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Tingley et al.

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[45] **Jan. 21, 1975**

[54] **RECLOSABLE CARTON**

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[52] **U.S. Cl.** ..... **229/51 TC**, 229/DIG. 9

[51] **Int. Cl.** **B65d 5/54**

[58] **Field of Search** ..... 229/51 TC, 51 TS, 51 SC, 229/44 CB, 16 R, DIG. 9

[56] **References Cited**

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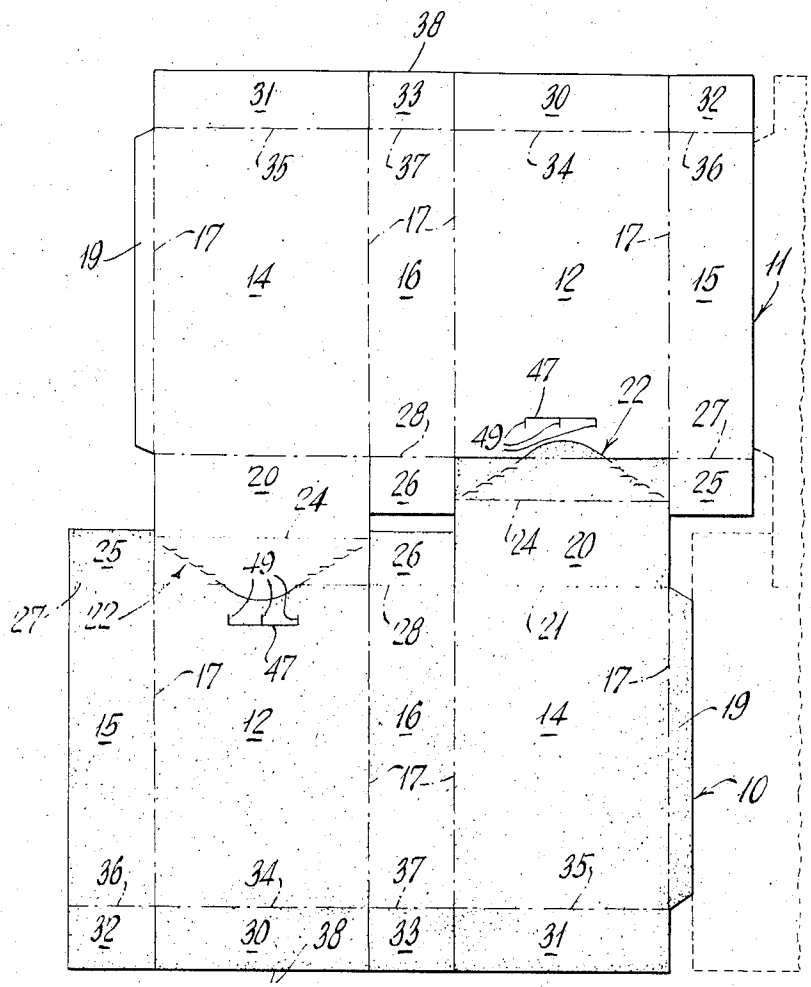
Primary Examiner—Edward J. McCarthy

Attorney, Agent, or Firm—Gerald Durstewitz; I. A. Strombeck

[57] **ABSTRACT**

The carton incorporates a reclosing device and is constructed to minimize paperboard waste. The reclosure device includes a reclosure panel hinged to the carton top panel which overlies and is glued to the front panel at its lower corners to seal the carton. Perforated lines extending to a central tab separate the main portion of the reclosure panel from its corners for opening the carton. The front panel has a slot to accept the tab for reclosure. The front, back and side panels are serially connected along parallel fold lines. The top and reclosure panels are serially connected and extend transversely from the back panel. Bottom forming flaps, top side flaps, and the top of the front panel are formed so that two carton blanks, oriented 180° to each other, can be cut from one section of paperboard with minimum waste.

