April 15, 1952 E. W. FUERST 2,592,678

DISPLAY CARTON

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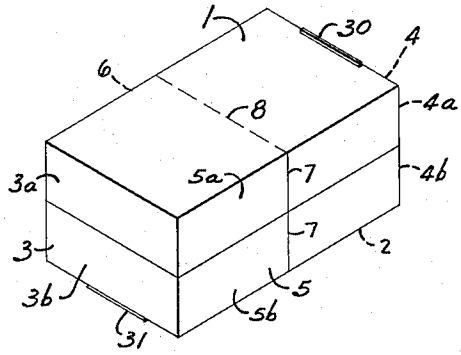


Fig. I

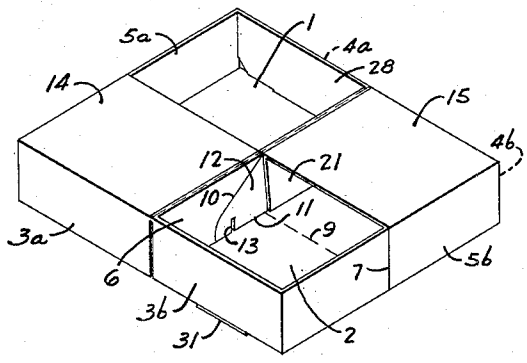


Fig. II

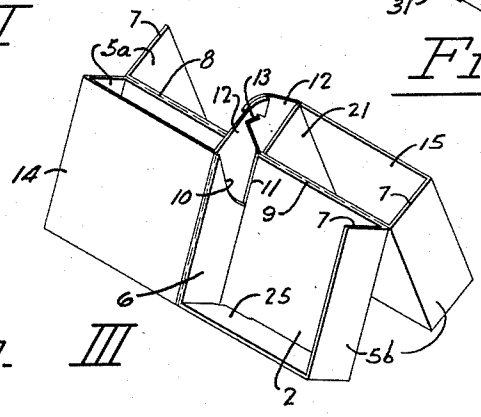


Fig. III

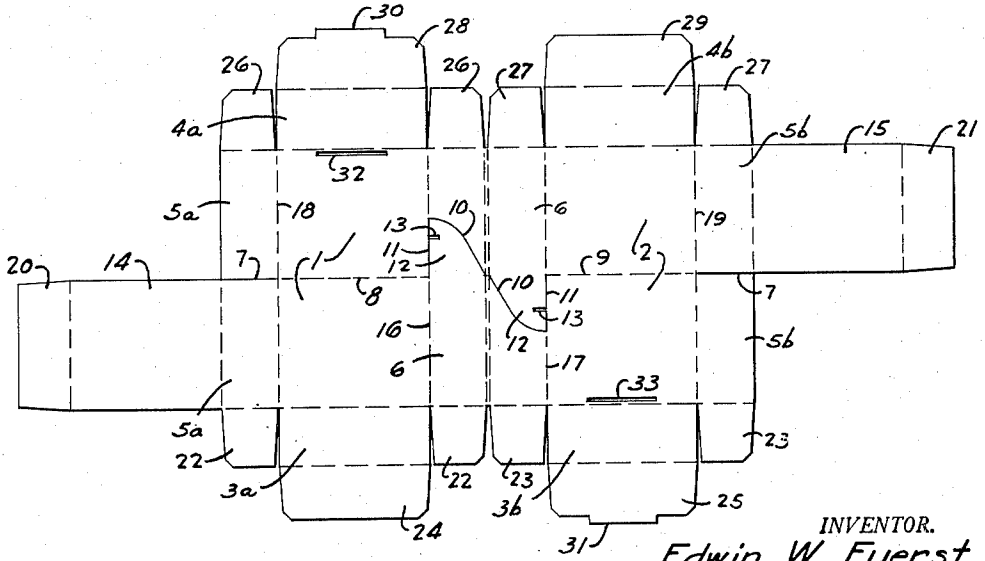


Fig. IV

INVENTOR.
Edwin W. Fuerst
BY
Marshall & Marshall
ATTORNEYS

April 15, 1952 E. W. FUERST 2,592,678

DISPLAY CARTON

Filed Aug. 17, 1945 3 Sheets-Sheet 2

