Oct. 17, 1961 L. G. WALL 3,004,744

PORTABLE DISPLAY CASE

Filed March 26, 1958 4 Sheets-Sheet 1

Fig. 1

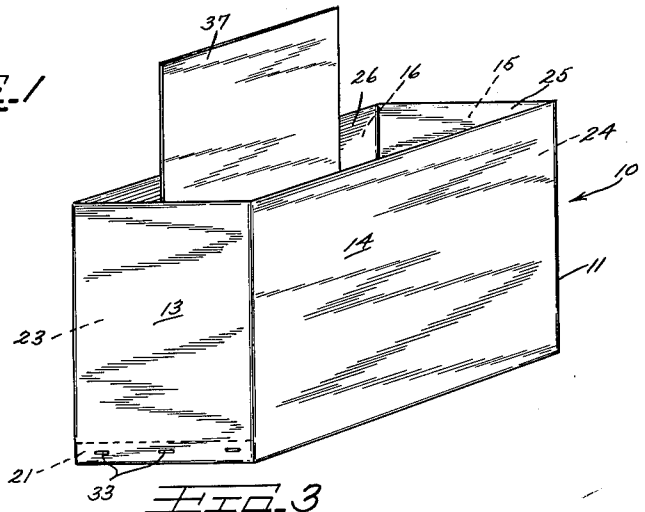


Fig. 3

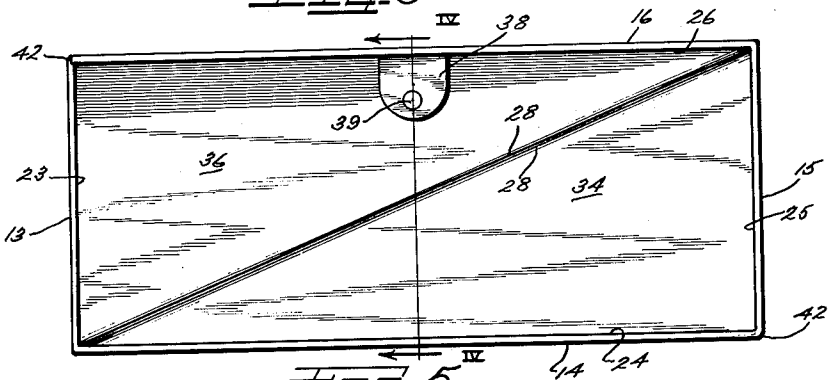
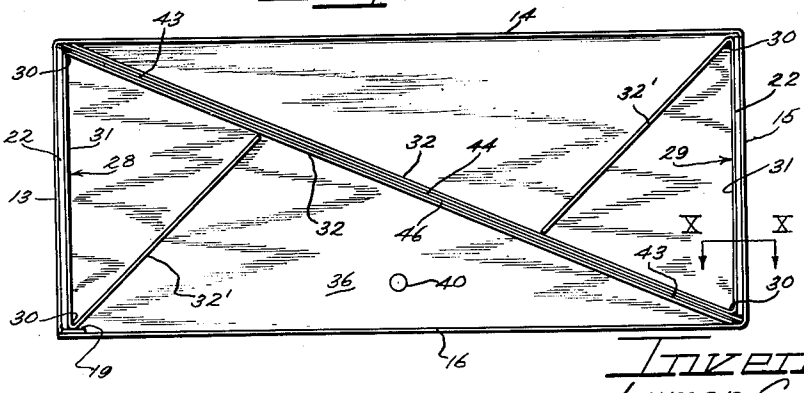


