July 8, 1941. B. D. OSTEEN 2,248,547

DISPLAY BOX

Filed June 23, 1937 3 Sheets-Sheet 1

Fig. 1

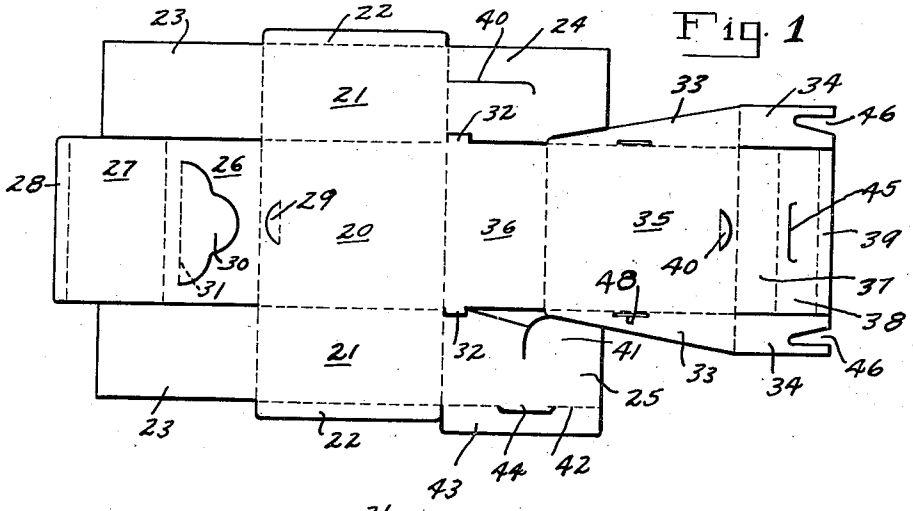


Fig. 2

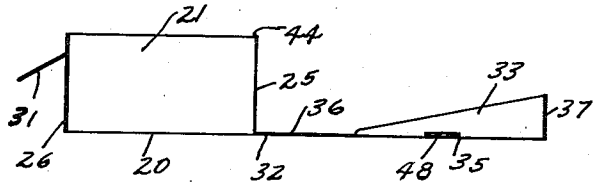


Fig. 3

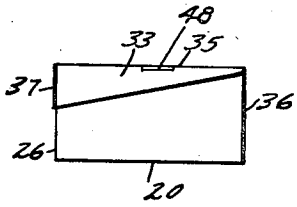


Fig. 4

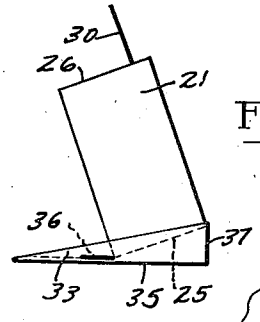


Fig. 5

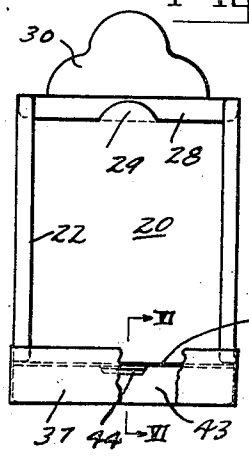


Fig. 6

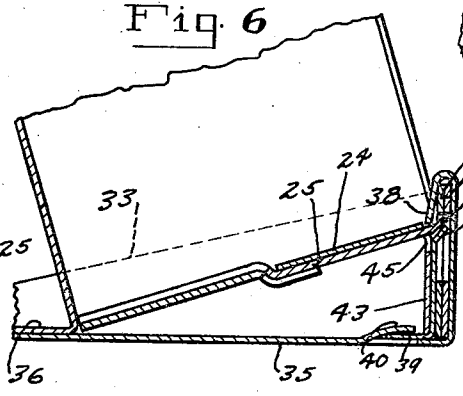
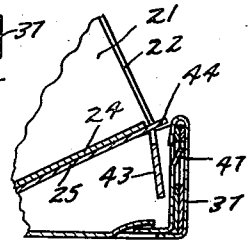


