has essentially the same height as the main portion 140 of the second 136 and third 138 divisions and has a width similar to the second face 68 of the first 62° and second 62° posts. When in an unfolded or in-use position, the first part 156 of the side portion 154 abuts said second face 68 of the first 62° and second 62° posts. The second part 158 is formed in the lower portion of the first 156, and is separated, at least in part, from the first part 156 by a groove 160, said groove 160 formed in the lower part of said first part 156 of the side portion 154. When in a folded or in-use position, the first part 156 and second part 158 fasten the second 136 and third 138 divisions by means of the groove 160 to the side faces 12, 12° of the display 10. That is, the groove 160 surrounds the second face 28 of the third 22° and/or fourth 22° side of the base 20. An intersecting part 164, an intersecting part 164 has a generally square shape since said first part 156 and first sub-portion 122 have a substantially similar width, however, said shape may vary depending on the widths of said first part 156 and first sub-portion 122. Running diagonally from the inner-most corner to the outer-most corner of the intersecting part 164, a bend line 166 is formed. When in an unfolded or in-use position, said bend line 166 folds the intersecting part 164 in an inwardly manner. Although the intersecting part 164 is not a necessary part, said intersecting part 164 provides stability to the second 136 and third 138 divisions. With the front part 110 of the cover means 100, the lower part of the front face 12 of the display 10, as well as the lower-front part of the side faces 12, 12° of the display 10 are covered, and hence a particular product to be displayed may be publicized with said front part 110 of the cover means 100. [0057] The back part 180 of the cover means 100 is formed essentially in the same manner as the front part 110. The back part 180 of the cover 100 essentially consists of three main divisions: 1) a first division 182 of the back part, which, when said cover 100 is in an unfolded or in-use position, covers the whole back face 12° of the display 10, and is proximate to the back-side of the base 20. Said first division 182 of the back part 180 comprises a lower portion 184 and an upper portion 188. In the lower portion 184, the first division 182 of the back part 180 has a width which is greater than the length of the front or back side of the base 20 and the top 40, that is, the third or fourth side 22 of said base 20 or top 40. The width of the first division 182 of the back part 180 is preferably equal or substantially similar to the entire length of the base 20 or top 40 and the length of the second faces 68 of the first and second posts 68, which, as stated before, have an outward orientation in regards to the display 10. Therefore, given the width of the lower part 184 of the first division 182 of the back part, said first division 182 of the back part has an exceeding side 186 in each end of the abutting base 20 side, an exceeding side 186 in each end of the abutting base 20 side and an exceeding side 186 in each end of the top 40. Said exceeding sides 186 of the first division 182 are correspondingly fixed to the second face 68 of the first and second posts 62 by means of non-rotatable fixing means such as bolts, glue or staples. Specifically, the first division 182 is fixed in a non-rotatable relationship to the abutting side of the first and second posts 62 by means of said second face 68 of said posts 62. The upper portion 188 of the first division 182 has three different sub-portions. A first sub-portion 190 of the upper portion 188, which is proximate to the lower portion 184 of the first division 182, when folded has a width which is less than that of the lower portion 184 of the first division 182, specifically said width is less than, but similar to, the length of the back side of the top 40. The length is greater than, but similar to, an upper wall of the second face, 48 of the back-side of the top 40. A second sub-portion 192 of the upper portion 188 may be tapered, or may have an initial tapered section. Said second sub-portion 192, when in a folded position, covers the inner part of the second face 48 of the back-side of the top 40. The second sub-portion 192 of the upper portion 188 is divided into two different sections 194, 196. A first section 194 of the second sub-portion 192, which is a central section in regards to the first sub-portion 190 of the upper section 180 folds within the top 40 and covers, when in a folded position, the inner part of the second face 48 of the top 40. A second section 196 proximate to the second sub-portion 192, which corresponds to the ends of the first sub-portion 190 of the upper section 188, when in a folded position, has the same direction of the first sub-portion 190 of the upper section 188. A groove 198 separates the first section 194 and the second section 196. Finally, a third sub-portion 200 