

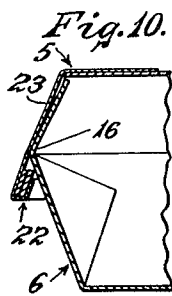
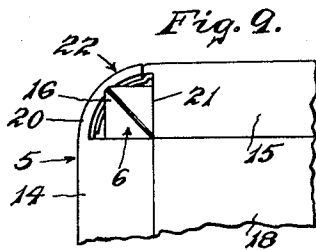
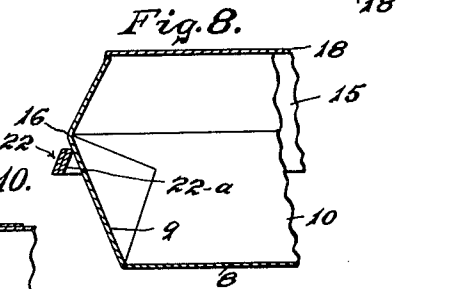
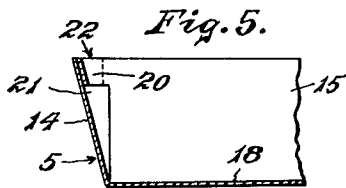
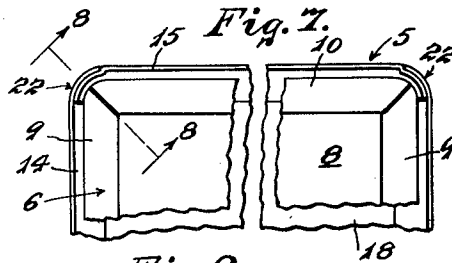
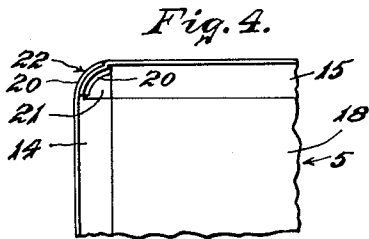
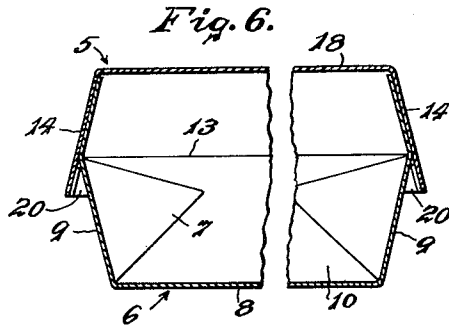
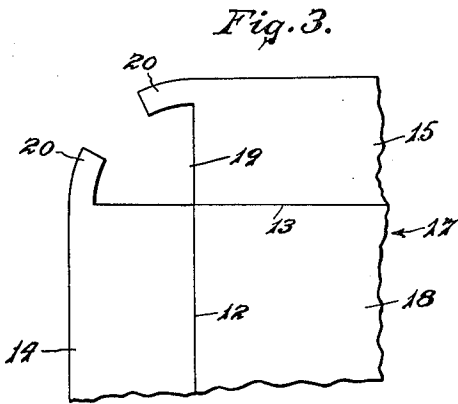
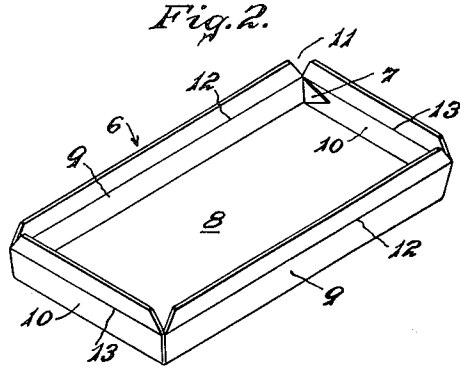
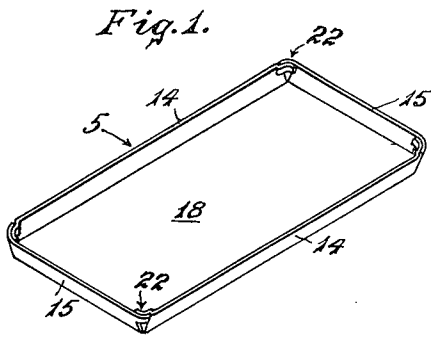
July 6, 1965

A. GLASBAND ETAL

3,193,174

BOXES

Filed March 28, 1963



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3,193,174
BOXES

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Filed Mar. 28, 1963, Ser. No. 268,735
5 Claims. (Cl. 229—30)

This invention relates to boxes and more particularly to boxes of the commonly known "set-up" type which are constructed in final form with rigid corners and which, heretofore, have generally been stacked on top of each other as they are processed through manufacture and also while in storage and transportation.