Fig. 5



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PORTABLE DISPLAY CASE

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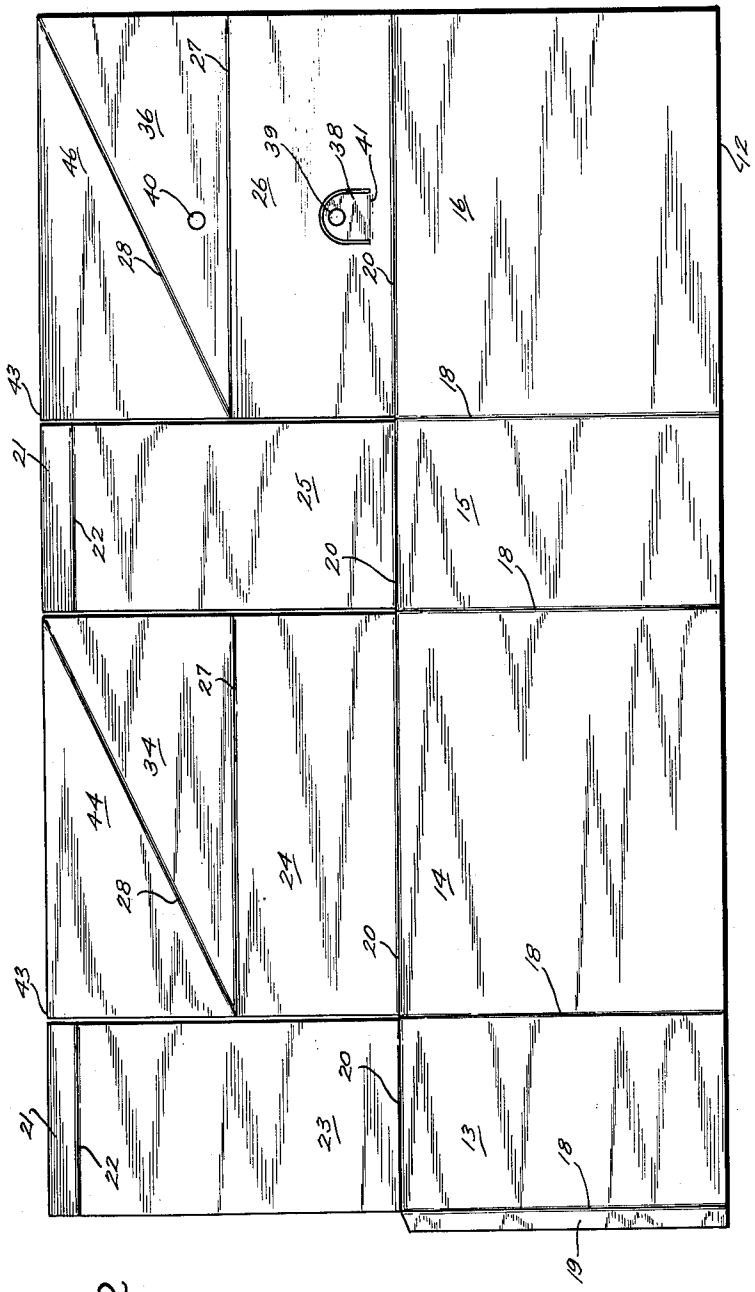