Fig. 7



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DISPLAY BOX

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Fig. 8

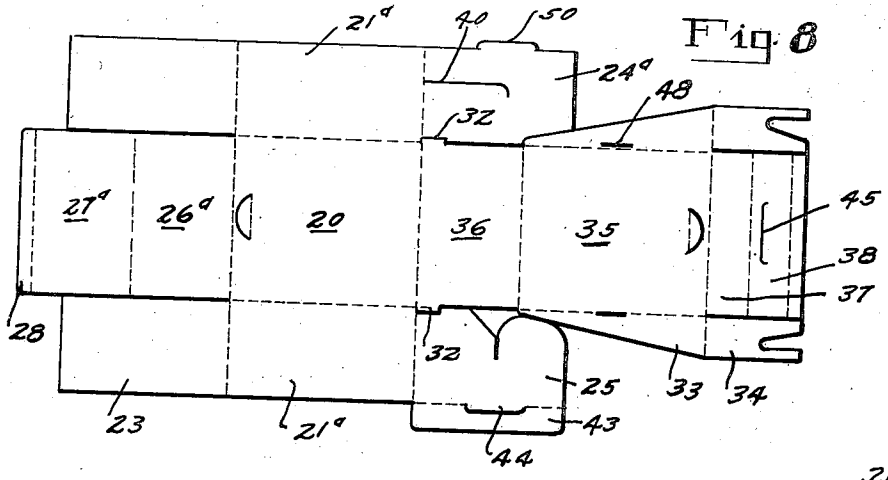
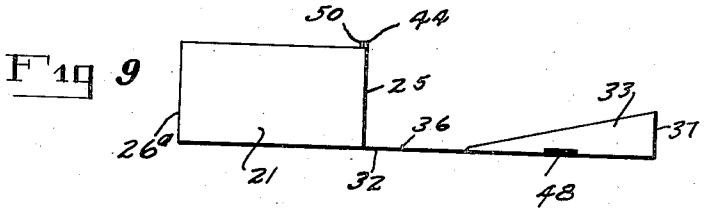