of the upper portion 188 when folded, covers the inner part of the first face 46 of the top 40. The ends of the third sub-portion 200 are tapered, and wherein said tapered section contains a protuberance 202 with a width and length which is less than that of the third sub-portion 200. When in an unfolded position, the lower portion 184 has a substantially vertical position in an upward direction, the first sub-portion 190 of the upper portion has a substantially horizontal position in an inward direction, the second sub-portion 192 of the upper portion has a substantially vertical position in a downward direction and the third sub-portion 200 of the upper portion 188 has a substantially horizontal position in an inner direction. When in an unfolded position, the protuberances 202 of the tapered section have the same horizontal position of the third sub-portion 200 of the upper portion 188, and have an outward direction towards the first and second sides 42 of
the top 40. The second 204 and third 206 divisions of the back part 180 of the cover means 100, are flaps in regards to the first division 182. The second 204 and third 206 division are formed in a similar manner, and therefore, the following description applies to both these divisions. When said cover 100 is in an unfolded or in-use position, the second 204 and third 206 division covers part of the side part of the display 10, that is, it is proximate to the side faces 12, 12" of the base which are not covered by the front part 110 of the cover. Said second 204 and third 206 divisions of the back part 180 comprise three main portions a lower portion 208, an upper portion 212 and a side portion 222. The lower portion 208 of the second 204 and third 206 divisions of the back part 180, when in an unfolded or in-use position, has a width which runs from the lower portion 184 of the first division 182 to the second face 68 of the third and fourth post 62 respectively, abutting thus, when in said unfolded position the lower portion 184 of the first division 182 in a first end of the lower portion 208 of the second 204 and third 206 divisions, and further abutting the second face 68 of the third and fourth post 62. When in a folded or stored position, the lower portion 208 of the second 204 and third 206 sections is folded in an outwardly direction, so that the outer face of said lower portion 208 of the second 204 and third 206 sections, abuts the outer face of the lower portion 184 of the first division 182, hence protecting the outer faces, which are the printed faces, of the back part 180 of the cover 100. The height of the lower portion 184 of the second 204 and third 206 divisions, is similar to the height of the lower portion 184 of the first division 182. The upper portion 212 of the second 204 and third 206 divisions have three different sub-portions. A first sub-portion 214 of the upper portion 212, which is proximate to the lower portion 208 of the second 204 and third 206 divisions, when folded has generally a width similar to that of the lower portion 208 of the second 204 and third 206 divisions; however, in the outer end, in regards to the center of the display 10, of said first sub-portion 214 of the upper portion 212, in the part of the first sub-portion 214 of the upper portion 212 which is distant to the lower portion 208 of the second 204 and third 206 divisions, said first sub-portion 214 is generally tapered in an inwardly direction. The length of the first sub-portion 214 of the upper portion 212 is greater than, but similar to, the width of an upper wall of the second face 48 of the top 40, as well as the length of the second section 196 of the second sub-portion 192 of the upper portion 188 of the first division 182. A second sub-portion 2016 of the upper portion 212, when folded, has a generally similar width to that of the inner part of the second face 48 of the top 40 and covers at least part of said second face 48 of said top 40. A third sub-portion 218 of the upper portion 212, when folded, has its outer end, in regards to the center of the display 10, in a generally tapered position; the third sub-portion 218 of the upper portion 212 covers at least part of the first face 46 of the top 40. The tapered end of the third sub-portion 218 has a protuberance 220 with a width and length which is less than that of the third sub-portion 218. When in a folded position, the lower portion 208 has a substantially vertical position in an upward direction, the first sub-portion 214 of the upper portion 212 has a substantially horizontal position in an inward direction, the second sub-portion 216 of the upper portion 212 has a substantially vertical position in a downward direction and the third sub-portion 218 of the upper portion 212 has a substantially horizontal position in an inner direction. When in an unfolded or in-use position, the protuberance 220 of the tapered end has the same horizontal position of the third sub-portion 218 of the upper portion 212, and have an outward direction