FIG. 2

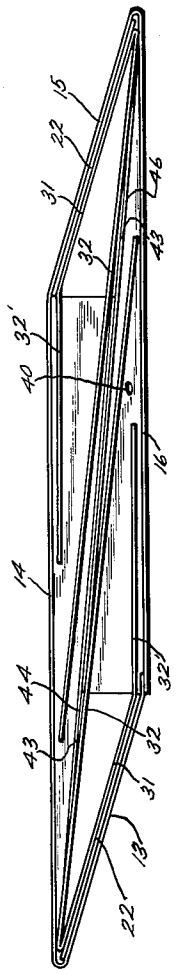


FIG. 6

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PORTABLE DISPLAY CASE

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Fig. 7

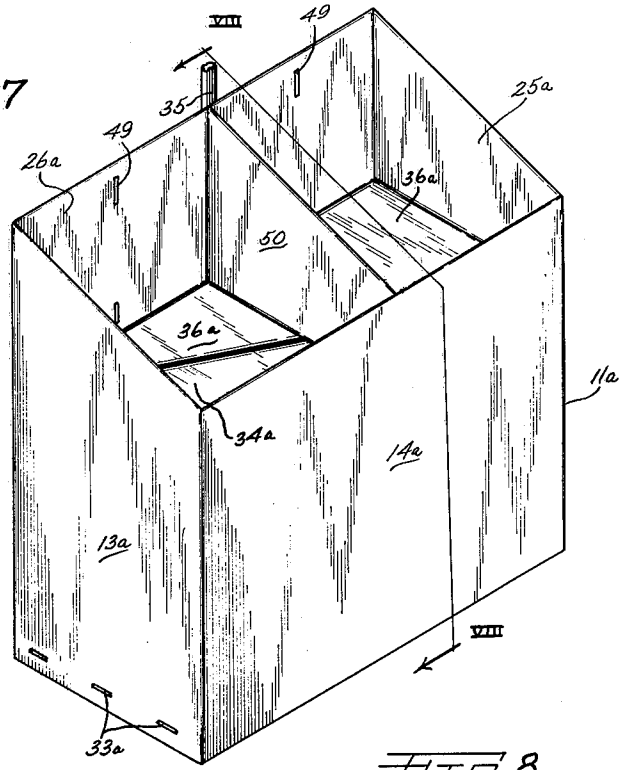


Fig. 4

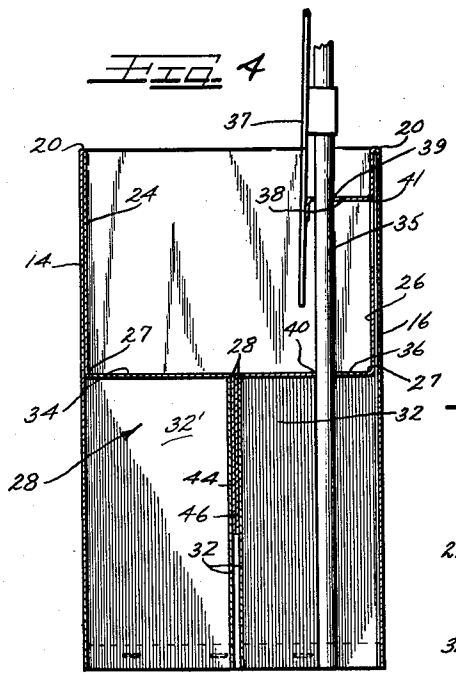


Fig. 10

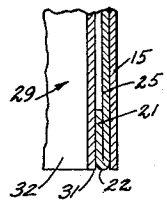
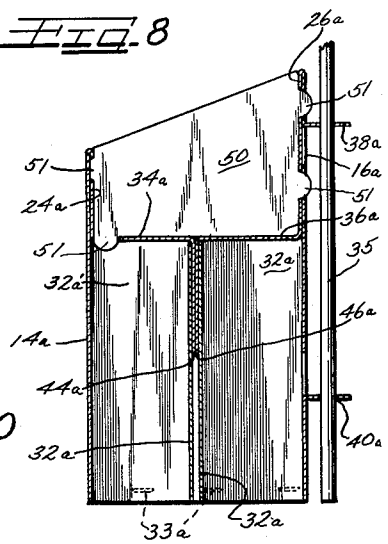


Fig. 8



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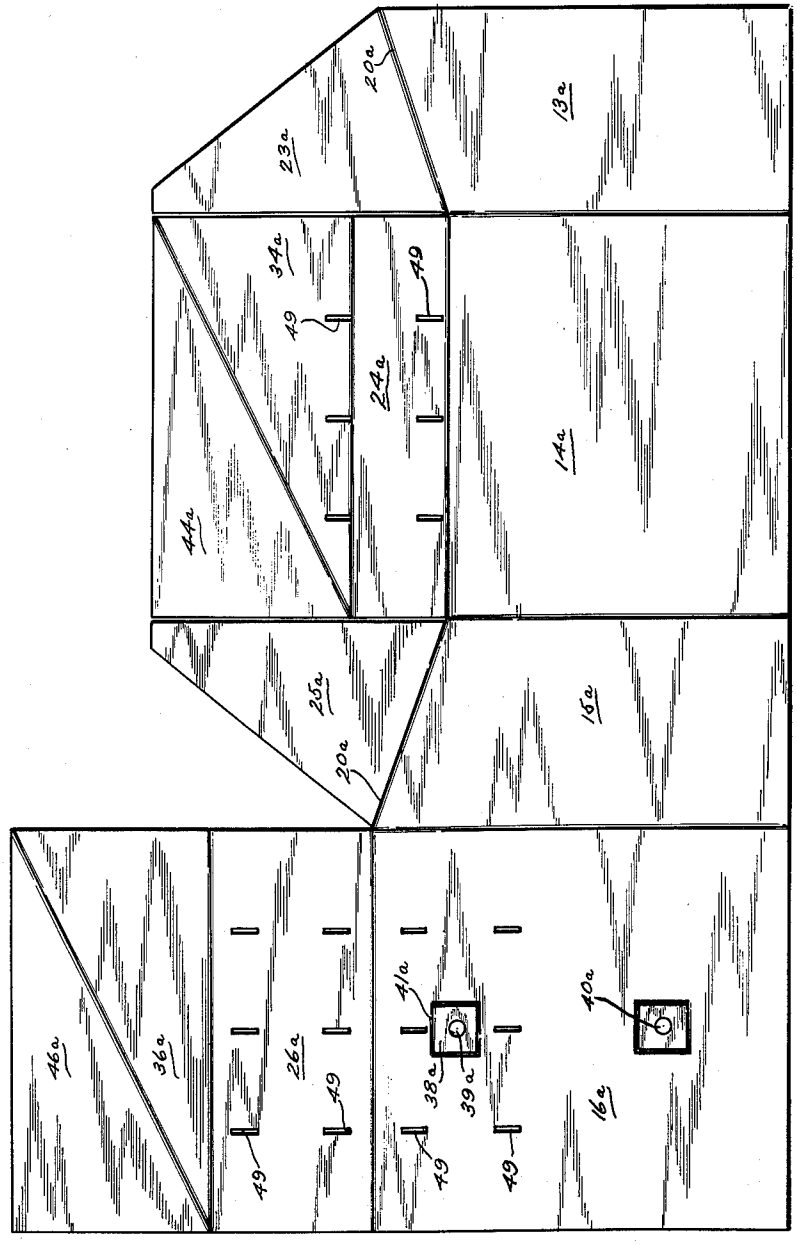


