

Nov. 17, 1964

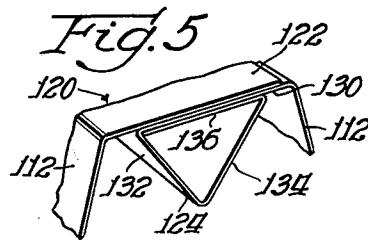
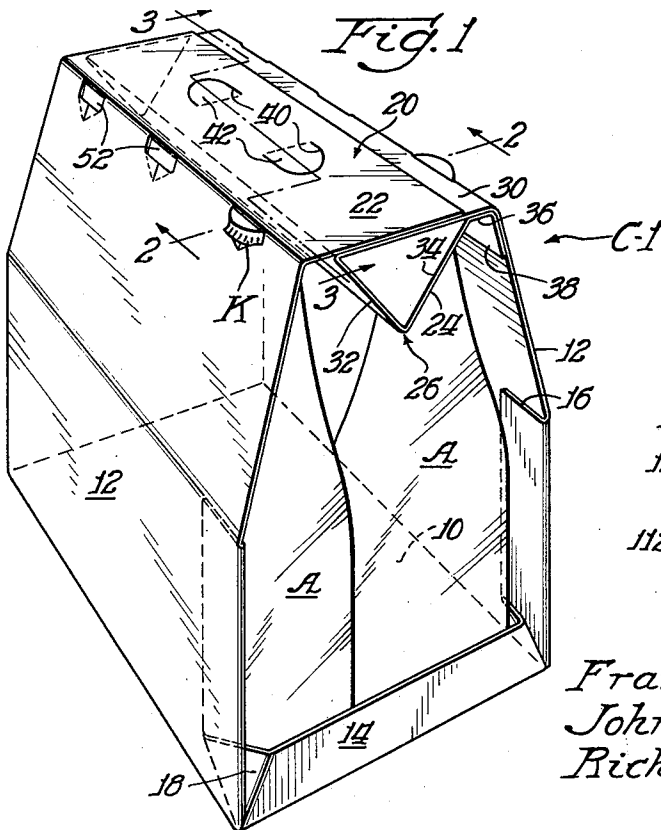
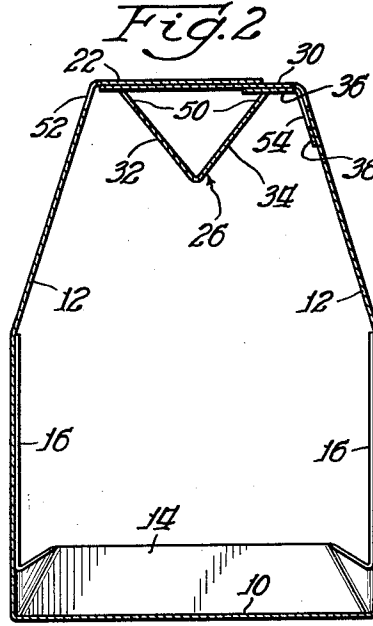
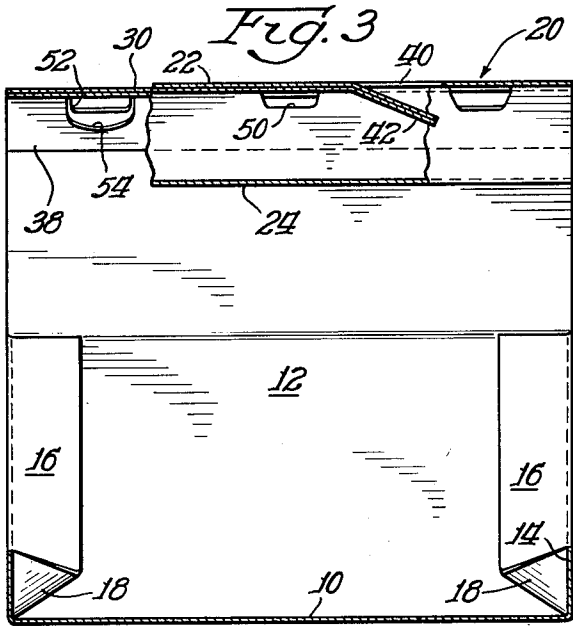
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3,157,309

