United States Patent [19]

Buttery

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[54] **WINDOW CARTON**

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[73] Assignee: **Brown Company,** Kalamazoo, Mich.

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[52] **U.S. Cl.** ..... **206/45.31,** 229/37 E, 229/40, 229/51 TS, 229/87 F

[51] **Int. Cl.** **B65d 5/02,** B65d 65/18

[58] **Field of Search** ..... 229/40, 37 R, 37 E, 16 D, 229/87 F, 27, 34, 51 TS; 206/45.31, 45.34

[56] **References Cited**

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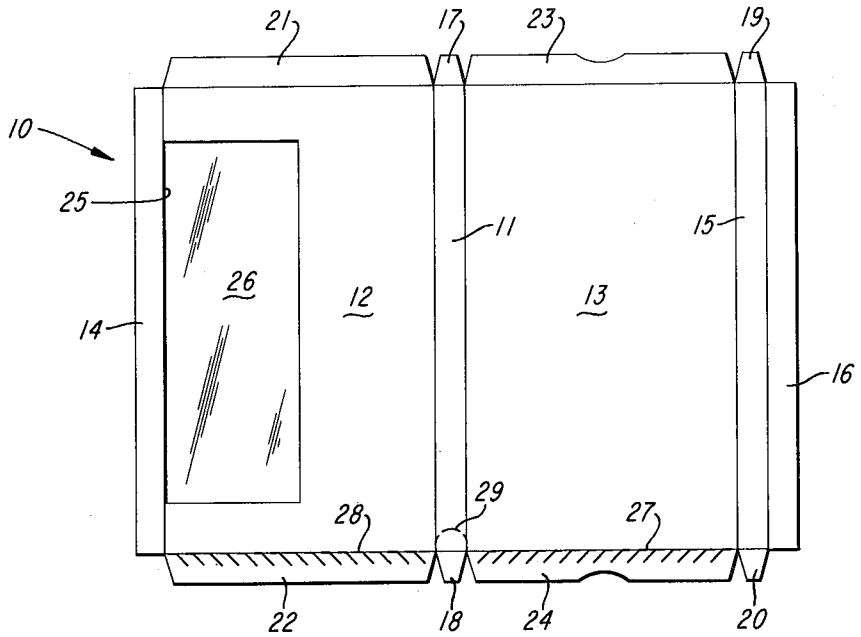
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Attorney, Agent, or Firm—Gordon W. Hueschen

[57] **ABSTRACT**

A paperboard carton having a generally rectangular cross-section is made up of a plurality of interconnected panels. One of the panels is provided with a window opening therein and situated from the edge of the panel at a distance less than the width of an adjacent panel. Each adjacent panel having an edge within a distance of less than the width of said adjacent panel from said window opening is made up of at least three thicknesses of paperboard extending the full length of the panel.