Fig 9



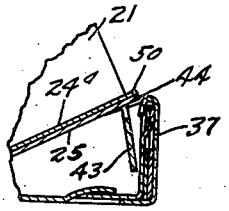


Fig 12

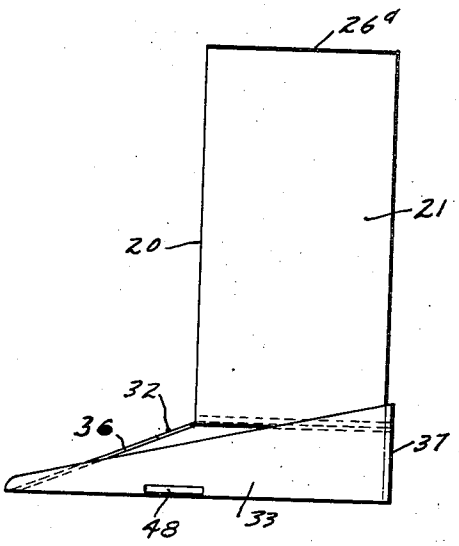


Fig 10

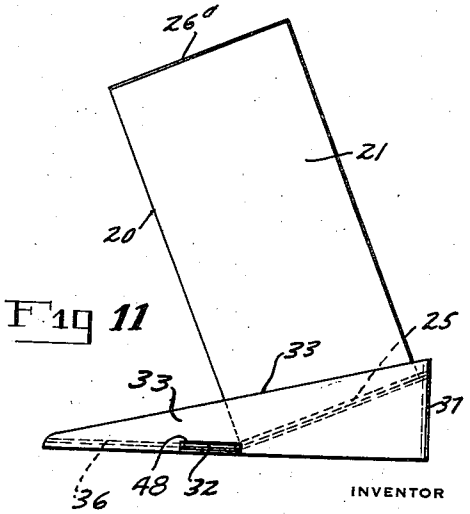


Fig 11

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DISPLAY BOX

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Fig. 13

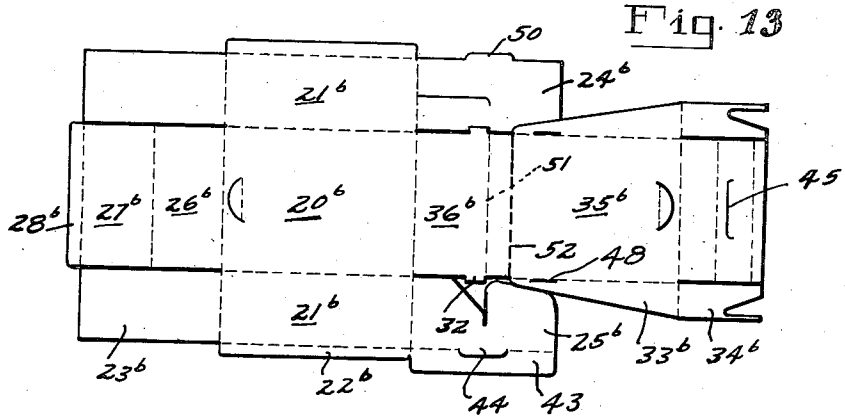


Fig. 14

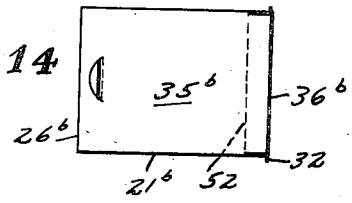


Fig. 15

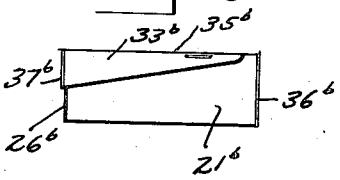


Fig. 16

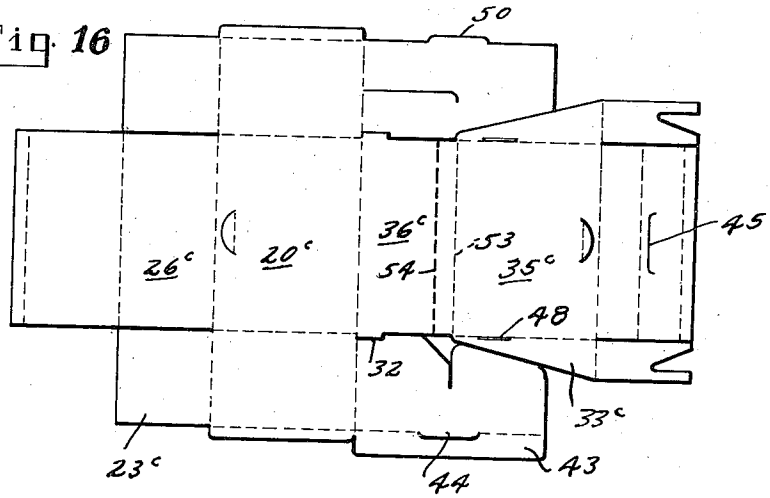


Fig. 17

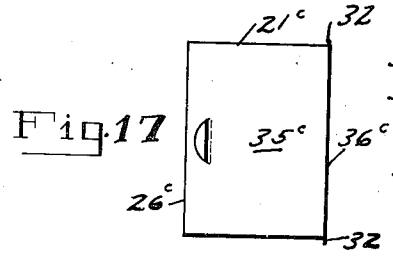
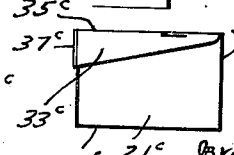


Fig. 18



INVENTOR
B.D OSTEEN

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Patented July 8, 1941

2,248,547

UNITED STATES PATENT OFFICE

2,248,547

DISPLAY BOX

Belmont D. Osteen, Birmingham, Ala., assignor to Birmingham Paper Company, a corporation of Alabama

Application June 23, 1937, Serial No. 149,823

11 Claims. (Cl. 206—44)

My invention relates to box containers of the carton type which are adapted both for the packing and effective display of their contents.

