

[72] Inventor **Arthur J. Weiss**  
**Bergenfield, N.J.**  
 [21] Appl. No. **838,250**  
 [22] Filed **July 1, 1969**  
 [45] Patented **June 29, 1971**  
 [73] Assignee **Continental Can Company, Inc.**  
**New York, N.Y.**  
**Continuation of application Ser. No.**  
**618,467, Feb. 24, 1967, now abandoned.**

[56]		References Cited	
UNITED STATES PATENTS			
2,004,098	6/1935	Andrews .....	24/17
2,872,036	2/1959	Forrer .....	206/65
2,973,129	2/1961	Stone .....	229/16
2,990,997	7/1961	Weiss .....	229/40
3,156,404	11/1964	Wood .....	229/40
3,166,190	1/1965	Conrades .....	206/65
3,248,004	4/1966	Weiss .....	220/115
3,270,944	9/1966	Baker .....	229/40

Primary Examiner—Donald F. Norton  
 Attorney—Diller, Brown, Ramik and Holt

[54] WRAP-AROUND CARRIER WITH LATCHING AND SPACER MEANS  
 12 Claims, 7 Drawing Figs.

[52] U.S. Cl. .... 229/40,  
 206/65  
 [51] Int. Cl. .... B65d 5/04  
 [50] Field of Search .. 229/40;  
 206/65 C; 224/45.2, 45.25; 24/17.1, 17.2, 17, 204

**ABSTRACT:** A wraparound type carrier having inner and outer terminal closure panels with cooperative latching means in the form of an aperture in the inner panel through which projects a tab of the outer panel. The tab includes an enlarged head disposed between transversely adjacent articles and a reduced neck portion of a size exceeding the distance between a pair of shoulders defined by the aperture whereby disengagement of the latching means is precluded.

