Jan. 16, 1968 W. W. NOWAK 3,363,747

CONTOURED DISPLAY CARTON

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Fig. 1

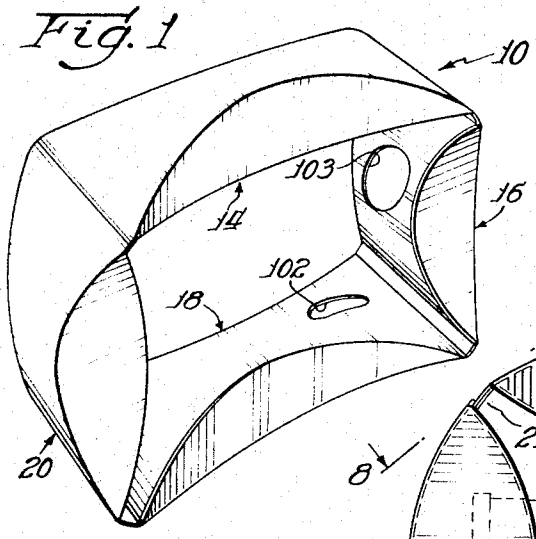


Fig. 2

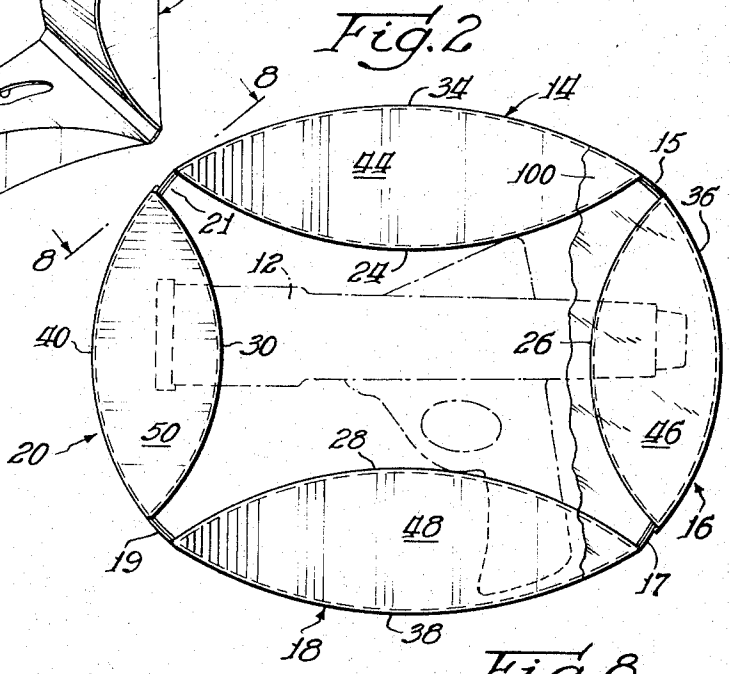


Fig. 7

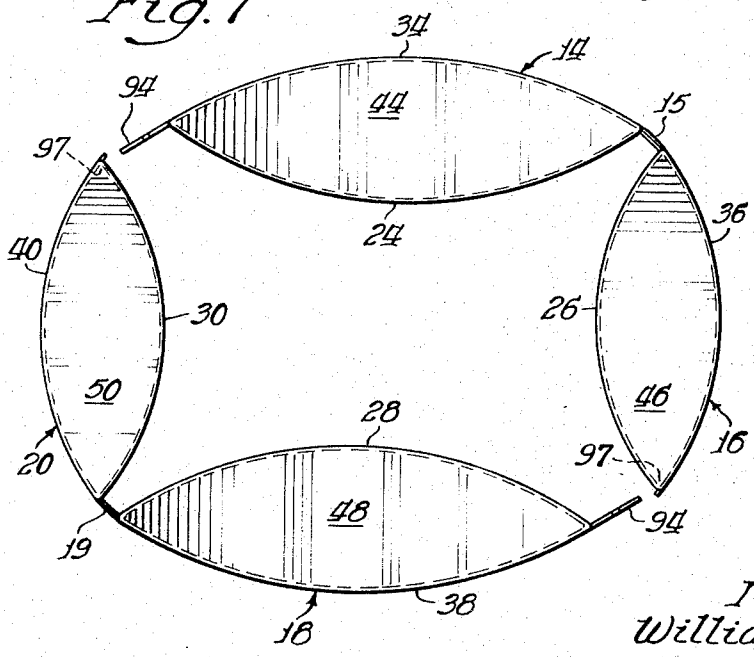
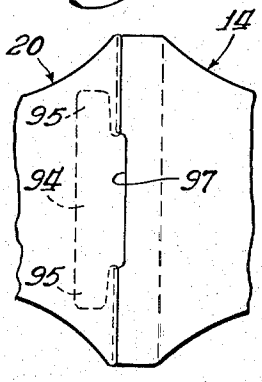