CARRIER CARTON FOR CYLINDRICAL ARTICLES

Filed March 15, 1963

3 Sheets-Sheet 1



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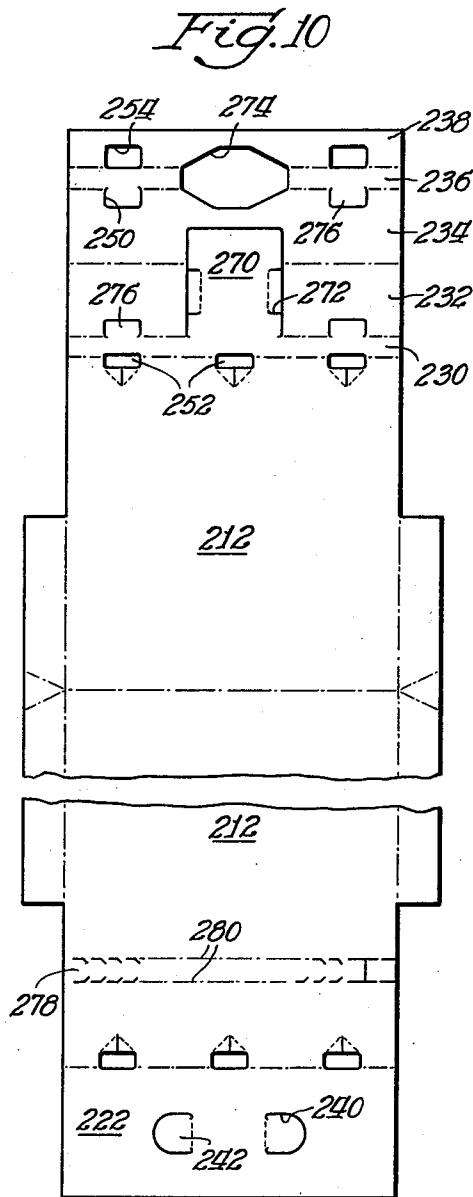
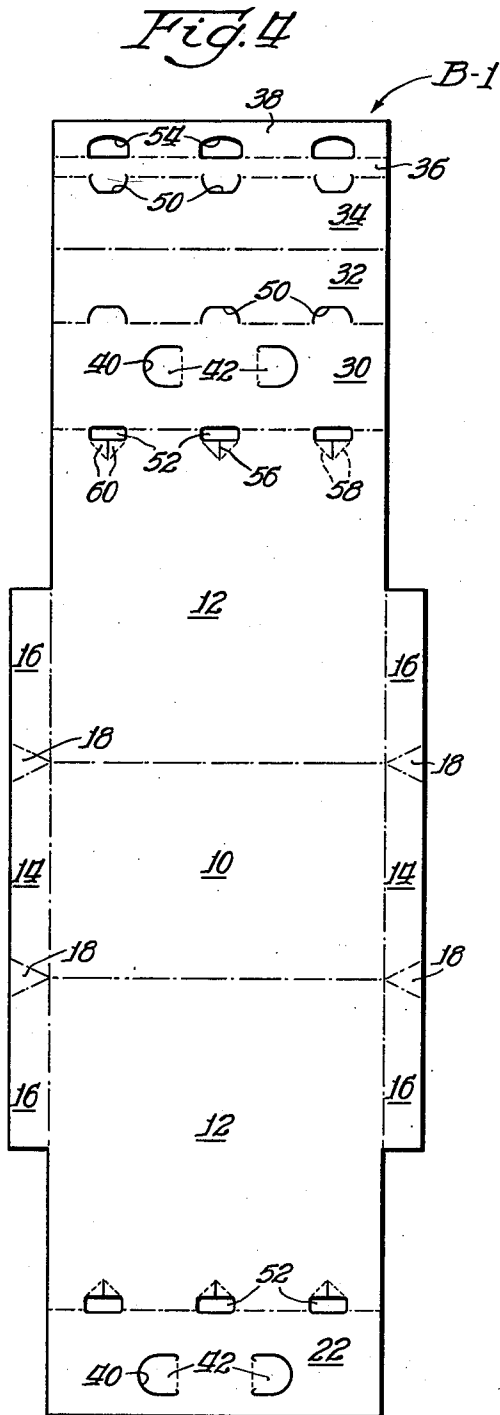
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CARRIER CARTON FOR CYLINDRICAL ARTICLES