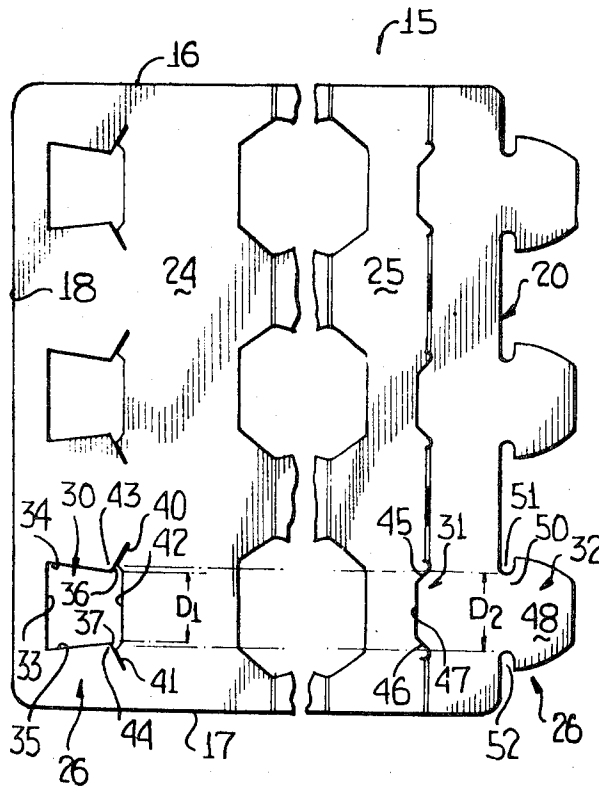


FIG. 1

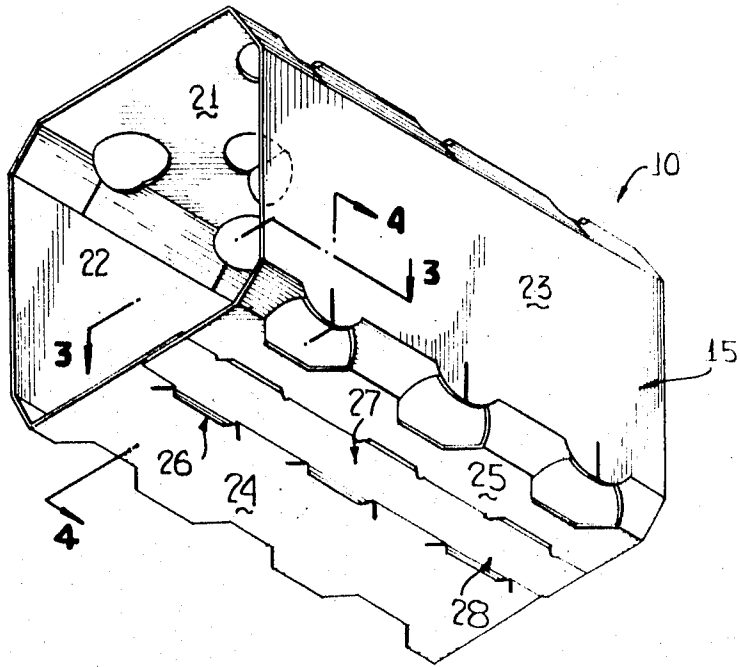


FIG. 2

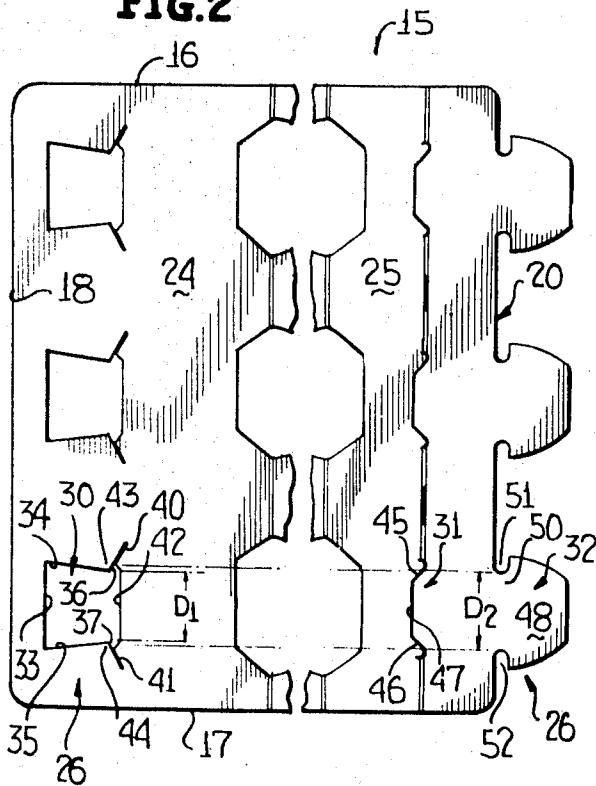
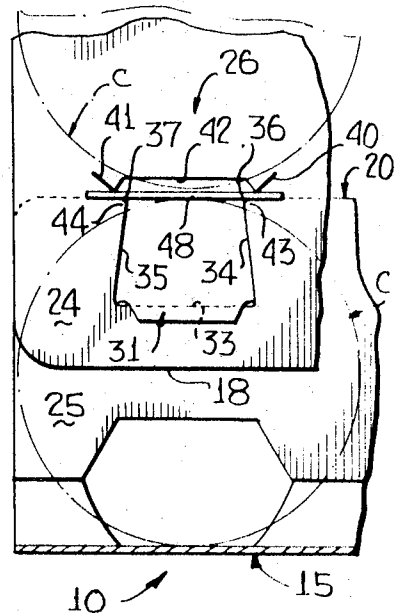


