June 13, 1967 J. J. PUCKETT 3,325,079

DISPLAY RECEPTACLES

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FIG. 1

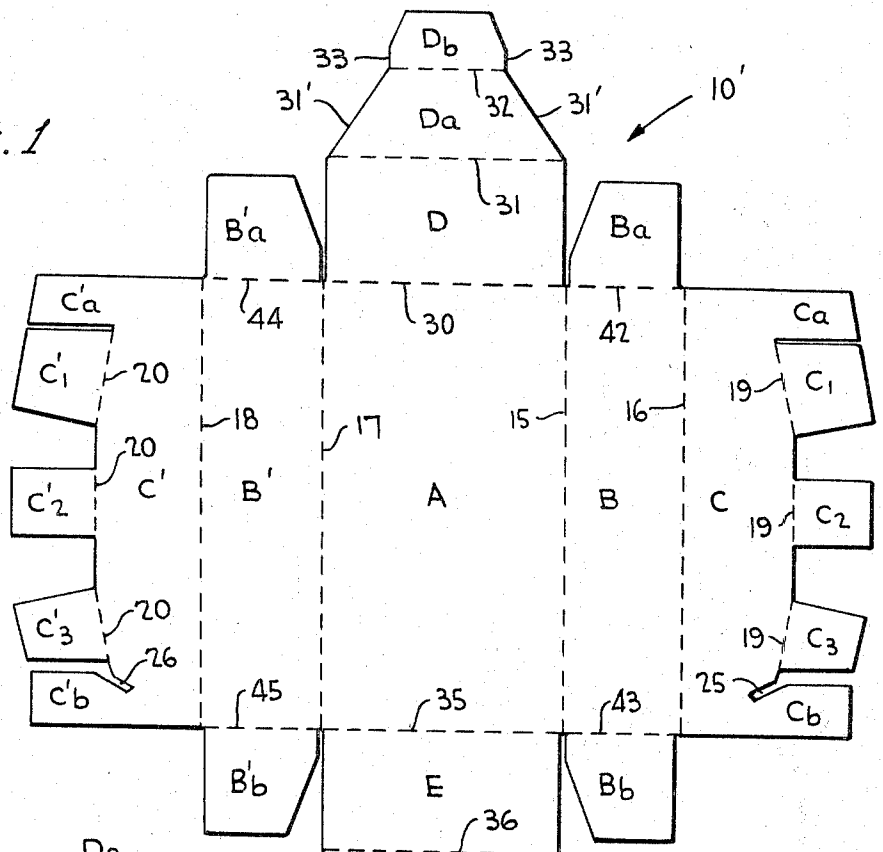
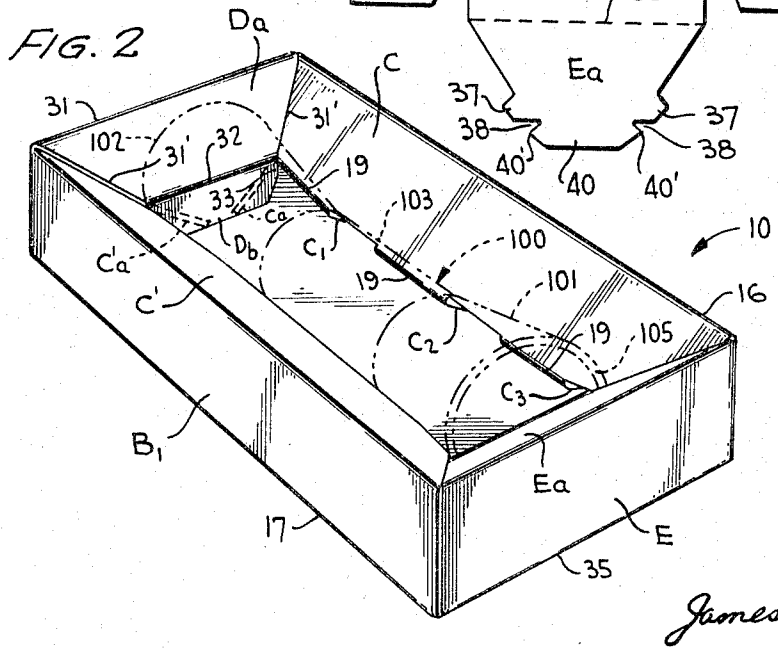


