United States Patent [19]

Meyers

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[54] **CARTON**

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[21] Appl. No.: **117,262**

[52] **U.S. Cl.** ..... **229/51 TC**

[51] **Int. Cl.** **B65d**

[58] **Field of Search** ..... 229/51 TS, 51 TC

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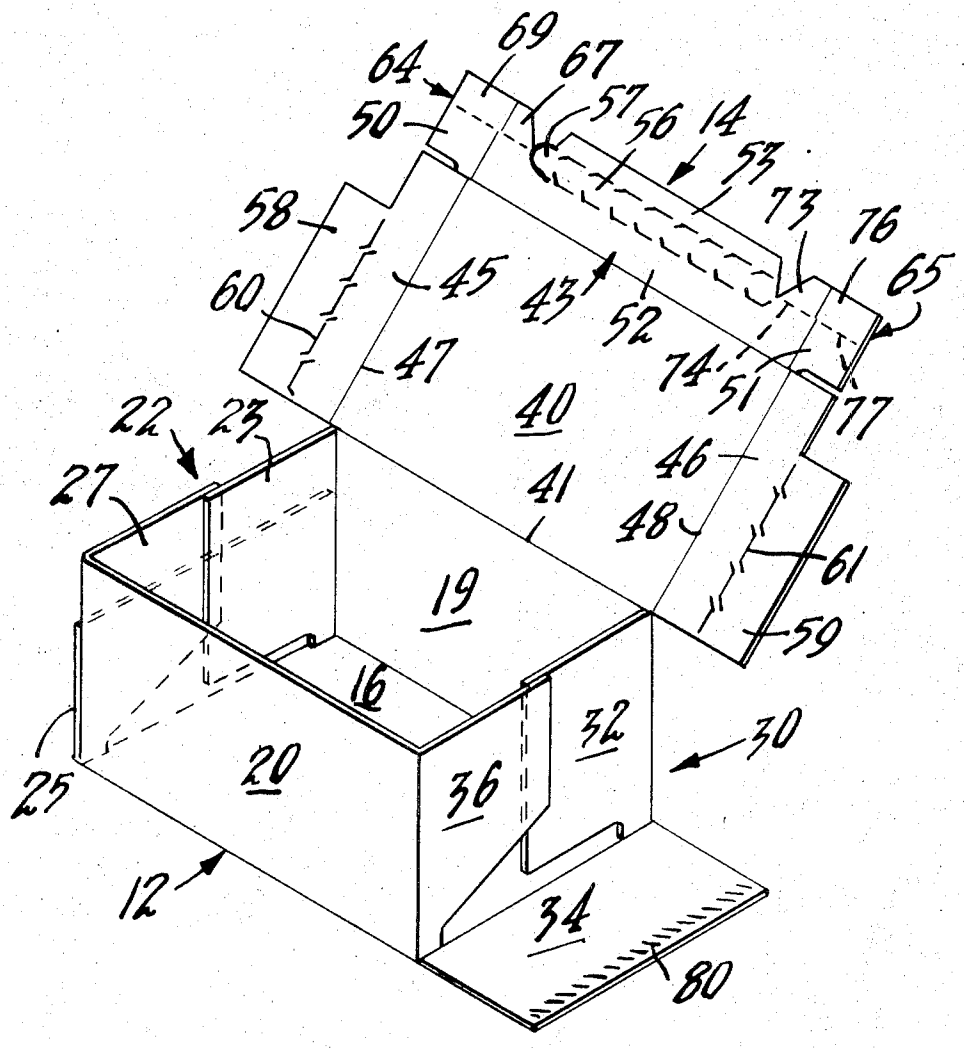
Primary Examiner—Davis T. Moorhead

Attorney—Robert P. Auber, George P. Ziehmer, Leonard R. Kohan, William R. O'Meara and Frank S. Charlton

[57] **ABSTRACT**

A blank of material is provided that forms a carton when erected which includes a receptacle and a hingedly connected cover of the hooded type that telescopes the upper portion of the receptacle. The carton cover when set up has a top panel with opposed end panels, and end panel extensions connected by tear lines to the cover end panels, respectively, and which are folded along the tear lines back upon the cover end panels and adhesively connected to the opposed ends of the receptacle. The cover has a front panel with a bottom portion adhesively connected to the front wall of the receptacle, an upper main front portion connected to the lower portion by a tear strip for disconnecting the cover from the bottom portion during opening of the carton, a pair of cover corner flaps hingedly connected respectively to the opposed ends of the cover front panel upper portion and adhesively connected to the cover end panels, a cover front panel extension hingedly connected to the front panel and folded back thereon, and a cover corner flap extension hingedly connected to the cover corner flap and folded back thereon, the extensions being hingedly connected together and providing a double thickness of material at the cover corners.