FIG. 3



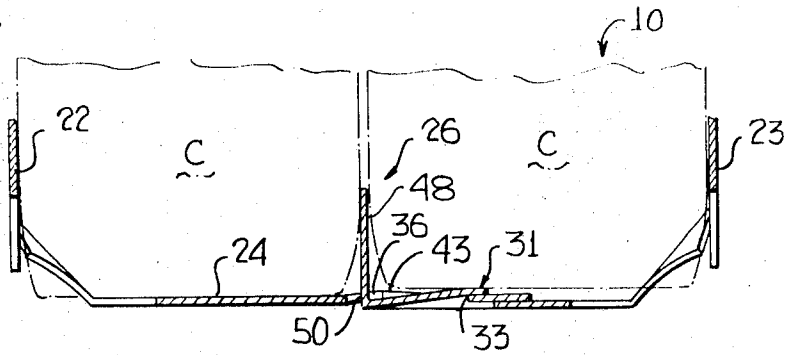
INVENTOR

ARTHUR J. WEISS

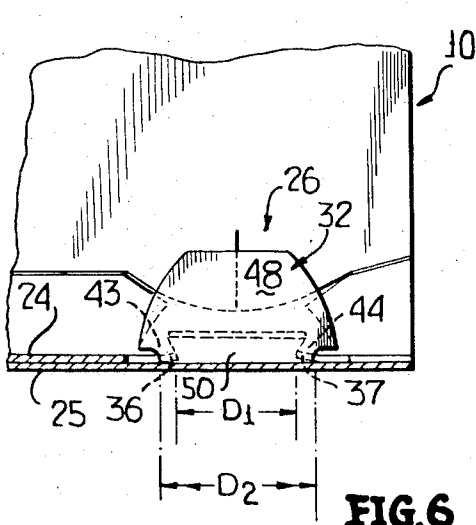
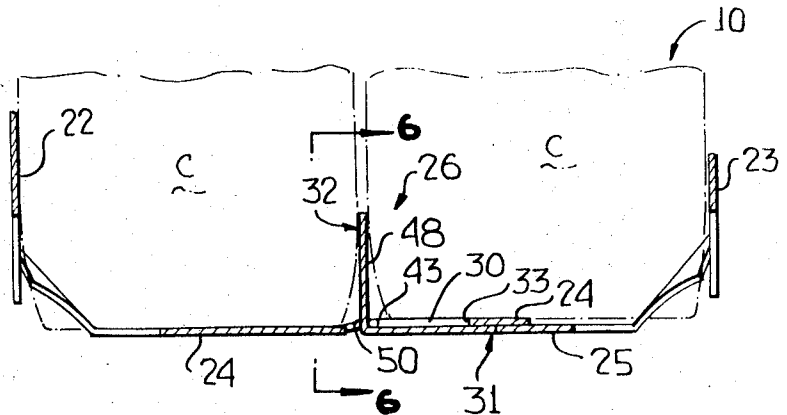
*Deller, Brown, Gamble & Holt*

ATTORNEYS

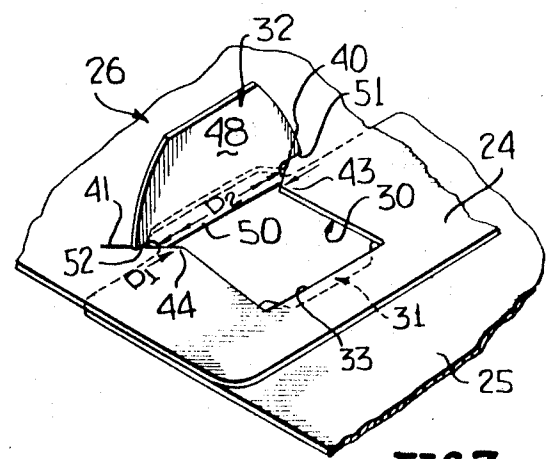
**FIG. 4**



**FIG. 5**



**FIG. 6**



**FIG. 7**

INVENTOR

ARTHUR J. WEISS

*Diller, Brown, Smith & Holt*  
ATTORNEYS

### WRAP-AROUND CARRIER WITH LATCHING AND SPACER MEANS

This application is a continuation in part of my copending commonly assigned application Ser. No. 618,467, filed Feb. 24, 1967 and now abandoned.

