Nov. 3, 1942. W. E. HANSON 2,301,042

FOLDABLE DISPLAY BOX

Filed Jan. 28, 1942

Fig. 1.

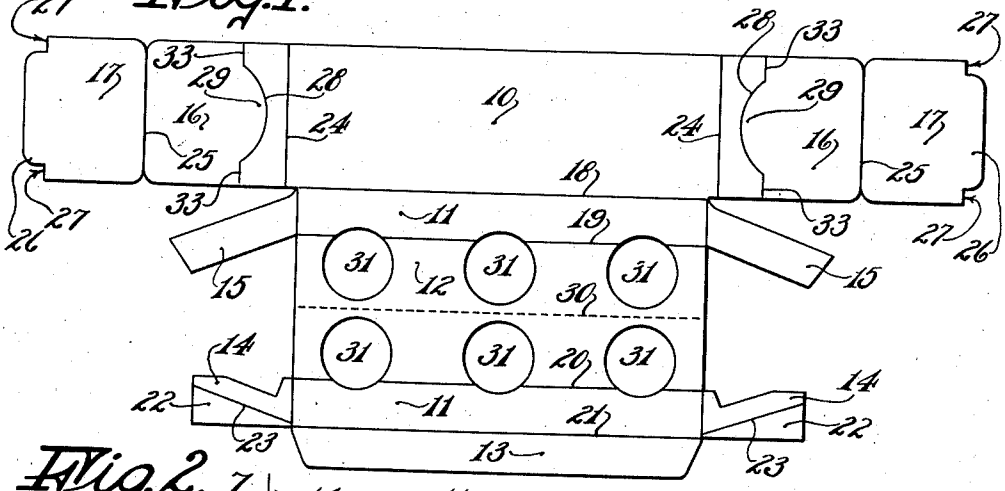


Fig. 2.

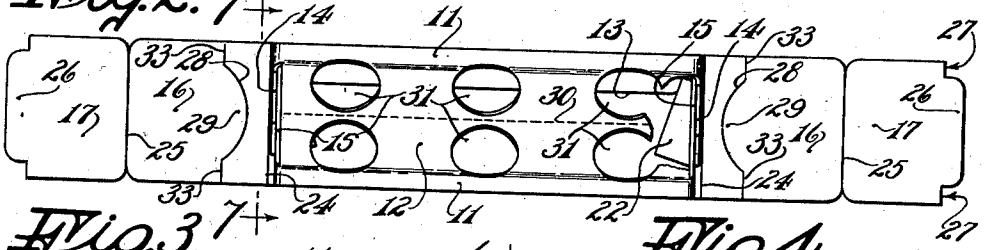


Fig. 3.

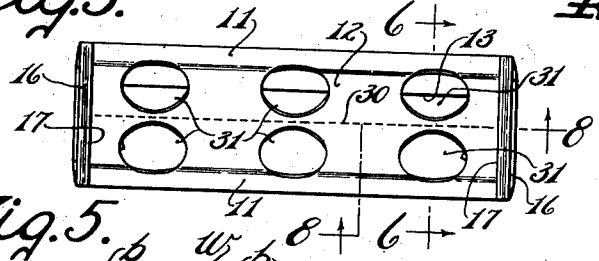


Fig. 4.

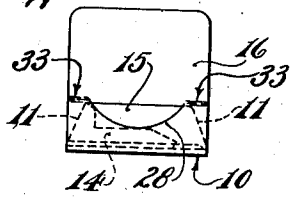


Fig. 5.

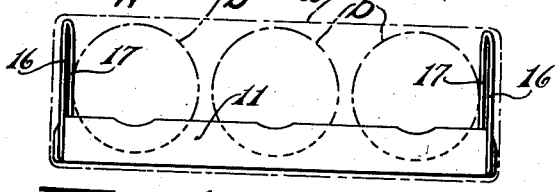


Fig. 6.

