Oct. 22, 1957 W. A. RINGLER 2,810,475

FOLDING DISPLAY BOX

Filed Aug. 1, 1955

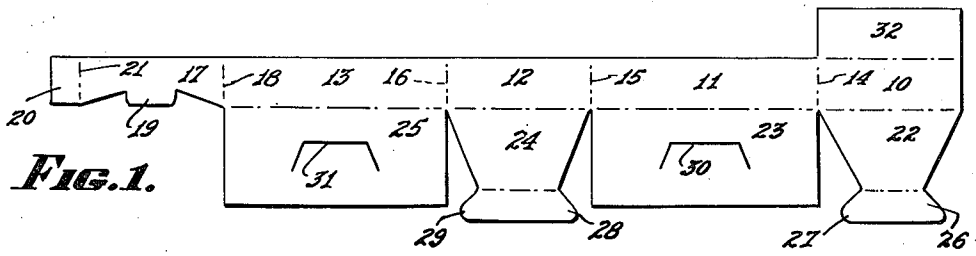


FIG. 1.

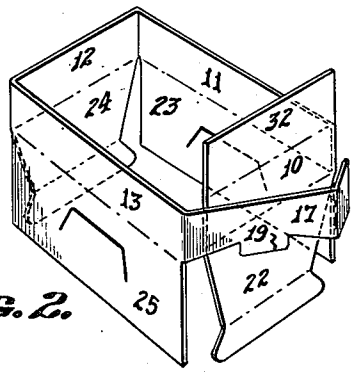


FIG. 2.

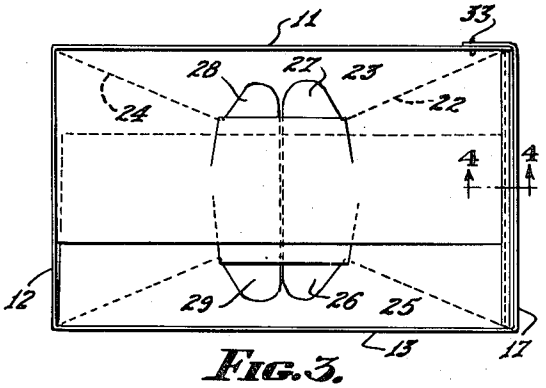


FIG. 3.

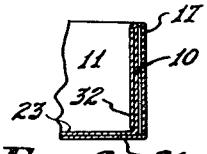


FIG. 4.

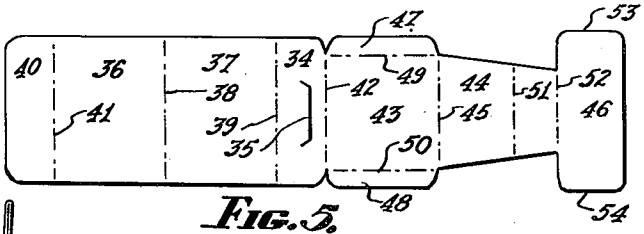


FIG. 5.

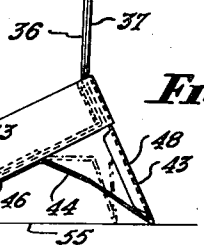


FIG. 6.

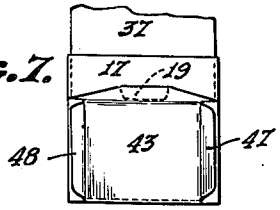


FIG. 7.

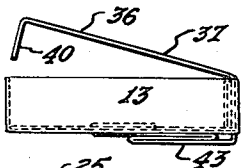


FIG. 8.

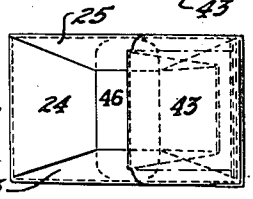


FIG. 9.

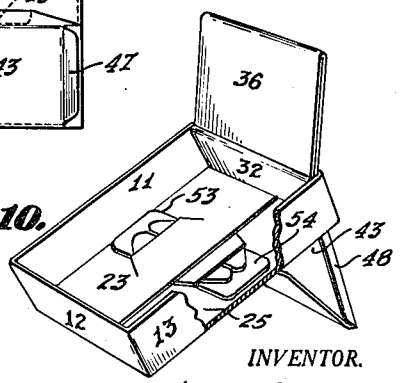


FIG. 10.

INVENTOR.

WILLIAM A. RINGLER,

BY Allen & Allen

ATTORNEYS.