This invention relates to a novel wraparound type carrier, as well as to a blank from which the carrier is constructed, and is particularly concerned with the construction of cooperative latching means which additionally function to maintain transversely adjacent articles in spaced relationship.

In conventional carriers or cartons of the type to which this invention is directed it is customary to form a plurality of apertures in one terminal panel of the blank, usually the inner closure panel, and form a plurality of pairs of oppositely directed latching tabs in an opposite terminal panel, usually an outer closure panel. The tab of each pair of tabs which is directed toward an associated aperture is generally termed the primary latching tab while the tab of each pair directed away from an associated aperture is an auxiliary tab. The major interlocking engagement between the closure panels is between the primary latching tabs and the apertures, and is augmented to a slight degree by the auxiliary latching tabs. The auxiliary tabs generally lie flat and beneath containers, such as cans or bottles, packaged in the carrier. If the primary tabs are not locked properly in their associated apertures the auxiliary tabs function to sustain the entire load of the package by keeping the overlapped closure panels together in locked positions. However, due to the horizontal position of the tabs they can readily slip out from beneath the associated containers, and only a small degree of slippage is sufficient to loosen the package to such an extent that the containers are apt to fall out, particularly at the open ends of the carrier.

Another difficulty experienced with such conventional wraparound type carriers is the necessity of offsetting the tabs and apertures longitudinally relative to the centerline between transversely adjacent pairs of the packaged articles in order that spacers can be formed from the material and disposed between transverse articles. In the absence of such offsetting of the tabs and apertures there is no material available from which the spacers can be formed. Furthermore, when both latching tabs and separate spacers are formed from the material of the carrier, generally by a striking operation, the carrier is correspondingly weakened since a greater portion of the material is removed. Therefore, the desirability of forming latching tabs which also function as spacers is readily apparent, and is achieved by a novel carrier construction of this invention.

In keeping with the above a wraparound carrier is provided by forming a generally rectangular blank to a tubular configuration, the blank including inner and outer terminal panels in generally overlapped relationship, the terminal panels having cooperative interlocked latching means for maintaining the blank in its tubular configuration, the cooperative latching means being defined by at least a pair of oppositely directed primary and auxiliary tabs carried by the outer panel and projecting through an aperture of the inner panel, the aperture defining a pair of shoulders spaced from each other a predetermined dimension, the auxiliary tab including an enlarged head portion projecting upwardly along a center line of the carrier between transversely adjacent articles, a reduced neck portion joining the head portion to the outer panel, and the reduced neck portion having a predetermined dimension greater than the dimension between the shoulders whereby the shoulders overlappingly abuttingly engage the reduced neck portion whereby the auxiliary tab functions to both prevent the accidental disengagement of the latching means even if the primary tab becomes disengaged and additionally maintains transverse pairs of the objects in spaced relationship.

A further object of this invention is to provide a novel carrier of the type heretofore mentioned wherein the inner panel

includes a terminal edge, and the shoulders are defined by edge portions of the aperture converging in a direction toward each other and toward the terminal edge.

Still another object of this invention is to provide a novel wraparound carrier of the character mentioned including a pair of slits forming continuations of the edge portions defining the shoulders, and the maximum distance between the slits is at least equal to the width of the head portion whereby the latter is prevented from being removed through the aperture should the primary tab become disengaged and/or the auxiliary tab become dislodged from between the articles.

It is a further object of this invention to provide a novel package which includes a wraparound carrier of a generally tubular configuration encasing a plurality of articles therein, said carrier including a pair of closure panels in overlapped relationship, an inner one of said panels including a primary latching tab struck from the material of the outer closure panel and being directed toward a terminal transverse edge thereof, the primary latching tab being in internal overlying relationship to an edge portion of the aperture, the outer closure panel further including a vertically disposed latching member projecting upwardly through the aperture, and the vertically disposed latching member having a pair of shoulders overlyingly engaging spaced edge portions further defining the aperture.

