April 2, 1968 A. J. WEISS 3,375,968

WRAPAROUND CARRIER

Filed Aug. 29, 1966 2 Sheets-Sheet 1

FIG.1

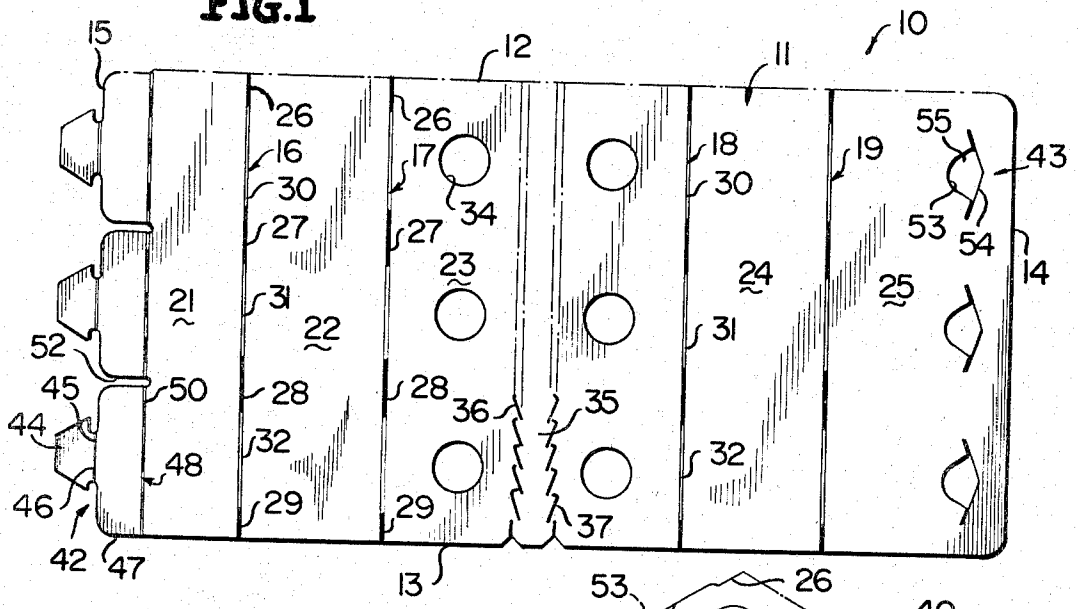


FIG.2

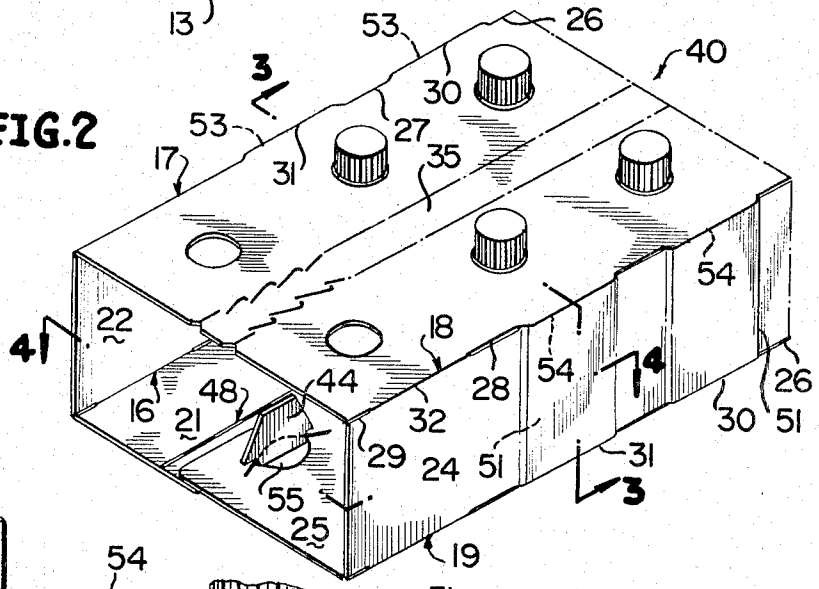
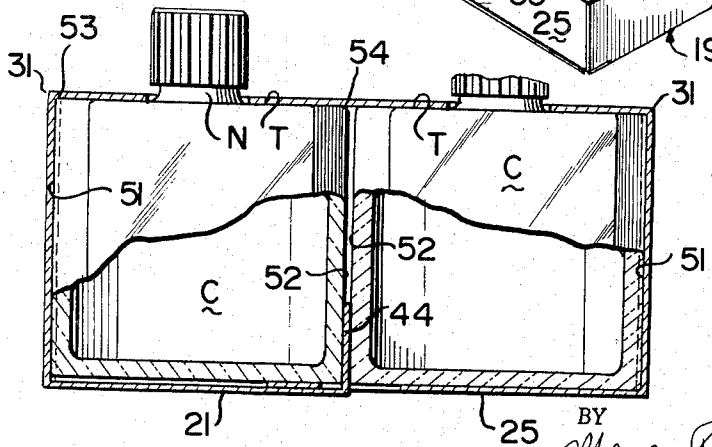