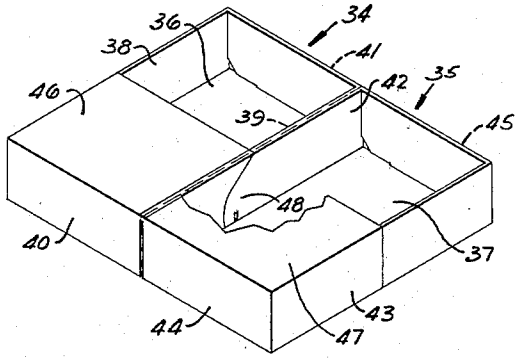


Fig. V

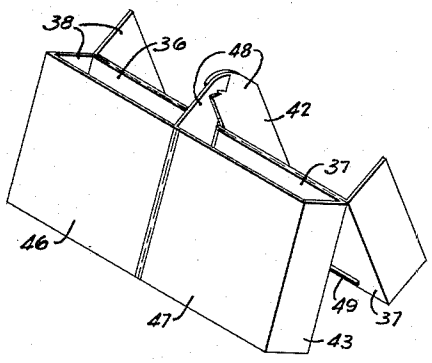


Fig. VI

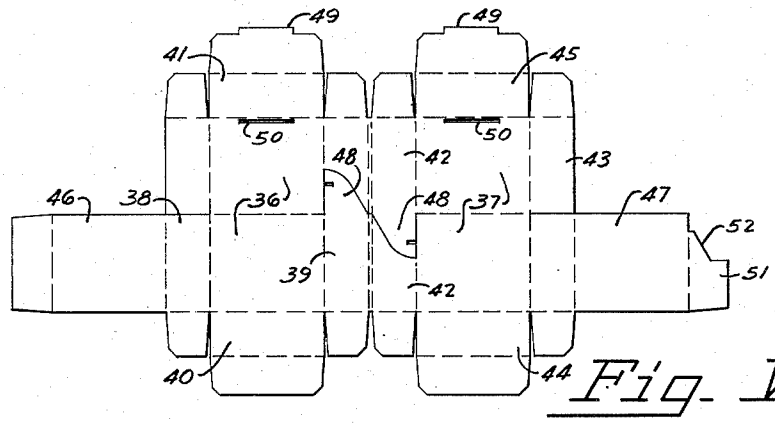


Fig. VII

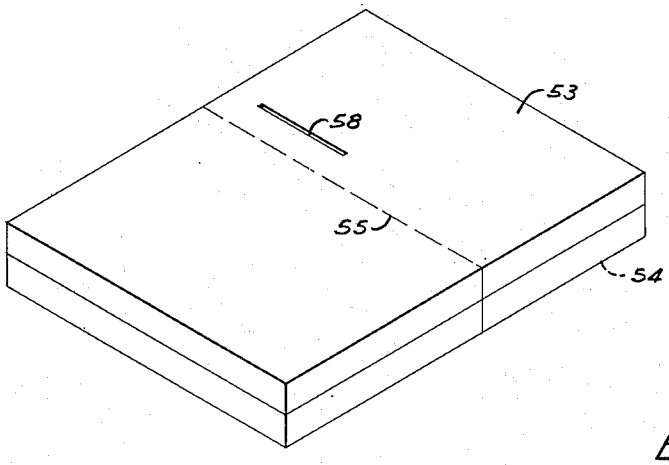


Fig. VIII

INVENTOR.
Edwin W. Fuerst
BY
Marshall & Marshall
ATTORNEYS

April 15, 1952 E. W. FUERST 2,592,678

DISPLAY CARTON

Filed Aug. 17, 1945 3 Sheets-Sheet 3

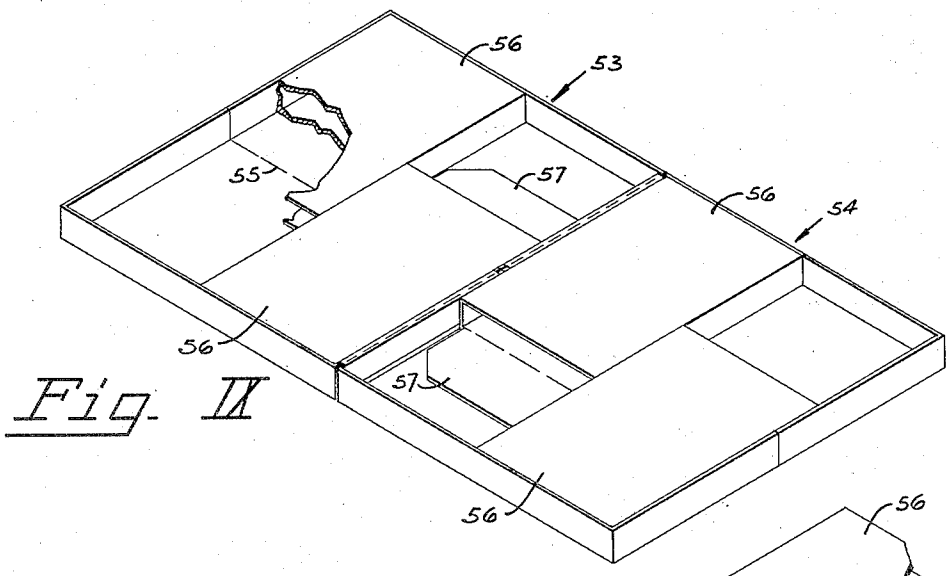


Fig. IX

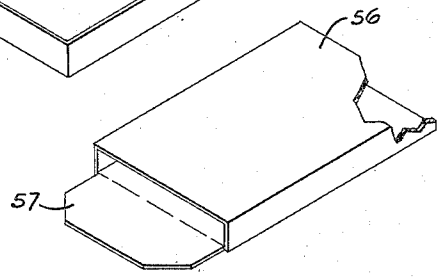


Fig. X

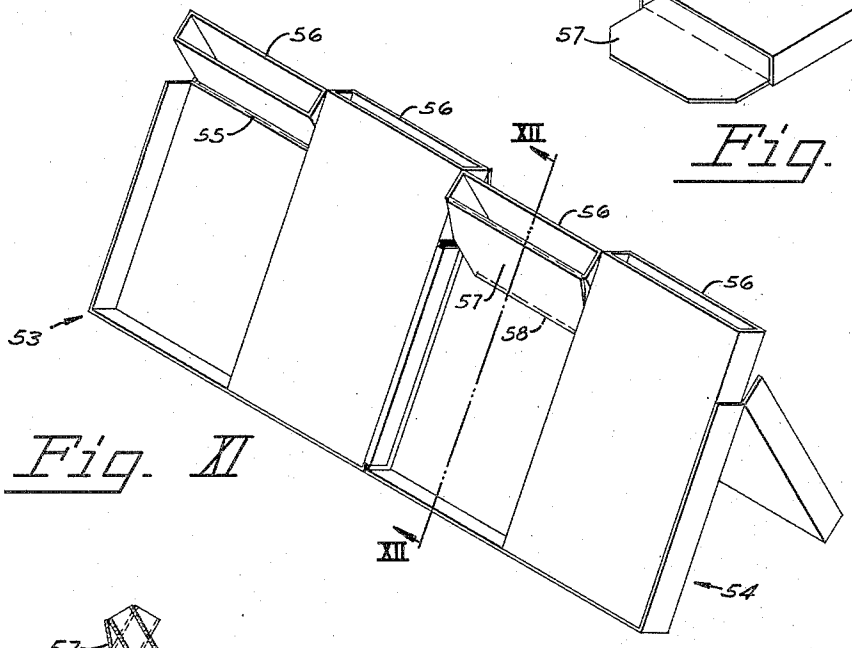


Fig. XI

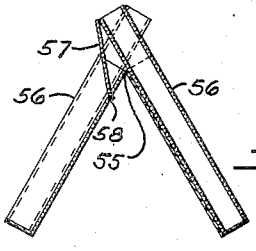


Fig. XII

INVENTOR.
Edwin W. Fuerst
BY
Marshall & Marshall
ATTORNEYS

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UNITED STATES PATENT OFFICE

2,592,678

DISPLAY CARTON

Edwin W. Fuerst, Toledo, Ohio

Application August 17, 1945, Serial No. 611,070

9 Claims. (Cl. 206—45.11)

1

This invention relates to cartons or containers which are designed to be used for displaying merchandise on a dealer's counter.