Another object of the invention is to provide a novel package of the type immediately set forth wherein the vertically disposed latching member is positioned remote from the longitudinal center line of the carrier.

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 claimed subject matter, and the several views illustrated in the accompanying drawings.

In the drawings:

FIG. 1 is a bottom perspective view of a novel wraparound carrier or carton constructed in accordance with this invention, and illustrates latching means maintaining overlapped inner and outer closure panels in interlocked relationship.

FIG. 2 is a fragmentary top plan view of a blank from which the carrier of FIG. 1 is constructed, and illustrates a plurality of pairs of tabs and longitudinally aligned apertures which define the latching means of the carrier.

FIG. 3 is an enlarged fragmentary sectional view taken generally along line 3-3 of FIG. 1, and illustrates an auxiliary tab functioning as a spacer between transversely adjacent articles in the carrier.

FIG. 4 is a fragmentary sectional view taken generally along line 4-4 of FIG. 1, and more clearly illustrates the position of both the auxiliary tab and a primary latching tab in overlapped interlocking engagement with an inner closure panel.

FIG. 5 is a fragmentary sectional view taken generally along line 4-4 of FIG. 1, and illustrates the auxiliary tab maintaining the carrier and articles in assembled relationship upon the accidental disengagement of the primary tab.

FIG. 6 is a fragmentary sectional view taken generally along line 6-6 of FIG. 5, and illustrates a reduced neck portion of the auxiliary tab in engagement with shoulders defined by an aperture of the inner closure panel for preventing disengagement of the closure panels.

FIG. 7 is a fragmentary top perspective view of the tabs and aperture of FIG. 6, and more clearly illustrates the interlocking engagement between the neck portion of the auxiliary tab and the shoulders of the aperture.

A novel wraparound carrier or carton 10 (FIG. 1) is constructed from a generally rectangular blank 15 (FIG. 2) constructed from paperboard, plastic or similar foldable material.

The blank 15 is a generally flat, rectangular member which includes a pair of longitudinal edges 16, 17, transverse edges 18, 20, and a plurality of transverse fold lines (unnumbered) dividing the blank into a top panel 21 (FIG. 1), a pair of side panels 22, 23, and a pair of terminal inner and outer closure panels 24, 25, respectively. The closure panels 24, 25 are pro-

vided with a plurality of cooperative latching means 26 through 28 (FIG. 1) which are secured in interlocked relationship when the blank 15 is in the tubular configuration thereof (FIG. 1) to maintain the carrier 10 and a plurality of articles C, such as bottles, cans or similar containers, in assembled relationship.

Since the cooperative latching means 26 through 28 are identical, the following description of the latching means 26 will be sufficient for a complete understanding of the invention.

The cooperative latching means 26 includes an aperture 30 formed in the inner closure panel 24 and a pair of latching tabs 31, 32 carried by the outer closure panel 25. The aperture 30 and the tabs 31 and 32 are in transverse alignment as is readily apparent from FIG. 2 of the drawings.

The aperture 30 and the remaining unnumbered apertures are each defined by an edge portion 33 parallel to the transverse edge 18, a pair of edge portions 34, 35 converging toward each other in a direction away from the transverse edge 18, a pair of edge portions 36, 37 diverging away from each other in a direction away from the transverse edge 18, slits 40, 41 forming continuations of the respective edge portions 36, 37, and an edge portion 42 which is of a shallow inverted C-shaped configurations viewed in FIG. 2 of the drawings. A pair of shoulders 43, 44 are therefore formed at the juncture of the respective edge portions 34, 36 and 35, 37. The shoulders 43, 44 are transversely spaced from each other a distance  $D_1$  for a purpose to be set out hereafter.

The tab 31 is a primary latching tab of the blank 15 and is defined by a pair of edge portions 45, 46 converging towards the transverse edge 18 and terminating at an edge portion 47 which is substantially parallel to the edge 18 and the edge portions 33, 42 of the aperture 40.

