Feb. 15, 1955 R. GUYER 2,702,151

EGG CASE

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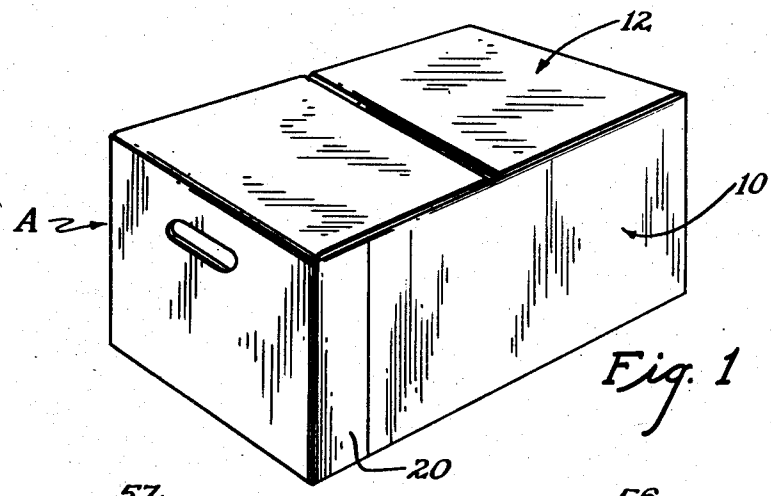