Numerous shipping containers have been designed to serve also as display racks. The structure of these cartons is complicated by the changes required for the additional function to the extent that it is cheaper to provide separate racks for display purposes. Some cartons or containers designed to serve also as display racks have extra parts attached to them which increases their manufacturing cost and in many cases interfere with the packing of the filled cartons into larger shipping containers.

An object of this invention is to provide a simple carton which when closed is compact with no protruding parts and which may be opened and set up in easel fashion without the use of any extra parts.

Another object of the invention is to provide a shipping container which may be stamped out of a single blank and folded to provide a carton suitable either for shipping material or for displaying the material on a dealer's shelf.

Another object is to provide improved means for locking the carton in its open position.

These and other objects and advantages are attained according to the invention by providing an improved carton of generally rectangular form which opens along a median plane by folding one of its sides. The opened carton is then opened still further by folding it back along a line generally perpendicular to the first fold so that it is effectively turned inside out. Interlocking members engaged when the carton is in fully opened position hold the carton in such position so that it may be used as an easel for displaying its contents.

In one form of the invention the entire carton including the interlocking members is die cut or stamped from a flat piece of cardboard or other suitable box material and is folded into shape. In this form suitable retainers are employed as partial covers for each half of the carton so that the contents are retained in their respective halves as the carton is opened.

In another form of the invention separately formed retainers are employed, the retainers having a portion cooperating with the carton proper for holding the carton in its fully opened position. The improved cartons offer the advantages that when they are closed their contents are fully enclosed in a compact, easily packed assembly and that when they are open their contents are effectively displayed. In

2

neither form of the invention are there any loose parts to be assembled when setting the carton up as a display rack.

Specific examples of display cartons embodying the invention are shown in the accompanying drawings.

In the drawings:

Figure I is a perspective view of an improved carton as it appears when closed.

Figure II is a perspective view showing the carton as it appears when opened.

Figure III is a perspective view of the carton set up as an easel.

Figure IV is a developed view of the carton showing the fold lines and cut lines.

Figure V is a perspective view of a slightly modified container constructed according to the invention.

Figure VI is a perspective view of the container shown in Figure V as it is fully set up for use as an easel.

Figure VII is a developed view of the modified container.

Figure VIII is a perspective view showing another carton embodying the invention as it appears when closed.

Figure IX is a perspective view showing the carton of Figure VIII after it has been opened.

Figure X is a perspective view of a retainer for use in the carton shown in Figures VIII and IX.

Figure XI is a perspective view showing the carton as it is set up to display its contents.

Figure XII is a vertical section taken substantially along the line XII—XII of Figure XI.

These specific figures and the accompanying description are intended merely to illustrate the invention and not to impose limitations on the claims.

An example of a carton or container constructed according to the invention is illustrated in Figures I to IV. The carton, when closed, is in the form of a rectangular parallelopiped having a top 1, bottom 2, ends 3 and 4, and sides 5 and 6. The carton opens into two sections by dividing along a median plane parallel to the top 1 and bottom 2. The median plane divides the ends 3 and 4 into upper and lower portions 3*a* and 3*b*, and 4*a* and 4*b*, respectively and the side 5 into an upper portion 5*a* and a lower portion 5*b*. The other side 6 is folded along the trace of the plane rather than cut so that the container may be opened by folding the upper part of the side 6 against its lower part. When the container is opened by folding the side 6 it forms a pair of

tray-like sections, the top 1 and bottom 2 of the carton forming the bottoms of the trays while the ends 3 and 4 and the sides 5 and 6 form the sides of the trays.