FIG.3



INVENTOR
ARTHUR J. WEISS

BY Mason, Porter, Willer & Brown
ATTORNEYS

April 2, 1968 A. J. WEISS 3,375,968

WRAPAROUND CARRIER

Filed Aug. 29, 1966 2 Sheets-Sheet 2

FIG. 4

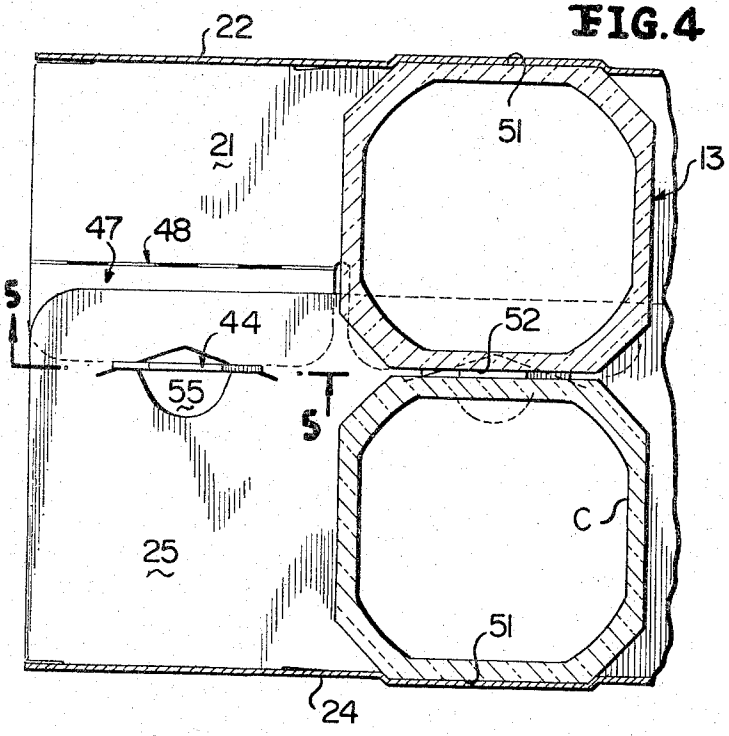


FIG. 5

FIG. 6

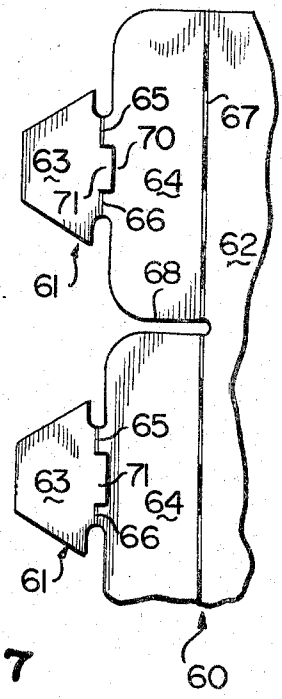
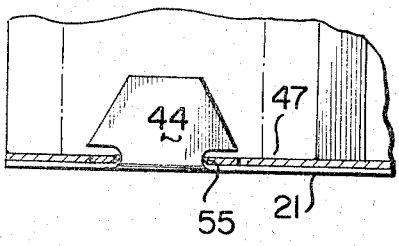
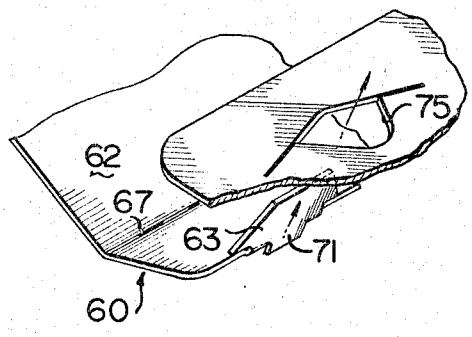