Fig. 1

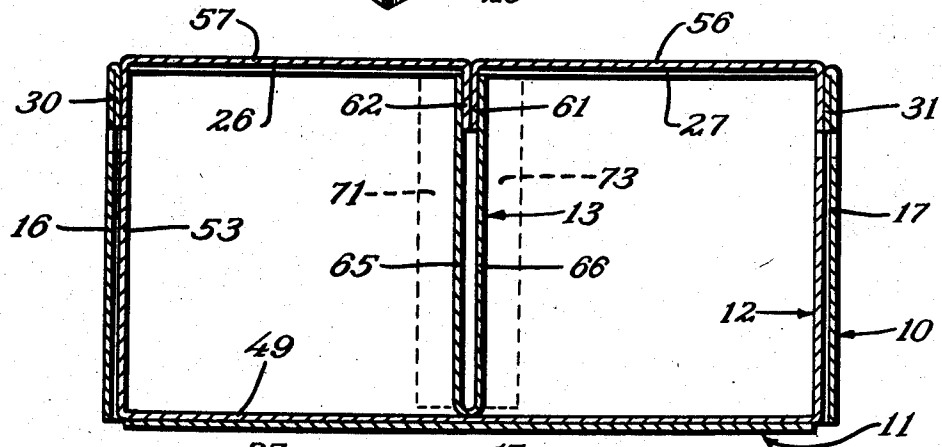


Fig. 2

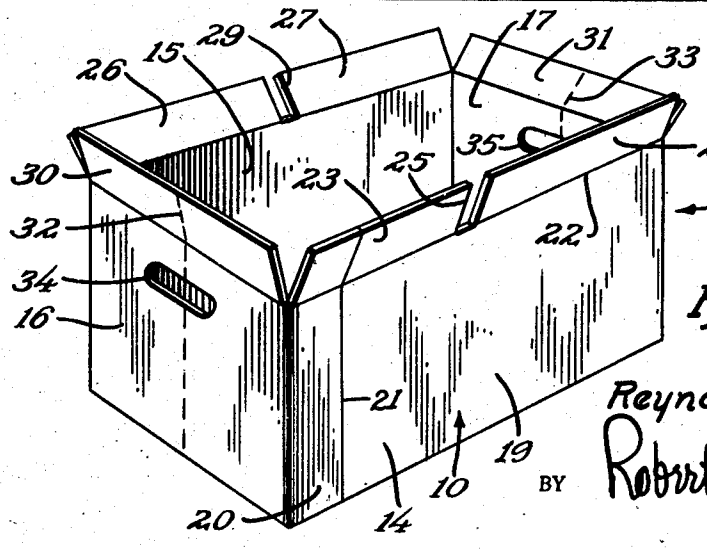


Fig. 3

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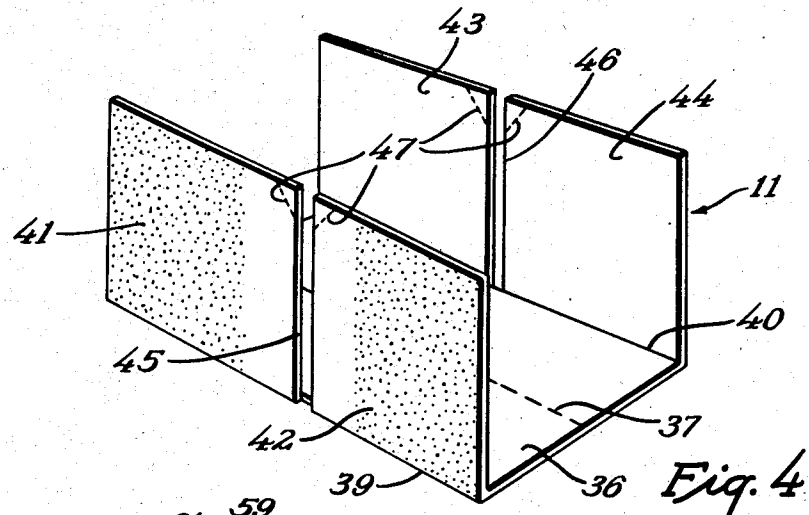


Fig. 4

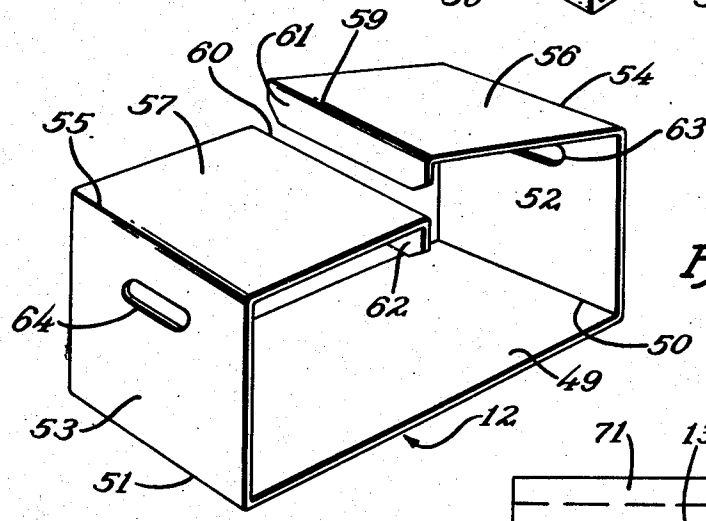


Fig. 5

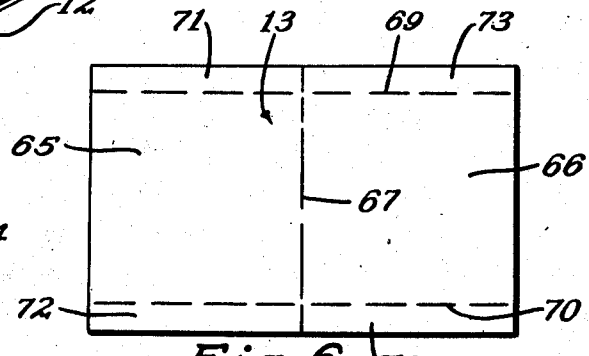


Fig. 6

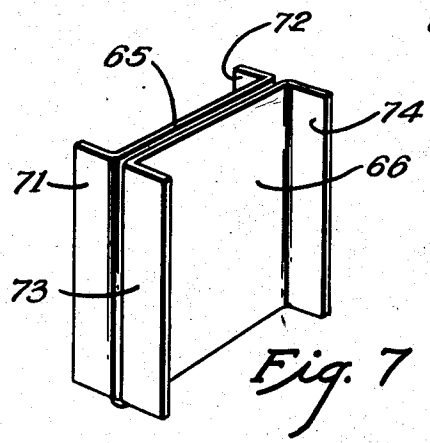


Fig. 7

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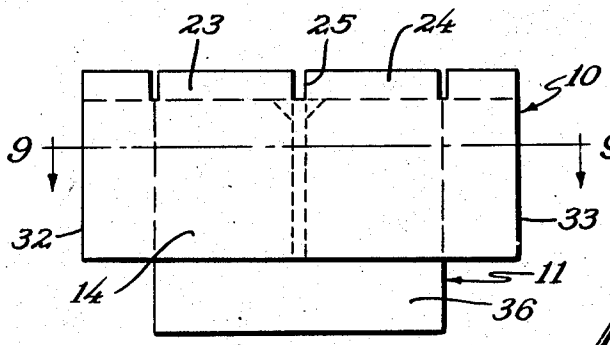