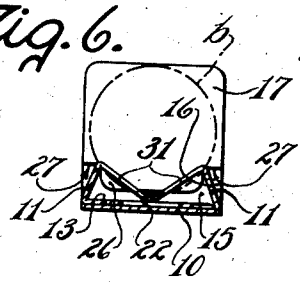


Fig. 7.

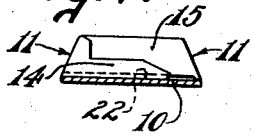
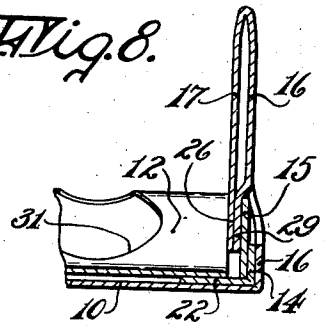


Fig. 8.



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FOLDABLE DISPLAY BOX

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Application January 28, 1942, Serial No. 428,467

10 Claims. (Cl. 206—44)

This invention relates to improvements in foldable display boxes of cardboard or the like.

The invention has for an object to provide an improved display box, having a top wall on which articles may be supported and displayed while confined between upstanding end wall members which rise above the top wall.

The invention has for another object to provide in a box of the kind described improved means on the end wall members for holding in proper position the side walls by which the top wall display member is supported from its base.

The invention has for a further object the provision at each end of the box of a pair of overlapping end flaps, fixed one to each side wall, and a tongue on each end wall member, each pair of overlapping end flaps being gripped between a tongue and its end wall, whereby the pairs of flaps are held in place and the side walls maintained in proper position.

Another object of the invention is to provide a top wall which is adapted to be pressed into the form of a trough to hold articles, such as those which might roll, in position between the side walls.

Another object of the invention is to provide holes in the trough-like top wall so arranged as to receive parts of the rolling articles, thereby restraining the articles from lengthwise movement in the trough.

A further object of the invention is to provide supporting side walls for the top display member which are inclined to the base of the box in upwardly converging relation.

These objects will best be understood as the detailed description proceeds and they will be pointed out in the appended claims.

The invention will be disclosed with reference to the accompanying drawing, in which:

Fig. 1 is a plan view of the blank from which the box is made;

Fig. 2 is a plan view showing the box in partially folded form;

Fig. 3 is a plan view of the completed box;

Figs. 4 and 5 are end and side elevation views, respectively, thereof;

Fig. 6 is a cross sectional view taken on the line 6—6 of Fig. 3;

Fig. 7 is a cross sectional view taken on the line 7—7 of Fig. 2; and

Fig. 8 is a fragmentary sectional elevational view taken on the line 8—8 of Fig. 3.

Referring to the drawing; the display box is made up from a single blank of cardboard or other suitable material. From the blank shown in Fig. 1, the finished box shown in Fig. 3 is formed by simple folding operations.

The blank includes a rectangular bottom wall section 10, side wall sections 11, a top wall section 12, a side wall flap 13, end flaps 14 and 15, outer end wall sections 16 and inner end wall sections 17. Lines of fold 18 and 19 respectively, mark off one side wall section 11 from the bottom wall and top wall sections 10 and 12, to which it is foldably connected. Lines of fold 20 and 21 respectively, mark off the other side wall section 11 from the top wall section 12 and side wall flap 13 to which it is foldably connected. The end flaps are foldably connected one to each end edge of each side wall section 11. Each end flap 14 is preferably provided with a tab 22 foldably connected thereto along a line 23 which lies at an obtuse angle to the lower edge of the side wall 11 to which the flap 14 is hingedly connected. The bottom edge of each end flap 15 is cut so as to lie at a similar angle with respect to the side wall 11 to which it is hingedly connected. The outer end wall sections 16 are foldably connected one to each end edge 24 of the bottom wall 10. Each inner end wall section 17 is foldably connected to the upper edge 25 of its outer end wall section. Each inner end wall section 17 terminates with a tab-like lower portion 26 of less width than the rest of the section, thereby forming shoulders 27 for a purpose later to be described. One of each connected pair of end wall sections, preferably the outer section 16 is slit, as along the line 28, to form a tongue 29 for a purpose later to be described, and from the ends of each slit fold lines 33 extend to the edges of the section. The top wall section 12 is preferably scored along at least one longitudinal line 30 to enable it to be readily bent downwardly into trough-like form. In the particular example shown, a single, centrally-located line 30 is provided. A plurality of circular holes 31 may be provided in the blank as shown. These holes lie for the most part in the top wall although, as shown, each hole extends slightly into the nearest adjoining side wall. These holes are arranged in pairs, the holes of each pair being directly opposite one another and lying on opposite sides of the score line 30. The pairs of holes 31 are longitudinally spaced one pair from another and from the adjacent end edges of the top wall.

