June 26, 1962 G. V. SKOWRONSKI 3,040,956

DISPLAY CARTON

Filed Jan. 23, 1961 2 Sheets-Sheet 1

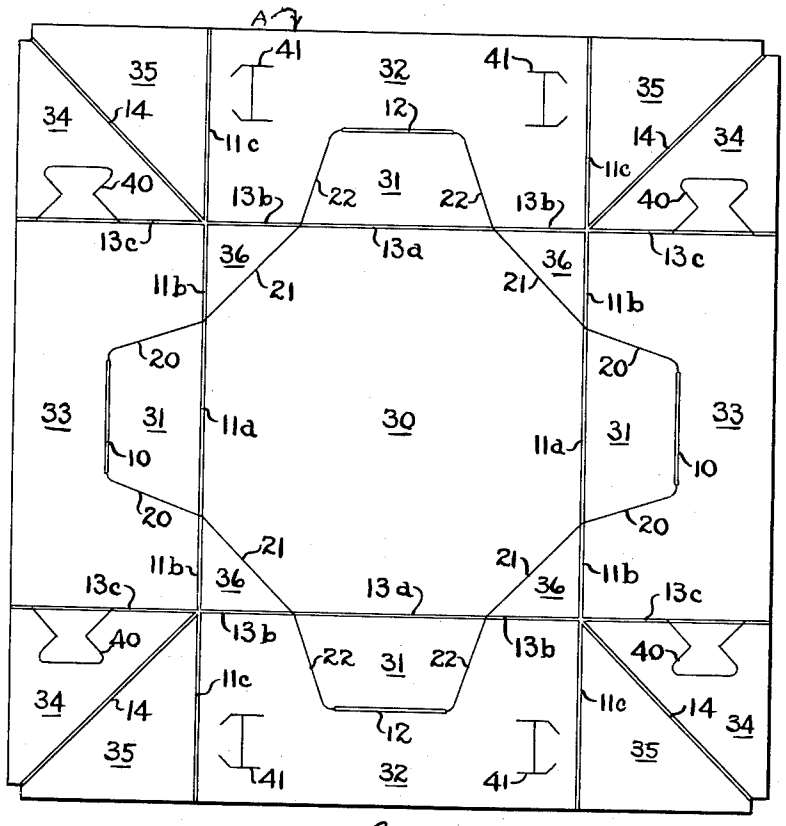

Fig. 1

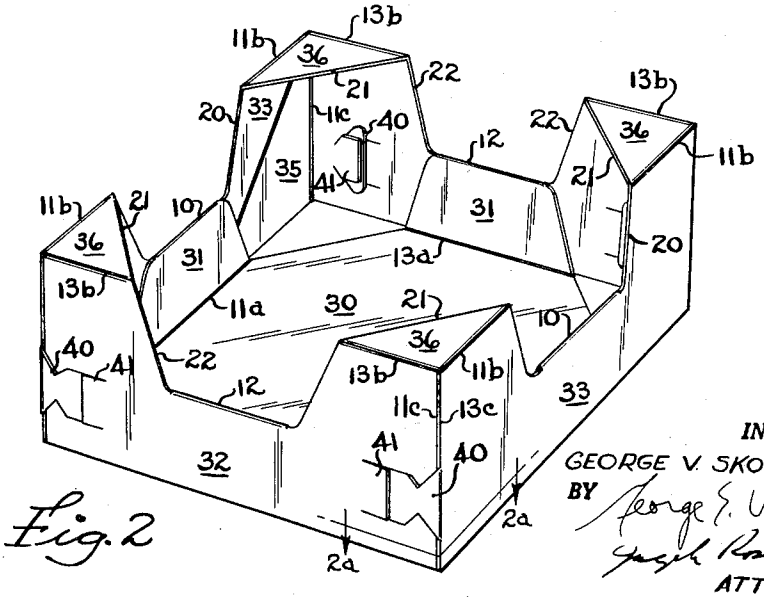

Fig. 2

INVENTOR.
GEORGE V. SKOWRONSKI
BY George E. Verhagen
Joseph Rosman
ATTORNEYS

June 26, 1962 G. V. SKOWRONSKI 3,040,956

DISPLAY CARTON

Filed Jan. 23, 1961 2 Sheets-Sheet 2

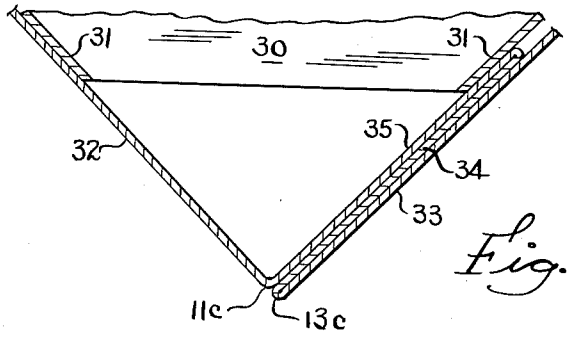

Fig. 2a

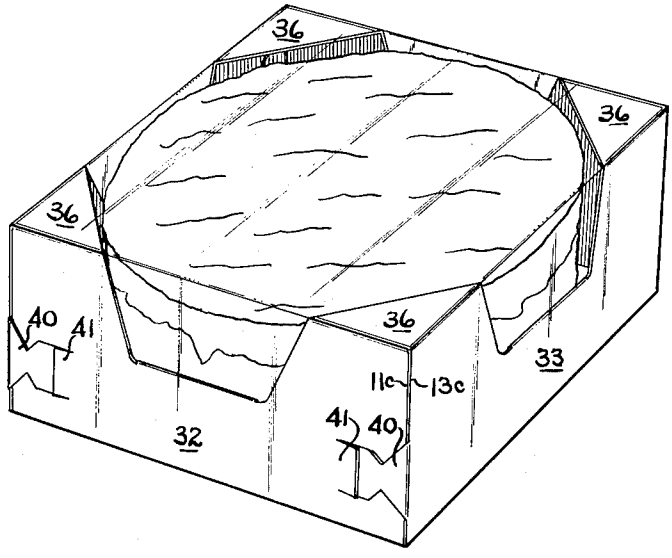

Fig 3

INVENTOR.
GEORGE V. SKOWRONSKI
BY George F. Verhage
Joseph Rosman
ATTORNEYS

United States Patent Office 3,040,956 Patented June 26, 1962

3,040,956

DISPLAY CARTON

George V. Skowronski, Neenah, Wis., assignor to American Can Company, Jersey City, N.J., a corporation of New Jersey

Filed Jan. 23, 1961, Ser. No. 84,356
12 Claims. (Cl. 229—32)

This invention relates to a readily assembled display carton which may be made from a single blank. More specifically, the invention may with particular advantage be used as a carton for the display packaging of food products.

In the baking industry it is important for sales promotion to display a product, such as a cake, so that the customer may make a selection not only on the basis of the kind of cake, but also on the basis of its appearance. Also, it is important that the product be packaged to maintain freshness. Therefore, it is desirable to employ a carton provided with a display window; that may be overwrapped and sealed to maintain freshness; and that is attractive to the eye. Since the use of a display carton is an added expense, the amount of board employed in the carton should be kept to a minimum in order to keep the cost of the carton down. Further the blank should be cut so that it can be assembled readily into a carton without the use of complicated equipment to form the carton, since in many bakeries the volume of business is not sufficient to provide for the cost of setting up equipment.

A primary object of the present invention is to provide a display carton with a maximum amount of window from a given amount of board and yet which maintains its shape.

Another object of the present invention is to provide a display carton that can be readily assembled by hand.

Yet another object of the present invention is to provide a display carton from a single blank utilizing a minimum amount of board.

Still another object of the invention is to provide a sealed, commodity containing display package that is attractive to the eye, yet economical.

Further details, advantages and objects of the invention will be apparent from the following specification and appended drawings wherein:

FIGURE 1 is a plan view of an integral blank suitably cut and scored to form a carton having a display window opening,

FIGURE 2 is a perspective view of the set up carton, and

FIGURE 2A is a partial sectional view of the set up carton, taken along line 2A—2A of FIGURE 2, showing the corner construction, and

FIGURE 3 is a perspective view of the carton containing a cake and overwrapped with a transparent sheet material.