Fig. 8

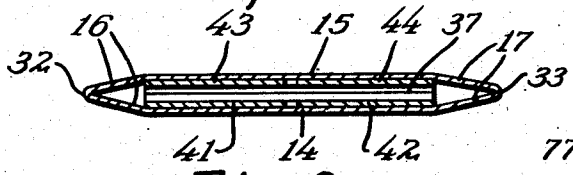


Fig. 9

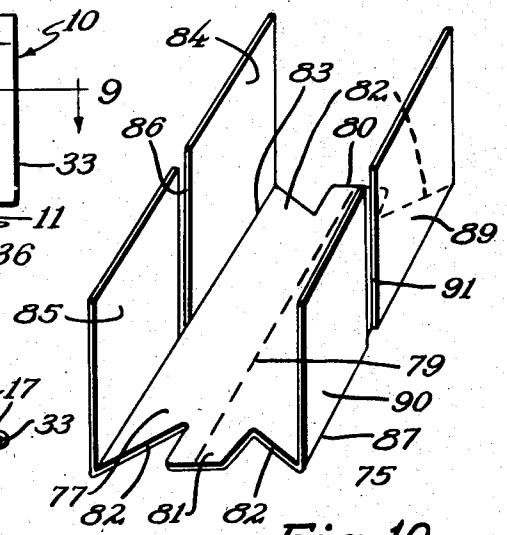


Fig. 10

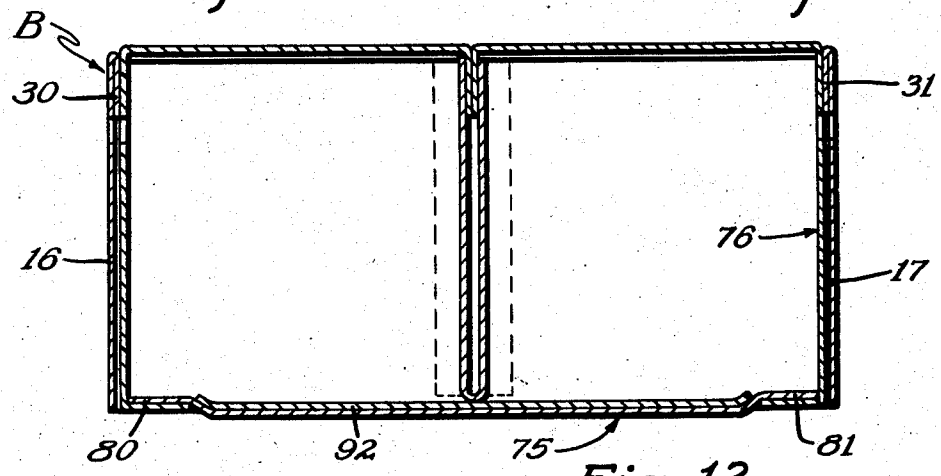


Fig. 12

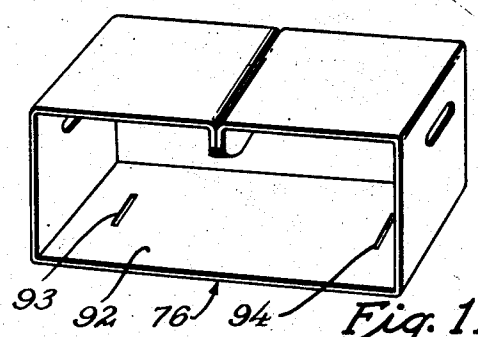


Fig. 11

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United States Patent Office

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EGG CASE

Reynolds Guyer, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Application January 2, 1951, Serial No. 203,995

4 Claims. (Cl. 229—15)

My invention relates to an improvement in egg case wherein it is desired to provide a case which may be shipped in flat condition and quickly set up for use.