United States Patent Office

2,810,475

Patented Oct. 22, 1957

2,810,475

FOLDING DISPLAY BOX

William A. Ringler, Wayne, Pa., assignor to The Gardner Board and Carton Co., Middletown, Ohio, a corporation of Ohio

Application August 1, 1955, Serial No. 525,434

3 Claims. (Cl. 206—45.27)

The invention relates to folding paperboard package structures, and particularly to that type of package known as a display box, wherein an assembly of sales units may be maintained in an inclined position suitable for display on a counter or shelf.

A primary object of the invention is the provision of a display box which can be easily and inexpensively produced.

It is an object of the invention to provide an easel display box which can be shipped filled to the user and which does not require any complicated operations on his part to set up the display features.

It is an object of the invention to provide a display box in which the easel structure, although completely collapsible for shipping purposes, is nevertheless adequately strong to support in inclined position a box and its contents of relatively considerable weight.

It is an object of the invention to provide a display package having the characteristics above noted, but formed from a single box or tray structure, and a single separate scored piece of paperboard, both of which elements may be attractively printed.

These and other objects of the invention which will be set forth hereinafter or will be apparent to one skilled in the art upon reading these specifications, are accomplished in that certain construction and arrangement of parts of which an exemplary embodiment will now be described. Reference is made to the accompanying drawings wherein:

Figure 1 is a plan view of an exemplary box or tray element in blank form.

Figure 2 is a perspective view of the box element in partial folded condition.

Figure 3 is a top plan view showing the manner of engagement of the elements forming the exemplary bottom.

Figure 4 is a partial sectional view taken along the line 4—4 of Figure 3.

Figure 5 is a plan view of the blank for the auxiliary element.

Figure 6 is a side elevational view of the package in display position.

Figure 7 is a partial rear elevation showing in particular the action of the easel element.

Figure 8 is a side elevation of the box with the easel collapsed and the top partially open.

Figure 9 is a bottom view of the structure of Figure 8.

Figure 10 is a perspective view of the box in display position with a portion broken away to show the bottom construction.

In the practice of the invention a box or tray structure is constructed from a blank as shown in Figure 1. This blank provides body walls **10**, **11**, **12** and **13** in articulation along score lines **14**, **15** and **16**. A supplementary wall or end strap member **17** is articulated to the wall **13** along a score line **18**. The bottom edge of this supplementary wall member is configured to provide a tab **19** without increasing the width of the member. The supplementary wall member carries the glue or attachment flap **20** articulated to it along a score line **21**.

The body walls **10** to **13** inclusive carry bottom flap members **22**, **23**, **24** and **25**. These bottom flaps may be of various forms known in the art. They can be seal end flaps, or tuck-end flaps; but an exemplary showing has been made of bottom flaps configured to provide a known self-locking bottom closure. To this end, the flaps **22** and **24** are tapered as shown and configured at their outer ends to provide ears **26**, **27**, **28** and **29**, while the two intermediate flaps **23** and **25** are each provided with slits **30** or **31**. The body wall **10** may be provided, if desired, with a reinforcing flap **32**.

The blank of Figure 1 may be passed through an ordinary carton folding and gluing machine, wherein it will be folded along the score lines **15** and **18**, so that the supplementary strap member **17** overlies the wall **10**, the glue flap **20** being adhesively attached to an end portion of the wall **11**. Or, the blank may be folded by hand with the flap **20** attached to the wall **11** in some other way as by a staple **33** as shown in Figure 3.

The manner in which the self-locking elements constituting the bottom of the box or tray in the exemplary disclosure are interengaged, is illustrated in Figure 3. The flaps **23** and **25** are first folded over. They are dimensioned so that they lap at the center of the bottom. The flaps **22** and **24** are then folded over the other flaps. An inward displacement of the bottom elements will cause the ears **26**, **27**, **28** and **29** to enter the slits **30** or **31** respectively. When the displacing pressure is relieved, the elements spring back to form a flat bottom of great rigidity and strength.

For reinforcing purposes, the flap **32** may be folded over inside the box or tray as shown in Figures 3 and 4. If properly dimensioned, it will be held in the folded position by engagement with an edge portion of the flap **23**. It rigidifies and stiffens the end wall **10** of the box, the end wall being covered by the supplementary wall **17**, which forms an overlying strap.

To form both a cover for the box and an easel by which it may be held in an inclined or display position, use is made of a separate piece of cut and scored paperboard as illustrated in Figure 5. This member comprises a center panel **34** which is adapted to be positioned between the rear wall **10** of the box and the overlying strap member **17**. The panel **34** is provided with a slit **35** in which the tongue **19** of the strap member can engage. This holds the member against upward displacement.