The container is designed to open still further to display its contents more effectively. The sides 5a and 5b are cut along lines 7 parallel to the ends 3 and 4 while the top 1 and bottom 2 are provided with fold lines 8 and 9 in line with the cuts 7 and perpendicular to the folded side 6. The side 6 is also cut but this cut instead of being perpendicular to the top 1 and the bottom 2 extends from the midpoint of the side 6 along a generally diagonal line 10 which curves so that it appraoches the edges of the side 6 at nearly a right angle. Other cuts 11 extend along the edges from the ends of the cut 10 to the fold lines 8 and 9. Tabs 12, thus formed in the side 6 between the cuts 10 and 11, are each provided with notches 13 extending perpendicularly to the cut 11. When the tray-like sections, each a half of the carton, are folded back the tabs 12 extending beyond the fold lines 8 and 9 pass each other so that the notches 13 may be engaged with each other. The tabs 12 being located between the tray-like sections and engaging each other a substantial distance beyond the fold or hinge line, provide a very rigid lock holding the carton in set up position.

When the container is fully opened and set up as it is shown in Figure III it forms a stand or easel for effectively displaying its contents. Some types of merchandise require more support than the tray-like sections alone would give. In this event retainers 14 and 15 are provided, the retainers serving as covers for the tray-like sections. When the carton or container is closed the retainers 14 and 15 divide the contents between the upper and lower portions of the carton and when being opened to the position shown in Figure II serve to hold the contents in place. When the tray-like sections are bent back to easel position, as shown in Figure III, the retainers 14 and 15 hold the contents in display position. The retainers 14 and 15 each covering half of a tray section are alternated so that the carton is symmetrical and the display is equally attractive from either side.

This carton may be manufactured from sheet material by stamping out a blank according to a developed pattern as shown in Figure IV. In the developed pattern the side 6 forms the central portion, and is connected to the top 1 and the bottom 2 by fold lines 16 and 17, respectively. On the opposite sides of the top 1 and bottom 2 the sides 5a and 5b are connected by fold lines 18 and 19 respectively. The retainers 14 and 15 extend beyond the sides 5a and 5b and terminate in flaps 20 and 21. The end 3 of the container is formed of tabs 22, 23, 24 and 25, while the end 4 is formed of tabs 26, 27, 28 and 29.

In the pattern the cut 10 in the side wall 6 appears as an elongated S curve extending across the side 6.

The carton is formed from the blank by folding along the dotted lines joining the various sections, gluing or pasting the tabs 20 and 21 to the portion of the side 6 with which they register, then folding the tabs 22, 23, 26 and 27 in to form the start of the ends of the box and finally completing it by tucking the tabs 24 and 29 into the slots formed by the edges of the tabs 22, 27 and sides of the retainers 14 and 15. These tabs form conventional cardboard box ends. The ends 4a and 3b at the uncovered ends of the trays have auxiliary tabs 30 and 31 engaging slots 32 and 33 to hold the tabs in folded position. This construction offers the advantage that the carton or container may be stamped out of the flat material as a single piece, shipped to the user flat and assembled when it is ready to be packed. The tabs 20 and 21 may be glued at the time of manufacture if desired since the box-like section formed by the retainers and the top and bottom of the carton may be collapsed by bending the fold lines 18 and 19 double, whereas they are only bent to 90° when the box is set up for use.

In this construction there are no separate pieces to be attached to the carton nor is the shape of the developed pattern wasteful of material when the pieces are cut from long strips or sheets of cardboard or other material.

The first example of a carton constructed according to the invention is suitable where the display is to be viewed from either side. Many displays, for example in show windows or on some counters, are viewed from one side only. A carton suitable for this use is illustrated in Figures V to VII. This carton, similar to the first, opens to form a pair of tray-like sections 34 and 35 having bottoms 36 and 37 respectively. The tray-like portion 34 has side walls 38 and 39 and end walls 40 and 41 while the portion 35 has side walls 42 and 43 and ends 44 and 45. Retainers 46 and 47 serve as covers for the tray-like section 34 and 35. The retainers instead of being alternated are in this case located on adjacent ends of the trays so that when the trays are folded open into easel-like position the retainers will be on the same side. As in the preceding example the folded wall, in this case the wall of the carton forming the sides 39 and 42, is cut on a diagonal, generally S-shaped curve so as to form a pair of tabs 48 which may engage each other to hold the carton in its fully opened position.