The tab 32 is an auxiliary latching tab of the blank 15 and includes an enlarged head portion 48 joined to the outer closure panel 25 by a reduced neck portion 50 defined between a pair of oppositely directed generally U-shaped slots 51, 52. The maximum transverse dimension of the enlarged head portion 48 is slightly smaller than the maximum distance between the slits 40, 41 to facilitate the insertion of the head portion 48 into the aperture 30, as will be fully apparent hereafter. The transverse dimension  $D_2$  of the reduced neck portion 50 is slightly greater than the distance  $D_1$  separating the shoulders 43, 44, as is readily apparent from FIG. 2 of the drawings.

The blank 15 is normally positioned atop of plurality of containers (generally 6) and lowered until the necks of the containers pass through neck-receiving openings (unnumbered) of the top panel 21. The side panels 22, 23 are automatically folded downwardly, and subsequently the outer closure panel 25 is folded into generally underlying relationship to the previously folded inner panel 24. Each of the primary locking tabs 31 of the cooperative latching means 26 through 28 is then inserted into its associated aperture 30 with the tabs 31 in overlying relationship with the inner surface of the inner panel 24 adjacent the edge portion 33, as is best illustrated in FIG. 3 of the drawings. The enlarged head 32 of each of the cooperative latching means 26 through 28 is then inserted through its associated aperture 30 with the material adjacent the slits 40, 41 yielding temporarily to facilitate the insertion of each of the auxiliary tabs 32 to the final position thereof best shown in FIGS. 3 and 4 of the drawings in which each enlarged head portion 48 defines a spacer between adjacent transverse pairs of containers C. In this same position it is to be noted that prior to the insertion of each head portion 48 between transversely adjacent containers C the bottoms (unnumbered) of the containers are in contacting relationship and the head portions 48 force the bottom portions away from each other. Each head portion 48 is thereby frictionally wedgingly retained in the position illustrated in FIG. 4 by the gripping action of transversely adjacent containers while the primary tab 31 of each of the latching means is held in a horizontal plane in overlying relationship to the inner closure panel 24 by the overlying contact of an associated container. In these posi-

tions of the tabs 31 and 32 a relatively tight package is formed and the accidental loss of a container from the carrier 10 is virtually precluded.

However, should the packaged carrier 10 be abused during storage and/or shipment, or should the initial latching operation heretofore described be improperly performed it is possible for one or more of the primary tabs 31 to slip out of its normal overlapping engagement with the inner closure panel 24, as illustrated in FIGS. 5 through 7 of the drawings. This may occur as a result of shifting between the containers or, assuming the right-handmost container of FIG. 4 is a can, the "riding-up" of the bottom chime of a longitudinally adjacent can. In conventional wraparound carriers the disengagement of one of the primary latching tabs is generally sufficient to loosen the carrier enough for a container, particularly the axially endmost containers, to fall out of the carton as the closure panels begin sliding apart.

Such conventional sliding between the closure panels 24, 25 is virtually precluded by this invention primarily because of the particular construction of the reduced neck portion 50 and the shoulders 36, 37 of each of the cooperative latching means 26 through 28, as well as the wedging frictional engagement of each of the enlarged head portions 48 between transversely adjacent pairs of the containers C. Assuming the primary latching tab 31 is in the disengaged position illustrated in FIGS. 5 through 7 of the drawings, the containers C still function to maintain the enlarged head portion 48 in an upright or normal position relative to the closure panels 24, 25. In this position the neck portion 50 abuts against the edge portions 36, 37 of the shoulders 43, 44 due to the larger dimension  $D_2$  of the neck portion 50 as compared to the dimension  $D_1$  of the shoulders. Thus, any tendency of any one of the latching means 26 through 28 to unlatch when the primary latching tabs 31 are disengaged is precluded by the abutment of the neck portions 50 with associated shoulders 43, 44, and augmented by the containers C maintaining the tabs 32 in an upright position. It should be also noted that any tendency of the head portions 48 to move downwardly is also resisted by the overlapping relationship of end portions (unnumbered) of the enlarged heads 48 adjacent the slots 51, 52 in overlying relationship with the inner closure panel adjacent the slits 40, 41. Thus, should the leftmost container C in FIG. 5 accidentally fall out of the carrier 10 the tendency of the closure panels to separate would still maintain the end portions of the enlarged head 48 in overlying relationship with the end panel with the result that the neck portion 50 would remain in contact with the shoulders 43, 44 and prevent complete disengagement of the latching means.