FIG. 9

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United States Patent Office 3,004,744 Patented Oct. 17, 1961

3,004,744

PORTABLE DISPLAY CASE

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Filed Mar. 26, 1958, Ser. No. 724,113
9 Claims. (Cl. 248—174)

This invention relates generally to display cases, and more specifically to an improved portable display case so constructed that it may be erected or collapsed with very little labor.

Although the principles of the present invention may be included in various display cases, a particularly useful application is made in display cases of the light weight portable type, such as may be carried from place to place by the user thereof.

Portable display cases are used in many supermarkets throughout the country. They are usually carried by a salesman in his automobile, who brings them to a supermarket and erects them to prominently display his product to the public. For example, a food salesman will go into a supermarket, obtain permission from the manager to erect his display in a prominent location, carry in one of the displays in a collapsed condition from his car, erect the display, and then add the product.

The present invention contemplates the utilization of a light-weight structure, which is of corrugated board, which may be set up or erected by a single application of force of low magnitude. To this end, various features have been provided, the details of which are explained thoroughly later herein.

Accordingly, it is an object of the present invention to provide a new and improved portable light-weight display case, which is readily erected and collapsed.

Another object of the present invention is to provide a display case consisting of a single unitized assembly.

Many other advantages, features and additional objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings in which a preferred structural embodiment incorporating the principles of the present invention is shown by way of illustrative example.

On the drawings:

FIGURE 1 is a perspective view of a portable case assembly provided in accordance with the principles of the present invention;

FIGURE 2 is a plan view of a unitary blank from which the structure of FIGURE 1 may be constructed;

FIGURE 3 is an enlarged top view of the structure of FIGURE 1, with the poster shown in FIGURE 1 removed;

FIGURE 4 is a sectional view, partly in elevation taken along line IV—IV of FIGURE 3, with the poster standard in position as shown in FIGURE 1;

FIGURE 5 is an enlarged bottom view of the structure shown in FIGURE 1;

FIGURE 6 is a view generally similar to FIGURE 5 but with the case partially collapsed;

FIGURE 7 is a perspective view of a slightly modified form of this invention;

FIGURE 8 is a sectional view taken along line VIII—VIII of FIGURE 7, otherwise generally similar to FIGURE 4;

FIGURE 9 is a plan view of the blank from which the structure of FIGURE 7 is constructed; and

FIGURE 10 is an enlarged fragmentary cross-sectional view taken along line X—X of FIGURE 5.

As shown on the drawings:

The principles of this invention are particularly useful when embodied in a portable display case assembly such as illustrated in FIGURE 1, generally indicated by the numeral **10**. The display case **10** includes a tubular frame **11** which comprises several side, lining, and shelf panels.