FIG. 2



INVENTOR,

James J. Puckett

BY Watson, Cole, Grindle & Watson

ATTORNEYS

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FIG. 3

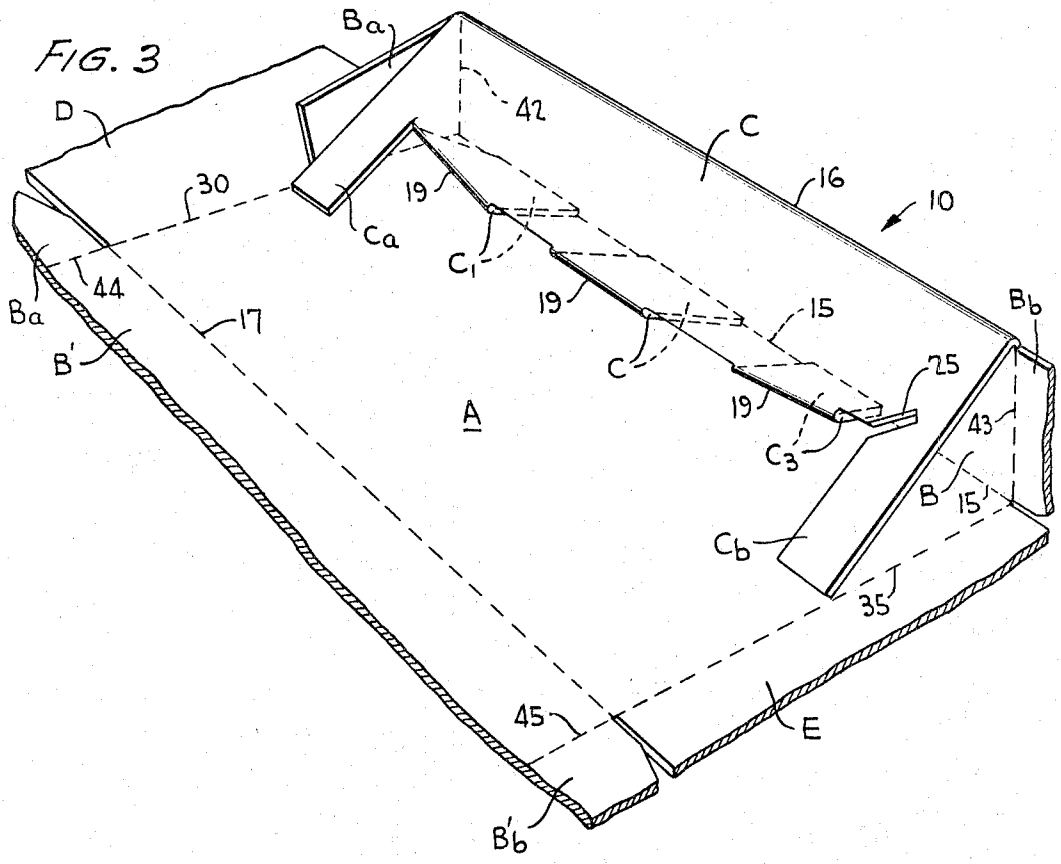


FIG. 4

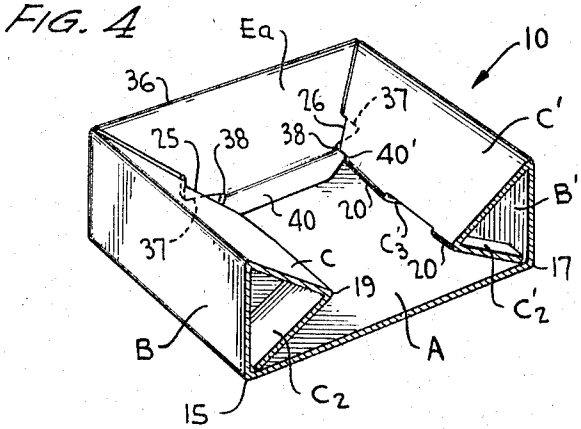
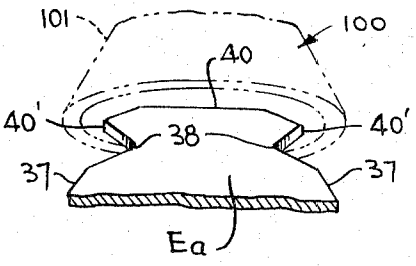