11 Claims, 6 Drawing Figures



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SHEET 1 OF 2

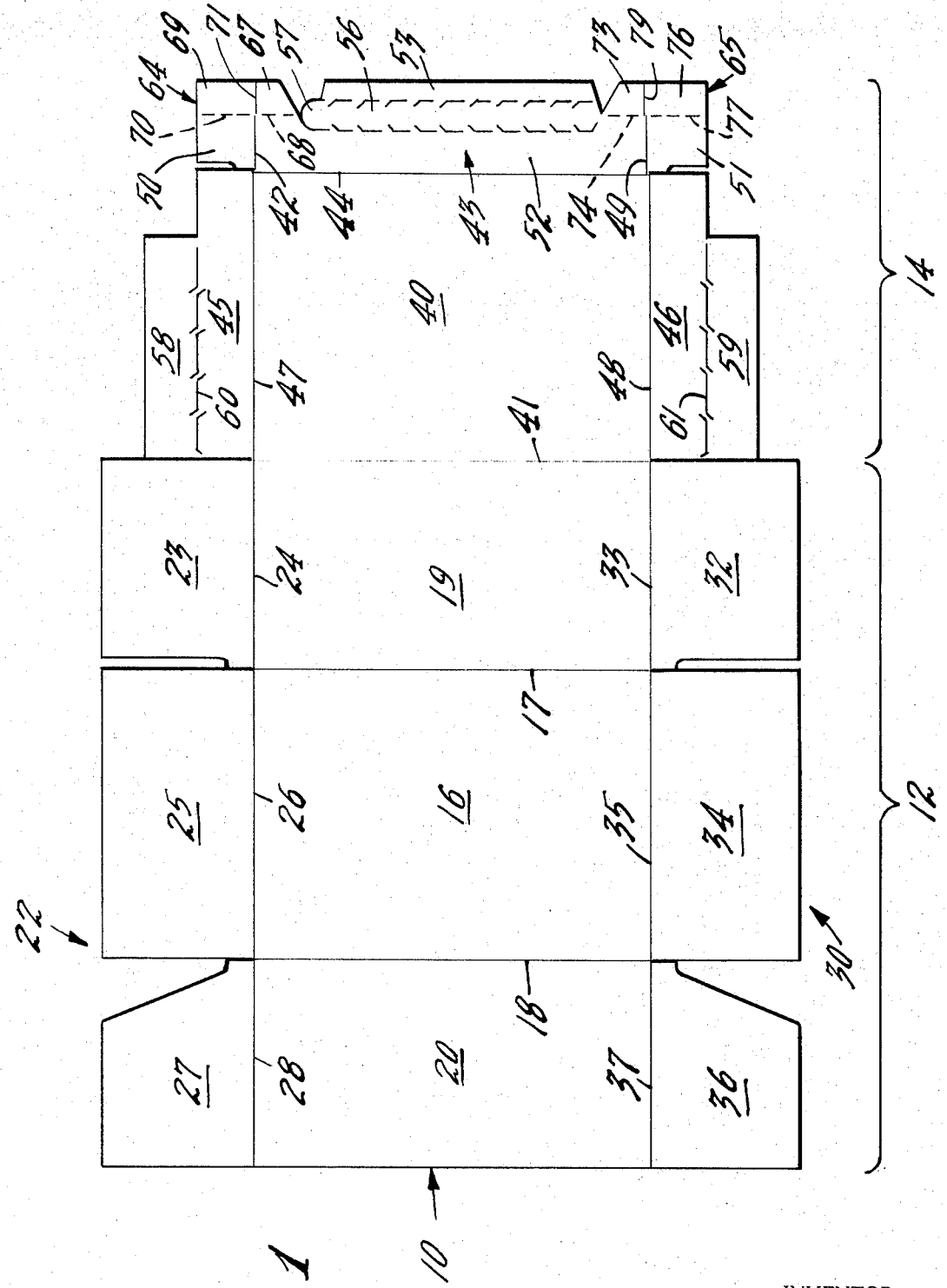


Fig. 1

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Fig. 2

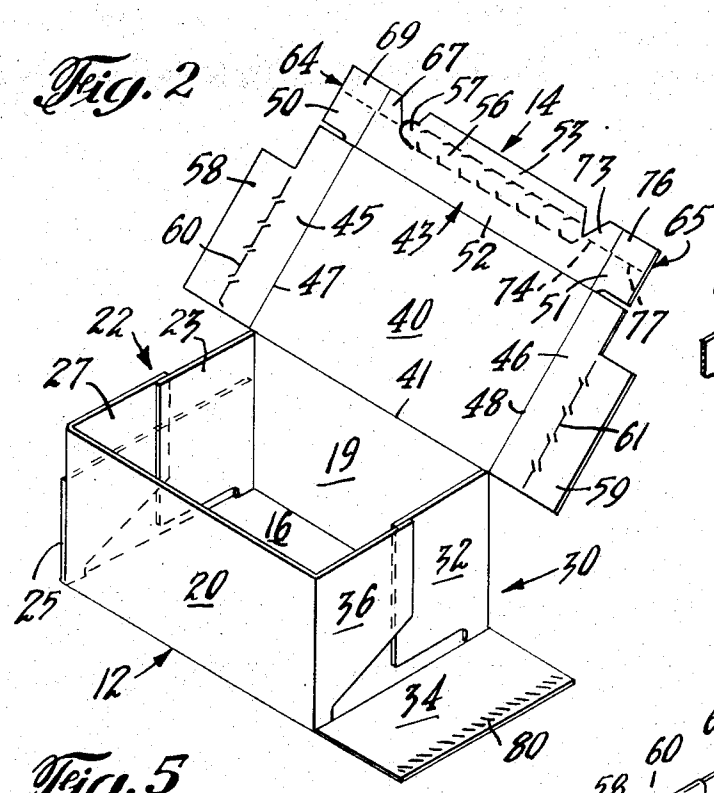


Fig. 3

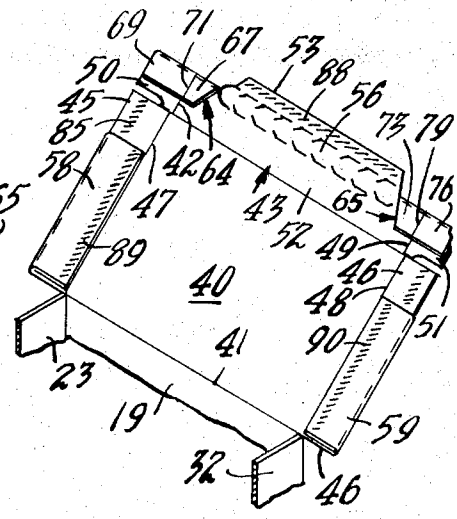


Fig. 5

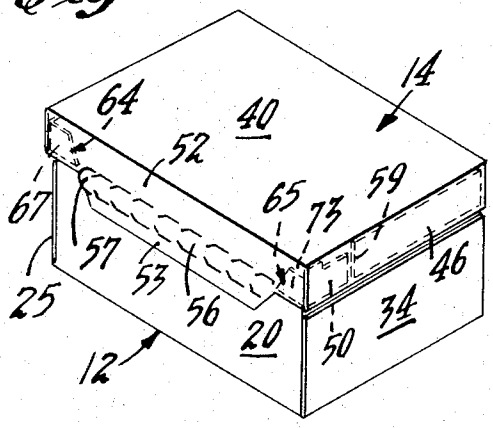


Fig. 4

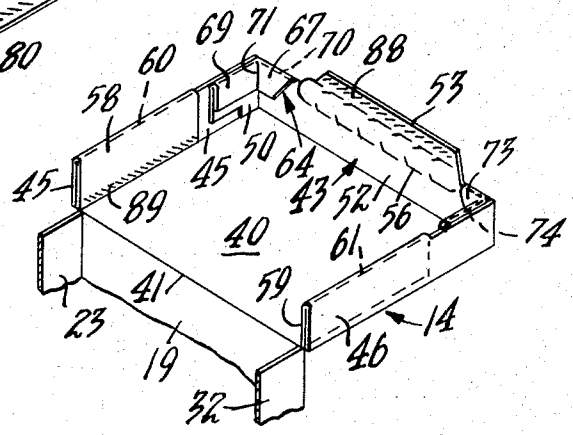
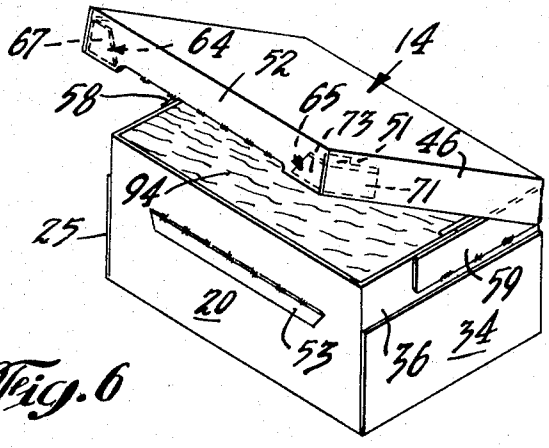


Fig. 6



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CARTON

BACKGROUND OF THE INVENTION

This invention relates to cartons and more particularly to cartons of the reclosable type and to carton blanks from which the cartons are formed.

Reclosable cartons of the type used as containers for food items, for example, frozen foods such as ice cream, are generally formed from carton blanks made from sheet material such as paperboard. Such cartons often have a hooded type cover hingedly connected to the rear panel of the receptacle portion of the container, and a front cover panel connected through a tear strip to the front panel of the receptacle portion. A rear end portion of each cover end panel is often adhesively connected to the receptacle portion and an angular line of weakness is provided between the rear end portion and the front portion of each of the cover end panels. When the tear strip is removed and the front cover panel is lifted to open the container, the angular lines of weakness on the cover end panels are broken to allow the cover to be raised.