12 Claims, 7 Drawing Figures



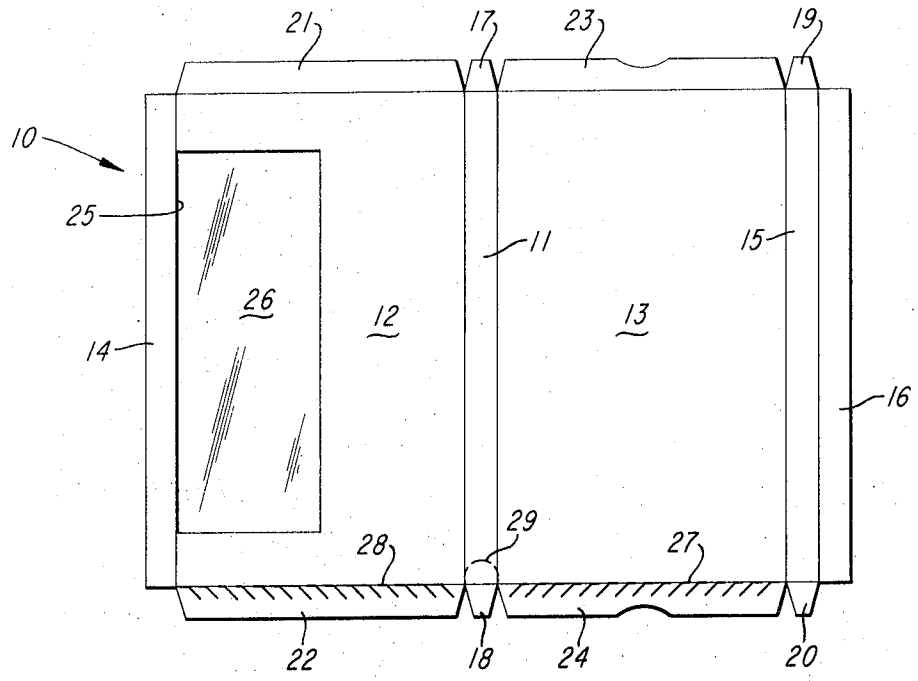


figure 1

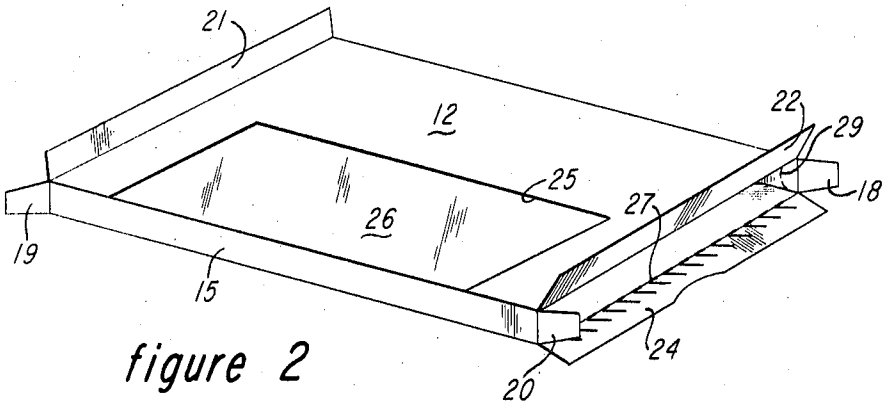


figure 2

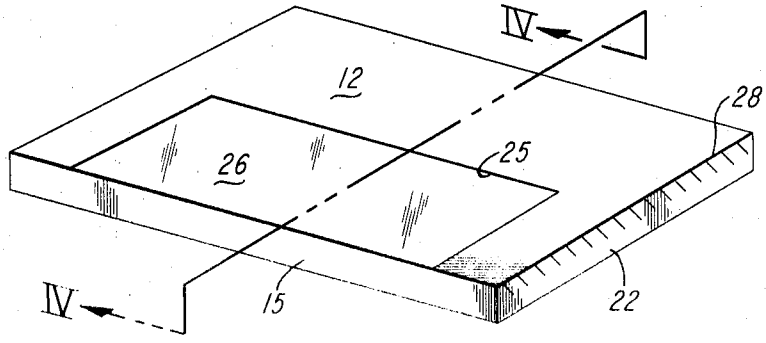


figure 3

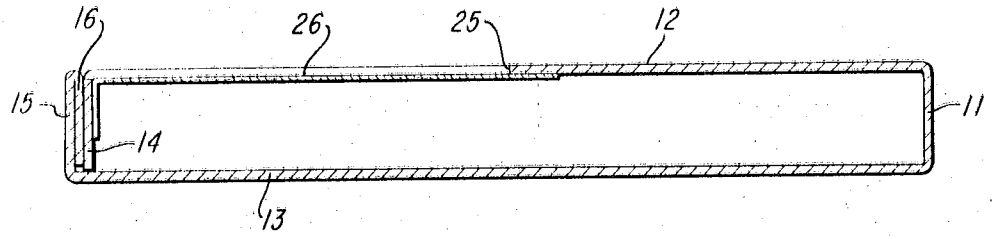


figure 4

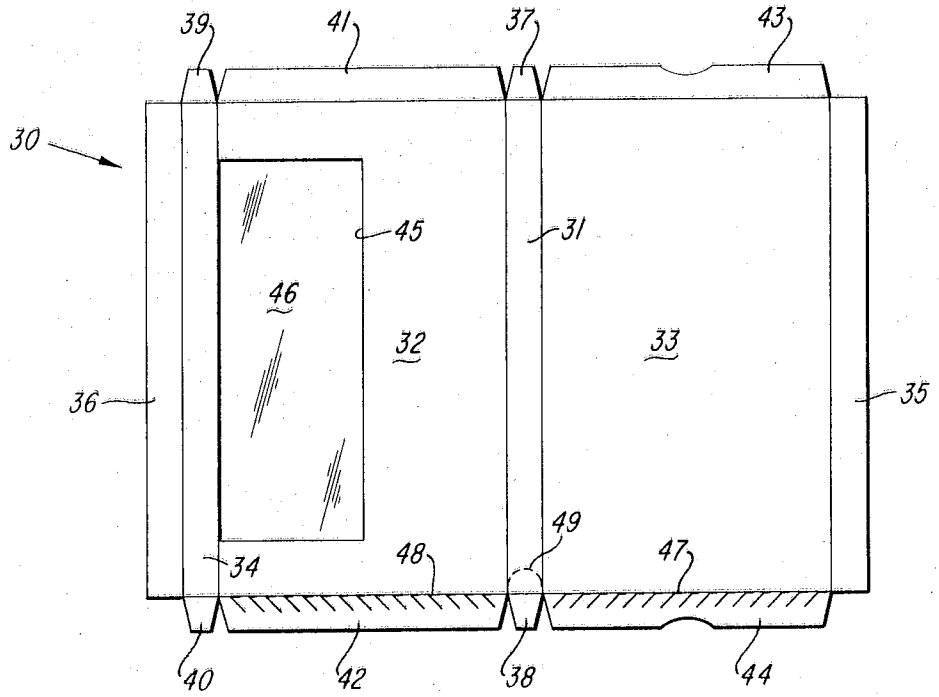


figure 5

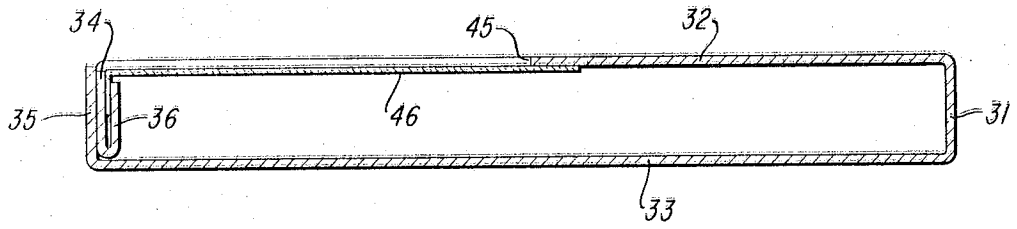


figure 6

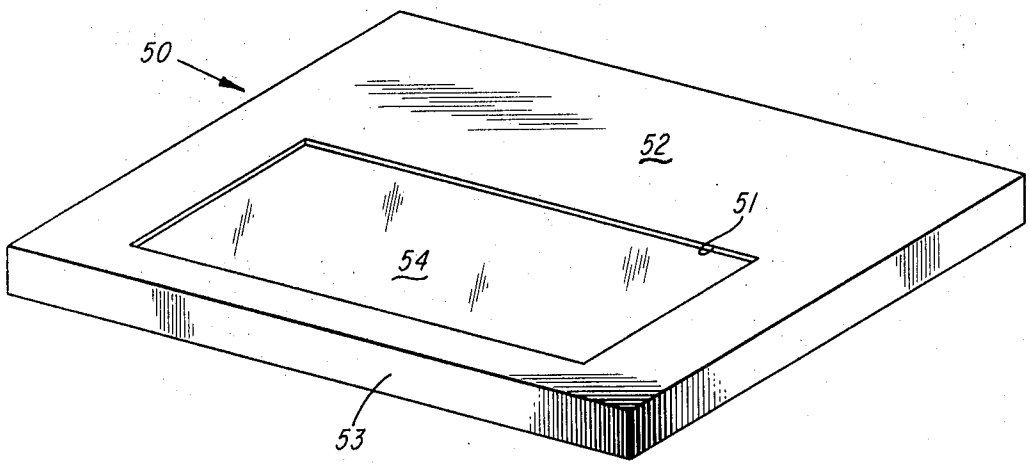


figure 7

WINDOW CARTON

BACKGROUND OF THE INVENTION

This invention relates to window cartons. More particularly, this invention relates to paperboard cartons for packaging items such as sliced meat products, e.g., bacon, and the like, and provided with a window opening in the carton for inspection of the contents contained therein.

Cartons for packaging food products and provided with a window opening therein are known in the art. In many instances, for example when packaging bacon, it is desirable to expose to view the entire width of a packaged slice or at least a major portion of the width thereof. However, when a window opening is provided in such a carton at or near the edge of a carton panel, the adjacent side wall tends to buckle, resulting in an unsightly and generally unsatisfactory carton.

It is an object of the present invention to provide a window carton of paperboard or the like having an improved structure and which does not suffer from the aforementioned shortcomings.

Still other objects of this invention will present themselves to one skilled in the art upon reference to the ensuing specification, the drawings, and the claims.

SUMMARY OF THE INVENTION