5 Claims, 5 Drawing Figures



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SHEET 1 OF 2

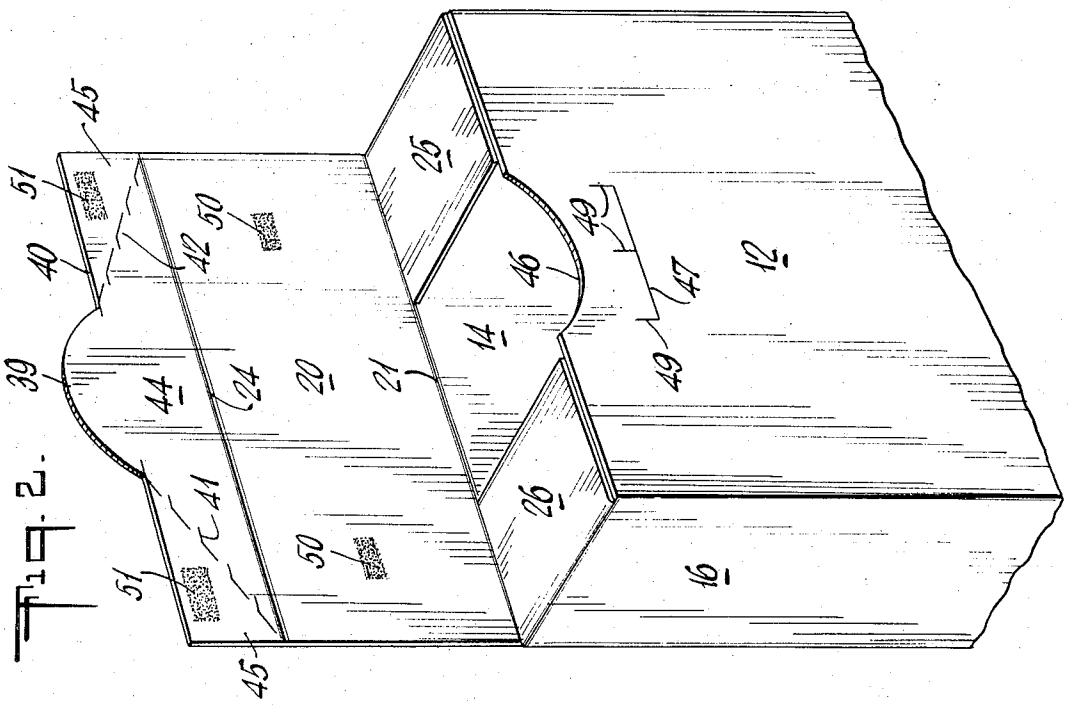


Fig. 2.

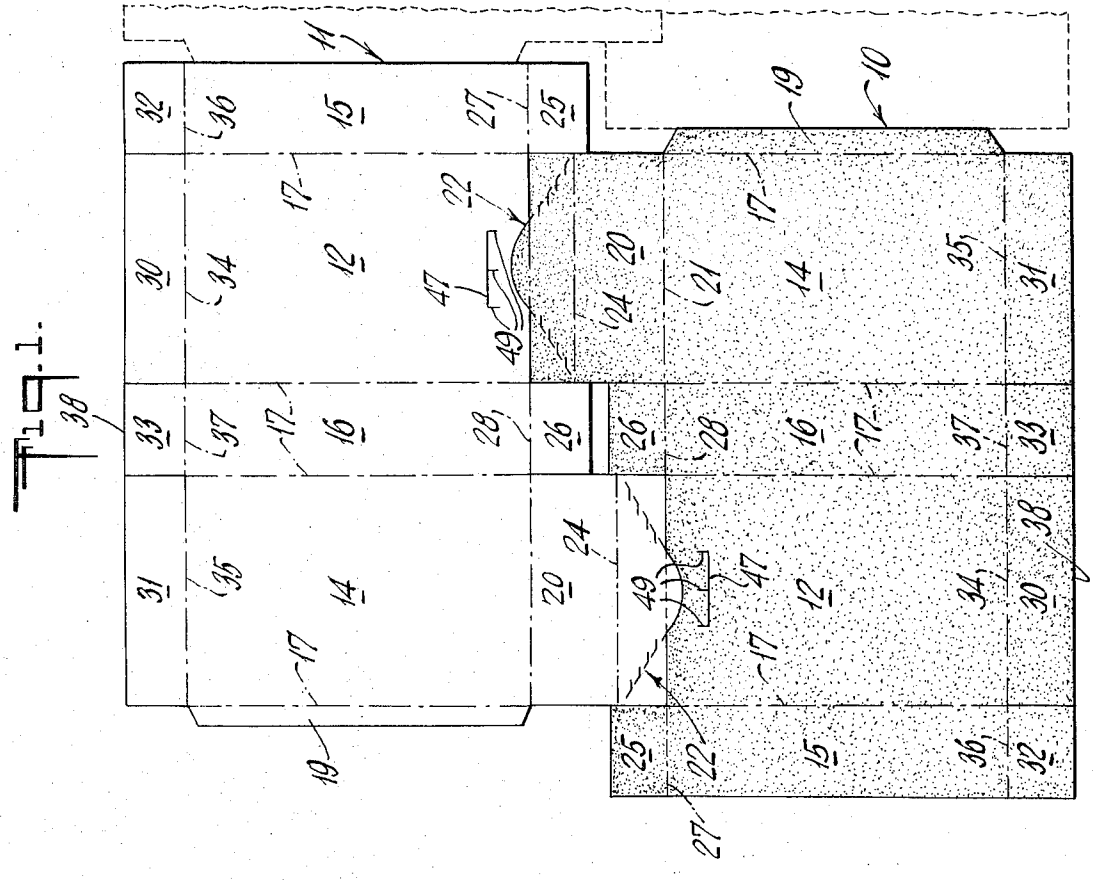


Fig. 1.

