Sept. 6, 1966 E. J. GRASER 3,270,914

WRAP-AROUND CARTON BLANK WITH END PANEL LOCK

Filed July 17, 1964 3 Sheets-Sheet 1

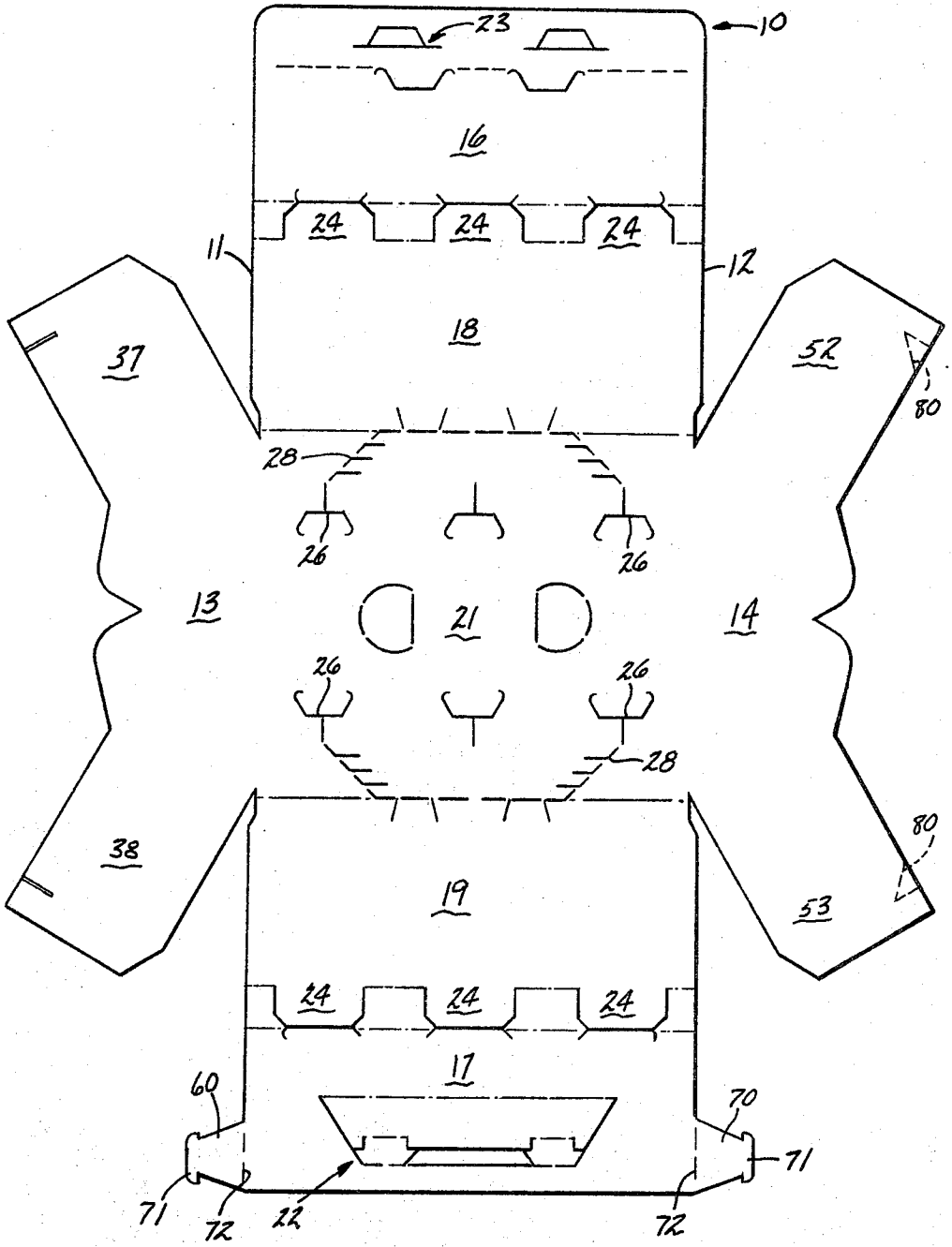


FIG - 1

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Filed July 17, 1964 3 Sheets-Sheet 2