FIG. 5



INVENTOR,

James J. Puckett

BY Watson, Cole, Grindle & Watson

ATTORNEYS

United States Patent Office 3,325,079 Patented June 13, 1967

3,325,079

DISPLAY RECEPTACLES

James J. Puckett, Cheektowaga, N.Y., assignor to F. N. Burt Company, Inc., Buffalo, N.Y., a corporation of Delaware

Filed Dec. 7, 1964, Ser. No. 416,429
5 Claims. (Cl. 229—34)

This invention relates to special receptacles or containers, and more particularly to collapsible boxes or trays for the reception and display of articles of mechandise.

The general object of the invention is to provide a novel and improved box or carton in which articles or packages may be removably cradled, and exposed for display purposes.

In its preferred embodiment, the invention contemplates the provision of such a display receptacle made from a one-piece blank and erected without the use of adhesives or separate fastening elements.

A particular feature of the invention is the provision of tab and notch connections which not only serve to retain the box or carton in erected tray-forming condition, but also to interlock with and serve to removably secure the contained article therein.

Other objects and features of novelty will be apparent from the following specification when read in connection with the accompanying drawings in which one embodiment of the invention is illustrated by way of example.

In the drawings:

FIGURE 1 is a plan view of a blank used in providing the novel carton;

FIGURE 2 is a view in perspective of a tray-like display carton erected from the blank shown in FIGURE 1 and embodying the features of the present invention, an article such as a cosmetic jar or bottle being cradled therein;

FIGURE 3 is a perspective view of the carton in partially erected condition and having portions thereof broken away for clearness of illustration;

FIGURE 4 is a perspective view of one end portion of the carton in fully erected condition showing details of the interlocking of certain of the flaps and tabs; and

FIGURE 5 is a view in perspective of certain details involving the retention of the nested article by means of the novel interlocking tab features.

A box or carton embodying the principles of the invention is shown in erected form in FIGURE 2, and designated by the general reference character **10**. However, before describing the erected display receptacle in detail, it would be well to take up the form and construction of the blank from which the carton is formed. This blank is shown in spread-out form at **10'** in FIGURE 1 of the drawings. The base panel of the carton is designated A and hinged along the corresponding lines **15** and **17** are the side wall panels B and B'. Further panels which will become inwardly dished upper walls of the completed structure are indicated at C and C', these irregularly shaped panels being hingedly connected to the side wall panels B and B' by the score lines **16** and **18**, respectively.

The panels C and C' are provided with a series of projecting tabs which serve the purposes in their several ways of bracing the panels C and C' against the other wall structures of the container, as will be described more fully presently. For example, the panel C is provided at its opposite ends with rigid projections C*a* and C*b*. Intermediate of these end projections are the tabs **C1**, **C2** and **C3** which are connected with the panel C along the folding or score lines **19**. Preferably, the lines of fold **19** for the tabs **C1**, **C3** are slightly angled, giving the general

outward edge of the intermediate portion of the panel C a curved or arcuate configuration.

At the base of the projection C*b* at one end of the panel C there is an angular notch **25** formed, the purpose of which will be described.

The opposite irregular panel C' is a substantial mirror image of the panel C having the rigid projections C'*a* and C'*b* at its ends, the latter having a notch **26** its junction corresponding to the notch **25** at the opposite side of the blank. The intermediate tabs **C'1**, **C'2** and **C'3** are hinged to the panel C' along the score lines **20**, the end ones of which are slightly inclined to present a somewhat arcuate configuration of the general outer edge of the panel C' when the carton is erected, that is, in the preferred form of the invention illustrated in the drawings. For some purposes the score lines **19** and **20** may be executed in straight alignment.