It is, of course, in keeping with this invention possible to dispose the vertically disposed tab or latching member 32 other than along the longitudinal centerline of the carrier. As an example, the length of the outer panel 25 could be decreased to dispose the openings 30 of the latter adjacent the wall 22 thus sandwiching the tabs 32 between the panel 22 and each adjacent article packaged within the carrier.

While preferred forms and arrangement of parts have been shown in illustrating the invention, it is to be clearly understood that various changes in details and arrangement of parts may be made without departing from the spirit and scope of the invention as defined in the appended claimed subject matter.

I claim:

1. A blank for a wraparound type carrier comprising a sheet material member divided into a plurality of panels by transverse fold lines, said panels including terminal end panels, said terminal end panels having cooperative latching means adapted for interlocking engagement upon the folding of the blank to a generally tubular configuration, said cooperative latching means being defined by at least a single tab carried by one of said terminal end panels and an aperture formed in the other of said terminal end panels, said tab and aperture being disposed in substantial longitudinal alignment whereby said tab is adapted for insertion into said aperture, said aperture

defining a pair of shoulders spaced from each other a predetermined transverse dimension, said tab including an enlarged head portion and a reduced neck portion; said reduced neck portion joining said head portion to said one terminal end panel, and said reduced neck portion having a predetermined transverse dimension greater than said first-mentioned dimension whereby said shoulders are aligned to engage against said reduced neck portion after the latter has been inserted through said aperture thereby preventing the accidental disengagement of said latching means, said other terminal panel includes a terminal edge and said shoulders are defined by edge portions of said aperture converging in a direction toward each other and toward said terminal edge.

2. The blank as defined in claim 1 including a pair of slits forming continuations of the edge portions defining said shoulders, and the maximum transverse distance between said slits is at least equal to the transverse dimension of said head portion.

3. The blank as defined in claim 2 wherein said other terminal panel includes a terminal edge, said aperture includes an edge portion more closely adjacent said terminal edge than said shoulders, and said one terminal panel further includes another tab in alignment with said first-mentioned tab and said aperture and being directed toward said aperture

4. The blank as defined in claim 1 wherein said shoulders are further defined by other edge portions of said aperture converging in a direction toward each other away from said terminal edge and merging with said first-mentioned edge portions.

5. A blank for a wraparound type carrier comprising sheet material member divided into a plurality of panels by transverse fold lines, said panels including terminal end panels, said terminal end panels having cooperative latching means adapted for interlocking engagement upon the folding of the blank to a generally tubular configuration said cooperative latching means being defined by at least a single tab carried by one of said terminal end panels and an aperture formed in the other of said terminal end panels, said tab and aperture being disposed in substantial longitudinal alignment whereby said tab is adapted for insertion into said aperture, said aperture defining a pair of shoulders spaced from each other a predetermined transverse dimension, said tab including an enlarged head portion and a reduced neck portion, said reduced neck portion joining said head portion to said one terminal end panel, and said reduced neck portion having a predetermined transverse dimension greater than said first-mentioned dimension whereby said shoulders are aligned to engage against said reduced neck portion after the latter has been inserted through said aperture thereby preventing the accidental disengagement of said latching means, said other terminal panel includes a terminal edge, said aperture includes an edge portion more closely adjacent said terminal edge than said shoulders, and said one terminal panel further includes another tab in alignment with said first-mentioned tab and said aperture and being directed toward said aperture.