towards the first and second sides 42 of the top 40. Therefore, when in an unfolded position, the protuberance 220 of the tapered end of the third sub-portion 218 of the upper portion 212 of the second 204 and third 206 divisions mesh with the protuberance 202 of the tapered section of the third sub-portion 200 of the upper portion 188 of the first division 180, while the tapered end and section of the third sub-portion 218, 200 of the upper portion 212, 188 of the second 204 and third 206 and first divisions 182 respectively, abut with each other, but do not mesh. Furthermore, when in an unfolded position, the outer end, in regards to the center of the display 10, of the second sub-portion 216 of the upper portion 212 of the second 204 and third 206 divisions, mesh with the groove 198 that separates the first section 194 and the second section 196 of the second sub-portion 192 of the upper portion 188 of the first division 182. Referring now to the side portion 222 of the second 204 and third 206 divisions, said side portion 222 consists essentially of two different parts. The first part 224 has essentially the same height as the lower portion 208 of the second 204 and third 206 divisions and has a width similar to the second face 68 of the third and fourth posts 62. When in an unfolded or in-use position, the first part 222 of the side portion 222 abuts said first face 68 of the third and fourth posts 62. The second parts 226 are formed in an upper and lower portion of the first part 224, and are formed as flaps of the first part 224. Said second parts 226 have a length which run from the first 62" to the third post and from the second 62" to the fourth post 62" respectively. Furthermore, at least the upper second part 226 has a height which is less than, but similar to, the distance between the top 40 and the tray base which is most proximate 96 to the top. The lower second part 226 has a height which is less than, but similar to, the distance between the tray base 80 which is most proximate to the top 40, and the second uppermost tray base 80. As can be foreseen, several second parts 226 may be formed. Specifically, a second part 226 for each window 16 between tray bases 80 may be formed. Furthermore grooves 234 are formed in said second parts 226. Specifically, at least two different grooves 234 are formed in said second parts 226. Each groove 234 having a substantially vertical section, and at a lower horizontal section, which abuts with the vertical section and an upper horizontal section which abuts with the vertical section, forming thus, a substantially “C” shaped groove 234. When in an unfolded position, or in-use position, the outermost groove 234 has an outwardly direction, while the innermost groove 234 has an inwardly direction. Furthermore, when in an unfolded or in-use position, the outermost groove 234 fastens the side portion 222 to the third 62 or fourth 62" post respectively, while the innermost groove 234 fastens the side portion to the first 62" or second 62" post respectively. Specifically the groove 234 part is fastened to the outer part of the second face 68 of the posts 62, while the remaining part of the second part 226 abuts the inner part of the second face 68 of the posts 62. Furthermore, a lower part of the second part 226 is formed in the lower portion of the first part 224, and is separated from the first part 224 by a groove 228, said groove 228 formed in the lower part of said first part 224 of the side portion 222. When in a folded or in-use position, the first part 224 and second part 226 fasten the second 204 and third 206 divisions by means of the groove 228 to the side face 12, 12" of the display 10. That is, the groove 228 surrounds the second face 28 of the third 22
and/or fourth 22" side of the base 20, and therefore, fastens the each second 204 and third 206 division to the side 222 of the display 10. The second part 226 is relatively foldable, specifically the section which is separated by the groove 228, so that when unfolding the cover 100, said second part 226 may be folded to go over the second face 28 of the third 22" and/or fourth 22" side of the base 20. An intersecting part 232 is formed in intersecting part of the first part 224 of the side portion 222 of the second 204 and third 206 divisions and the first portion 214 of the upper portion 212 of the second 204 and third 206 divisions. The intersecting part 232 has a generally square shape since said first part 224 and first portion 214 have a substantially similar width, however, said shape may vary depending on the widths of said first part 224 and first portion 214. Running diagonally from the inner-most corner to the outer-most corner of the intersecting part, a bend line 236 is formed. When in an unfolded or in-use position, said bend line 236 folds in an inwardly manner the intersecting part 232. Although the intersecting part 232 is not a necessary part, said intersecting part 232 provides stability to the second 204 and third divisions 206.