This container is shown in developed form in Figure VII and is the same as that shown in Figure IV except that the retainers 46 and 47 are in line with each other and the flaps forming the ends 41 and 45 must each be provided with a locking tab 49 which may engage slots 50 in the bottoms 36 and 37. One additional difference appears in that a gluing tab 51 on the end of the retainer 47 must have a corner 52 cut away so that when it is glued in assembled position on the side 42 it will not interfere with the tab 48. As an alternative to cutting away the corner it is possible to leave the tab 51 in its entirety if provision is made to insure that no paste or glue gets on the locking tab 48.

In these examples the retainers are formed integrally with the remainder of the container thereby effecting an economy in manufacture. The retainers also provide a large prominently displayed surface which may advantageously be used for advertising matter. While the retainers have each been shown as covering half of a tray area, i. e. all of the area to one side of the fold line, they may be altered materially in area and shape according to the nature of the contents to be displayed. For example, some materials may require that the retainer cover the whole area while other materials may only require one or more narrow strips or bands.

Another example of a carton embodying features of the invention and illustrating a different method of locking the carton in display position is illustrated in Figures VIII to XII. In this example the carton comprises an upper portion 53

and a lower portion **54** similar in general construction to the examples previouslly described. The carton or container opens to form a pair of trays one being formed of the upper portion **53** and the other of the lower portion **54**. The bottoms of the tray-like sections having a fold line **55** extending generally perpendicular to their hinged connection and the side walls are cut over the fold line **55** so that the trays may be bent back into an easel-like position. One or more retainers **56** are secured in each of the tray-like portions. The retainers **56** are in the form of open-ended boxes and some of them are provided with extending bluntly tapered flaps **57**. The box-like retainers **56** are longer than half the length of the tray-like portions **53** and **54** so that when they are attached, as by gluing, to the bottom of a tray-like section the ends of the retainers extend beyond the fold line into the other half of the tray. The retainers **56**, when more than one is used in each tray section, may either be aligned so that they all extend in the same direction or they may be alternated or staggered so that some extend one way and some the other. The staggered arrangement, as illustrated, provides a display which may be viewed from either side.

When this carton is fully opened the flap **57** may be bent back so that its end, which is less in width than the retainer, may engage a slot **58** cut in the bottom of the tray parallel to the fold line. The position of the slot **58** and the length of the flap **57** are preferably arranged so that the end of the flap is in registry with the slot **58** when the tray-like sections are folded back to their greatest extent. The length of the slot **58** and the width of the flap **57** are in such relative proportions that when engaged the tray-like portions are held at an angle approaching but generally less than a right angle to each other. The tray-like portions thus provide a substantial easel for displaying the contents of the container. This type of lock is superior to the interlocking tabs when the carton is relatively thin. The maximum width of the locking tabs of the previous examples is half the thickness of the carton, while the flap and slot lock may be used on the thinnest cartons without loss of strength or rigidity.

In this example, as in the preceding examples, no extra parts are required to adapt the container for use as an easel. The containers when closed, are compact and rectangular so that they may be easily packed into larger shipping cartons or crates, and when set up as easels are sturdy enough to easily support and display their contents.

Having described the invention, I claim:

1. A shipping and display container, the container having tray-like sections, a fold line dividing the sections, retainers in the tray-like sections, each retainer being fixed in a tray section and extending across the fold line, at least one retainer having an extended flap forming part of that retainer portion which extends across the fold line and; adapted to engage a slot in the tray section underlying said retainer portion and to serve as a brace to hold the tray sections in easel-like position.