Filed March 15, 1963

3 Sheets-Sheet 2



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CARRIER CARTON FOR CYLINDRICAL ARTICLES

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3 Sheets-Sheet 3

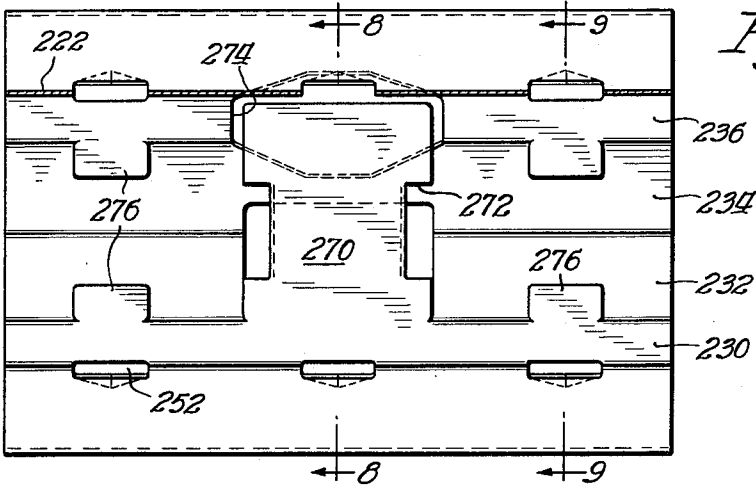


Fig. 7

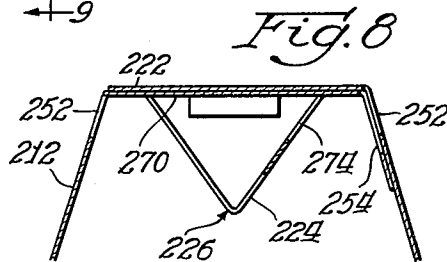


Fig. 8

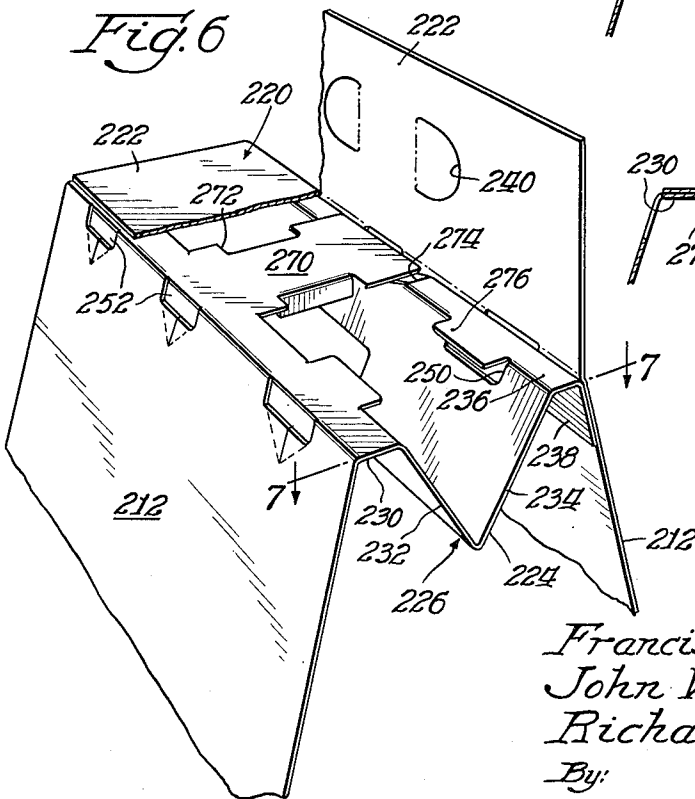


Fig. 9

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CARRIER CARTON FOR CYLINDRICAL ARTICLES
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Filed Mar. 15, 1963, Ser. No. 265,448
6 Claims. (Cl. 220-115)

This invention relates to carrier cartons, and more particularly to a sleeve-type, paperboard, carrier carton for packaging a pair of parallel rows of cylindrical articles such as bottles or cans.