Boxes of this type are customarily made up from cardboard blanks, which are scored, cut, and folded so as first to form in an integral structure both the top and body of a box suitable for the shipment of its intended contents and which is adapted, by the novel manner in which the body and top can be reassembled and interlocked, to set the box in position for attractive display of its contents on a counter, show case, or shop window.

Boxes of this general character have had a favorable reception by both the trade and the public. The particular problem to be solved in their construction is to devise a simple and inexpensive means for interlocking the box body with the top so as to set the body firmly in the desired inclined display position.

According to my present invention, the top of the box is connected by a flap to one end of the body bottom and when the box is set up in display position such body edge rests upon the inverted top and is supported in tilted position by a flap on its under forward edge which folds inside of the end wall of the inverted top and props the body in inclined position with its under end preferably braced between the end and side walls of the top.

My invention further comprises the provision of means to interlock the under forward end of the box when in display position with the end wall of the top.

My invention further contemplates providing the flap, that connects the box body and top, with means adapted to interlock it with the side walls of the top when the box is set up in display position.

My invention further contemplates the provision of a standard box design in which, with the depth of the box half of its length, it can be folded and interlocked in display position without the provision of extra scoring in either the top or the flap, but in adapting my invention to different shapes, additional scoring may be provided either in the top or in the flap in position to permit of the fold required to properly set the body in its display position in its inverted top.

It is characteristic of all forms of my invention in display position that the flap and top form a double thickness interlocked rearward extension that affords an elongated and very sturdy support for the box body in its tilted position and this I accomplish without waste of stock and with a minimum amount of labor or inconvenience in setting up the box for shipment or display.

My invention further comprises the novel details of construction and arrangements of parts which are hereinafter more particularly described in several embodiments, reference being had to the accompanying drawings which form a part of this specification, and in which:

Fig. 1 shows a blank cut for what I term a standard box having a depth half of its length and embodying my present invention.

Fig. 2 is a side elevation of the box and top with their respective flaps set up and interlocked in operative position.

Fig. 3 shows in side elevation the box closed for shipping service.

Fig. 4 is a similar view of the box set up in display position.

Fig. 5 is a front view enlarged of Fig. 4 showing the advertising flap in display position and the end wall of the box top broken away to show the lock lip at the forward edge of the under end of the body.

Fig. 6 is an enlarged cross-sectional view taken on the line VI—VI of Fig. 5, showing the manner in which the body lock lip interlocks with the end wall of the top when the box rests upon its supporting flap in display position.

Fig. 7 is a fragmental view corresponding to Fig. 6 showing the box parts about to be forced into interlocked display position.

Figs. 8, 9 and 12 correspond to Figs. 1, 2 and 7 and show a simplified box design omitting the display flap, and the flaps provided at the top edges of the box body sides and adding a second body lock lip to engage the end wall of the top.

Figs. 10 and 11 are enlarged views in side elevation showing how the box body is sprung down and interlocked with the top to provide a stiff reinforced support for the tilted body.

Fig. 13 shows a blank for a box having a depth less than half its length, thus necessitating an additional score line for the display fold, formed in the top opposite which the sides of the top terminate.

Figs. 14 and 15 are plan and side views respectively of the closed box developed from the blank in Fig. 13.

Fig. 16 is a view corresponding to Fig. 13, except that here the box depth is greater than half of its length and therefore the additional display fold score line has to be formed in the flap.

Figs. 17 and 18 are respectively plan and side views of a box developed from the blank in Fig. 16.

Similar reference numerals refer to similar parts throughout the drawings.