In order to render such boxes nestable, so as to save space and consequently reduce the cost of manufacture and handling thereof, we have produced nestable set-up type boxes, such as shown in our United States Patent No. 3,010,634 issued November 28, 1961, and an object of the present invention is to provide novel improvements over the boxes shown and described in said patent whereby certain important advantages are gained in the use of said boxes.

The primary object of this invention is to provide a novel corner construction for the covers of such boxes by means of which the cover may be readily snap-locked to the box to securely retain said cover attached to the box and prevent it from becoming unintentionally separated therefrom.

Another object of this invention is the provision of improved locking means in the corners of said covers securely engageable with the corners of the box.

A still further object is the provision of such locking means which will engage the corners of the box with a snap action as the cover is pressed onto the box.

Further objects and advantages of this invention will be more clearly understood from the following description and the accompanying drawings in which:

FIG. 1 is an isometric view of a box cover embodying the present invention.

FIG. 2 is an isometric view of one form of nestable box on which our improved cover can be used.

FIG. 3 is an enlarged elevational plan view of a corner portion of a blank for our improved box cover in flat form.

FIG. 4 is a bottom view showing this blank of FIG. 3 in set up condition.

FIG. 5 is a sectional end view of the cover corner portion shown in FIG. 4.

FIG. 6 is a sectional end view showing our improved box cover mounted upon the box.

FIG. 7 is a bottom view of the cover and box shown in FIG. 6.

FIG. 8 is a sectional view on line 8—8 of FIG. 7.

FIG. 9 is a further enlarged plan view of a corner portion showing the manner in which the corners of the cover snap-lock onto the points at the corners of the box.

FIG. 10 is a view similar to FIG. 8 but showing a modified form of a cover.

As illustrated in the drawings, our invention is particularly intended for a nestable cover 5 which is used for a nestable box 6 of the type commonly known in the trade as of the "Brightwood style" in which the corners are secured by suitable tabs 7, or a nestable box of the type shown in our above mentioned patent in which the corners are secured by stays and the entire box is covered with an outer sheet such as fully described in said patent.

The said box is preferably constructed from a flat blank of pasteboard, or other suitable material, which is set up to provide a bottom 8, with side walls 9—9 and end walls

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10—10 that are normally inclined outwardly to render said boxes nestable and thereby save space.

The said side and end walls are cut to form a V notch 11 at each corner of the box and are also made bendable on lines 12—12 and 13—13 so that the upper portions of said walls may be bent inwardly to fit within the outwardly inclined side walls 14—14 and end walls 15—15 of the nestable cover 5, as shown in FIG. 6.

It will be noted, particularly from FIGS. 8 to 10, that when the side and end walls are bent inwardly on said lines 12—12 and 13—13, the corners of the box on the plane of said lines will extend outwardly even further than the sides and thereby provide points 16 at said corners that are engageable for snap-locking our improved cover to said box, in the manner hereinafter described.

The said cover is formed from a flat blank 17 of suitable sheet material, such as pasteboard, which is cut to provide a top portion 18 and the side and end walls 14—14 and 15—15, respectively; said wall being inclined outwardly, as shown, to render the covers nestable. The corners of said blank are cut to form notches 19 and opposed locking tabs 20—20 extending inwardly from the opposite sides of said notches at the free edges of the side and end walls 14—14 and 15—15. The said tabs of the blank are preferably radially curved around the corner about a fulcrum at the intersection of the lines of bending 12 and 13, as clearly shown in FIG. 3. When the blank is folded, the said tabs will overlap each other and are secured together with a suitable adhesive to retain the side and end walls in their normal outwardly inclined position and provide openings 21 at the corners of the cover above said overlapped tabs to receive the outwardly projecting points 16 of the box.