A top member, formed in two sections **36** and **37** demarked by a score line **38**, is articulated to the panel **34** by a score line **39**. A tuck flap **40** is articulated to the end of the top panel **36** by a score line **41**.

An easel structure is articulated to the other side of the panel **34** by a score line **42**. This structure comprises a rear strut member which is a panel **43**, a brace member **44** articulated to the panel along a score line **45** and a fastening member **46**. The strut member **43** is preferably provided with side flaps **47** and **48**, articulated to it along score lines **49** and **50**. A slight sidewise folding of the flaps **47** and **48** on their score lines in either direction will serve to make the strut member very rigid so that the box in its inclined position can easily support a relatively heavy load such as jars of cream or ointment. The brace member is preferably narrower than the combined width of the strut member and its flaps, and may be tapered as shown. It is preferably divided intermediate its length by a score line **51**, and is articulated to a fastening member **46** along a score line **52**. The fastening member is wider than the brace member so as to provide projecting ears **53** and **54**.

In the erected structure these ears are adapted to enter

the slits **30** and **31** in the bottom portion of the box or tray, whereby the fastening portion **46** is held flat against the bottom. The structure in display position is illustrated in Figures 6, 7 and 10. The strut member, stiffened by the side flaps **47** and **48** extends downwardly and is braced in position by the bracing element **44**. These elements hold the rear of the display package above a support such as a table or counter **55** so that the box is slanted upwardly and the visibility of its contents improved. The weight is borne by the engagement of the tongue **19** in the slit **35** as previously indicated. The cover member is folded on the score line **38** and the tuck flap **40** is engaged either behind the contents of the box or behind the rear wall thereof, made up of members **10** and **32**. This provides an upwardly extending display panel.

The cover member may, however, be used to close the box and protect the contents as will be evident from Figure 8; and when this is done the easel can also be collapsed forwardly, the bracing member folding along the score line **51** which will be correctly placed for that purpose. Thus the package becomes a shipping package capable of protecting the contents, as when a number of such packages are included in a suitable shipping container.

The skilled worker will understand that the box blank of Figure 1 and the supplementary structure blank of Figure 5 may both be printed or decorated as desired.

Modifications may be made in the invention without departing from the spirit of it. Having thus described the invention in an exemplary embodiment, what is claimed as new and desired to be secured by Letters Patent is:

1. In a paperboard display structure, a box portion having a bottom, front and rear walls and side walls together with a strap member overlying the rear wall and attached to the box at both ends, said box bottom comprising flaps articulated to the walls of said box, the flaps on the front and rear walls having at their ends laterally projecting tongues engageable in slits in the flaps on the side walls, and a supplementary structure comprising in articulation a cover tuck flap, a cover member having an intermediate score line therein whereby it can be folded to provide a display panel, a panel member adapted to lie between the rear wall and the strap of said box, said panel member having a tongue and slit connection with said strap, a strut member having reinforcing lateral flaps articulated thereto, a bracing member, and an attachment portion having laterally projecting ears engageable in the slits in said bottom, said strut and bracing members forming an easel structure to support said box in an inclined position, and a score line intermediate the ends of said bracing member whereby said easel structure may be collapsed against said box bottom.

2. The display structure claimed in claim 1 wherein the rear wall of the box carries an articulated flap of substantially the same dimensions as the said rear wall, said flap being adapted to be folded inwardly and engaged between the said rear wall and an edge of the flap connected to one of the box side walls.

3. In a paperboard display structure, a box portion having a bottom, front and rear walls and side walls together with a strap member overlying the rear wall and attached to the box at both ends, said box bottom comprising flaps articulated to the said walls of said box, the flaps on the front and rear walls having at their ends laterally projecting tongues engageable in slits in the flaps on the side walls, and a supplementary structure comprising in articulation, a panel member adapted to lie between the rear wall and strap of said box, said panel member having a tongue and slit connection with said strap, a strut member having reinforcing lateral flaps articulated thereto, a bracing member, and an attachment portion having laterally projecting ears engageable in the said slits in the said flaps on the said side walls, said strut and bracing members forming an easel structure to support said box in an inclined position.

References Cited in the file of this patent

UNITED STATES PATENTS

1,322,629	Saybolt	Nov. 25, 1919
1,650,392	Ryan et al.	Nov. 22, 1927
1,840,439	Ewell	Jan. 12, 1932
2,276,820	Bonfield	Mar. 17, 1942
2,341,849	Weeks	Feb. 15, 1944
2,507,947	Williamson	May 16, 1950

FOREIGN PATENTS

229,764	Great Britain	Mar. 2, 1925