Referring to FIGURE 1, the carton is made of a single foldable blank of flexible material such as paperboard. The blank is divided by score lines **10**, **11***a*—**11***c*, **12**, **13***a*—**13***c*, **14** and cut lines **20**—**22** into hingedly connected panels and webs, including bottom panel **30**, inner side panels **31**, outer side panels **32**, **33** webs **34**, **35** and top panels **36**. Panels **30** and **31** together comprise a central panel.

Male locking tabs **40** project from the lateral edges of side panels **33** along score lines **13***c* and are cut from webs **34**. Female locking slits **41** are cut in side panels **32** so as to engage the male locking tabs **40** in locked relationship when the carton is set up as is hereinafter described.

The blank is shipped to the user who sets up the carton in his plant. In setting up the carton, outer side panels

32, hingedly connected along score lines **13***b* to top panels **36**, are pushed downward and inward with respect to their initial position in the blank. Inner side panels **31**, hingedly connected to outer side panels **32** along score line **12**, are pushed downward and outward causing bottom panel **30**, defined by score lines **11***a*, **13***a* and cut lines **21**, to drop down to form the bottom of the carton. Side panels **31** and **32** lie essentially adjacent to each other and perpendicular to the bottom panel. Pressure is applied inwardly along score lines **14** causing webs **34**, **35** to infold along hinged score lines **13***c* and **11***c*, respectively, to lie in superposed relationship and pulling the outer edges of outer side panels **33** in towards score lines **11***a* which define the outer edge of bottom panel **30**. Superposed webs **34**, **35** are shown adjacent to and in between upstanding inner side panels **31** and outer side panels **33**. Cross-sectional view **2A** shows the corner structure of the set up carton. Alternatively, the superposed webs may lie adjacent to and in between upstanding inner side panels **31** and outer side panels **32**. At this point male locking tabs **40** which project from the lateral edges of outer side panels **33** are folded inward to overlie female locking slits **41**. The male locking tabs **40** are then pressed inwardly into engagement with female locking slits **41** so as to obtain a locked relationship. In the set up carton the window opening defined by cut lines **20**—**22** and score lines **10** and **12** is substantially equal in area to the combined area of the inner side panels and bottom panel.

The set up carton is now ready to receive a cake which is then inserted. A suitable transparent heat-sealable overwrap is then applied to completely enclose the package and is sealed to provide a food package as shown in FIGURE 3. If preferred, the carton of FIGURE 2 may have a transparent sheet material adhered thereto so that the finished carton has an outside window rather than an overwrap. Since an outside window does not seal the package so as to maintain the freshness of a food commodity, an overwrap is preferred for display cartons in which food is the commodity to be packaged.

The vertical position of the bottom panel **30** in the finished carton is determined by the location of score lines **10** and **12** in the outer side panels. If the score lines are equidistant between the upper and lower edges of the outer side panels **32**, **33** then the bottom panel **30** and the lower edges of the outer side panels will all lie in a common horizontal plane as shown in the drawings.

The use of webs **34**, **35** provides added strength to the set up carton as well as facilitating the setting up of the carton by bringing the lateral edges **11***c*, **13***c* of adjacent side panels **32**, **33** together prior to the locking of tabs **40** in slits **41**. The webs may be omitted to save board and reduce the cost of the carton with the inherent result of weakening the finished carton since the strength of the corner construction would then rest solely on the locking means.

The set up carton has additional strength at the areas where the inner side panels **31** overlie outer side panels **32**, **33** giving double thickness side walls. Further the eight sided bottom panel hingedly connected to the inner side panels prevents deformation of the carton by twisting or bending.

The present invention provides a carton construction which requires a minimum amount of paperboard stock. Although the illustrative embodiment is particularly advantageous for cake packaging, the carton is also suitable for packaging and displaying pies and other food products. The set up carton with a transparent sheet material applied provides an attractive display carton suitable for displaying a variety of non-perishable commodities such as Christmas decorations. The cartons can be glued,

stapled or set up by employing other conventional locking means. Locking means for hand set up are preferred, since gluing involves a number of problems such as special equipment, surface suitable for obtaining adhesion, etc. It is to be understood that the size and shape of the carton and the material from which it is formed may be varied in numerous ways by those skilled in the art without departing from the spirit of the invention.