Referring now also to FIGURE 2, there is shown an integral blank **12**, such as of corrugated board, from which the panels are made. Preferably, the blank **12** is a unitary piece of foldable material. However, it is to be understood that two or more pieces of such material may be joined in the fabrication of the instant invention. The blank **12** includes four side panels **13–16**, side panels **13** and **15** being end panels, panel **14** being a front panel, and panel **16** being a rear panel. The panels **13–16** are hinged together along their vertical edges or creases **18**, and when jointly disposed in a rectangular form the end panel **13** may be joined to rear panel **16** by a flap **19** as by glueing or stapling. It is to be understood that this joint may be any conventional manufacturers joint. In this embodiment, it will be noted that the front and rear side panels **14** and **16**, extend downwardly the full length of the end panels **13** and **15**. While this feature is desirable, it will become apparent later herein that such coextensiveness is not essential to operativeness of this invention. However, it is essential that a lower portion of two non-adjacent panels **13–16** be utilized to support case **10**.

Another feature which the invention preferably includes is a plurality of lining panels **23–26** which are preferably integrally joined at the edges which become the mutual upper edges in the assembled case, such edges being indicated by the crease lines **20**. Thus, each of the lining panels **23–26** may be folded along the lines **20** so that the lining panels **23–26** overlie the upper portion of each of the side panels **13–16**. In any event, the lining panels are secured and disposed flatwisely adjacent the inner face of the side panels. When they are integral with the side panels as shown, the upper periphery of the case is provided with a smooth curved edge having twice the thickness of the blank material, and not exposing a raw edge thereof. If desired, the lining panels may be glued or otherwise secured to the inner face at the upper portion of the side panels.

The end lining panels **23** and **25** are each provided with a flap **21** which is interally joined at the crease line **22** to the respective end lining panels **23** and **25**. It will be noted that the lengths of the lining panels **23** and **25** are such that the flaps **21** would extend below the lower edge of the end panels **13** and **15**. Accordingly, the flaps **21** are folded along the lines **22**. Thus, as seen in FIGURE 10, the lining panels **23** and **25** cooperate with the side panels **13** and **15** in the support of the case to thereby increase the resistance to compressive crushing in or near the plane of the side panels **13** and **15**, but more especially at the bottom where the flaps **21** and **22** are provided. The assistance in support is further augmented by fastening means described later herein.

Each of the lining panels **24**, **26** are provided with a shelf segment **34**, **36** respectively, each of the shelf segments being preferably integrally hinged thereto as at the crease lines **27**. As best seen in FIGURE 4, the shelf segments **34**, **36** are normally horizontally disposed, and the crease **27** is so located that the shelf segments are attached below the upper edges **20**, the shelf segments being disposed intermediate the side panels **14** and **16**. While the shelf segments **34**, **36** may comprise an integral panel, for reasons apparent later herein, it is preferable that they be made in at least two segments as shown. The segments **34**, **36** are also referred to herein collectively as a shelf panel, and when so described or claimed, reference is being made to the broader aspects of this invention. It is apparent that a single shelf segment could be utilized, being hinged to one of the ver-

tically directed panels. Thus as will be more apparent later, since the crease line 27 is not necessary for support of the shelf panel, it is to be understood that in a less preferred embodiment, the shelf panels could be detachable or removable. At any event, whether the shelf be hinged or be removable, the feature of collapsibility is present in the structure.

Each of the shelf segments 34, 36 is provided with a downwardly directed flap 44, 46 respectively. The flaps 44 and 46 are preferably integrally hinged to the shelf segment 34, 36 along the crease lines 28*b* as best seen in FIGURE 4, which extend diagonally of the storage compartment as shown in FIGURE 3. The shelf flaps 44, 46 are thus downwardly directed and disposed in adjacent relation to each other.

It is now apparent that the upper portion of the various vertically directed panels, together with the shelf panel, jointly define an upwardly open storage compartment for supporting and containing the articles to be displayed.

It is to be noted that all of the exterior visible surfaces of the case 10 lie on the same side of the blank 12 so that coloring, decoration, advertising, and the like, may readily be applied to the blank 12 prior to its assembly.