Fig. 8



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Fig. 3

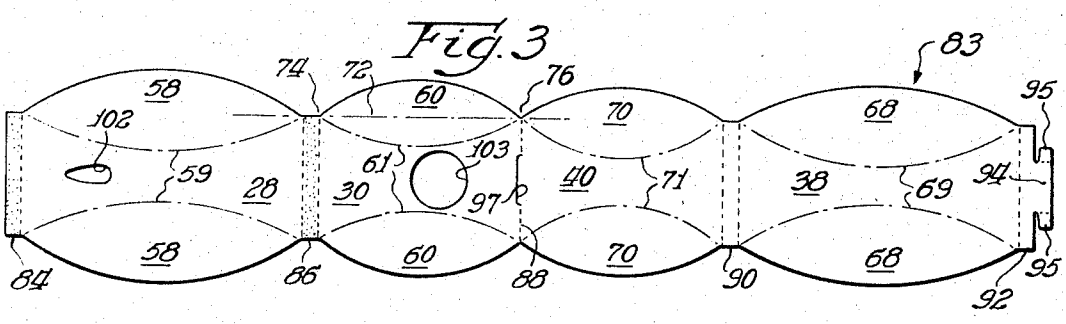


Fig. 4

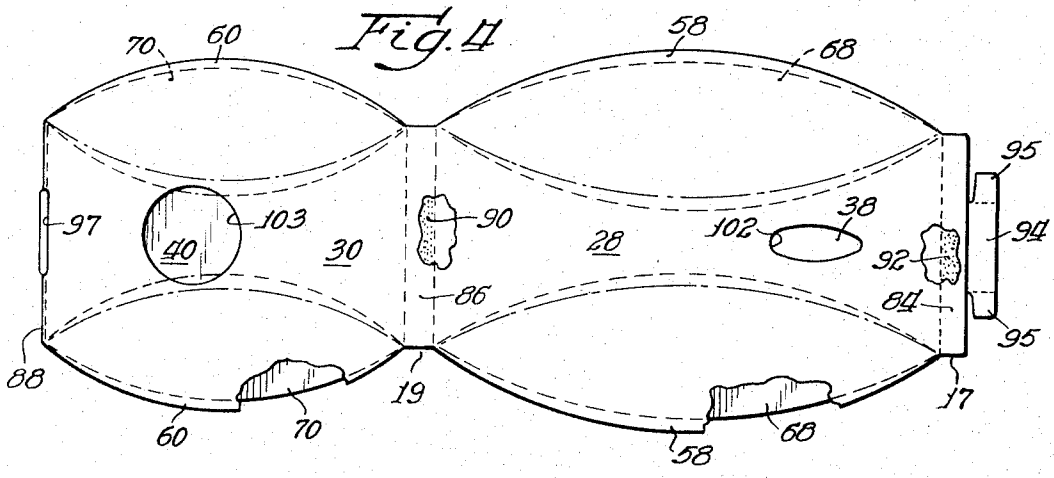


Fig. 5

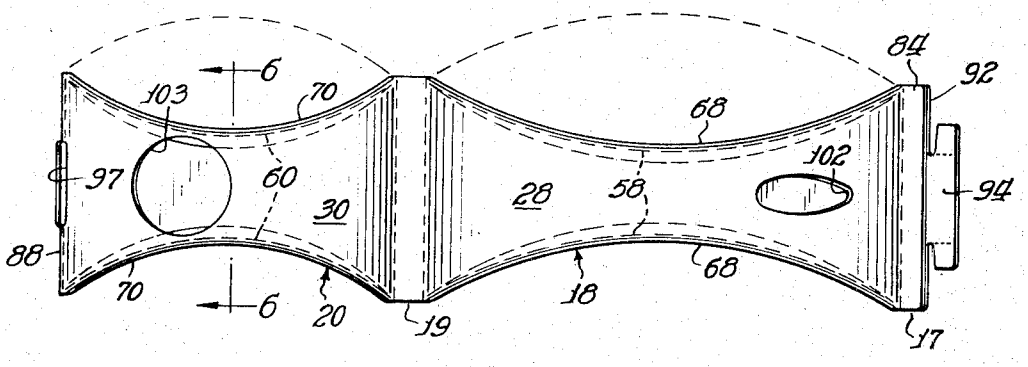
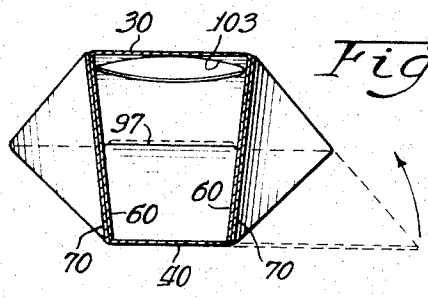


Fig. 6



United States Patent Office 3,363,747 Patented Jan. 16, 1968

3,363,747

CONTOURED DISPLAY CARTON

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Filed Dec. 1, 1966, Ser. No. 598,435
10 Claims. (Cl. 206—45.14)

ABSTRACT OF THE DISCLOSURE

A carton including irregularly shaped, hollow contoured main sections hinged together and alternately disposed around and engaging an article for holding and displaying the same.