Almost all of the cartons of this type, and especially open-ended, carrier cartons have to be constructed in such a way as to prevent the shifting of the packaged articles within the carton, and to prevent their longitudinal movement out of an end of the carton. Also, in the case of packaged bottles or cans it is especially important to keep the articles from bumping each other when the package is handled, so that the bottles will not become broken or cans dented or scratched.

It is therefore, an object of the invention to provide, in a sleeve-type, carrier carton of the type described, a retaining member projecting into the carton for cooperation with certain of the other walls of the carton to engage portions of the packaged articles and limit or prevent their movement.

A more specific object of the invention is the provision, in a carrier carton of the type described, of a central article retaining member extending between the rows of articles and having apertures cooperating with aligned apertures in the carton side walls for receiving end portions of the packaged articles to prevent their movement within the carton or out of the end of the carton.

These and other objects of the invention will be apparent from an examination of the following description and drawings, wherein:

FIGURE 1 is a perspective view of a carrier carton embodying features of the invention;

FIGURE 2 is a transverse, vertical section taken on line 2-2 of FIGURE 1;

FIGURE 3 is a longitudinal, vertical section taken on line 3-3 of FIGURE 1;

FIGURE 4 is a plan view of the blank from which the carton of the previous views may be formed;

FIGURE 5 is a fragmentary view of a portion of a carton similar to that illustrated in FIGURE 1, but embodying a modified form of the invention;

FIGURE 6 is a fragmentary view similar to FIGURE 1 but illustrating yet another modified form of the invention;

FIGURE 7 is a transverse, vertical section taken on line 7-7 of FIGURE 6;

FIGURES 8 and 9 are fragmentary, transverse, vertical sections taken on lines 8-8 and 9-9, respectively, of FIGURE 7; and

FIGURE 10 is a plan view of the blank from which the carton illustrated in FIGURES 6 through 9 may be formed.

It will be understood that, for purpose of clarity, certain elements have been intentionally omitted from certain views where they are believed to be illustrated to better advantage in other views.

Referring now to the drawings for a better understanding of the invention, it will be seen that the carton C-1 illustrated in FIGURE 1 is an open ended, sleeve-type, wrap-around, carrier adapted to hold two opposed, parallel rows of cylindrical articles, such as bottles A which have upwardly tapering neck portions with caps K at their upper ends, arranged in adjacent, side-by-side relation. This carton may be formed from the one piece

blank B-1 of foldable paperboard illustrated in FIGURE 4 of the drawings.

Referring now particularly to FIGURES 1 and 4, it will be seen that the carton includes a generally flat rectangular bottom wall 10 having hinged to and upstanding from its opposite side edges a pair of generally vertically disposed side walls 12.

Hingedly attached to the end edges of the bottom and side walls are extensions or end flanges 14 and 16, respectively. The adjacent ends of flanges 14 and 16 are defined by a pair of outwardly diverging score lines which form a pair of generally triangular gussets 18 which serve to connect the ends of flange 14 to the adjacent flanges 16. As best seen in FIGURE 1 the function of flanges 14 and 16 is to retain the bottles from moving longitudinally out of the end of the carton. Flanges 16 are folded 180° back into the carton against the inner surfaces of the side walls 12 and are retained in that position by the engagement of the packaged articles. Flange 14 is folded approximately 90° upward into a generally vertical position, to serve as a ledge or abutment for preventing the articles from moving out of the carton, and are retained in that position by the gussets 18 which connect them to the respective flanges 16 anchored in the carton by the packaged articles.

It will be noted that the carton illustrated in FIGURE 1 is shown as adapted to retain bottles with upwardly tapering neck portions and caps; however, the general concept of this carton is equally suitable for use with symmetrical cylindrical objects such as cans having chimés at one or both ends thereof. When the carton is used for bottles which taper upwardly the side walls 12 of the carton will of necessity slope inwardly so that the top wall of the carton is of lesser width than the bottom wall. When the carton is employed for packaging symmetrical objects the side walls of the carton will be arranged in general parallel relationship.

Still referring to FIGURE 1 it will be seen that the top wall 20 is a composite wall having a pair of outer and inner sections 22 and 24, respectively. Outer section 22 is a single, flat, rectangular panel 22 hingedly attached at one side edge to the upper edge of one side wall 12. Inner section 24 is made up of a plurality of panels serially connected and folded to form a preferably wedge-shaped or V-shaped, longitudinally extending, retaining member 26 projecting into the carton between the upper ends of the bottles of adjacent rows.