When the blank 12 has been folded as described along the various crease lines into the configuration shown in FIGURE 1, a support means may be added and secured beneath the shelf panel for supporting it. Preferably, such support means are collapsible and are disposed intermediate the lower portions of the side panels 13—16, as well as being totally beneath the shelf panel 34, 36. To this end, I have provided a pair of sheet like members 28, 29, best seen in FIGURE 5, of elongated rectangular configuration having a width or vertical height corresponding to the distance between the bottom of the shelf panel 34, 36 and the lower edge of the side panels 13–16, as best seen in FIGURE 4. Each of the sheet like members 28, 29 has a pair of vertically extending creases or hinges 30. The hinges or creases 30 divide each of the members 28, 29 into three panel legs. The first or centermost of the legs 31 extends horizontally from the front to rear side panels as shown in FIGURE 5, and is disposed flatwisely against the lower portion of the end lining panels 23 and 25 respectively. The second leg 32 extends beneath one of the shelf segments 34, 36 and is vertically hinged to the first panel leg. The third panel leg 32′ is likewise vertically hinged to the first panel leg, but at the other or opposite end thereof, so that the second and third legs extend at an angle with respect to each other and with respect to the first panel leg to support the shelf panel. It is to be noted that the shelf segment flaps 44, 46 are disposed intermedite the second legs 32.

In the assembly of the case, after the above mentioned manufacturers joint has been provided, it is to be understood that the first panel legs may be secured as by stapling or stitching, such attachment means extending through the first panel leg 31, the lining panel 23 or 25 respectively, the lining panel flap 21, and the side panel 13 or 15 respectively. Such staples are shown in FIGURE 1 as at 33 and may comprise the sole fastening means for holding the case together, in addition to the manufacturers joint.

As best seen in FIGURE 4, means may be provided to support a standard 35, which may have a poster 37 thereon. To this end, and in this form of invention, I have provided a horizontally hinged tab 38 in the lining panel 26. The tab 38 is provided with a suitable aperture 39 which is axially aligned with a second aperture 40 located in the shelf segment 36. The tab 38 is here shown to be integral with the lining panel 26 and hinged thereto at a crease 41. It is now apparent that after the case 10 has been erected, the standard 35 may be removably and slidably received through the apertures 39 and 40, and thus be laterally supported, the floor providing vertical support for the standard 35.

With the standard 35 removed, the case 10 may be collapsed or extended by applying a slight force between the corners 42 shown in FIGURE 3. A slight raising of one of the shelf segments, such as the segment 36, permits the case, including its supporting means, to be collapsed to a generally flat condition in a single motion by the user. Conversely, an oppositely directed force between the same points 42 completely erects the case 10 for use, gravity aiding the shelf segments to move to a generally horizontal position.

When the case is being collapsed, the shelf segment flaps 44, 46 act generally flatwise against each other to cam the shelf segments 34, 36 in an upward direction, there being no raw edge on either shelf segment which could produce a binding with respect to the other segment.

When the case is in an erect position, the corners 43 seen in FIGURE 2 of the shelf flaps reach nearly to the floor. When the shelf segments are raised by pivoting along the creases 27, the corners 43 naturally move upwardly, but the amount of such motion or displacement is only a few inches, such displacement being approximately one third the distance between the shelf panel and the floor. Thus, even when the shelf panel has been raised, the flaps 44, 46 continue to be disposed intermediate the legs 32 of the support means.

When the case is extended from the collapsed position to an open position, the mutually confronting faces of the legs 32 act on the adjacent faces of the shelf segment flaps 44, 46 to cam them from a flat position to a diagonal position as shown in FIGURE 5, thereby also camming the shelf panel segments into a lowered or horizontal position. Thus the mere opening or closing of the frame also effects lowering or raising of the shelf panel.

Referring now to FIGURE 7, there is shown a slightly modified form of the instant invention. Corresponding parts in FIGURE 9 have been given the same reference numerals as FIGURE 2 with a letter "*a*" added thereafter.

It will be noted that the rear side panel 16*a* is somewhat taller than the front side panel 14*a*, and therefore the creases 20*a* intermediate the end panels 13*a*, 23*a* and 15*a*, 25*a* are diagonally directed. With this arrangement, the smooth double edge is still provided as shown in the FIGURE 1 form. However, the lining panels 23*a* and 25*a* do not assist in the support of the case.

It is also possible to locate the standard 35 outside of the compartment. When this is desired, the horizontally hinged aperture tab 38*a* is disposed in the rear side panel, rather than in the rear lining panel. A second similar tab is provided there-below in axial alignment therewith, which tab has the aperture 40*a*. By comparing FIGURE 8 with FIGURE 4, the difference in these two locations is readily apparent.