The side wall panel B is provided with end tabs B*a* and B*b* defined by the scored fold lines **42** and **43**, respectively. The opposite side wall panel B' has hinged thereto at opposite ends the tabs B'*a* and B'*b* along the respective score lines **44** and **45**.

An important feature of the invention involves the end structures which are hinged to the base panel A. At the upper portion of FIGURE 1, an end panel D is joined to the base panel A along the score line **30**, and hinged to the end panel D along the score line **31** is the flap D*a*, having convergent side edges **31'**. Further the outer edge of the flap D*a* is provided with a tab D*b* joined to it along the score line **32**. The tab D*b* is of a generally tapered construction but has a portion of its opposite margins disposed in parallel relationship as at **33**.

At the opposite end of the blank an end wall E is hinged to the base panel A along the score line **35**, and the wall E is provided with a flap E*a* joined to it along the score line **36**.

The flap E*a* is also of a generally tapered or outwardly convergent structure but the side margins are interrupted in a peculiar manner to provide laterally projecting locking tabs **37** followed by notches **38** and terminating in a portion **40** provided with wings or ears **40'**, the peculiar double function of this terminal arrangement of the flap E*a* being set forth hereinafter.

The initial steps of a preferred method of erecting the display carton will be readily perceived from an inspection of FIGURE 3 of the drawing. The side wall B is folded to a perpendicular position along the score line **15** and the upward wall or panel C is folded over inwardly along the line **16**, while at the same time the bracing tabs **C1**, **C2** and **C3** are bent downwardly and outwardly toward the corner formed by the score line **15**, the particular configuration of these tabs and the angularity of the hinge lines **19** provide for rectilinear abutment of the ends of the tabs at the corner **15** and arranging the general contour of the now inner edge of the panel C in a substantially arcuate form.

The end bracing projections C*a* and C*b* are rigid with the panel C and abut a central portion of the base panel A adjacent the end score lines **30** and **35**.

At the same time that the panel C is folded over and positioned, the end flaps B*a* and B*b* may be folded in against the ends of the projection C*a* and C*b* and in alignment with the score lines **30** and **35**.

The exactly similar in-folding of the opposite side wall panel B' and upper flap C' can readily be visualized from the illustration in FIGURE 3 and what has gone before in the description of the erection of the carton.

With both side structures folded into position, the end panels and flaps are now bent into proper engagement therewith. The end wall D is folded to a vertical position along the score line **30** and then the flap D*a* bent

inwardly and downwardly along the score line **31** to assume an inclined position clearly illustrated in FIGURE 2 of the drawings, the tapered edges **31'** contacting the sloping portions of the opposite top panels C and C'.

The tab D*b* will be bent in a substantially vertical downwardly projecting position clearly shown in FIGURE 2 with the parallel edges **33** frictionally engaged with the opposite folded edges **19** and **20** of the first bracing tabs C' and C'**1** of the top panels. The flap B*b* is prevented from turning under by its contact with the edges of the bracing projections C*a* and C'*a*, which are concealed behind and beneath the flap D*a* and tab D*b*.

The opposite end structure of the carton is somewhat different in its manner of erection and interlocking and this construction and function is illustrated best in FIGURES 4 and 5 of the drawings.

In erecting this end of the carton, the end wall E is folded upwardly along the score line **35** and the flap E*a* is turned inwardly and downwardly along the line **36**. The flap is pressed firmly in a downward and endwise swinging position until the projections **37** snap past the main portions of the panels C and C' until they enter the angular slots **25** and **26**, whereupon the sloping end structure provided by the flap E*a* is securely interlocked in position and serves to retain the carton in erected condition, as clearly shown in FIGURE 4.

Instead of being bent to a vertical position as in the case of the flap D*b* at the opposite end of the carton, the terminal portion **40** of the flap E*a* remains in a generally inclined position with ears **40'** substantially in the clear within the nesting recess in which the article is to be cradled.