The display box is constructed from the blank described as set forth below. First, the walls 10, 11 and 12 are folded to form a tubular box body and the parts are held in such relation by fas-

tening the flap 13 to the bottom wall 10 adhesively or otherwise. Then the top wall 12 is depressed into trough-like form. The trough may be of V-shaped cross sectional shape as shown, or of any other suitable cross sectional shape. The top wall is of the same length and width as the underlying bottom wall but when it is depressed to form the trough, the side walls 11 are drawn inwardly into upwardly converging relation. The flaps 15 are then folded inwardly after which the flaps 14 are folded inwardly, overlapping to some extent the flaps 15. Each tab 22 is then tucked under the bottom edge of the adjacent flap 15 and lies between such edge and the bottom wall 10. The lower edges of the flaps 14 and 15 abut the wall 10 and thereby limit the extent to which the side walls 11 may be moved inwardly. The box is now in the condition shown in Fig. 2. It remains to hold the side walls in the positions to which they have been moved. This is done by folding up each outer end wall 16 into an upright position and then placing the tongue 29 of such wall against the inner face of the adjacent inner flap 15 so that each pair of overlapped flaps 14 and 15 will lie between the adjacent end wall 16 and the tongue 29 thereon as shown in Fig. 8. The overlapped flaps 14 and 15 are thus pressed together and gripped between the parts 16 and 29. The inner end wall sections 17 are then folded downwardly against the outer end walls 16. The lower tab-like end 26 of each wall 17 is inserted between the adjacent end edge of the top wall 12 and the tongue 19 as shown in Fig. 8. The shoulders 27 of each inner end wall 17 rest on the top edges of the side walls 11 as shown in Fig. 6. The end walls 17 serve to lock the parts in place preventing removal of the tongues 29 from holding engagement with the overlapping pairs of end flaps which they grip.

The invention, in the particular form disclosed, is designed to contain in the trough and to display a plurality of golf balls *b*. These balls are held from rolling laterally by the slanting sides of the trough-like display member 12. They are held from rolling longitudinally by their engagement in holes 31. The high end walls 16, 17, effectually prevent escape of the balls from the ends of the trough. Between these end walls, however, the articles *b* are effectually and nearly completely displayed. The box with the articles *b* therein may be wrapped in a wrapper, indicated conventionally in Fig. 5 by *w*—such wrapper being preferably transparent.

In case of some articles, the use of the trough may not be necessary or desired and the display platform 12 may not be depressed, as described, but may remain flat. The sloping sides 11, while desirable, important and preferred are nevertheless not indispensable. The sloping sides afford an effective display panel on which to print advertising matter. They also materially improve the appearance of the box and serve to effectually brace the display member 12 and hold it against lateral displacement. The end lock at each end of the box is particularly important. The overlapped flaps 14 and 15 serve to hold the side walls 11 from bending inwardly beyond their intended positions. These flaps are tightly gripped between the parts 19 and 26 in a very effective yet simple manner. Finally, the tabs 23 on members 17 serve to lock the flap-holding means against accidental removal.