It is apparent that a display case may be provided with both types of standard supporting means so that a standard may be supported by a given case in either of the two ways illustrated.

If desired, the embodiment of FIGURE 1 may also be provided with means for dividing the compartment into two sections. While this means has been illustrated with the structure shown in FIGURE 7, it is clear that this feature is part of the same invention, but has been separately illustrated for the purpose of clarity of illustration.

Referring to FIGURES 8 and 9, it can be seen that two or more panels, in this instance panels 16*a*, 26*a*, 24*a*, and 34*a*, have been provided with elongated slots 49 which extend therethrough into the compartment. It will be noted that each of the slots 49 are so arranged that all the axes running perpendicularly through the various slots 49 lie in a common plane. This is best seen in FIGURE 8. Where there are two adjacent panels, such slots 49 may be provided in only one of the panels as is the case at the front, or may extend through both of the panels as has been shown at the rear. Thereafter, a divider 50 having

tabs 51 which correspond to the slot locations may be removably inserted into position as shown in FIGURE 7. Preferably, the divider 50 comprises two identical elements integrally hinged together along a crease or fold along their common upper edge, the two elements being disposed flatwisely against each other. The cross section of such structure is the same as has been illustrated in FIGURES 4 and 8 along the entire periphery of the compartment opening.

Although various minor modifications might be suggested by those versed in the art, it should be understood that I wish to embody within the scope of the patent warranted hereon all such embodiments as reasonably and properly come within the scope of my contribution to the art.

I claim as my invention:

1. In a portable display case having four vertically extending side panels mutually hinged together at their vertical edges to define a hollow frame, the lower portion of at least two non-adjacent side panels being adapted to support the case, at least one lining panel secured and disposed flatwisely adjacent the inner face of one of said side panels, a shelf panel hinged to said lining panel below the upper edge of said one side panel, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment, and collapsible means disposed intermediate the lower portions of said side panels for supporting said shelf panel from beneath it, the improvement comprising in combination therewith of: a tab horizontally hinged to one of said vertical panels and having a first vertically directed aperture therein; and one of said panels having a second aperture axially aligned beneath said first aperture for removably receiving and horizontally holding a vertically supported vertical standard.

2. A portable display case comprising in combination: four vertically extending imperforate side panels mutually hinged together at their vertical edges to define a closed rectangular frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a shelf panel collapsibly disposed in a generally horizontal attitude intermediate said side panels below their upper edges, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; and a separate collapsible sheet-like member disposed intermediate the lower portions of said side panels, said member comprising at least two legs, one of said legs being secured flatwise to one of said lower portions, and the other of said legs having a horizontal length substantially equal to the diagonal distance across said frame and being hinged to said one leg along a vertical line for disposing said other leg beneath said shelf panel to support it.

3. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a closed rectangular frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a shelf panel collapsibly disposed in a generally horizontal attitude intermediate said side panels below their upper edges, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; and a separate collapsible sheet-like member disposed intermediate the lower portions of said side panels, said member comprising three legs, the first of said legs being secured flatwise to one of said lower portions, the second and third of said legs being hinged to opposite ends of said first leg along vertical lines, said second leg having a horizontal length substantially equal to the diagonal distance across said frame, whereby said second and third legs may be selectively disposed at an angle with respect to each other beneath said shelf panel to jointly support it.

4. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a rectangular frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a plurality of lining panels respectively secured and disposed flatwisely adjacent the inner faces of a like plurality of said side panels; a pair of shelf segments each hinged to an edge of one of an oppositely disposed pair of said lining panels below the upper edges of said side panels and jointly defining a generally horizontal collapsible shelf panel, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; a pair of separate collapsible sheet-like members disposed intermediate the lower portions of said side panels, said members each comprising at least two legs, one of said legs being secured flatwise to one of said lower portions, and the other of said legs having a horizontal length substantially equal to the diagonal distance across said frame and being hinged to said one leg along a vertical line for selectably disposing each of said other legs beneath said shelf segments respectively to support them; and each of said shelf segments having a downwardly extending flap integrally hinged along an edge thereof and extending between said other legs; said other legs and said flaps being so disposed and arranged that when said frame is collapsed, said flaps act against each other to pivot said shelf segments upwardly, and when said frame is extended, said other legs act against said flaps to pivot said shelf segments toward a horizontal position.

5. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a hollow frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a plurality of lining panels respectively secured and disposed flatwisely adjacent the inner faces of a like plurality of said side panels; a pair of shelf segments each hinged to an edge of one of an oppositely disposed pair of said lining panels below the upper edges of said side panels and jointly defining a generally horizontal collapsible shelf panel, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; each of said shelf segments having a downwardly extending flap hinged along an edge thereof which extends diagonally of said compartment, said flaps being thereby so disposed and arranged that when said frame is being collapsed, said flaps act against each other to pivot said shelf segments upwardly; and a pair of separate collapsible means disposed intermediate the lower portions of said side panels for supporting each of said shelf segments from below.

6. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a hollow frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a plurality of lining panels respectively secured and disposed flatwisely adjacent the inner faces of a like plurality of said side panels; a pair of shelf segments each hinged to an edge of one of an oppositely disposed pair of said lining panels below the upper edges of said side panels and jointly defining a generally horizontal collapsible shelf panel, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; separate means disposed intermediate the lower portions of said side panels and secured to at least one of said side panels, said means being adapted to support said shelf segments from below; and means carried by said shelf segments and coacting with said support means to pivotally raise and lower said shelf segments respectively in response to collapse of and to extension of said frame.

7. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a rectangular frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a lining panel integrally joined at the upper edge of each of said side panels and directed downwardly therefrom flatwisely adjacent to the

inner surface thereof; a pair of shelf segments each hinged to an edge of one of an oppositely disposed pair of said lining panels below the upper edges of said side panels and jointly defining a generally horizontal collapsible shelf panel, the upper portions of said side panels and said lining panels coacting with said shelf panel to define an upwardly open storage compartment; a tab horizontally hinged to one of said lining and side panels and having a first vertically directed aperture therein; one of said panels having a second aperture axially aligned beneath said first aperture for removably receiving and horizontally holding a vertically supported standard; a separate collapsible sheet-like member disposed intermediate the lower portions of said side panels, said member comprising three legs, the first of said legs being secured flatwise to one of said lower portions, the second and third of said legs being hinged to opposite ends of said first leg along vertical lines, said second leg having a horizontal length substantially equal to the diagonal distance across said frame, whereby said second and third legs may be selectively disposed at an angle with respect to each other beneath said shelf to jointly support it; and each of said shelf segments having a downwardly extending flap integrally hinged along an edge thereof and extending between said second legs; said second legs and said flaps being so disposed and arranged that when said frame is collapsed, said flaps act against each other to pivot said shelf segments upwardly, and when said frame is extended, said second legs act against said flaps to pivot said shelf segments toward a horizontal position.

8. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a hollow frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a pair of lining panels each respectively integrally secured to and disposed flatwisely adjacent a face of one of said two case-supporting side panels, and extending vertically coextensively therewith, and the lower edge of each of said lining panels cooperating with the lower edge of said two case-supporting side panels to jointly support therewith said case and thereby to increase the load-carrying capacity of said side panels at the lower edge thereof; a shelf panel collapsibly disposed in a generally horizontal attitude intermediate said side panels below their upper edges, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; the side, lining, and shelf panels comprising a unitary piece of material; and collapsible means disposed intermediate the lower portions of said side panels for supporting said shelf panel from beneath it.

9. A portable display case comprising in combination: four vertically extending side panels mutually hinged together at their vertical edges to define a hollow frame, the lower portion of at least two non-adjacent side panels being adapted to support the case; a pair of lining panels each integrally secured to the upper edge of one of said two case-supporting side panels, and disposed flatwisely adjacent thereto and vertically coextensive therewith for jointly with said lower portions supporting said case, each of said lining panels having a flap integrally joined at the lower edge thereof and directed upwardly therefrom and secured flatwisely adjacent to said lining panel, so that the lower edges of said flaps, said lining panels, and said case-supporting side panels jointly support said case; a shelf panel collapsibly disposed in a generally horizontal attitude intermediate said side panels below their upper edges, the upper portions of said side panels coacting with said shelf panel to define an upwardly open storage compartment; the side, lining, and shelf panels comprising a unitary piece of material; and collapsible means disposed intermediate the lower portions of said side panels for supporting said shelf panel from beneath it.

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