Because the product, such as ice cream, generally adheres to the inside surface of the top panel of the cover, considerable force is usually required to open the carton. For this reason, some prior art cartons of the above type have had certain undesirable features, for example, during the initial opening of the carton, the cover front panel would often tear at or near one of the corners. Other material for the blank that is heavier than that otherwise required by the design could be used but with increased cost. In some cases, in order to prevent the cover end flaps from bowing outwardly and therefore possible damage during manufacture, storage, and other handling thereof, a slight amount of adhesive was sometimes used between each cover end flap and the associated receptacle end. This, of course, further increased the force necessary to raise the cover from the receptacle portion and increased the danger of tearing the cover at the corners thereof. Also, in some cases, especially where the cover end flaps bowed outwardly, there was seepage of the ice cream or other product between the cover end panels and the receptacle end flaps causing them to adhere to each other, and this further increased the force necessary to open the container. Because of these undesirable features, it was often not only difficult to open such a carton but the carton was often damaged to a substantial extent during the opening thereof.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide an improved carton blank which is adapted to provide a carton wherein the above mentioned undesirable features are substantially obviated.

A more specific object is to provide a carton blank adapted to be set up to produce a carton of the reclosable type having an improved cover whereby the carton opens easily and without damage to the carton.

Another object is to provide a carton blank which is adapted to be set up to provide a reclosable carton which has an improved cover that is strong and resists damage thereto during opening, and wherein the blank can be made out of relatively light and economical sheet material.

Still another object is to provide a strong reclosable carton, particularly well suited for ice cream, which has

an improved cover construction of the hooded type that is relatively strong and that permits the carton to be easily opened without damage thereto, and which is formed of relatively economical sheet material or paperboard.

In accordance with one aspect of the invention a carton blank is provided which includes a receptacle portion, and a cover portion having extension means thereon adapted, when the carton is erected, to provide stiffening means adjacent corners of the cover.