In the embodiment of my invention illustrated in Figs. 1 to 7, I show a box and top formed from a unitary blank, the body comprising the bottom 20, duplicate side walls 21, each having a top inwardly foldable flap 22. The sides 21 carry at their left hand end the end wall flaps 23 and at their right hand end the end wall flaps 24 and 25. Between the flaps 23 lies an end extension coextensive in width with the bottom 20 and formed with cross scores that define the flaps 26, 27 and 28. The flaps 26 and 27 are substantially equal in size to each other and to the flaps 23, and the end flap 28 is a lock flap adapted to be engaged under the lock lip 29 in the adjacent end of the body bottom 20. In the flap 26 I cut out a display panel 30 adapted to fold outwardly along the score line 31 so as to occupy the display position shown more clearly in Figs. 4 and 5. During shipment the flap 30 is left in position in the flap 26.

The right hand end of the body bottom 20 carries an elongated extension coequal in width with the bottom except that it is slightly enlarged along its side edges to form the side lock lips 32 which are cut out of the end flaps 24 and 25 beyond which it is provided with side flaps 33 that are gradually enlarged toward the free end of the extension where they are joined to the end flaps 34 for the top.

This extension is scored to define the top proper 35, flanked on each side by the tapering side flaps 33 and connected by a flap 36 to the bottom 20 and at its outer end carrying an end flap scored to define an outside end wall member 37, an inside end wall member 38 and an end lock flap 39 that is adapted to be engaged under the lock lip 40, cut in the adjacent end of the top 35. Suitable score lines define the connected pairs of flaps 33 and 34. The flaps 24 and 25 are cut away near their outer ends to permit the top side flaps 33 to extend to the inner end of the top 35, but this is only the preferable construction as the flaps 33 may terminate short of the inner end of the top 35, if such be desired.

The flap 24 has a lock slit 40 cut therein and the flap 25 is cut to provide a lock flap 41 adapted to interlock in the slit 40. Also the flap 25 has a score line 42 defining the prop flap 43. At or near the center of this score line 42 I make a cut into the flap 43 which will define a lock lip 44. In the end flap member 38 I form a cut 45 for forming a lock slot. The flaps 34 are cut out at 46 so that when they are folded across and overlapped in the end wall of the top these slots will register with the cut 45 and form a deep aperture to receive the lock lip 44 in the manner hereinafter described.

Having cut and scored the blank as described, my improved box is set up as follows. The flaps 23, 21 and 25, and 23, 21 and 24 are folded up to vertical position; the flaps 23 are then folded into overlapped relation across the end of the box body; the flap 26 is brought up on the outside of the lapped flaps 23 and then flap 27 is folded down on the inside of said lapped flaps and interlocked in this position by catching its lock flap 28 under the bottom lock lip 29; the other end flaps 24 and 25 are then folded together and interlocked by engaging flap 41 in slit 40; the end flaps 33, 34 on each side of the top are then folded up to vertical position; flaps 34 are then folded across into lapped relation; flap 37 is folded up on the outside of said lapped flaps; and then flap 38 is folded down on the inside of said lapped flaps and its flap 39 is caught under the lock lip 40 to hold the end wall assembled. The box is now set up as it is shown in Fig. 2 and is ready to be packed. After it is packed the side flaps 22 and the end support flap 43 are folded in, the flap 36 is folded up against the end of the box body and the top is folded down and engaged over the body to close it, as shown in Fig. 3. To set the box in display position, its top is folded down in inverted position shown in Fig. 2, and the body is then lifted, causing the flap 36 to pivot about the adjacent end of the top 35 until it is folded down upon the top, as indicated in Fig. 4. The forward edge of the lower body end wall carrying the end lock lip 44 and the prop flap 43, has this flap bent down at right angles to the position shown in Fig. 7, thus leaving the lock lip 44 projecting freely beyond the edge of the body end wall. If now the body be forced downwardly from the position shown in Fig. 7 to that shown in Fig. 6, its end lock lip 44 will press the flap 47, defined by the cut 45, in so that the lock lip will be free to engage in the aperture formed by the lock slot in the wall flap 38 and the slots 46 in the flaps 34.