FIG. 5.

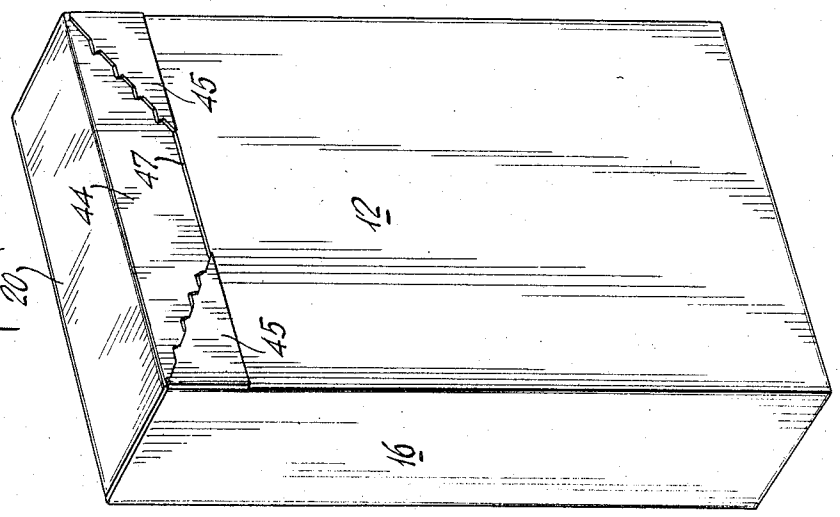


FIG. 4.

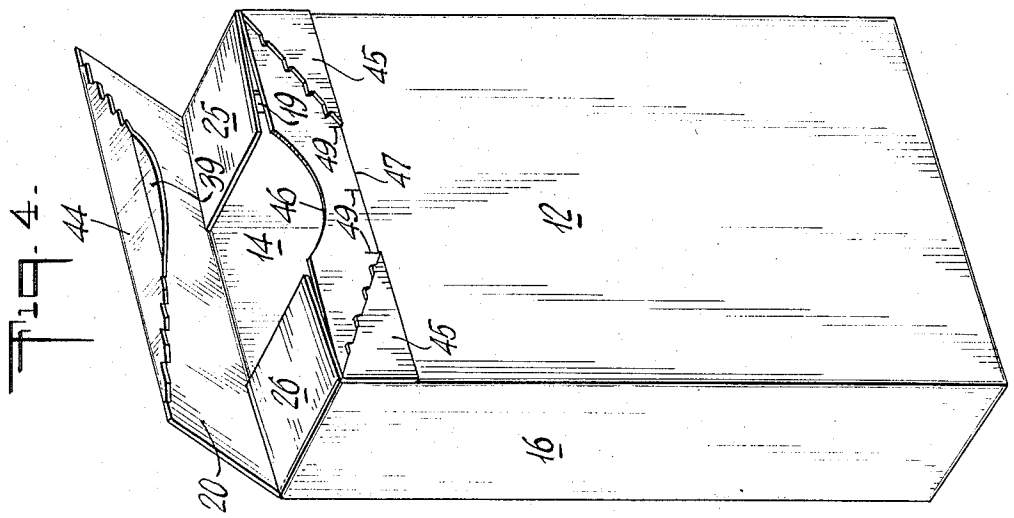
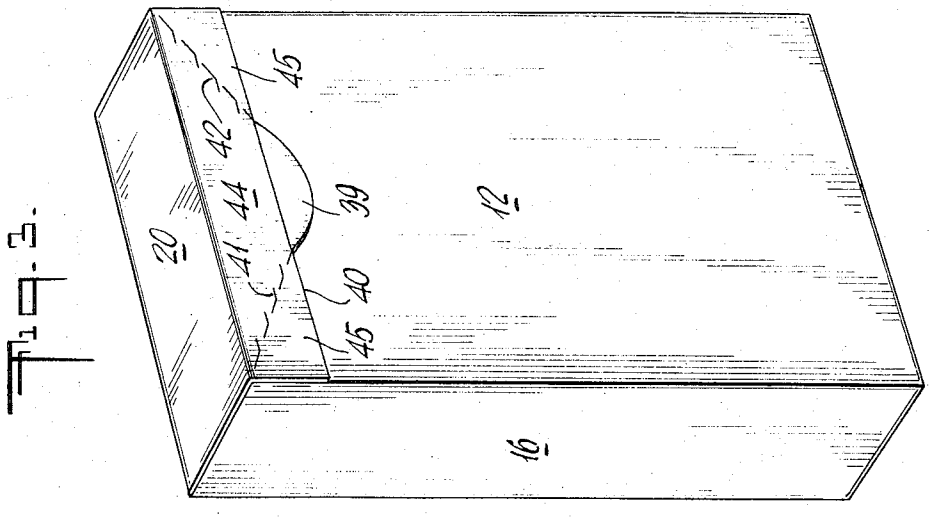