FIG. 7





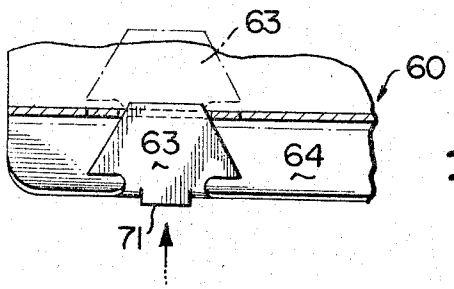


FIG. 8

INVENTOR
ARTHUR J. WEISS

BY Mason, Porter, Miller & Brown
ATTORNEYS

United States Patent Office 3,375,968 Patented Apr. 2, 1968

3,375,968
WRAPAROUND CARRIER

Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Aug. 29, 1966, Ser. No. 575,576
7 Claims. (Cl. 229—40)

This invention relates to a novel carrier of the wraparound type and is particularly directed to a carrier having novel means for maintaining articles packaged therein in spaced relationship, and means for interlockingly securing each of the articles in the carrier.

A primary object of the invention is to provide a novel carrier which is of a generally tubular configuration and includes a top, a pair of side and a pair of terminal closure panels, the top panel being defined in part by a pair of fold lines, a plurality of openings in the top panel, the openings being positioned in transverse and longitudinal alignment, and a pair of fold lines being defined in part by severance lines which are in transverse alignment between longitudinally spaced ones of the neck-receiving openings whereby the discontinuous pair of fold lines define means for maintaining articles interlocked in the carrier.

Still another object of this invention is to provide a novel carrier of the type heretofore described wherein the terminal closure panels are provided with cooperative interlocking means, the interlocking means including a plurality of openings in one of the closure panels, a plurality of locking tabs carried by the other of the closure panels and being aligned for entry into the openings, each of the openings being defined by first and second cut lines, each first cut line being generally U-shaped in configuration and opening toward the terminal edge of the one closure panel, each of the second cut lines being generally V-shaped and opening away from the terminal edge, and each U-shaped cut line merging with an associated one of the V-shaped cut lines at points inwardly of the terminal ends of the latter cut lines.

A further object of this invention is to provide a novel carrier of the type heretofore described, wherein the other closure panel includes a plurality of terminal flaps, each of the flaps being defined in part by a fold line position inwardly of the terminal edge of the other closure panel and a cut line disposed generally normal to the last-mentioned fold line, and each locking tab being joined to an associated one of the flaps.

Another object of this invention is to provide a novel carrier of the type heretofore described where each locking tab is of a generally rhomboidal configuration having a pair of surfaces converging in a direction away from the terminal edge of the other closure panel, each tab being joined to an associated one of the flaps by a reduced neck portion, and the width of each neck portion being generally equal to the distance between terminal ends of the first cut line.

Still another object of this invention is to provide a novel carrier of the type heretofore described including another tab associated with each locking tab, and each of the other tabs projecting in a direction opposite the direction of projection of the locking tabs.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawings.

In the drawings:

FIGURE 1 is a top perspective view of a novel blank constructed in accordance with this invention, and illustrates a plurality of transverse full lines dividing the blank into a plurality of top, side and closure panels.

FIGURE 2 is a top perspective view of a carrier formed from the blank of FIGURE 1, and illustrates a plurality of articles interlockingly housed in the carrier.

FIGURE 3 is a fragmentary slightly enlarged sectional view taken generally along line 3—3 of FIGURE 2, and illustrates means for both separating transversely adjacent ones of the articles and maintaining the terminal closure panels in spaced relationship.

FIGURE 4 is an enlarged fragmentary sectional view taken generally along the line 4—4 of FIGURE 3, and illustrates means for maintaining transverse pairs of the articles in interlocking relationship in the carrier.

FIGURE 5 is a fragmentary sectional view taken generally along the line 5—5 of FIGURE 4, and illustrates one of the locking tabs in the locked position thereof.

FIGURE 6 is a fragmentary top plan view of another blank of this invention, and illustrates each of a plurality of latching tabs joined to a closure panel by a hinged flap.

FIGURE 7 is a fragmentary perspective view of the blank of FIGURE 6, and illustrates the manner in which the hinged flaps are hinged during the insertion of the locking tabs through an opening of another of the closure panels of the blank.

FIGURE 8 is a perspective view of the blank of FIGURE 7, and illustrates one of the latching tabs prior to and after being inserted through one of the openings of any one of the closure panels.

Referring first to FIGURE 1 of the drawings, a novel blank constructed in accordance with this invention is generally designated by the reference numeral **10** and includes a generally rectangular sheet material member **11**. The sheet material member **11** is defined by a pair of spaced, parallel longitudinal edges **12**, **13**, a transverse edge **14** and an opposite generally irregular transverse edge **15**.