These and other objects and advantages will become apparent from the following detailed description and accompanying drawings wherein a preferred embodiment is shown.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of the inside of a carton blank according to the present invention;

FIG. 2 is perspective view of the blank of FIG. 1 after it has been partially set up;

FIG. 3 is a fragmentary perspective view illustrating a step in setting up the blank of FIG. 1;

FIG. 4 is fragmentary perspective view illustrating a further step in setting up the blank of FIG. 1;

FIG. 5 is a perspective view showing the blank of FIG. 1 completely folded up to form a carton; and

FIG. 6 is a perspective view of the carton of FIG. 5 after it has been opened.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing and particularly to FIG. 1, a single piece carton blank **10** is shown which is made of suitable sheet material, preferably paperboard. Blank **10** includes a receptacle portion **12** and a cover portion **14.**

The receptacle **12** includes a bottom panel **16** connected respectively at score or fold lines **17** and **18** to a back panel **19** and a front panel **20.** An end wall **22** of the receptacle **12** includes a back panel end flap **23** connected at a score line **24** to back panel **19,** an outer end panel **25** connected at a score line **26** to bottom panel **16,** and a front panel end flap **27** connected at a score line **28** to the front panel **20.** The opposite receptacle end wall, indicated at **30,** includes a back panel end flap **32** connected at a score line **33** to back panel **19,** an outer end panel **34** connected at a score line **35,** and a front panel end flap **36** connected by a score line **37** to front panel **20.**

The cover **14** includes a top cover panel **40** hingedly connected at a score line **41** to the top of the back panel **19,** a cover front panel **43** connected at a score line **44** to the front of top panel **40,** opposed cover end panels **45** and **46** connected respectively at score lines **47** and **48** to the top panel, and cover corner flaps **50** and **51** connected by score lines **42** and **49.**

The cover front panel **43** includes an upper main front panel portion **52,** and a marginal flap portion **53** with line of weakness **55** therebetween and which, in the illustrated embodiment, define a tear strip or zipper **56** with an integral end tab **57.**

The cover **14** is also provided with generally rectangular cover end panel extensions **58** and **59** connected respectively by rupturable or severable lines of weakness **60** and **61** to the cover end panels **45** and **46.** The lines of weakness **60** and **61** are shown as fracture or cut score lines.

The cover front panel **43** is provided with corner stiffening members **64** and **65** at each end thereof. The member **64** includes a cover front panel extension **67** connected by a first score line **68** to cover front panel **43**, and a corner flap extension **69** connected by a second score line **70** to corner flap **50** and also to cover front panel extension **67** by a third score line **71.** The score lines **68** and **70** are aligned and are cut lines of weakness. Similarly, the stiffening member **65** includes a cover front panel extension **73** connected by a first score line, such as a cut score line or weakness line **74**, the cover front panel **43**, and a corner flap extension **76** connected by a second score line, such as a cut score line or weakness line **77**, to corner flap **51** and also to cover front panel extension **73** by a third score line **79.**

The blank **10** is cut and scored so that the panels and flaps are generally rectangular in shape and with the blank symetrical about its lengthwise axis.

The cover end panel extensions **58** and **59** extend from the back of their respective end panels **45** and **46** to a point short of the front edges of the end panels so that when the corners are subsequently formed, the cover end flaps can be adhesively connected to the cover end panels **45** and **46.**

Various methods, adhesives, types of equipment, and sequence of steps in erecting cartons and filling them with products are well known to those skilled in art. In the description which follows, the sequence of steps in erecting the blank **10** is given for purposes of illustration and example.

In setting up or erecting a carton from the blank **10**, the receptacle portion **12** is preferably formed before the cover **14**, as is indicated in FIG. **2.** The back and front panels **19** and **20** may be folded upwardly and then the receptacle end flaps and end panels folded and sealed together to form closed opposed ends **22** and **30.** The front end flaps **27** and **36** respectively overlap the back end flaps **23** and **32**, the overlapping portion of the front flaps being to the outside of the back end flaps, as seen in FIG. **2.** A strip **80** of a suitable adhesive, is provided along the inner surface of the marginal portion of each of the end panels **25** and **34**, so that when these end panels are folded on their fold lines against the end flaps, they are adhesively connected to their associated end flaps.

After the rectangular receptacle **12** is set up the cover end panel extensions **58** and **59** are folded at their lines of weakness **60** and **61** back upon their respective cover end panels **45** and **46** as seen in FIG. **3.** Also, the corner stiffening member **64** is folded substantially 180° on lines of weakness **68** and **70**; and corner stiffening member **65** is folded back substantially 180° along the lines of weakness **74** and **77.** Adhesive strips **85** and **86** are shown applied to the inside surfaces of the cover end panels **45** and **46** adjacent to the front ends thereof.