FIG. 3.



RECLOSABLE CARTON

BACKGROUND OF THE DISCLOSURE

The present invention relates to paperboard carton formed by folding cut paperboard blanks, and, more particularly to such cartons provided with a hinged top panel having a reclosure panel adapted to be secured to the front panel.

In this type of carton the closure panel is frequently divided into two or three sections by one or more lines of perforations. Usually one of these sections, which will be referred to as a main section, is connected to the top panel and has a central tab which fits into a slit in the front panel for reclosing the carton. The other section or sections of the reclosure panel are glued to the front panel to initially seal the carton. Such a carton is normally opened by grasping the tab and pulling to free the main panel from the glued portion or portions. Various embodiments of this type of carton are shown in British Pat. No. 240,656, French Pat. No. 1,546,719, and U.S. Pat. No. 3,454,212.

Folded cartons are erected from blanks which are die cut from large sheets of paperboard stock. Normally a certain amount of scrap is generated because the blanks are of irregular shape and the contours of adjacent blanks do not match therefore the paperboard lying between adjacent blanks is wasted. Normally there is also substantial waste around the edge of the paperboard sheet.

The raw material cost of the carton blanks is directly related to the degree to which the paperboard sheet is utilized. A blank of a shape which generates considerable waste obviously has a higher unit cost than one which generates little waste since a sheet of greater area is required to produce the same number of blanks.

Reclosure carton of the type discussed hereinbefore have, in the past, been formed from carton blanks of a shape which generate considerable waste and therefore have a relatively high unit cost.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a low cost reclosable carton.

Another object is to provide such a carton which is assembled from a blank of a shape which generates a minimum of paperboard waste.

The foregoing objects are accomplished by providing a recloseable carton assembled from a paperboard blank folded along a first set of parallel crease lines to form consecutively connected front and back and side panels and folded along a second set parallel crease lines transverse to the first set to form consecutively connected top and closure panels extending from the top edge of the back panel, whereby two carton blanks having their respective front and closure panels in alignment can be cut from a section of paperboard with minimum waste.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the invention has been chosen for purpose of illustration and description, and is shown in the accompanying drawings, forming a part of the specification, wherein:

FIG. 1 is a top plan view of two blanks from which cartons according to the present invention are formed, showing their orientation upon being due cut from a paperboard sheet.

FIG. 2 is an isometric view showing a carton formed from a blank illustrated in FIG. 1 just prior to sealing.

FIG. 3 is an isometric view of the carton of FIG. 2 in its sealed condition.

FIG. 4 is an isometric view of the carton in its opened condition.

FIG. 5 is an isometric view of the carton in its reclosed condition.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings in detail, there is shown in FIG. 1 two identical carton blanks **10** and **11** for forming cartons according to the present invention. The two blanks are shown in the position in which they are die cut from a paperboard sheet.

Each blank includes a front panel **12**, a back panel **14**, and two side panels **15** and **16** serially connected along parallel crease lines **17**. A glueing flap **19** is also connected to the back panel along a crease line **17**. A top panel **20** is connected to the top of the back panel along a transverse crease line **21** and a closure panel **22** is connected to the top panel along a crease line **24** parallel to the line **21**. Top side flaps **25** and **26** are connected to the top of the side panels along crease lines **27** and **28** aligned with the line **21**. Bottom forming flaps **30, 31, 32** and **33** are connected to the bottom edges of the front, back and side panels along aligned crease lines **34, 35, 36** and **37** respectively. Each of the bottom flaps extend the same distance from their associated body panels to provide the blank with a straight edge line **38**.

The closure panel **22** is formed with a tab **39** extending from the center of the free edge **40** of the panel and with two perforated lines **41, 42** extending diagonally from the edges of the tab to the ends of the crease line **24**. The perforated lines divide the panel **22** into a main section **44** and two corner sections **45**.

The top of the front panel **12** is formed with a cutout **46** of the same size and shape as the tab **39**.