In the illustrated form of the invention, the particular configurations are adapted for the reception and display of a bottle or jar designated by the general reference character **100** and having opposite frusto-conical end portions **101** and **102** connected by a somewhat narrower intermediate portion **103**.

In inserting the container **100** in the display carton the end portion **102** is placed in a position where it rests against the vertically disposed flap D*b* which provides a flat abutment for the article. Then the opposite end portion **101** is swung downwardly into the carton to engage the extension **40** of the flap E*a* which is occupying the position shown in FIGURE 4 of the drawings. Now the end structure of the package or article **100** at the end **101** thereof is hollow and provided with a circular rim or flange **105**. As the end of the article is pressed downwardly into the receptacle the projection portion **40** of the flap E*a* and its ears **40'** snap into the hollow end of the receptacle and interlock with the flange **105** so as to removably receive the article for display.

Preferably, in removing the article, the end **102** which rests against the vertical tab D*b* is lifted first and the flanged end **101** swung rearwardly out of interlocking engagement with the eared tab **40**.

It is understood that various changes and modifications may be made in the embodiment illustrated and described herein without departing from the scope of the invention as defined by the following claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A display carton of foldable material providing a cradle or tray for the detachable reception and display of an article of merchandise, said carton comprising a rectangular base panel; substantially vertical side wall panels respectively connected to opposite side edges of said base panel to form substantially right angled internal corners; an inwardly folded top panel connected along a fold-line to the upper edge of each of said side wall panels, said top panels extending inwardly less than half-way across the width of the carton; a plurality of tongues extending from the free inward edge of each of said top panels, said tongues including end ones rigid with said top panel and having their ends in permanent direct contact with said bottom panel near the middle portion thereof, and at least one intermediate straight planar tongue hinged to the free edge of each of said top panels and reversely directed to extend angularly beneath the associated top panel and with its ends abutting the said internal corner and thus brace and limit the depression of the top panel in forming such cradle; panels extending vertically from the ends of said base panels and each provided with an inwardly diagonally extending top flap complementing the top panels at the sides of the carton; and extensions projecting downwardly from said flaps and abutting and braced by edgewise contact only with said rigid end tongues of the respective top panels therewith, to assume positions whereby the space between them is substantially commensurate with the length of the article to be received.

2. The carton as set forth in claim **1** in which the inwardly facing edges of the opposed top panels are of approximate arcuate configuration and there are provided three hinged tongues on each of said edges, the two remote tongues being hinged at a slight angle with respect to side walls of the carton and having their outer edges of corresponding angular extent so as to still abut the said internal corner squarely.

3. The carton as set forth in claim **1** in which the extension of the flap which is hinged to one of the end panels is hingedly connected therewith, is of generally convergent configuration but with parallel side edges adjacent the hinged connection and of a width at that point to be wedgingly held between the opposed inward edges of the two side wall-carried top panels.

4. The carton as set forth in claim **1**, in which there are provided, at least at one end of the carton, slits in the opposed inwardly extending side edges of said top panels immediately inwardly of the rigid end tongues; and in which the extension of the top flap connected to one of the end panels is provided with laterally extending ears sprung into said slits to interlock the top flap at said end of the carton with the side wall carried top panels, the extremity of the extension of the top flap of the said end panel is further convergent beyond said ears and is of a resilient nature so as to snap past the rim of a nested article to retain it within the carton.

5. The carton as set forth in claim **1** in which the extension of the flap which is hinged to one of the end panels is hingedly connected therewith, is of generally convergent configuration but with parallel side edges adjacent the hinged connection and of a width at that point to be wedgingly held between the opposed inward edges of the two side wall-carried top panels; in which there is provided at the opposite end of the carton, slits in the opposed inwardly extending side edges of said top panels immediately inwardly of the rigid end tongues; and in which the extension of the top flap connected to the opposite end panel is provided with laterally extending ears sprung into said slits to interlock the top flap at said opposite end of the carton with the side wall-carried top panels.

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THERON E. CONDON, *Primary Examiner.*

MARTHA L. RICE, *Examiner.*