Next the corner flap **50** and corner flap extension **69** which are in parallel planar relation are folded 90° on their fold lines **42** and **71**, and the cover end panel **45** with adhesive strip **85** thereon is folded on score line **47** and pressed into engagement with the outside surface of corner flap **50** to form a tight adhesive connection therewith and form a strong corner for the cover as seen in FIG. **4.** Similarly, the corner flap **51** and corner flap extension **65** are folded 90° on their respective score lines **49** and **79**, and the cover end panel **46** with adhesive strip **86** thereon is folded on score line **48** against the outside of corner flap **51** to form a tight adhesive connection with it and form a strong cover corner. The cover **14** is shown assembled in FIG. **4** with the carton in condition to receive the product such as ice cream. Preparatory to filling the receptacle with the product, an adhesive strip **88** is applied to the cover front panel marginal flap **53**, and adhesive strips **89** and **90** are applied to the cover end panel extensions **58** and **59.**

FIG. **5** shows the carton after it has been filled with the product and the cover **14** closed on the receptacle **12.** The marginal sealing flap **53** is adhesively connected to the front receptacle panel **20** by adhesive strip **88**, and the cover end panel extensions **58** and **59** are adhesively connected respectively to the receptacle ends **22** and **30** by adhesive strips **89** and **90.** As readily seen in FIGS. **2, 5,** and **6** the height of the receptacle outer end panels **25** and **34** are less than the height of the receptacle **12**, so that the cover end panel extensions **58** and **59** adhere to the upper portions of their respective front and back end flaps **23** and **27**, and **32** and **36.** Because the front end flaps **27** and **36** are outside of the back end flaps **23** and **32**, the cover end panel extensions **58** and **59** adhere especially well to the front end flaps **27** and **36.**

The receptacle **12** of the carton may be filled with the product after it is assembled and while the cover is in its flat state as shown in FIG. **2.** Also various types of adhesives and the sequences of application are possible. The adhesive may be, for example, of the hot melt type.

The filled and sealed carton as seen in FIG. **5**, may be opened, such as by the consumer, by grasping the zipper tab **57** and tearing the zipper strip **56** out of the cover front panel **43** to disconnect the upper portion **52** of front cover panel from the receptacle front panel **20** of the receptacle. Then the upper portion **52** of the cover front panel **43** is lifted which causes the cover end panels **45** and **46** to be torn away from their respective end panel extensions **58** and **59** to thereby raise the cover **14.** The cover end panels tear away from their extensions along cut score lines **60** and **61** and, as seen in FIG. **6**, the extensions remain adhesively connected with the receptacle after the carton is opened. In FIG. **6** the cover **14** is shown raised above the receptacle which is shown filled with a product **94.** Since the cover **14** is hingedly connected to the back panel **19** of the receptacle, it can be repeatedly used to open and close the carton.

The front corners of the carton are considerably stiffened by the stiffening members **64** and **65**, thus providing a cover which resists tearing at the corners during the opening of the carton and without the necessity of employing a heavier and more costly paperboard carton blank. Because the cover end panels **45** and **46** are connected to extensions **58** and **59** which, in turn, are adhesively connected to the upper portions of the receptacle end flaps **23, 27, 32,** and **36,** the cover end panels do not bow outwardly at the opposed ends of the carton in its originally closed condition, as shown in FIG. **5.** This tends to reduce inadvertent partial opening of the carton and damage during manufacturing, storage, and other handling, and also tends to reduce seepage of the product, such as ice cream, into spaces between the cover end panels and receptacle ends.