Fig. 6 shows the lock lip 44 pressed against the flap 47 and engaged not only under the flap 38 but also under both flaps 34 and the prop flap 43 resting upon the lock flap 39 in position between the lock lip 40 and the flap 38. When the parts are in this position it will be seen from Fig. 6 that the flap 36 has been sprung downwardly past dead center until it engages the top 35 at which time the forward edge of the box will be pressed firmly into locked relation with the end wall of the top and will be seated between side walls 33 of the top. In order to further lock the parts in this assembled display position, I form slots 48 in each flap 33 along its junction with the top 35 in such position that the side lock lips 32 on the flap 36 will swing down into register with these slots 48 and can be engaged therein to lock the body supporting elements 33 and 36 more rigidly together.

With the box thus set up in position to exhibit its contents, its flap 30 is free to be bent up to display position shown in Figs. 4 and 5 and will carry any suitable advertising and descriptive matter.

The embodiment of my invention illustrated in Figs. 8 to 12 is similar to that already described and the corresponding parts in both forms bear the same identifying numeral and are differentiated as follows:— The flap 26*a* distinguishes from 26 in that it omits the display flap 30; the flaps 21*a* differ from 21 in that they do not bear the top flaps 22. The flap 24*a* distinguishes from 24 in that it is provided with a second end lock lip 50, set opposite to and adapted to match with the lock lip 44 on the flap 25 to provide a double lock lip, to interlock in the aperture formed by the cut 45, instead of a single lock lip as shown in Fig. 1.

Figs. 10 and 11 apply equally to the box design in Figs. 1 and 8 and illustrate a little more clearly how the box is sprung to its display position in order to lock the lips 32 in the slots 48 in the top sides 33. This form of box is assembled exactly as described for the box shown in Fig. 1 with the exception that the two overlapping lock lips 45 and 50 will be engaged in the lock aperture formed by the cut 45 in the top end wall element 38.

In the embodiment of my invention illustrated

in Figs. 13 to 15, the elements similar to those shown in the blanks of Figs. 1 and 8 are correspondingly numbered and therefore their description need not be repeated. The particular style of box illustrated in Fig. 13 is one in which the flap 36*b*, as defined by the normal top score line 51, is less than one-half the length of the top 35*b*. This calls for the following changes, namely:—The flaps 24*b* and 25*b* are made somewhat narrower than the flaps 24*a* and 25 because the box is of a longer and shallower type; the lock lips 32 in this design are shifted up to the right hand end of the narrow flap 36*b* adjacent to the score line 51: a display fold score line 52 provided across the top which is so spaced from the right hand end of the top 35*b* that when the fold for display set up is made on this line 52 the box will set up as shown in Fig. 11. The top is not bent on the score line 52 but on the score line 51 when the box is set up for shipment as shown in Fig. 15 where it will appear that the sides 33*b* terminate short of the right end of the body and for this reason the flaps 22*b* are used so as to make sure of an overlap between the top and the side walls 21*b* across the gap left between the flaps 33*b* and the flaps 36*b*.

The slots 48 are placed so that the score line 52 lies an equal distance between them and the lock lips 32, thereby insuring that the lips will interlock with the slots. It will be obvious, however, that if desired the lock lips 32 may be shown in the same position as in Fig. 8, in which event the slots 48 would be correspondingly displaced to the right so that they and the lock lips will be always equidistant from the display fold score line 52.

The type of box shown in Figs. 16 to 18 has the same depth as, but is materially shorter and wider than, that shown in Fig. 2. This calls for a relative shortening of the flaps 23*c* as compared with the flaps 23 of Fig. 1; the widening of all of the transverse panels of the Fig. 1 blank, with the wider panels bearing the same numerals as in Fig. 1 but distinguished by the coefficient "*c*." The normal score line 53 is at the end of the top 35*c* which folds upon this line to assume its closed position shown in Fig. 18, but in order for the box to be folded into display position, it is necessary to place its extra score line 54 down in the panel 36*c*, because the distance from 54 across the flap 36*c* to the bottom 20*c* added to the depth of the box will approximate the distance from the score line 54 to the right hand end of the top 35*c*. Thus, to set this box in display position it is necessary to fold the panel 36*c* along the line 54 which will bring the lock lips 44 and 50 in position to interlock in the cut 45 in the end wall of the top. In this view the side lock lips 32 are placed as in Fig. 1 and the slots 48 are equi-distant with these lips from the score line 54.