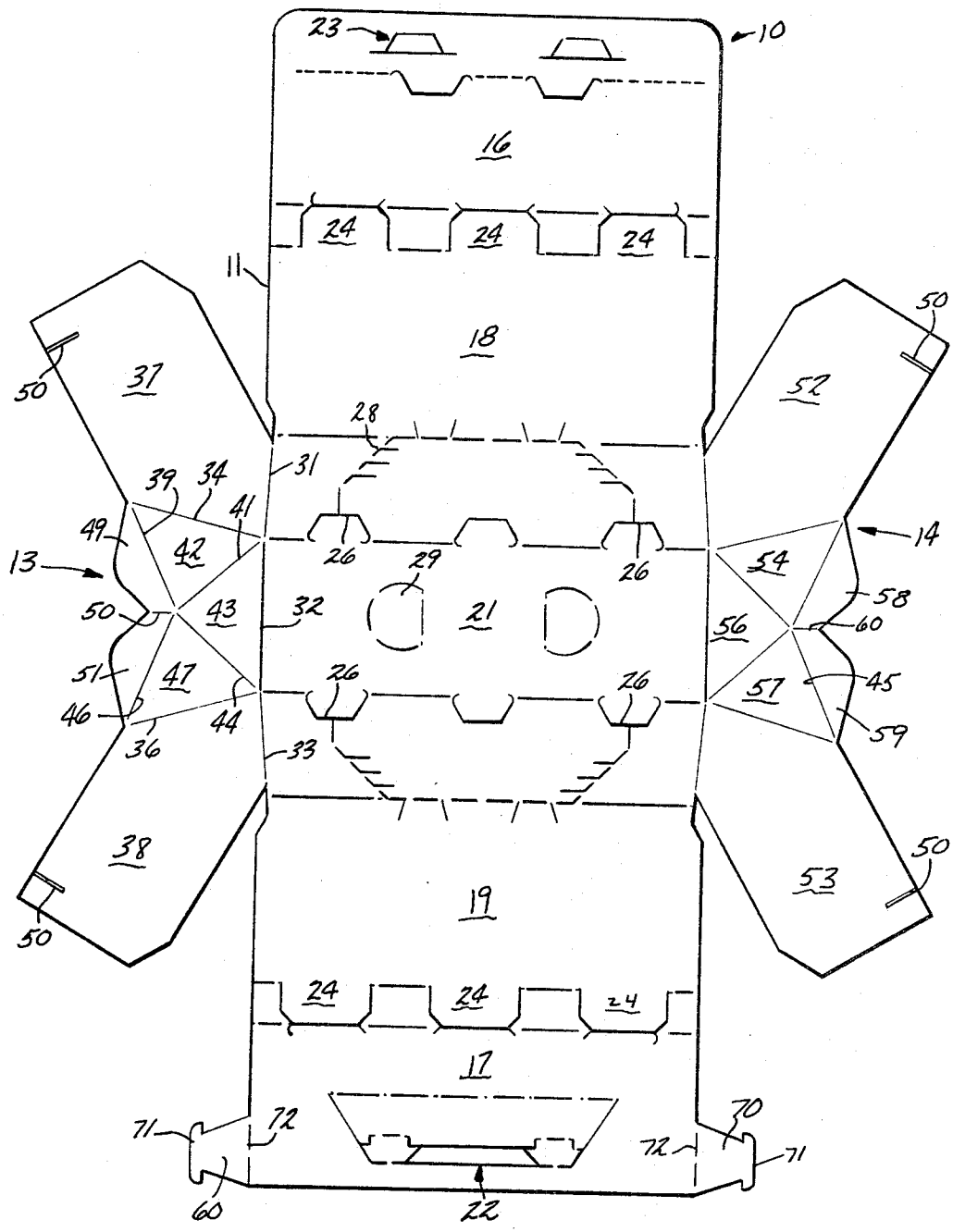


FIG - 2

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WRAP-AROUND CARTON BLANK WITH END PANEL LOCK

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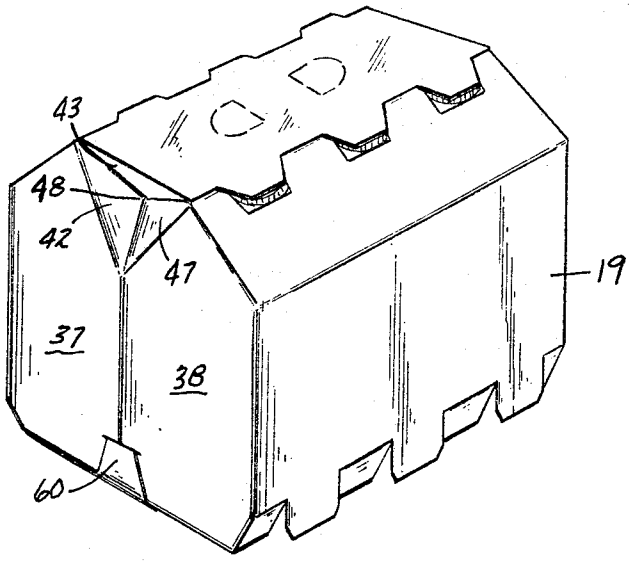