With the cover end panel extensions **58** and **59** firmly adhesively connected to the front receptacle end pan-

els 27 and 36, and the stiffening members 64 and 65 extending around the front cover corners to stiffen the corners, the tearing away of the cover end panels from the extensions 58 and 59 is readily started during the opening of the carton. This also tends to avoid the possibility of damage to the carton during the opening thereof. The depending end and front panels of the cover telescope or overlie the upper portions of the ends and front panels of the receptacle so that the cover provides a strong and efficient closure for the carton.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

What is claimed is:

1. A carton comprising a receptacle portion including a bottom panel, a receptacle front panel, a back panel, and opposed receptacle end walls, and a cover portion including a top wall formed entirely of a single top penel hingedly connected to said back panel, a cover front panel hingedly attached to and depending from the edge of said top panel remote from its hinge connection to said back panel, a pair of cover end panels, each connected by a hinge score line along a first side edge thereof to a respective end edge of said top panel, opposed cover corner flaps adhesively connecting said cover front panel with said respective cover end panels to form corners of the cover, and a pair of cover end panel extensions, each connected by a severable line of weakness to a second side edge of a respective one of said cover end panels, said second side edge being opposed to, and remote from, said score line connecting the respective cover end panel to said top panel, each end panel extension being folded back along said severable line of weakness to lie sandwiched in parallel planar relation between the respective cover end panel and an underlying receptacle end wall, said cover panel extensions being adapted for adhesive connection to said respective underlying end walls.

2. The carton according to claim 1 wherein said cover front panel includes an upper main front panel portion, a marginal flap portion for adhesive connection with said receptacle front panel, and at least one tear line between said upper and marginal portions for separating said upper and marginal portions when the carton is opened, said pair of cover end panel extensions being torn away on said severable lines of weakness from said cover end panels when the carton is opened.

3. The carton according to claim 2 wherein said cover front panel includes another tear line parallel with said one tear line to define a removable tear strip.

4. The carton according to claim 1 wherein said cover portion further includes a pair of cover corner stiffening members, each comprising a cover front panel extension segment connected by a first score line to the upper portion of said cover front panel and a corner flap extension segment connected by a second score line to a respective one of said cover corner flaps and also connected by a third score line to said cover front panel extension segment, said cover front panel extension segments and said corner flap extension segments being folded on said first and second score lines into overlying relationship to said cover front panel and corner flaps respectively.

5. The carton according to claim 4 wherein said cover is adapted to telescope a portion of said receptacle when the carton is closed.

6. The carton according to claim 4 wherein said receptacle portion and said cover portion are of paperboard.

7. An integral carton blank of material cut and scored to provide a receptacle portion having bottom, front, and back panels, and end walls adapted to form a receptacle, and a cover portion adapted to form a cover for closing the receptacle, said cover portion comprising a top wall formed entirely of a single top panel hingedly connected to said back panel, a pair of cover end panels each connected by a hinge score line along a first side edge thereof to a respective end edge of said top panel, a pair of cover end panel extensions each connected by a severable line of weakness to a second side edge of a respective one of said cover end panels, said second side edge being opposed to, and remote from, said score line connecting the respective cover end panel to said top panel, said cover end panel extensions being adapted to be folded along said severable line of weakness into parallel planar relation with their respective associated cover end panels and to be adhesively connected to said end walls, a cover front panel hingedly connected to the front of said top panel and including a cover front panel upper portion, a cover front panel marginal portion adapted to be connected to said receptacle front panel, and at least one tear line between said upper and marginal portions, and a pair of cover corner flaps hingedly connected to opposite ends of said cover front panel upper portion and adapted to be adhesively secured to an end marginal portion of said cover end panels for forming corners of said cover portion.

8. The integral carton blank according to claim 7 wherein each of said end walls include associated front and back end flaps and an outer end panel connected thereto, each outer end panel being of less height than the height of the associated front and back end flaps when the blank is erected to form a carton.

9. The integral carton blank according to claim 8 wherein said cover front panel includes another tear line substantially parallel with said one tear line to define a tear strip adapted to be removed when opening the carton.

10. The integral carton blank according to claim 9 wherein said pair of tear lines extend parallel to said pair of fold lines.

11. An integral carton blank according to claim 7 wherein said cover portion further includes a pair of front corner stiffening members, each comprising a first, cover front panel extension segment and a second, corner flap extension segment, said first and second extension segments being hingedly connected to each other along a common score line, said cover front panel extension segment being also hingedly attached to said cover front panel upper portion adjacent a respective end thereof and said corner flap extension segment being also hingedly attached to a respective one of said cover corner flaps, said corner stiffening members being adapted to be folded about said hinged connections so that, respective, said cover front panel extension segment lies superposed on said cover front panel upper portion and said corner flap extension segment lies superposed on said respective corner flap.

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