It will be obvious therefore that my present invention is flexible in its application to boxes differing in shape and conformation, all, however, being characterized by the fact that the flap connecting the body and top when folded about the display score line down upon the inverted top will permit the adjacent end wall of the body to be interlocked at an upward inclination with the end wall, and between the side walls, of the top and to be so supported by a prop flap 43 when it is bent down and in engagement with the underlying top, thus giving a sturdy elongated support to the box standing on end and tilted to display position.

One important feature of my invention is that the side lips 32 so interlock the body to the top that the box when set in display position can be lifted about to place it without the top falling away from the body and thus the parts are positively held assembled in their display position.

While I have shown my invention in several forms, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various other changes and modifications, without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art or as are specifically set forth in the appended claims.

What I claim is:

1. In a display container, a body blank cut and scored to provide elements foldable to form a bottom and interconnected side and end walls, a cover blank cut and scored to provide elements foldable to form a top and cover sides interlocked with an interposed end wall, a hinge flap connecting the body bottom element to an end of the cover and scored to permit it and the connected end of the body to be folded down onto the inverted cover with the body end resting at an intermediate point on said cover top between the cover sides, and complemental lock elements on the lower body end and cover which by engagement will hold the body against falling backward when its said lower end is nested in rearwardly inclined relationship between the cover walls.

2. In a display container, a body blank cut and scored to provide elements foldable to form a bottom and interconnected side and end walls, a cover blank cut and scored to provide elements foldable to form a top and cover sides interlocked with an interposed end wall, a hinge flap connecting the body bottom element to an end of the cover and scored to permit it and the connected end of the body to be folded down onto the inverted cover with the body resting at an intermediate point on said cover top between the cover sides, and a prop flap carried by the free edge of the under body end and foldable downward when the container is placed in display position to engage the inverted cover and support the body on its said end in tilted display position.

3. In a display container, a body blank cut and scored to provide elements foldable to form a bottom and interconnected side and end walls, a cover blank cut and scored to provide elements foldable to form a top and cover sides interlocked with an interposed end wall, a hinge flap connecting the body bottom element to an end of the cover and scored to permit it and the connected end of the body to be folded down onto the inverted cover, a prop flap carried by the free edge of the under body end and foldable downward to engage the inverted cover and support the body on its said end in tilted display position, and means to interlock the under body end with the cover.

4. In a display container, a body blank cut and scored to provide elements foldable to form a bottom and interconnected side and end walls, a cover blank cut and scored to provide elements foldable to form a top and cover sides interlocked with an interposed end wall, a hinge flap connecting the body bottom element to an end of the cover and scored to permit it and the connected end of the body to be folded down onto the inverted cover with the body end resting at an intermediate point on said cover top

between the cover sides, and complemental lock elements on the lower body end and cover which by engagement will hold the body against falling backward when its said lower end is nested in rearwardly inclined relationship between the cover walls, the hinge flap being foldable with the connected body end down onto the inverted cover and having a dimension which when added to the height of the end wall is slightly longer than the cover top whereby it is adapted to force the body end against the cover end.

5. In a display container, a body blank cut and scored to provide elements foldable to form a bottom and interconnected side and end walls, a cover blank cut and scored to provide elements foldable to form a top and cover sides interlocked with an interposed end wall, a hinge flap connecting the body bottom element to an end of the cover and scored to permit it and the connected end of the body to be folded down onto the inverted cover, means to support the under end of the body nested in rearwardly inclined relationship between the cover walls, the hinge flap being foldable with the connected body end down onto the inverted cover and having a dimension normal to its fold line which when added to the height of its connected end wall is slightly longer than the cover top whereby it is adapted to force the body end against the cover end, and a lock lip on the body end foldable to interlock with a complemental keeper means on the cover end which are held interlocked when the body is in display position.