A plurality of discontinuous transverse fold lines **16** through **19** cooperate with the edges **12** through **15** to set off a plurality of generally rectangular outer closure, first side, top, second side and inner closure panels, **21** through **25**, respectively. Each of the discontinuous fold lines **16** is defined by severance or cut lines **26** through **29** and short fold lines **30** through **32** therebetween. It should be particularly noted that the cut lines **26** through **29** of each of the discontinuous transverse fold lines **16** through **19** are in longitudinal alignment as are the fold lines **30** through **32** of each of the discontinuous fold lines **16** through **19**.

The top panel **23** is provided with a plurality of identical circular neck-receiving openings **34**. There are six such neck-receiving openings **34** illustrated in the drawings, but it is to be understood that more or less than this number may be formed in the top panel **23** in accordance with this invention. The neck-receiving openings **34** are adapted to receive necks N (FIGURE 3) of containers C such as glass, plastic or metallic bottles or similar articles. The neck-receiving openings **34** are both longitudinally and transversely aligned, and a plane passing through the center lines of transversely adjacent pairs of the neck-receiving openings **34** bisect the short fold lines **30** through **32** of each of the discontinuous fold lines **16** through **18** for a purpose which will be more apparent hereinafter.

The top panel **23** is also provided with a removable tear strip **35** defined by a pair of discontinuous generally parallel cut lines **36**, **37**. The tear strip **35** is disposed substantially along a longitudinal center line of the top panel **23**, and is adapted to be removed to facilitate the removal of articles from a carrier **40** which is formed by setting-up the blank **10**, as will be more apparent hereafter.

The carrier **40** is maintained in the generally tubular configuration thereof as illustrated in FIGURE 2 of the drawings by cooperative latching means **42**, **43** forming respective portions of the closure panels **21**, **25**.

The latching means **42** of the outer closure panel **21** are a plurality of identical generally rhomboidal-shaped latching tabs **44** having reduced neck portions **45** which are in turn each provided with a transverse fold line **46**. The transverse fold line **46** joins each latching tab **44** with an associated identical flap **47**. Each flap **47** is defined by portions of the irregular transverse edge **15**, an associated discontinuous fold line **48** which is defined by alternating fold line portions **50** and cut line portions **51**, and a longitudinal slot **52**. There are three latching tabs **44** illustrated in FIGURE 1 of the drawings, and each latching tab is in longitudinal alignment with an associated one of the latching means **43**.

Each of the latching means **43** of the inner closure panel **25** is defined by a first generally U-shaped cut line **53** directed toward but terminating short of the transverse edge **14**. Each of the latching means **43** also includes a generally shallow V-shaped cut line **54** which opens away from the transverse edge **14**. Portions of the cut lines **53**, **54** define openings **55** into which associated ones of the latching tabs **44** are adapted to pass through, as will be more apparent hereinafter.

The blank **10** is formed into the carrier **40** by positioning the former in overlying relationship to a plurality of aligned containers C. The containers C include generally octagonal-shaped bodies B which include opposite side walls S1, S2 (FIGURE 4). The side walls S1, S2 of each container C merge with a generally annular top wall T at respective shoulders S3, S4 (FIGURES 2 and 3).

After the necks N have been seated in the neck-receiving openings **34** the blank **10** is folded along the discontinuous fold lines **16** to **19** until the outer closure panel **21** is brought into underlying relationship to the inner closure panel **25**. At this point the flaps **47** are folded along the associated fold lines **48** in a manner similar to that illustrated in FIGURE 7 of the drawings. The folding of the flaps **47** facilitates the insertion of the latching tabs **44** through the openings **55** of the latching means **43** to the position best illustrated in FIGURES 2 through 4 of the drawings. The latching tabs **44** not only cooperate with the openings **55** to maintain the carrier **40** assembled in the generally tubular configuration thereof, but it should be particularly noted that each of the latching tabs **44** additionally functions as a separator to maintain lower end portions of adjacent pairs of the articles C in non-contacting spaced relationship.

During the wrapping of the blank **11** about the articles C and the forceful insertion of the latching tabs **44** between the lower end portions thereof, the shoulders S3, each side wall S1 and a lower shoulder corresponding to the shoulders S3 are forcefully urged into interlocking relationship with each of the fold line portions **30** through **32** of the discontinuous fold lines **16** through **19**, as best illustrated in FIGURES 2 and 4 of the drawings. Each fold line portion **30** through **32** of the discontinuous fold lines **16** through **19** thereby defines an interlock for immovably maintaining each of the articles C within the carrier **40**.