6. A wraparound type carrier comprising a tubular sheet material member divided into a plurality of panels by a plurality of fold lines, said panels including an inner terminal panel and an outer terminal panel in generally overlapped relation, said terminal panels having cooperative interlocked latching means for maintaining said sheet material member in its generally tubular configuration said cooperative latching means being defined by at least a single tab carried by said outer panel and projecting through an aperture of said inner panel, said aperture defining a pair of shoulders spaced from each other a predetermined longitudinal dimension, said tab including an enlarged head portion and a reduced neck portion, said reduced neck portion joining said head portion to said outer panel, said reduced neck portion having a predetermined longitudinal dimension greater than said first-mentioned dimension, and said tab being disposed generally normal to said terminal panels whereby said shoulders overlappingly engage said reduced neck portion thereby preventing the accidental disengagement of said latching means, said

inner terminal panel includes a terminal edge, and said shoulders are defined by edge portions of said aperture converging in a direction toward each other and toward said terminal edge.

7. The blank as defined in claim 6 including a pair of slits forming continuations of the edge portions defining said shoulders, and the maximum longitudinal distance between said slits is at least equal to the longitudinal dimension of said head portion.

8. The wraparound type carrier as defined in claim 6 wherein said shoulders are further defined by other edge portions of said aperture converging in a direction toward each other away from said terminal edge and merging with said first-mentioned edge portions.

9. A wraparound type carrier comprising a tubular sheet material member divided into a plurality of panels by a plurality of fold lines, said panels including an inner terminal panel and an outer terminal panel in generally overlapped relation, said terminal panels having cooperative interlocked latching means for maintaining said sheet material member in its generally tubular configuration, said cooperative latching means being defined by at least a single tab carried by said outer panel and projecting through an aperture of said inner panel, said aperture defining a pair of shoulders spaced from each other a predetermined longitudinal dimension, said tab including an enlarged head portion and reduced neck portion, said reduced neck portion joining said head portion to said outer panel, said reduced neck portion having a predetermined longitudinal dimension greater than said first-mentioned dimension, and said tab being disposed generally normal to said terminal panels whereby said shoulders overlappingly engage said reduced neck portion thereby preventing the accidental disengagement of said latching means, said inner panel includes a terminal edge, said aperture includes an edge portion more closely adjacent said terminal edge than said shoulders, and said outer panel further includes another tab in alignment with said first-mentioned tab and said aperture and being directed through said aperture into overlying relation with a portion of said inner panel.

10. The wraparound carrier as defined in claim 6 wherein said first-mentioned tab is disposed vertically, and is positioned remote from a longitudinal centerline of the carrier and is immediately adjacent a side panel thereof.

11. The wraparound type carrier as defined in claim 10 wherein said vertically disposed tab is in sandwiched relationship between said side panel and one of a plurality of articles within said carrier.

12. A blank for a wraparound type carrier comprising a sheet material member divided into a plurality of panels by transverse fold lines, said panels including terminal end panels, said terminal end panels having cooperative latching means adapted for interlocking engagement upon the folding of the blank to a generally tubular configuration, said cooperative latching means being defined by at least a single tab carried by one of said terminal end panels and an aperture formed primarily in the other of said terminal end panels, said tab and aperture being disposed in substantial longitudinal alignment whereby said tab is adapted for insertion into said aperture, said tab including an enlarged head portion and a reduced neck portion, said reduced neck portion joining said head portion to said one terminal panel, said reduced neck portion having a predetermined transverse dimension smaller than a transverse dimension of said head portion, said aperture being defined by transversely spaced slit portions defining a transverse dimension greater than said transverse dimension of said head portion, a pair of transversely spaced shoulders having edges extending from said slit portions toward a free edge of said other terminal panels, said edges including edge portions converging toward each other and toward said free edge and being spaced from each other a transverse dimension greater than said transverse dimension of said neck, and other portions of said converging edge portions being spaced from each other a transverse dimension less than said transverse dimension of said neck.