The use of egg cases formed of paper board or corrugated paper board has increased considerably in recent years. One of the biggest difficulties in the sale of these cases lies in the work necessary to set up the cases by the consumer. If the cases are to be shipped in flat condition, stitching or gluing is usually necessary in order to complete the case. The consumer does not always have the necessary equipment for this work.

A feature of the present invention lies in the provision of an egg case which is partially assembled by the manufacturer and which may be shipped in collapsed form. When the case is to be used, it may be erected with a minimum of difficulty and without the use of special equipment.

A feature of the present invention lies in the provision of an egg case having an outer shell which includes four rectangularly arranged side walls and a bottom wall. Two opposed side walls and the bottom wall are folded intermediate their ends so that the outer shell may be collapsed into a flat shape. An inner reinforcing bottom panel and foldable top panels are formed of a single strip of paper board which may also be shipped in flat state and folded to form the means of reinforcing the case and of closing the top thereof. When the two parts are assembled the inner member holds the outer shell from collapse, thereby preventing the bottom from coming out of place.

A feature of the present invention lies in the provision of a partition forming member which may be slidably engaged with the outer shell to form a central partition between two compartments of eggs. The cover is provided with closing flaps which tuck on either side of the center position to hold the cover closed.

An added feature of the present invention lies in the provision of a simple economical case which may be assembled in a simple manner and shipped in partially assembled shape. The walls of the outer shell are connected together in tubular form in a unique manner without the use of a stitch lap or securing tape.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 is a perspective view of the case in closed condition.

Figure 2 is a longitudinal section through the case showing the arrangement of the parts therein.

Figure 3 is a perspective view of the outer shell in readiness for assembly.

Figure 4 is a perspective view of a second portion of the outer shell which is connected to the structure shown in Figure 3.

Figure 5 is a perspective view of the inner reinforcing and cover member.

Figure 6 is a diagrammatic view of the blank of which the partition forming member is formed.

Figure 7 is a perspective view of the partition member in readiness for use.

Figure 8 shows the outer shell of the case in flat condition for storage or shipping.

Figure 9 is a sectional view through the shell in partly opened position, the position of the section being indicated by the line 9—9 of Figure 8.

Figure 10 is a perspective view of a modified form of shell construction.

Figure 11 is a perspective view of the lining and covering member used in conjunction with the shell element of Figure 10.

Figure 12 is a longitudinal section through the modified form of case showing the construction thereof.

The case A is preferably formed of a series of parts assembled together. Figures 3 and 4 illustrate the outer shell forming elements 10 and 11 respectively. Figure 5 shows the inner reinforcing and covering member 12. Figures 6 and 7 illustrate the partition forming member 13. These elements when combined as illustrated in Figures 1 and 2 of the drawings form the case A. The outer shell portion 10 includes side walls 14 and 15 and parallel end walls 16 and 17. These various walls are connected together along parallel lines of fold to form a tubular body. The wall panel 14 is formed of two panels 19 and 20 abutting along the line 21. The upper edges of the wall panels are provided with projecting flaps. These flaps are connected to the various walls along a continuous line of fold 22. The side wall 14 is provided with a pair of spaced flaps 23 and 24 separated by a notch 25. The wall 15 is similarly provided with a pair of spaced flaps 26 and 27 spaced by a central notch 29. The end walls 16 and 17 are provided with hinged flaps 30 and 31 respectively.

The end walls 16 and 17 are provided centrally with vertical fold lines 32 and 33 which extend the full height of the end walls and also the closure flaps 30 and 31. As a result the shell structure thus described may be folded along the fold lines 32 and 33 into the flat form illustrated in Figure 8 of the drawings. The end walls are also provided with hand holes 34 and 35 by means of which the case may be lifted and carried.

The second shell portion 11 is constructed as best illustrated in Figure 4 of the drawings. This shell includes a bottom panel 36 which is provided with a longitudinally extending central fold line 37. The bottom panel 36 is connected along opposite fold lines 39 and 40 to wall structures. A pair of spaced wall panels 41 and 42 are connected to the bottom panel along the fold line 39. A similar pair of wall panels 43 and 44 are connected to the bottom panel 11 along the fold line 40. The panels 41 and 42 are spaced by a central slot 45. The wall panels 43 and 44 are likewise separated by a slot 46. The upper corners of the various wall panels may be provided with diagonally extending fold lines 47 if desired so that triangular portions of all of the wall panels at the top of the slots 45 and 46 may be swung out of the plane of the remainder of these panels.