2. A shipping and display container, the container having three sides that are cut along the trace of a median plane and a fourth side that is folded along the trace of the median plane, the container when open forming a pair of tray-like sections, the sections each having a second fold generally perpendicular to the side containing the first fold line, retainers for holding merchandise in the tray-like sections, each retainer being fixed in one section and extending across the second fold line, at least one retainer having a flap extending from one end and adapted to engage a slot cut in the underlying tray section to provide a brace when the tray-like sections are bent to easel-like position.

3. A shipping and display container, the container comprising a pair of tray-like sections joined by a folded edge along one side and adapted when closed to form a complete enclosure, a second fold line extending transversely to the first along the bottoms of the tray-like sections, cuts in the side walls of the sections adjacent the ends of the second fold line, the cut in the joined side walls being generally S-shaped to provide a pair of extending tabs which are raised to interlocking position when the sections are folded about the fold line.

4. A shipping and display container, the container being divisible into sections by a pair of mutually perpendicular median planes and comprising a first side that is perpendicular to both median planes and that has slits extending from edge to edge and at least at the edges coinciding with the traces of the planes, a first pair of sides paralliel to the first plane and foldable along the trace of the second plane, a second pair of sides parallel to the second plane and slit generally along the trace of the first plane, and a last side perpendicular to both planes which side is foldable along the trace of the first plane and which side has a slit, the ends of which meet the fold lines of the first pair of sides.

5. A shipping and display container, the container being divisible into sections by a pair of mutually perpendicular median planes and comprising a first side perpendicular to both median planes and having slits that at least at the edges coincide with the traces of the planes, a first pair of sides parallel to the first plane and foldable along the trace of the second plane, a second pair of sides parallel to the second plane and slit along the trace of the first plane, a last side perpendicular to both planes which side is foldable along the trace of the first plane and is slit so that the ends of the slit meet the fold lines of the first pair of sides, and retaining walls in at least some of the sections, said retaining walls lying parallel to and adjacent the first median plane.

6. A shipping and display container, the container being divisible into sections by a pair of mutually perpendicular median planes and comprising a first side perpendicular to both median planes and having slits that at least at the edges coincide with the traces of the planes, a first pair of sides parallel to the first plane and foldable along the trace of the second plane, a second pair of sides parallel to the second plane and slit along the trace of the first plane, a last side perpendicular to both planes which side is foldable along the trace of the first plane and is slit so that the ends of the slit meet the fold lines of the first pair of sides, and retainers in the sections, the retainers being attached to the first pair of sides and extending across the fold lines in the sides.

7. A shipping and display container, the container being divisible into sections by a pair of mutually perpendicular median planes and comprising a first side perpendicular to both median planes and having slits that at least at the edges coincide with the traces of the planes, a first pair

of sides parallel to the first plane and foldable along the trace of the second plane, a second pair of sides parallel to the second plane and slit along the trace of the first plane, a last side perpendicular to both planes which side is foldable along the trace of the first plane and is slit along the trace of the second plane, and retainers in the sections, the retainers being attached to the sides parallel to the first plane and extending across the fold lines in the sides, said retainers having flaps extending from the portion beyond the fold lines and engageable in slots in the sides to hold the container in easel position after it is opened by bending along the various fold lines.

8. A shipping and display container, the container being divisible into sections by a pair of mutually perpendicular median planes and comprising a first side that is perpendicular to both median planes and that has slits extending from edge to edge and coinciding with the traces of the planes, a first pair of sides parallel to the first plane and foldable along the trace of the second plane, a second pair of sides parallel to the second plane and slit along the trace of the first plane, and a last side perpendiculr to both planes which side is foldable along the trace of the first plane and has a slit the ends of which meet the fold lines of the first pair of sides.

9. A shipping and display container, the container being divisible into sections by a pair of mutually perpendicular median planes and comprising a first side that is perpendicular to both median planes and that has slits extending from edge to edge and coinciding with the traces of the planes, a first pair of sides parallel to the first plane and foldable along the trace of the second plane, a second pair of sides parallel to the second plane and slit along the trace of the first plane, and a last side perpendicular to both planes which side is foldable along the trace of the first plane and slit along the trace of the second plane.

EDWIN W. FUERST.

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