Another novel blank constructed in accordance with this invention is partially illustrated in FIGURE 6 of the drawings, and is generally designated by the reference numeral **60**. The blank **60** is identical to the blank **10** of FIGURE 1 except for different latching means **61** carried by an outer closure panel **62**. The latching means **61** are each defined by a rhomboidal-shaped latching tab **63** joined by an associated flap **64** by a relatively narrow pair of neck portions (unnumbered) across which are aligned short fold lines **65**, **66**. The flaps **64** are each in turn joined to the outer closure panel **62** by a discontinuous fold line **67** and are defined in part by a longitudinal slot or cut **68** terminating adjacent the discontinuous fold line **67**. Each of the neck portions are provided with a generally inverted C-shaped severance line **70** defining a tab **71** projecting in a direction opposite to the direction of projection of each of the latching tabs **63**.

The blank **60** is formed into a wraparound type carrier (not shown) having a plurality of articles housed therein in much the same manner as that heretofore described relative to the formation of the blank **10** into the carrier **40**. However, each of the latching tabs **63** is inserted through an associated opening **75** a rod, roller or similar means are brought into contact with each of the tabs **71** to forcefully engage and urge the latching tabs **63** between transversely adjacent pairs of the articles (not shown). The hinge or foldable construction between each of the flaps **64** and the outer closure panel **62** along the fold line **67** assist in the insertion of the latching tabs **63** into the openings **65** in the manner diagrammatically illustrated in FIGURE 7 of the drawings. While the machine for inserting the latching tabs **63** into the openings **75** is not illustrated, the same is provided with means which folds the flap **64** along the associated fold line **67** from a generally flat plane toward a vertical plane (FIGURE 7) while at the same time each of the locking tabs **63** are folded along the fold line **65**, **66** in a direction pointing toward the openings **75**. During the insertion of the tabs **63** into the openings **75** the flaps **64** are again brought to a planar horizontal position at about a time the noted roller, rail, guide bar or similar means act against the tabs **71** to insert the latching tabs **63** between the articles.

From the foregoing, it will be seen that novel and advantageous provision has been made for carrying out the desired end. However, attention is directed to the fact that other variations may be made in the example wraparound carrier and blank disclosed herein without departing from the spirit and scope of this invention as defined in the appended claims.

I claim:

1. A blank of the type adapted to be formed into a generally tubular carrier comprising a generally planar sheet material member, a plurality of fold lines dividing said member into side, top, first and second terminal closure panels, a plurality of openings in one of said closure panels, a plurality of locking tabs carrier by the other of said closure panels and being alignable for entry into said openings, each of said openings being defined by first and second cut lines, each first cut line being generally U-shaped in configuration and opening toward a terminal edge of said one closure panel, each of said second cut lines being generally V-shaped and opening away from said terminal edge, and each U-shaped cut line merging with an associated one of the V-shaped cut lines at points inwardly of the terminal ends of the latter cut lines.

2. The blank as defined in claim **1** wherein said other closure panel includes a plurality of terminal flaps, each of said flaps being defined in part by a fold line positioned inwardly of a terminal edge of said other closure panel and a cut-line disposed generally normal to said last-mentioned fold line, and each locking tab being joined to an associated one of the flaps.

3. The blank as defined in claim **2** wherein each locking tab is of a generally rhomboidal configuration having a pair of surfaces converging in a direction away from the terminal edge of said other closure panel, each tab being joined to an associated one of the flaps by a reduced neck portion, and the width of each neck portion being generally equal to the distance between terminal ends of the first cut lines.

4. The blank as defined in claim **2** wherein each locking tab includes another tab projecting in a direction opposite to the direction of projection of the locking tabs.

5. The blank as defined in claim **3** including another tab associated with each locking tab, and the another tabs

each projecting in a direction opposite to the direction of projection of the locking tabs.

6. A blank of the type adapted to be formed into a generally tubular carrier comprising a generally planar sheet material member, a plurality of fold lines dividing said member into side, top, first and second terminal closure panels, a plurality of neck-receiving openings in said top panel, said openings being disposed in transversely and longitudinally aligned groups between a pair of fold lines defining said top panel, a plurality of severance lines disposed along each of said pair of fold lines, and said severance lines being in transversely aligned relationship between longitudinally spaced pairs of said neck-receiving opening.

7. The blank as defined in claim 6 wherein said top panel includes a tear strip disposed transversely thereof between said neck-receiving openings.

References Cited

UNITED STATES PATENTS

3,166,190	1/1965	Conrades	206—65
3,167,214	1/1965	Mahon	229—40
3,169,691	2/1965	Wood	206—65
3,278,075	10/1966	Weiss	229—40

JOSEPH R. LECLAIR, *Primary Examiner.*

ROBERT PESHOCK, *Examiner.*