It will be seen from FIG. **1** that a plurality of carton blanks can be cut from a sheet of paperboard stock with a minimum of waste. Due to the matching contours of the free edge of the closure panel and the top edge of the front panel, two carton blanks which are oriented 180° with respect to each other can be cut from a single piece of paperboard with no waste being generated between the closure panels and the front panels. The top side flaps **26** of these two blanks extend toward each other. Each of the flaps **26** (and the flaps **25**) extend from the side panels a distance which is not greater than one half of the sum of the distance between lines **21** and **24** and the distance between the line **24** and the straight portion of the free edge **40**.

The blank edges **38** could be made to coincide with the edges of the paperboard sheet stock or with the edges **38** of other blanks.

The width of the sheet of stock can therefore be selected to exactly accommodate two, four, six, etc. carton blanks between its edges with no edge trim waste.

In practice, a sheet of paperboard stock is selected having a width to accommodate a number of blanks which are a multiple of two, and having a length equal to slightly in excess of a multiple of the side to side dimension (from the edge of panel **15** to the edge of flap **19**) of the blank. The excess length is required because of the slightly staggered position of the two interfitting

blanks as shown in FIG. **1**. The next pair of blanks, positioned for example to the right of the blanks **10** and **11** as shown in FIG. **1**, would butt against the right hand edges of the blanks **10** and **11** as shown by the dotted lines on FIG. **1** so that there is minimum waste between adjacent blank pairs. The largest pieces of waste generated are those at the ends of the sheet between the edge of the flap **19** and the edge of the sheet.

The front panel **12** of each blank is provided with a horizontal slit **47** for receiving the tab for reclosure of the carton as described hereinafter. Three short vertical slits **49** intersect the slit **47** to insure easy entry of the tab into the slit **47**.

The blank is folded on the crease lines **17** and the flap **19** is glued to the outside face of the side panel **15** to erect the carton. The bottom flaps **30–33** are folded on the crease lines **34–37** and glued to each other to form the carton bottom. The carton is then filled with product and the flaps **25** and **26** are folded in as shown in FIG. **2**. Small spots of glue **50** are applied to the inside surface of the top panel to lightly glue the top panel to the flaps **25** and **26**, and larger spots of glue **51** are applied to the inside surface of the corner sections **45** of the closure panel to firmly glue the closure panel to the outer surface of the front panel.

The top panel **20** and the closure panel **22** are folded along crease lines **21** and **24** so that the closure panel overlies and adheres to the front panel as shown in FIG. **3**.

To initially open and carton, the tab **39** is grasped and rasied so that the main section **44** of the closure separates from the glued corner sections **45** along the perforated lines **41** and **42**. As the main section **44** of the closure panel is raised, the top panel is pulled away from the flaps **25** and **26** and the glue spots **50** fail allowing the top panel to be fully raised as shown in FIG. **4**.

The carton is resealed by tucking the tab **39** into the slit **47** and pressing the top panel downwardly.

It will be seen from the foregoing that the present invention provides a low cost reclosable carton which is assembled from a blank having a shape which generates a minimum of paperboard waste.

We claim:

1. A one piece blank for forming a reclosable carton cut and creased to provide a plurality of interconnected panels including front, back and side panels having top and bottom and side edges and serially connected to each other at their side edges along a first set of parallel crease lines, and a top and a reclosure panel serially connected to each other and to the top edge of the back panel along a second set of parallel crease lines transverse to said first set, whereby two carton blanks having their respective front and closure panels in alignment are cut from a section of paperboard with minimum waste, said closure panel being spaced from said back panel by said top panel to overlie the top portion of the front panel of the carton when erected, said closure panel being formed with a central tab on the free edge thereof and outer corner portions to be glued to the front panel to initially close the erected carton and a pair of perforated tear lines extending from the sides of said tab to separate a main portion of the panel from said outer corner portions for opening the carton, said front panel being formed with a slit for receiving said tab for reclosing the erected carton.

2. A carton blank according to claim **1** wherein the free edge of said closure panel has a symetrical contour and the top edge of said front panel is formed with a matching contour so that two carton blanks oriented 180° with respect to each other intermesh.

3. A carton blank according to claim **2** wherein bottom forming flaps extend equal distances from the bottom edges of said front, back and side panels to minimize paperboard waste.

4. A carton blank according to claim **3** wherein top side flaps extend from the upper edges of said side panels a distance not exceeding one half the sum of the distance between the crease lines defining said top panel plus the distance from the junction of the top and closure panels to the free edge of said closure panel.

5. A carton blank according to claim **4** wherein said top panel is spot glued to said top side flaps.

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