FIG-4

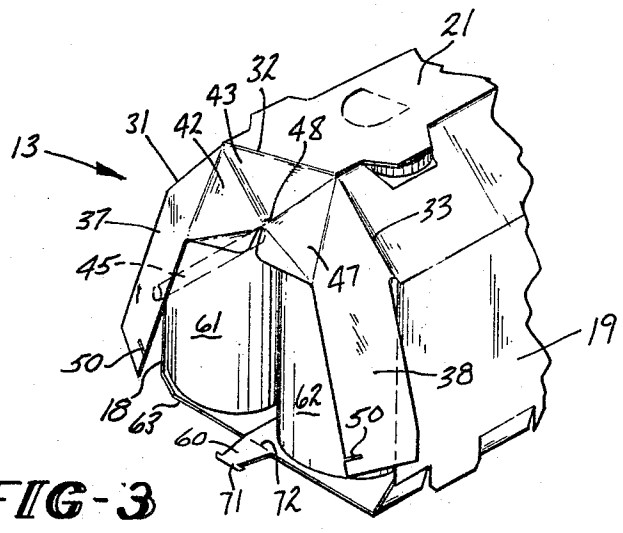


FIG-3

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3,270,914

WRAP-AROUND CARTON BLANK WITH END PANEL LOCK

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Filed July 17, 1964, Ser. No. 383,373
2 Claims. (Cl. 220—112)

The present invention relates to carton blanks of the so-called wrap-around style utilized to encircle a plurality of similar articles to develop a unitary package or assembly of articles.

The invention disclosed and claimed herein is an improvement over the disclosure of U.S. patent application S.N. 304,448, filed August 26, 1963, by Earl J. Graser and Richard L. Schuster, now U.S. Patent No. 3,181,727, issued May 4, 1965.

It is a primary feature of the present invention to provide a wrap-around carton blank which includes end wall panels (partial or full length) including means for locking the panels to the bottom of the carton.

A wrap-around carton blank for encircling and packaging a plurality of articles into a unitary assembly embracing certain features of the present invention may comprise integral end wall flaps or panels and a bottom wall defining inner and outer overlapping bottom panels, means for locking at least one end wall panel to the bottom wall comprising a locking tongue hinged to one of said overlapping bottom panels and a mating slot formed in said end panel, said tongue being formed with a shoulder operative when the tongue is inserted into the slot to make a locking connection with said panel.

Other features and advantages of the present invention will become more apparent from an examination of the succeeding specification when read in conjunction with the appended drawings in which:

FIG. 1 is a plan view of a typical wrap around carton blank formed with opposed wing elements;

FIG. 2 is a plan view of a typical wrap around carton blank including full length end wall panels;

FIG. 3 shows a partially completed carton, and;

FIG. 4 shows the finished carton with the end wall panels tucked and locked.

Referring now to FIGS. 1 and 2, the reference numeral **10** indicates the body portion of a wrap-around carton blank utilized to encircle a plurality of articles to develop a package in well known fashion.

The body portion **10** is generally elongated or rectangular and includes side edges **11** and **12**.

Integrally formed with the body of the blank and integrally connected at opposed side edges are wing elements **13** and **14**.

Since the present invention is directed to the conformation of the wing elements **13** and **14**, details of the body portion **10** will be described only to the extent necessary to identify the conventional features of a wrap around carton blank.

The body **10** comprises panels **16** and **17** which form a bottom wall, side walls **18** and **19**, and top wall **21**. The carton lock structure, indicated by the reference numerals **22** and **23**, is similar to the arrangement disclosed and claimed in U.S. Patent 3,098,583 issued to Sherman et al. on July 23, 1963.

Tabs **24** and **26** provide sockets for the bottom and top of the articles packaged in a manner which will become more apparent hereinafter.

The lines referenced **27** and **28** provide a weakened area in the blank to facilitate easy opening.

Circular cutouts **29** provide finger access by which one may grasp the completed package.