The side and end walls of said cover extend downwardly to a plane below the lines of bending 12—12 and 13—13 of the box so that the overlapped tabs 20—20 of the cover will be disposed below and under the points 16 of the box. Said overlapped tabs form resilient snap-locking bars which are normally radially curved around the corner of the cover to cause them to yield and flex outwardly, as the cover is forced downwardly upon the box, and thereby snap-lock under the points 16 of the box, into the locking position illustrated in FIG. 8 and securely lock the cover to the box.

It will be noted that by overlapping the tabs 20—20 of the cover they will reinforce each other and form a strong and durable locking bar 22. Also, by curving said locking bar around the corner, it will extend inwardly under the points 16 of the box as shown at 22a in FIG. 8 and thereby provide a positive locking abutment at each corner of the box.

If desired, a conventional covering sheet 23 may be provided over the entire exterior surfaces of the cover and said covering sheet may extend over the outer surfaces of the side and end walls 14—14 and 15—15 and also cover the corner opening 21 as illustrated in FIG. 10 of the drawings.

I claim:

1. For a box having corners, a bottom, side walls extending upwardly from said bottom and connected at said corners, and points formed by said side walls and extending outwardly from said corners; a cover having corners, a top, side walls extending downwardly from said top and angled outwardly, said box having at each corner thereof an open notch between said side walls thereof, and a resilient tab extending from each of the opposite sides of said notch, the said tabs being overlapped and secured together and forming a resilient snap-locking bar normally radially curving around the corner of the cover across the lower portion of said notch and engageable with the respective one of said points of the box to secure the cover to the box.

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2. A box of the nestable set-up type having corners, a bottom, side walls extending upwardly and angled outwardly from said bottom and forming outwardly projecting points at said corners, and a cover of the nestable set-up type for said box; said cover having corners, a top, side walls extending downwardly from said top to a plane wherein the free edges of said side walls of the cover are below the said points of the box, and overlapping tabs extending from adjacent edges of said side walls of the cover, said overlapping tabs being resilient and normally radially curved around said corners of the cover and forming a snap-locking bar for snap-locking under the said projecting points of the box.

3. A box of the nestable set-up type having corners, a bottom, side walls extending upwardly from said bottom and having lower portions angled outwardly relatively to said bottom and upper portions angled inwardly from said lower portions on lines of bending between said lower and upper portions, the said lines of bending providing outwardly projecting points at said corners, and a cover of the nestable set-up type for said box; said cover having corners, outwardly angled side walls extending downwardly over the said inwardly angled upper side wall portions of the box, and overlapped tabs forming a snap-locking bar normally radially curved around each corner of the cover to snap-lock under said projecting points of the box for securing the cover to the box.

4. A box of the nestable set-up type having corners, a bottom, side walls extending upwardly from said bottom and having lower portions angled outwardly relatively to said bottom and upper portions normally angled outwardly and bendable inwardly on lines of bending providing outwardly projecting points at said corners when said upper portions are bent inwardly, and a cover for said box; said cover having corners and including a top having outwardly angled side walls extending downwardly over said

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inwardly angled upper side wall portions of the box to a plane below the said lines of bending, each corner of said cover having a notch between the adjacent side walls thereof to receive the respective one of said points of the box, and a pair of overlapped resilient tabs secured together and forming a resilient reinforced snap-locking bar extending across said notch and normally radially curving around the corner of the cover and projecting thereinto below the plane of said point.

5. A box cover constructed from a blank of sheet material, said blank including a top portion having corners, adjacent side wall portions between said corners extending from said top portion and bendable on lines defining said top portion and intersecting at said corners, the said corners each having an open notch between the adjacent side wall portions and a tab extending inwardly into said notch from each of said adjacent side wall portions, the said tabs in each notch being radially curved about the respective corner of the top portion and overlapping each other when the side wall portions are bent relatively to the top portion, said tabs when secured together normally curving radially around the corner of the cover and forming a resilient snap-locking bar extending across the bottom of the open notch in said corner of the cover and having a portion thereof projecting into said cover.

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