[0058] With the back part 180 of the cover 100, the back part of the back face 12" of the display 10, as well as the back part of the sides faces 12, 12" of the display 10 are covered, and hence a particular product to be displayed may be publicized with said back part 180 of the cover 100. With the above configuration, the tray 94 may have a substantial size, as well a substantial load at the same time, being stable and self-standing enough to load the products regardless of the size (area) covered by the tray 94 and also having enough foldability to be assembled and packed quickly.

[0059] With the above cover means 100, the display structure 10 can have at least two different publicizing means 240, 242, specifically, a front publicizing means 240 and back publicizing means 242, which are divided by a division 244. Alternately, at least three different publicizing means 240, 242, 246 may be found in the display structure 10, specifically, a front publicizing means 240, back publicizing means 242, both of which are divided by a division 244, as well as a top publicizing means 246.

[0060] A fastening means 18 fastens the first post 62, and the third post 62" to the third side 22", and the fourth side 22", respectively. Specifically, a first fastening means 18 fastens the first face 66 of the first post 62 to the first face 26 of the third side 22" of the base 20, while a second fastening means 18 fastens the first face 66 of the third post 62" to the first face 26 of the fourth side 22" of the base 20. It is preferred that the fastening means 18, switches sides of the first faces 26, 66, that is, the fastening means 18 is fastened to the outer-most face 66 of the first post 62 in regards to the center of the display 10, then the fastening means 18 should be fastened to the inner-most face 26 of the third side 22" of the base 20 in regards to the center of the display 10. To achieve the above configuration, the fastening means 18 has a particular design, specifically with four different parts. A first part 250, when in-use, is in a substantially horizontal plane, a second part 252 which is substantially perpendicular to the first part 250 and when in-use, is in a substantially inclined plane directed between said first faces 26, 66, a third part 254 which is substantially perpendicular to the second part 252 and which, when in-use, is in a substantially horizontal plane and having a different direction than the third part 250. A fourth part 256, which is substantially perpendicular to the third part 254, and when in-use, is in a substantially inclined plane in a similar direction to the second part 252. When the display structure 10 is unfolded or in-use position, and furthermore when the fastening device 18 is installed in the display structure 10, the fastening device 18 does not allow the display structure to be folded or in a non-use position.

[0061] In so far as this invention has been described in terms of several embodiments, alterations and permutations and the equivalent exist which fall within the reach of this invention. It should also be noted that there are many alternative ways to implement the devices and methods of the present invention. Consequently, it is pretended that the following claims be interpreted including all such alterations, permutations and the like equivalent in so far as they fall within the true spirit and reach of the present invention.

1. A foldable display structure comprising:

- a base with sides having a substantially vertical face and a substantially horizontal face and further having a first and second end;
- a top with sides having a substantially vertical face and a substantially horizontal face and further having a first and second end;
- a plurality of posts with lower and upper ends, the plurality of post containing a first face and a second face substantially perpendicular to said first face, a vertex formed by said first face and said second face of the post oriented towards the outer part of the structure, wherein at least one of said plurality of posts is placed in between the first and second end of one of the sides of the base; and
- at least one short post with lower and upper ends, the at least one short post.

2. The structure of claim 1, further comprising a cover with a front part and a back part, wherein the front part covers part of the section of a front face of the display structure and wherein the back part covers the back face of the display structure.

3. The structure of claim 1, further comprising a fastening means with four different parts.

4. The structure of claim 1, wherein rotate fasteners are placed throughout the display structure in different locations so as to allow a correct rotation of the different parts of the display structure.