I claim:

1. A display carton formed of a single blank suitably cut and scored comprising two pairs of opposed outer side panels being cut away at their upper central portions; polygonal top panels hingedly connected to the lateral portions of adjacent upper edges of the outer side panels located at the corners of said carton and of size to close only a portion of the top of the carton; two pair of opposed inner side panels hingedly connected to said outer side panels at score lines which form the upper edges of said inner side panels and are intermediate the top and bottom edges of said outer side panels; a bottom panel of approximately octagonal shape connected at alternate side edges to the bottom edges of said inner side panels; and means at adjacent lateral edges of said outer side panels for maintaining the carton in permanent set up form to provide a continuous window opening comprising the cut away portions of said outer side panels and the unclosed portion of the top of the carton.

2. The carton of claim 1 wherein the said means comprises male locking tabs extending from the lateral edges of one pair of opposed outer side panels and female locking slits located in locking relationship therewith in the other pair of opposed outer side panels.

3. The carton of claim 2 including webs hingedly connected to adjacent lateral edges of the outer side panels having diagonal score lines running from the upper corners of said carton for infolding said webs, whereby the webs provide support to the corners of the carton when in locked relationship.

4. The carton of claim 1 wherein the means includes webs which are connected to adjacent lateral edges of the outer side panels and having diagonal score lines running from the upper corners of said carton for infolding the webs to maintain the lateral edges of two adjoining outer side panels in adjacent parallel relationship.

5. A display carton formed of a single blank suitably cut and scored comprising two pairs of opposed outer side panels being cut away at their upper central portions; triangular top panels hingedly connected along two sides to the lateral portions of adjacent upper edges of the outer side panels and of size to close only a portion of the top of the carton; two pair of opposed inner side panels hingedly connected to said outer side panels at score lines which form the upper edges of said inner side panels and are equidistant from the top and bottom edges of said outer side panels; said inner side panels being formed from the cut away portions of said outer side panels so that the shapes of the inner side panels conform to the portions cut away from said outer side panels; a bottom of approximately octagonal shape connected at alternate side edges to the bottom edge of said inner side panels; and means at adjacent lateral edges of said outer side panels for maintaining the carton in permanent set up form.

6. The carton of claim 5 wherein the said means comprises male locking tabs extending from the lateral edges of one pair of opposed outer side panels and female locking slits located in locking relationship therewith in the other pair of opposed outer side panels.

7. The carton of claim 6 including webs hingedly connected to adjacent lateral edges of outer side panels having diagonal score lines running from the upper corners of said carton for infolding said webs, whereas the webs provide support to the corners of the carton when in locked relationship.

8. The carton of claim 5 wherein the means includes webs which are connected to adjacent lateral edges of the outer side panels and having diagonal score lines running from the upper corners of said carton for infolding the webs to maintain the lateral edges of two adjoining outer side panels in adjacent parallel relationship.

9. A unitary carton blank adapted to be formed into a display carton having top and side window openings, said blank being suitably cut and scored to form a central panel defined by a pair of longitudinal parallel spaced score lines and a pair of transverse parallel spaced score lines, two pairs of opposed side panels hingedly attached to said central panel along said longitudinal and transverse score lines; closure means hingedly attached at the lateral edges of said side panels, said central panel being divided by angular cut lines near the corners thereof into a bottom panel and top panels located at the corners of said central panel, said side panels bearing internal score lines, the ends of said score lines being connected by cut lines with the adjacent ends of said angular cut lines whereby said side panels are divided into inner side panels lying adjacent the longitudinal edges of said bottom panel and outer side panels lying outside said connecting cut lines and the folding score line joining them.

10. The blank of claim 9 wherein said closure means comprises male locking tabs hingedly connected to the lateral edges of said opposed side panels for insertion in locking relationship in female locking slits located in the other pair of opposed side panels.

11. The blank of claim 10 including webs hingedly connected to the lateral edges of said side panels having a diagonal score line running from the corners of said central panel.

12. The blank of claim 9 wherein said means include webs hingedly connected to the lateral edges of said side panels having diagonal score lines running from the corners of said central panel.

References Cited in the file of this patent

UNITED STATES PATENTS

1,933,741	Liebetruth	Nov. 7, 1933
1,996,965	Keppler	Apr. 9, 1935
2,762,547	Van Dyke	Sept. 11, 1956