The subject carton is particularly useful for displaying an article while simultaneously cushioning and protecting it. The carton is formed of alternately connected main or cushioning sections and web or corner sections, and surrounds the article. Each main cushioning section is irregularly shaped and hollow and has opposed pairs of walls. Portions of the article extend through openings in the cushioning section inner wall to securely hold the article in place relative to the carton.

The main object of this invention is to provide an irregularly shaped carton having contoured hollow walls suitable for surrounding and holding an article, and further for framing the article in a manner to vividly display it.

The accompanying drawings include:

FIG. 1, a perspective view of a preferred embodiment of the subject invention;

FIG. 2, a front elevational view of the carton illustrated in FIG. 1 and having a displayed article shown in phantom lines within the carton;

FIG. 3, a top plan view of a blank suitably shaped, cut and scored to provide when joined with another similar blank a carton disclosed in FIGS. 1 and 2;

FIG. 4, a view of the blank shown in its fabricated condition ready to be set up;

FIG. 5, a view of the blank set up to define frame structure for one half of the carton disclosed in FIGS. 1 and 2;

FIG. 6, an elevational sectional view as seen generally from line 6—6 in FIG. 5;

FIG. 7, a front elevational view of two half sections similar to that of FIG. 5 which are in positional relationship ready to be interlocked with one another to form the carton of FIGS. 1 and 2; and

FIG. 8, a partial elevational view as seen generally from line 8—8 in FIG. 2.

The subject carton **10** is suitable for the cushioning support and display of an article **12** (shown in phantom lines in FIG. 2). Since the carton is of unique shape, it is extremely useful for displaying an article which would more typically be bought on impulse depending on the effective point of sale force of the display carton. An article of this nature might be a toy, for example, as shown in phantom in FIG. 2. However, obviously other articles can be effectively displayed within this carton.

The carton is formed as a hollow wall frame which surrounds the article. The frame is shown to have four main cushioning sections **14**, **16**, **18** and **20** and a corresponding number of corner or web connecting sections **15**, **17**, **19** and **21**.

Each cushioning section typically has an inner wall **24**, **26**, **28** and **30** and an outer wall **34**, **36**, **38**, **40**, and opposed end walls **44**, **46**, **48**, **50**. Each end wall is typically formed by an inner flap (see FIG. 3) **58**, **60** and outer flap **68** and **70** hinged, respectively, along the end edges

of the outer and inner walls and overlapping one another.

Each cushioning section is irregularly shaped with the inner and outer side walls being close to one another at the adjacent webs or corners and being deflected outwardly from one another toward the center of the wall. Additionally, the end walls converge toward one another from adjacent the connecting corners or webs in the direction toward the center of the walls.

The contouring of the various walls of the cushioning section is accomplished by the manner of hinging the various walls to one another. Thus, in FIG. 3, the hinge connections **59**, **61**, **69**, **71** for the closure flaps are preferable curvilinear between the adjacent web sections and each is disposed on the side of a plane or line through the adjacent web sections that is remote from the free edge of the flap. The hinge connection **61**, for example (see FIG. 3), follows a circular contour and lies on the side of line **72** extending through the adjacent end edges **74** and **76** of the adjacent web sections. The free edge of each end wall flap is contoured along generally the mirror image line of the hinge connection for the flap, and the edge does not extend beyond that mirror image line.

In the manufacture of the subject carton, a pair of generally similar but separate blanks **83** of paperboard are used. Each blank is suitably shaped and arranged to have a plurality of transverse regions **84**, **86**, **88**, **90** and **92** across the blank which act as the web or corner structures. The blank preferably is made somewhat symmetrical (such as about hinge line **88**) so that the blank can be folded about the hinge line and cause the corresponding web hinges **86** and **90**, and **84** and **92** to overlap to form the connecting or corner sections of the frame.

A tongue **94** having locking flaps **95** projects beyond the end edge of the connecting web **92** and is adapted to cooperate with an opening **97** formed along the hinge line **88** between the inner and outer panels of a main cushioning section. The locking cooperation between adjacent cushioning sections is best illustrated in FIGS. 7 and 8.