The present invention contemplates a windowed paperboard carton having a generally rectangular cross-section which comprises opposed front and rear walls, an upper panel and a lower panel, hingedly interconnected to one another at corresponding adjacent edges. One of said panels is provided with a window opening at a distance from an edge of the panel which is less than the height of the carton, and each wall having an edge within a distance of less than the height of said carton from said window opening is provided with at least three thicknesses of paperboard extending the full length of the wall.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings,

FIG. 1 is a plan view of a blank cut and scored so as to provide a carton of this invention;

FIG. 2 is a perspective view of a partially erected carton of this invention made from the blank shown in FIG. 1;

FIG. 3 is a perspective view of a fully erected carton of this invention;

FIG. 4 is a sectional elevation taken along line IV — IV in FIG. 3;

FIG. 5 is a plan view of another blank cut and scored so as to provide a carton of this invention;

FIG. 6 is a sectional elevation similar to that of FIG. 4 but showing a carton made from the blank shown in FIG. 5; and

FIG. 7 is a perspective view of another carton embodying the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the accompanying drawings, all parts are numbered and the same numbers identify the same parts in the several FIGURES.

Referring to FIG. 1, blank 10 comprises rear wall 11, upper panel 12 hingedly connected to rear wall 11 along one longitudinal edge thereof, and lower panel 13 hingedly connected to rear wall 11 along the other longitudinal edge thereof. First front wall flap 14 is hingedly connected to upper panel 12 and second front wall flap 15 is hingedly connected to bottom panel 13. Reinforcing flap 16, in turn, is hingedly connected to front wall flap 15.

Rear wall 11 is provided with opposed rear wall end flaps 17 and 18 hingedly connected thereto, and front wall flap 15 is provided with front wall flap end flaps 19 and 20 hingedly connected at opposite ends thereof. Similarly, upper panel 12 is provided with upper panel end flaps 21 and 22, and bottom panel 13 is provided with bottom panel end flaps 23 and 24.

Window opening 25 is provided in upper panel 12 and extends to one edge of upper panel 12. Window opening 25 can be covered with a pane of transparent material 26, such as poly-ethylene film or cellophane, if desired.

A carton is formed from blank 10 by first folding reinforcing flap 16 under front wall flap 15 and adhesively attaching flap 15 and flap 16 to each other. Thereafter upper panel 12 is folded over rear wall 11 and lower panel 13, and then reinforcing flap 16, together with front wall flap 15, folded over first front wall flap 14 and adhesively attached thereto. Flaps 14, 15 and 16 together form a front wall of the carton having at least three thicknesses of paperboard extending the full length of the wall (FIG. 4). After the foregoing manipulations the carton is in a collapsed tubular form and can be erected to the configuration shown in FIG. 2 by squaring the collapsed carton in conventional manner. After squaring, the carton is ready for loading with the desired contents, e.g., slices of bacon.