The liner and covering member 12 includes a bottom panel 49 connected along parallel fold lines 50 and 51 to end wall panels 52 and 53. The panels 52 and 53 are connected along hinged fold lines 54 and 55 to top cover panels 56 and 57. These cover panels 56 and 57 are connected along parallel fold lines 59 and 60 to tuck flaps 61 and 62. The end walls 52 and 53 are provided with hand holes 63 and 64 respectively which are arranged to register with the hand holes 34 and 35 of the outer shell member 10 when the case is assembled.

The partition forming member 13 includes a pair of partition walls 65 and 66 connected along a central fold line 67. These panels 65 and 66 are connected along parallel fold lines 69 and 70 to anchoring flaps. The panel 65 is connected by these fold lines to anchoring flaps 71 and 72. The panel 66 is connected along these same fold lines to anchoring flaps 73 and 74.

In assembling the case thus formed, glue is first applied to portions of the outer surfaces of the wall panels 43 and 44 of the shell portion 11 or to the inner surface of the corresponding wall 15 of the shell portion 10. The adhesive is applied on areas of these wall panels spaced from the slot 46 but no adhesive is applied near this slot so that the panels 43 and 44 will be free from the wall 15 near this slot.

Adhesive is applied to areas of the wall panels 41 and 42 as indicated in Figure 4. These areas are spaced from the slot 45 so that the wall panels will be free of the shell panel 14 in assembled condition of the shell. It will be noted that the area of adhesive on the wall panel 41 ex-

tends on both sides of the line 21 between the separate panels 19 and 20 of the shell wall 14. Thus the rectangularly arranged walls of the shell 10 are held in connected relation by adherence to the wall panel 41 of the shell portion 11.

With the shell portion 11 folded along its center fold line 37, the shell portion 10 is folded along its center fold lines 32 and 33 so as to overlie the wall panels 41 and 42 and be adhered thereto. When this structure is complete, the shell of the case is in readiness for use.

The cases are shipped flat in three separate parts. The other shells are shipped in the condition illustrated in Figure 8. The partition and cover forming members 12 are shipped flat and the partition members 13 are formed flat as in Figure 6. When it is desired to assemble the case, the outer shell is folded into the rectangular shape indicated in Figure 3 of the drawings, the bottom panel 36 folding flat and the end panels folding into parallel relation. The member 12 is next inserted into the case. The end walls 52 and 53 lie inwardly of the shell end walls 16 and 17 and hold these shell walls in parallel relationship. The flaps 30 and 31 are preferably folded inwardly of the end walls 16 and 17 to which they are attached as indicated in Figure 2 of the drawings to form a reinforcement for the upper portion of the case.

With the cover panels 56 and 57 of the liner 12 in upwardly pivoted position the partition 13 is inserted into place. The partition is first folded into the form illustrated in Figure 7 and the various anchor flaps are then inserted between the panels 41, 42, 43, and 44 of the shell forming member 11 and the outer walls 14 and 15 of the shell forming portion 10. The case is now in readiness for use.

When the portions of the case on both sides of the partition 13 are filled with eggs, the closing flaps 23, 24, 26 and 27 are folded downwardly into co-planer relationship. The cover panels 56 and 57 of the liner 12 are next folded down to overlie these closure flaps. The flaps 61 and 62 may then tuck between the partion panels 65 and 66 or, if preferred, the partition may be inverted and the cover panels may be inserted on either side of the partition.

In Figures 10, 11 and 12 of the drawings I disclose a modified form of construction which is very similar to that previously described. In the form of construction illustrated in these figures, a shell forming portion 75 is substituted for the shell forming portion 11 previously described. Also a liner and cover member 76 is used in place of the similar member 12. The other parts 10 and 13 of the case remain identical to the structures illustrated in Figures 3, 6, and 7 and accordingly these parts of the case are identified by similar numerals.

The shell forming portion 75 includes a bottom panel 77 which is centrally folded along a longitudinal fold line 79. The ends of the bottom panel 77 are notched as indicated in Figure 10 to provide central projecting tongues 80 and 81. In the construction illustrated triangular notches 82 are provided in each end of the bottom panel on opposite sides of the center line, the notches being spaced to provide projecting tongues 80 and 81. If preferred the tongues 80 and 81 may be formed by cut lines extending longitudinally of the case on either side of the center line.