6. In a display container, a body blank cut and scored to provide elements foldable to form a bottom and interconnected side and end walls, a cover blank cut and scored to provide elements foldable to form a top and cover sides interlocked with an interposed end wall, a hinge flap connecting the body bottom element to an end of the cover and scored to permit it and the connected end of the body to be folded down onto the inverted cover, means to support the under end of the body nested in rearwardly inclined relationship between the cover walls, the hinge flap being foldable with the connected body end down onto the inverted cover and having a dimension normal to its fold line which when added to the height of its connected end wall is slightly longer than the cover top whereby it is adapted to force the body end against the cover end, a lock lip on the body end and a complemental keeper means on the cover end which are held interlocked when the body is in display position, and side lock lips on the hinge flap, there being slots in the cover side with which said side lips are adapted to be interlocked.

7. A display container for merchandise, comprising a box body with side and end walls to hold the merchandise to be displayed, a top member having at one end a wall, and a flap connecting the other end of said top member hingedly to said body at the bottom of one end thereof, the combined length of said flap and the adjacent body end wall being sufficient to present the free upper edge of the adjacent end wall of the body in juxtaposition to the free edge of said end wall of the inverted top member when the end of the body and flap are folded over and downwardly to rest thereon, and coacting means to interlock the free edge of said end wall of the body, when in rearwardly tilted display position, with the end wall of said top member.

8. A merchandise display container, comprising a top element formed with walls along its sides and one end, a merchandise container having a bottom flap hinged to the end of said top element left without an end wall, the combined length of the flap and the adjacent end wall of the body being such as to permit the body end, when swinging on said flap as a hinge, to come to rest on said top element in tilted position with its under forward edge upwardly inclined towards and juxtaposed to the end wall of said top element, and means comprising a latch lip and keeper element to interlock said body with said end wall of the top element to prevent said body tilting over backwards from its display position as it is unloaded.

9. A merchandise display container, comprising a top element formed with interconnected walls along two sides and only one end, a merchandise container having a bottom flap hinged to the free end of said top element, the combined length of the connected flap and body end wall being such, when the body is swung on said flap as a hinge, as to position the body on end on said inverted top element with its forward under edge, when tilted up, standing adjacent to the upper edge of the end wall of said top element, means to support said body edge in its tilted position, and means to interlock said tilted body end wall with said end wall of the top element against tilting backwards as it is unloaded, said hinged top and flap elements having a combined length substantially equalling the combined length and height of the body whereby said latter elements can be folded up over an end and the top of the body to form a closure for the container.

10. A display box comprising a body with a bottom and interconnected side and end walls, a top with interconnected walls along its sides and one end, and a flap connecting the other end of the top to one end of the body bottom, the combined length of the flap and adjacent body end wall being such as to present the top edge of said body end wall, when swung on said flap as a hinge over onto the inverted top, into upwardly tilted position adjacent to the end wall of the top, means to support said body end in said tilted position on the top, and complemental lock elements in the juxtaposed end walls of the body end and top disposed and adapted automatically to engage and interlock the body in tilted position to said top and end wall against tilting over backward, when the body end is pressed down between the side walls and against the end wall of the inverted top.

11. A display container for merchandise, comprising a box body with side and end walls to hold the merchandise to be displayed, a top member having at one end a wall, and a flap connecting the other end of said top member hingedly to said body at the bottom of one end thereof, the combined length of said flap and the adjacent body end wall being sufficient to present the free upper edge of the adjacent end wall of the body in juxtaposition to the free edge of said end wall of the inverted top member when the end of the body and flap are folded over and downwardly to rest thereon, and coacting means to interlock the free edge of said end wall of the body, when in rearwardly tilted display position, with the end wall of said top member, said coacting means being disposed in concealed position in the box assembly when the same is set up in its display position.

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