After loading, one end of the carton is closed by first folding inwardly end flaps 18 and 20, then folding in end flap 24, and then folding end flap 22 thereover. End flaps 22 and 24 are adhesively attached to one another by means of a hot melt adhesive or the like. Similarly, the other end of the carton is closed by first folding in end flaps 17 and 19, folding in end flap 23, and then folding end flap 21 thereover. The closed carton is shown in FIG. 3 and can be conveniently reopened by removing the tear strip comprising end flaps 22 and 24 which are delineated from the respective panels by severance lines 27 and 28. To facilitate access to the tear strip, a finger insert can be delineated in rear wall 11 by perforations 29.

Another embodiment of the present invention is shown in FIGS. 5 and 6. Blank 30 comprises rear wall 31 to which are hingedly attached, along opposite longitudinal edges, upper panel 32 and lower panel 33. First front wall flap 34 is hingedly connected to upper panel 32 and second front wall flap 35 is hingedly connected to bottom panel 33. Reinforcing flap 36 is hingedly connected to first front wall flap 34.

Rear wall 31 is provided with opposed rear wall end flaps 37 and 38 hingedly connected thereto at opposite ends of wall 31, and first front wall flap 34 is provided with front wall flap end flaps 39 and 40 hingedly connected at opposite ends of flap 34. Similarly, upper panel 32 is provided with upper panel end flaps 41 and 42, and bottom panel 33 is provided with bottom panel end flaps 43 and 44. End flaps 37, 39, 41 and 43 together form one end wall of a carton erected from blank 30, and end flaps 38, 40, 42 and 44 together form the other opposed end wall of the carton. Severance

lines 47 and 48 are provided at the respective connections of end flaps 44 and 42 to panels 33 and 32. When end flaps 44 and 42 are adhesively attached to each other, these end flaps also comprise a tear strip defined by severance lines 47 and 48. Arcuate perforated line 49 defines a finger insert in rear wall 31 which facilitates access to the tear strip formed by end flaps 42 and 44.

Window opening 45 is provided in upper panel 32 and extends to one edge of panel 32. Window opening 45 is covered with pane 46 of transparent material, such as cellophane or the like, which is adhesively secured to blank 30.

A carton is formed from blank 30 by first folding reinforcing flap 36 under front wall flap 34 and adhesively attaching flaps 36 and 34 to one another, for example by means of a hot melt adhesive or the like. Thereafter, upper panel 32 is folded over rear wall 31 and lower panel 33, and then front wall flap 35 is folded over front wall flap 34 and adhesively attached thereto. Flaps 34, 35 and 36 together form a front wall of the carton having at least three thicknesses of paperboard as shown in FIG. 6, extending for the full length of the front wall. If further reinforcement of the front wall is desired, one or more additional reinforcing flaps can be hingedly connected to reinforcing flap 36, folded accordion-like under one another, and adhesively secured to one another.

By the aforementioned folding and gluing operations blank 30 is transformed into a collapsed carton which can be erected, filled, and sealed in the same manner as the carton shown in FIGS. 1 through 4.

An erected carton which represents a further embodiment of this invention is shown in FIG. 7. Carton 50 is substantially similar to the carton shown in FIG. 3 except that window opening 51 does not extend to one edge of panel 52 but is spaced therefrom at a distance less than the height of adjacent carton wall 53. Window opening 51 is covered with pane 54 of a transparent material.

The blanks suitable for forming a carton of the present invention can be made from paperboard of a wide variety of thicknesses. From the standpoint of economy, however, the paperboard having the least thickness which can still accommodate the weight of the container contents is usually selected. A paperboard sheet having a thickness in the range of about 0.010 inches to about 0.016 inches is usually employed. Preferably, the paperboard is of a thickness less than about 0.012 inches.