The carton is set up from the flat glued condition of the blank (see FIG. 4) by initially biasing the adjacent corner or web sections slightly toward one another to deflect the inner and outer side walls from one another. Thereafter, the end wall flaps are deflected inwardly to overlap one another and maintain the deflected side walls in the bowed position. Since the end wall flaps must be deflected past a stable position, as caused by the curved hinge connection for the flap, they remain in the erected overlapping position.

Preferably, the side walls are designed to completely enclose the article and to extend beyond the opposite end edges of the article. Therefore, a transparent overwrap **100** can adequately be used to cover the frame and the article confined therein to protect the article while the same is still packaged.

Openings **101**, **102** and **103** provided in the inner wall structure receive portions of the article for positive holding of the article to be displayed.

Note that in the cushioning sections, the width of the inner wall at its narrowest portion is greater than the corresponding width, at a similar location, of the outer wall.

While the carton has been shown as being formed from two separate blanks of generally similar contour, it will be obvious that it can be formed from a one piece blank folded on itself much in the same manner and having only one end connection. Similarly, the hinge connections need not be curved as illustrated but might be a combination of straight or curved segments. This would vary the shape and thus the display characteristic of each main section.

What I claim is:

1. A carton for holding and protecting an article, the combination comprising:

(a) a frame surrounding the article and having inner and outer side walls disposed in face to face relationship;

(b) said frame having at least three web sections whereat the side walls are immediately adjacent one another and having a corresponding number of alternately disposed bulged sections whereat the side walls are spaced from one another;

(c) closure flaps hinged at the opposite end edges of the bulged sections and folded to overlap one another;

(d) the hinged connection of each closure flap to its side wall panel being continuous but not extending in a straight line between the adjacent web sections and lying on the one side of a plane through said web sections that is remote from the free edge of the flap;

(e) each closure flap extending at its free edge no further than beyond the mirror image, about said plane, of the hinge connection;

(f) said inner side wall engaging and holding said article.

2. A carton according to claim 1, wherein the inner and outer side walls are secured together at the web sections.

3. A carton according to claim 1, wherein each hinge connection follows a circular contour between the adjacent web sections.

4. A carton according to claim 3, wherein the free edge of each closure flap follows a circular contour between the adjacent web sections that is the mirror image of the respective hinge connection contour.

5. A carton according to claim 4, wherein a transparent film overwraps the frame and is disposed outwardly of said article.

6. A carton for confining and protecting an article, the combination comprising:

(a) a frame disposed to surround the article;

(b) said frame including at least three cushioning sections and a corresponding number of connecting sections alternately disposed between the cushioning sections;

(c) each of said cushioning sections including inner and outer walls which are adjacent one another at the connecting sections and which diverge from one another toward the center thereof between the adjacent connecting sections;

(d) flaps hinged at the opposite end edges, respectively, of the inner and outer walls at said cushioning sections and folded to overlap one another and define thereby a pair of opposed end walls for each cushioning section;

(e) each opposed pair of end walls converging toward one another in the direction from immediately adjacent the connecting sections toward the center thereof between the connecting sections;

(f) said inner wall having openings therein for receiving portions of the article for holding the latter relative to the carton.

7. A carton according to claim 6, wherein each connecting section includes inner and outer walls that are secured together, said connecting section inner and outer walls being integral continuations, respectively, of the adjacent cushioning section inner and outer walls.

8. A carton according to claim 7, wherein one of the connecting sections is integral with one cushioning section adjacent thereto and is separate from the other cushioning section adjacent thereto, and wherein cooperating lock means on the other cushioning section and the one connecting section releasably secure them together.

9. A carton according to claim 8, wherein a plurality of sepaarte blanks are used each forming at least two connecting sections and two cushioning sections, and wherein the cooperating lock means are formed in the adjacent connecting and cushioning sections of the separate blanks.

10. A cushioning, display carton formed from a unitary blank of foldable paperboard, comprising:

(a) a plurality of hollow main sections interconnected at their ends by generally solid corner sections to form a frame structure open in the center;

(b) each main section having a pair of opposed walls hingedly connected to another pair of opposed walls along fold lines which do not extend in a straight line to form a contoured structure;

(c) one pair of walls of each main section being joined adjacent the corner sections and being deflected outwardly from each other toward the center of the walls;

(d) the other pair of walls of each main section being spaced from each other adjacent the corner sections a distance greater than they are spaced from each other at the center of the walls;

(e) said corner sections being formed by extensions of corresponding side walls of adjacent sections and being joined together in face to face relation.

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MARTHA L. RICE, *Primary Examiner.*