The bottom panel 77 is connected along a fold line 83 to a pair of wall panels 84 and 85 spaced by a central slot 86. The bottom panel 77 is also connected along the fold line 87 to a pair of wall panels 89 and 90 spaced by a central slot 91. These walls are identical with the corresponding walls of the shell portion 11 as will be obvious from a comparison of Figures 4 and 10.

The shell portion 75 is connected to the shell portion 10 in the manner previously described in conjunction with the shell portion 11. The various wall panels of the unit 75 are adhered or stitched to the walls 14 and 15 of the shell portion 10, the areas of adhesive being spaced from the slots 86 and 91 to accommodate the anchoring flanges of the partition unit 13. The shell thus formed folds into flat condition much in the manner illustrated in Figure 8 of the drawings.

The liner and cover member 76 differs only from the previously described member 12 in that the bottom panel 92 of the unit 76 is provided with a pair of spaced slots 93 and 94 extending transversely of this bottom panel. The other walls, cover flaps, tuck flaps and hand holes

are identical to those previously described in conjunction with the unit 12.

The case B thus formed is shipped similarly to the case A previously described. However, in the assembly of the liner 76 into the outer shell, the flaps 80 and 81 are bent upwardly to extend through the slots 93 and 94. The tabs then overlie the upper surface of the panel 92 in the manner shown in Figure 12 of the drawings. Thus the bottom panels are held in continuous contacting relation by inter-engagement of the bottom panels of the shell and liner.

In accordance with the patent statutes, I have described the principles of construction and operation of my egg case, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. An egg case comprising an outer shell having rectangularly arranged opposed side walls, opposed end walls and a bottom panel with side walls attached thereto and serving as a partial liner within said outer shell, the said bottom panel being connected between the two opposed side walls of said outer shell by its said side walls which form the partial liner, the said bottom panel and the said opposed end walls having center fold lines along which the shell may fold into flat form, another partial liner section which covers the center fold lines in the said bottom panel and the said opposed end walls of said outer shell with said partial liner section being engagable within said shell in set up condition thereof, said last named partial liner including a flat bottom liner portion which lies between said side walls serving as a partial liner within said outer shell, and end wall liner portions connected to said bottom liner portion and serving therewith to hold the said bottom panel and opposed end walls of the said shell from folding along said center fold lines.

2. An egg case comprising parallel side walls and parallel end walls connected by folding lines and forming a shell, said end walls having a center fold line extending therethrough intermediate the fold lines connecting the end walls to the side walls, a bottom unit having pairs of spaced side wall panels forming liners for said parallel side walls and a flat bottom panel centrally foldable between its side edges and outwardly foldable from its said pairs of side wall panels which are designed to extend inwardly of, and be adhered to, the inner side of the first said parallel side walls of the formed shell, a partial liner section lying inwardly of the said center fold lines of said end walls between said pairs of side wall panels and on said flat bottom panel to hold the same from folding, and the partial liner section having extended end wall panels foldably connected thereto and forming coverings insertible into said egg case to enclose the said shell and liner sections.

3. An egg case comprising an outer shell unit including rectangularly arranged side walls and opposed end walls foldably connected together at edge fold lines, said end walls having additional fold lines therethrough intermediate the edge fold lines connecting the end opposed walls to the said side walls, a bottom forming unit having a flat bottom panel provided with a center line of fold between the sides thereof, pairs of side wall panels hingedly connected to said side edges of said bottom panel, said pairs of said side wall panels being slotted intermediate their ends, securing means connecting the side pairs of side walls of the bottom forming unit inwardly of the said side walls of said outer shell unit and forming a partial liner therefor, an additional partial liner having a flat bottom liner portion extending between said side walls to cover the said flat bottom panel of the said bottom forming unit, and end panels connected to said flat bottom portion covering the full width of the said end walls of said outer shell to hold the said end walls and said bottom panel of said bottom forming unit from folding along their center lines.

4. In the structure as set forth in claim 3 a partition unit comprising a U-shaped wall member with oppositely positioned flanges on opposite sides thereof, said flanges extending into the slots between said pairs of said wall panels and secured thereunder.

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