The degree of reinforcement that has to be provided to the carton front wall depends in part on the thickness of the paperboard that is utilized in a particular application and to a large extent on the location of the window cutout in the carton. If the carton window is situated from the panel edge at a distance greater than the height of the adjacent carton wall, reinforcement of the carton wall is normally not necessary. However, where the carton window is situated at the panel edge or within a distance to the edge of less than the height of the adjacent carton wall, i.e., the width of the carton front wall flap, then reinforcement of the carton wall in accordance with the present invention is particularly advantageous in minimizing buckling of the carton wall. The number of reinforcing flaps that are to be utilized in any given situation is determined primarily by the weight and nature of the carton contents.

The foregoing discussion and the accompanying drawings are intended as illustrative and are not to be construed as limiting. Still other variations within the spirit and scope of this invention are possible and will become apparent to the skilled artisan.

I claim:

1. A paperboard carton having a generally rectangular cross-section which comprises

opposed front and rear walls, opposed end walls, an upper panel and a lower panel, hingedly interconnected to one another at corresponding adjacent edges and one of said panels being provided with a window opening at a distance less than the height of said carton from an edge of the panel; and

each wall having an edge within a distance of less than the height of said carton from said window opening having at least three thicknesses of paperboard extending the full length of the wall.

2. The paperboard carton in accordance with claim 1 wherein said window opening extends to the edge of said front wall and wherein said front wall is made up of three coextensive flaps adhesively attached to one another.

3. The paperboard carton in accordance with claim 1 wherein said window opening extends to an edge of said front wall; wherein a first front wall flap is hingedly connected to said top panel; wherein a second front wall flap is hingedly connected to said bottom panel; wherein a reinforcing flap is hingedly connected to said second front wall flap, is inwardly folded back against said second front wall flap and adhesively attached thereto; and wherein said reinforcing flap overlies said first front wall flap and is adhesively attached thereto; said first and second front wall flaps and said reinforcing flap being substantially coextensive and together forming said front wall.

4. The paperboard carton in accordance with claim 1 wherein said window opening extends to an edge of said front wall; wherein a first front wall flap is hingedly connected to said top panel; wherein a reinforcing flap is hingedly connected to said first front wall flap, is inwardly folded back against said first front wall flap and adhesively attached thereto; wherein a second front wall flap is hingedly connected to said bottom panel; and wherein said reinforcing flap overlies said second front wall flap and is adhesively attached thereto; said first and second front wall flaps and said reinforcing flap being substantially coextensive and together forming said front wall.

5. The paperboard carton in accordance with claim 1 wherein said window opening is covered with a transparent sheet material.

6. The paperboard carton in accordance with claim 1 wherein the paperboard thickness is less than about 0.012 inches.

7. An integral paperboard blank for a carton having a generally rectangular cross-section, cut and scored to provide

a rear wall;

a pair of opposed panels hingedly connected to said rear wall along opposite longitudinal edges of said rear wall;

panel end flaps hingedly connected to each panel;

rear wall end flaps hingedly connected to said rear wall;

a first front wall flap hingedly connected to one of said panels along a longitudinal edge thereof;

a second front wall flap having end flaps hingedly connected to the other of said panels along a longitudinal edge thereof; and

a reinforcing flap substantially coextensive with said second front wall flap and hingedly connected thereto;

said first and second front wall flaps being substantially coextensive and being adapted for adhesive affixation to opposite sides of said reinforcing flap, and one of said panels being provided with a window opening at a distance less than the width of said front wall flaps from the edge of the panel adjacent to a front wall flap.

8. The integral paparboard blank in accordance with claim **7** wherein said window opening extends to the edge of the adjacent front wall flap.

9. The integral paperboard blank in accordance with claim **7** wherein said window opening is provided in the panel adjacent to said first front wall flap and extends to the edge of said first front wall flap.

10. The integral paperboard blank in accordance with claim **7** wherein said window opening is provided in the panel adjacent to said second front wall flap and extends to the edge of said second front wall flap.

11. The integral paperboard blank in accordance with claim **7** wherein said window opening is covered with a transparent sheet material.

12. The integral paperboard blank in accordance with claim **7** wherein the paperboard thickness is less than about 0.012 inches.

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