Referring now in detail to the wing elements **13** and **14** in FIG. 2, note that these elements are provided with

a plurality of score lines effective to divide the wing elements into various panels and to provide hinge lines or score lines about which the various panels are rotated.

Since wing elements **13** and **14** are identical, only panel **13** will be described in detail.

Wing element **13** is hinged to the body **10** along score lines **31**, **32** and **33**.

Score lines **31** and **34** define end wall panel **37** and score lines **33** and **36** define end wall panel **38**.

Note that end wall panels **37** and **38** are of sufficient length to extend to the bottom wall of a fully erected package (see FIG. 4). In addition, panels **37** and **38** enclose the ends of the package.

Score lines **34**, **39**, and **41** define a generally triangular tuck panel **42**. Score lines **32**, **41** and **44** define a second generally triangular tuck panel **43** while score lines **36**, **44** and **46** define a third generally triangular tuck panel **47**.

Note that tuck panels **42**, **43** and **47** have adjoining or converging apices as indicated by the reference numeral **48**. Score lines **39** and **46** define tuck flaps **49** and **51** integrally hinged by score line **50**.

Wing element **14** is similarly scored to define similar panels and similar hinge lines. Thus, wing element **14** comprises end walls **52** and **53**, generally triangular tuck panels **54**, **56** and **57** and tuck flaps **58** and **59** hinged at score line **60**. End wall panels **37**, **38**, **52** and **53** are each formed with a slot **50** operative to receive and make locking connection with locking tongues **60** and **70** hinged to inner bottom wall panel **17** in the manner in FIG. 3.

As shown in FIG. 3, the body **10** of the blank is wrapped around a plurality of articles such as six beverage bottles **61–62** in well known fashion to develop a package of articles where the package comprises top wall **31**, side walls **18** and **19** and bottom wall **63**.

Wing element **13** is shown in the unfolded condition projecting outwardly at one edge while wing element **14** (not shown) projects similarly at the opposite edge from the body **10** of the blank. After the package, represented by FIG. 3, is formed, wing element **13** is rotated about score lines **31**, **32** and **33**.

Application of pressure by an instrument, such as a finger device **45**, indicated in dotted lines at the intersecting apices **48** and in the direction shown by the arrow of FIG. 3, will cause the trianglar tuck panels to move inwardly to the position shown in FIG. 4. In this condition end wall panels **37** and **38** fall normal to the top wall **21** of the package and are retained in this position by the tucked position of the triangular panels **42**, **43** and **47**.

The end wall panels **37** and **38** fully enclose one end of the package; correspondingly, end wall panels **52** and **53** fully enclose the opposite end of the package.

And is apparent in FIG. 4, the tongue **60** having a barbed end **71** is rotated about its score line **62** so that the barbed end thereof is received within and creates a locking connection with one or both end wall panels **37–38**.

Thus, the tongue **60** defines a locking means operative to keep the end walls from springing outwardly to the position of FIG. 3 and the tongue **60** also aids in retaining the bottoms of the packaged articles **61–62** in place.

If desired, the locking tongue **60** may be hinged to the outer panel **16** and may engage and lock with only one end wall panel as desired.

In some arrangements of the invention it may be desirable to make a cut-out in the end wall panels such as the triangular cut-out shown in dotted lines at **80** in FIG. 1 in lieu of the slots **50–50**.

It is intended that the locking tongue **70** function in similar fashion.

The present invention is not limited to full length end wall panels; the locking device is equally effective where

the end wall panels are less than full length. The locking tongues **60–70** are elongated or shortened as necessary to engage and lock the end wall panels.

It is anticipated that a wide variety of modifications of the present invention may be devised both as to the blank and the method of folding the blank without departing from the spirit and scope of the present invention.

What is claimed is:

1. In a wrap-around carton of the type having a bottom wall defined by inner and outer overlapping bottom panels and two end walls each comprising a set of two end walls flaps disposed generally perpendicular to said bottom wall, the improvement comprising the opposite end portions of said bottom wall each having a single locking tongue hingedly connected thereto intermediate the length thereof, a slot in each set of end wall flaps, each said slot extending inwardly from the inner edge portion of each said end wall flap, each of said tongues

having oppositely disposed shoulder portions, one of said shoulder portions of each of said tongue operative to be inserted in said slot of one end wall flap of one set and the other shoulder portion of said tongue operative to be inserted in the slot of the other end wall flap of said set.

2. The carton as set forth in claim **1** wherein said slots are generally triangular.

References Cited by the Examiner

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