The invention thus provides a simple and attractive box for effectively displaying various articles susceptible to rolling, of which the golf balls are but one illustrative example. The invention is also capable of use with articles which are not likely to roll, such for example as brushes of various sorts, and in fact with any article which can be supported by the display platform and confined between its high upstanding end walls.

What I claim is:

1. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width, side walls interconnecting the top and bottom walls, said top wall being bent downwardly between its sides toward the bottom wall to form a trough extending from end to end thereof, whereby said side walls slant inwardly in upwardly converging relation, a pair of end flaps at each end of the box, said flaps being foldably connected one to each end of each side wall, the flaps of each pair being overlapped, end wall members connected to the bottom wall one at each end thereof, and means on each end wall member to press together and grip the adjacent pair of overlapped end flaps, thereby holding said side walls in said converging relation and the top wall in trough-like form.

2. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width, said walls interconnecting the top and bottom walls, said top wall being longitudinally scored and bent along the scoring into the form of a trough of V-shaped cross section, whereby the side walls are drawn into upwardly converging relation, end walls connected one to each end edge of the bottom wall and extending upwardly above the side walls, and means on the end walls to retain the side walls in said relation and the top in trough-like form, said top wall having a plurality of pairs of approximately circular holes therein, the pairs of holes being longitudinally spaced one pair from another and from the adjacent end wall and the holes of each pair lying on opposite sides of the scoring, said box adapted to receive a plurality of balls which lie in the trough and between the end walls, each ball being engaged in both holes of a pair to detain it from rolling along the trough.

3. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width bent downwardly between its side edges to form a trough extending longitudinally from end to end thereof, side walls interconnecting the side edges of the top and bottom walls and slanting inwardly and upwardly, end flaps connected one to each end edge of each side wall, the two flaps on opposite side walls at each end of the box being folded inwardly in overlapping relation, the lower edge of each flap engaging the bottom wall and limiting the extent of inward movement of the side walls, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom to close the ends of the trough, and means carried by each end wall for pressing together and gripping the adjacent pair of overlapped end flaps.

4. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width bent downwardly between its side edges to form a trough extending longitudinally from end to end thereof, side walls interconnecting the side edges of the top and bottom walls and slanting inwardly and upwardly, end flaps connected one to each end edge of each side wall, the two flaps on opposite side walls

at each end of the box being folded inwardly in overlapping relation, the lower edge of each flap engaging the bottom wall and limiting the extent of inward movement of the side walls, one flap of each pair of overlapped flaps having foldably connected to its bottom edge a tab which extends inwardly between the lower edge of the other flap of the pair and the bottom of the box, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom to close the ends of the trough, and means carried by each end wall for pressing together and gripping the adjacent pair of overlapped end flaps.

5. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width bent downwardly between its side edges to form a trough extending longitudinally from end to end thereof, side walls interconnecting the side edges of the top and bottom walls and slanting inwardly and upwardly, end flaps connected one to each end edge of each side wall, the two flaps on opposite side walls at each end of the box being folded inwardly in overlapping relation, the lower edge of each flap engaging the bottom wall and limiting the extent of inward movement of the side walls, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom, each said end wall being slit near its lower edge to form a tongue, the lower part of each end wall and its tongue being engaged with opposite sides of the adjacent pair of overlapped flaps to press them together and thereby hold the side walls in said relation.

6. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width bent downwardly between its side edges to form a trough extending longitudinally from end to end thereof, side walls interconnecting the side edges of the top and bottom walls and slanting inwardly and upwardly, end flaps connected one to each end edge of each side wall, the two flaps on opposite side walls at each end of the box being folded inwardly in overlapping relation, the lower edge of each flap engaging the bottom wall and limiting the extent of inward movement of the side walls, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom, each said end wall being slit near its lower edge to form a tongue, the lower part of each end wall and its tongue being engaged with opposite sides of the adjacent pair of overlapped flaps to press them together and thereby hold the side walls in said relation, and a member foldably connected to the upper edge of each end wall and extending downwardly along the inner face of its end wall with its lower end extending into the box between the adjacent end edge of the top wall and the adjacent tongue and overlapped flaps to hold the same in place.

7. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width bent downwardly between its side edges to form a trough extending longitudinally from end to end thereof, side walls interconnecting the side edges of the top and bottom walls and slanting inwardly and upwardly, end flaps connected one to each end edge of each side wall, the two flaps on opposite side walls at each end of the box being folded inwardly in overlapping relation, the lower edge of each flap engaging the bottom wall and limiting the extent of inward movement of the side walls, one flap of each pair of overlapped flaps having foldably connected to its bottom edge a tab which extends inwardly between the lower edge of the other flap of the pair and the bottom of the box, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom to close the ends of the trough, and end walls connected one to each end edge of the bottom wall and extending upwardly therefrom, each said end wall being slit near its lower edge to form a tongue, the lower part of each end wall and its tongue being engaged with opposite sides of the adjacent pair of overlapped flaps to press them together and thereby hold the side walls in said relation.

8. A foldable display box, comprising, a flat bottom wall, a superposed top wall of equal length and width bent downwardly between its side edges to form a trough extending longitudinally from end to end thereof, side walls interconnecting the side edges of the top and bottom walls and slanting inwardly and upwardly, end flaps connected one to each end edge of each side wall, the two flaps on opposite side walls at each end of the box being folded inwardly in overlapping relation, the lower edge of each flap engaging the bottom wall and limiting the extent of inward movement of the side walls, one flap of each pair of overlapped flaps having foldably connected to its bottom edge a tab which extends inwardly between the lower edge of the other flap of the pair and the bottom of the box, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom to close the ends of the trough, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom, each said end wall being slit near its lower edge to form a tongue, the lower part of each end wall and its tongue being engaged with opposite sides of the adjacent pair of overlapped flaps to press them together and thereby hold the side walls in said relation, and a member foldably connected to the upper edge of each end wall and extending downwardly along the inner face of its end wall with its lower end extending into the box between the adjacent edge of the top wall and the adjacent tongue and overlapped flaps to hold the same in place.

9. A foldable display box, comprising, a bottom wall, a pair of side walls foldably connected one to each side edge of the bottom wall, a top wall interconnecting the upper edges of said side walls and foldably connected thereto, a pair of end flaps at each end of the box, said flaps foldably connected one to each end edge of each side wall, the end flaps of each pair extending inwardly in overlapping relation, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom, each said end wall being slit near its lower edge to form a tongue, the lower part of each end wall and its tongue being engaged with opposite sides of the adjacent pair of overlapped flaps to press them together and thereby hold the side walls in said relation, and a member foldably connected to the upper edge of each end wall and extending downwardly along the inner face of its end wall with its lower end extending into the box between the adjacent end edge of the top wall and the adjacent tongue and overlapped flaps to hold the same in place.

10. A foldable display box, comprising, a bottom wall, a pair of side walls foldably connected one to each side edge of the bottom wall, a top

wall interconnecting the upper edges of said side walls and foldably connected thereto, a pair of end flaps at each end of the box, said flaps foldably connected one to each end edge of each side wall, the end flaps of each pair extending inwardly in overlapping relation, end walls connected one to each end edge of the bottom wall and extending upwardly therefrom above the top of said top wall, each end wall being slit near its lower edge to form a tongue and having a line of fold extending one from each end of the tongue in a direction parallel to said lower edge to the side edges of said end wall, the upper part of each end wall being foldable along said lines of fold to enable its tongue to be moved over the upper edges of the adjacent pair of overlapped end flaps and then downwardly to engage such flaps between the tongue and the lower part of the end wall, and a member foldably connected to the upper edge of each end wall and extending downwardly along the inner face thereof with its lower end inserted into the box between the adjacent end edge of the top wall and the adjacent tongue and overlapped flaps to hold its end wall from bendnig along said lines of fold.

WALLACE E. HANSON.