As best seen at the top of FIGURE 4 top wall inner section 24 includes first, second, third, fourth and fifth panels, moving outwardly from the upper edge of side wall 12, which have been designated as 30, 32, 34, 36, and 38, respectively.

The relationship of the various panels of inner section 24 can best be seen in FIGURE 1. Panel 30 is hingedly attached at outer side edge to the upper edge of the opposite side wall 12, and has hingedly attached to its inner side edge an upper edge of panel 32. Panel 32 slopes downwardly toward the center of the carton where at its lower edge it is hingedly attached to the lower edge of an upwardly and outwardly sloping panel 34, which in turn is hingedly attached at its upper edge to the inner edge of a relatively narrow horizontal panel 36 also disposed under an outer portion of panel 30 in parallel face to face relation. The outer side edge of panel 36 is hingedly attached to an upper edge of another relatively narrow panel 38 which may be adhesively secured to and disposed in face-to-face relation with the inside surface of the upper portion of the other side wall 12. It will be noted that panel 22 of the outer section and panel 30 of the inner section have portions disposed in parallel overlying relationship and adhesively secured to each other. By the construction thus de-

scribed it will be seen that the retaining member 26 is extremely strong and rigid.

Top wall panels 22 and 30, as best seen in FIGURE 4, may be provided with pairs of aligned U-shaped cuts 40 which form tabs 42 which can be pushed down into the carton, after the carton has been formed, to provide finger grip openings for lifting or carrying the carton.

Again referring to FIGURE 4 it will be seen that at their upper edges panels 32 and 34 may be provided with a plurality of longitudinally spaced openings 50 adapted to receive portions of the caps of the bottles packaged in the carrier. In the case of a carrier adapted for use with chimed cans these openings can be contoured to receive portions of the upper chimes of the cans. Also the upper portions of side walls 12 may be provided with similar openings 52 disposed in longitudinal alignment and also vertical alignment with the openings 50 in the center retaining member panels 32 and 34, and these openings also serve to receive and retain portions of the caps of the packaged bottles. Inasmuch as panel 38 is disposed to overlap an upper portion of one of the side wall panels 12, panel 38 may also be provided with openings 54 disposed in alignment with the openings 52 to provide common openings for receiving portions of the bottle caps.

If desired the upper portions of the side walls 12 may be provided adjacent each opening 50 with a vertical cut 56 and a pair of diagonal hinge lines 58 which together define a pair of flaps or gussets 60 capable of being deflected outwardly to accommodate receipt of the upper portions of the bottles or bottle caps within the openings 52.

Thus, it will be seen that longitudinal movement or shifting of the upper ends of the packaged articles is prevented by the cooperation between the center retaining member holes and the side wall holes; whereas, movement of the lower portions of the packaged articles out of the open ends of the carton is prevented by the bottom end extensions or retaining flanges 14.

It will be understood, however, that some other means for retaining the bottom portion of the packaged articles within the carrier may be employed, if desired, as this invention is not limited to use in connection with end retaining flanges.

In FIGURE 5 of the drawings a modified form of the invention illustrated in FIGURE 1 is shown. Only a portion of the structure is shown as the structural details of this embodiment are substantially the same as those of FIGURE 1 except for the arrangement of the top wall inner section retaining member. In the embodiment of FIGURE 5 the inner section of the top wall has only four panels, designated 130, 132, 134, and 136. In this arrangement the disposition of the first three panels is the same as in that of FIGURE 1, but the fourth panel is folded back under the first panel instead of being folded outwardly as in the arrangement of FIGURE 1. If desired panel 136 may be adhesively secured to the underside of panel 130 to afford additional rigidity for the structure.

In the embodiment of FIGURE 5, as well as the other modified embodiment hereinafter described and illustrated in FIGURES 6 through 10, portions of the structure corresponding to portions of the structure in FIGURE 1 have been designated by related numerals for the sake of simplicity.

Referring now to FIGURES 6 and 10 of the drawings it will be seen that the modified form of the invention illustrated herein is similar to that of FIGURE 1 except for the arrangement of the composite top wall 220.

As best seen in FIGURE 6 the outer section 222 of this embodiment is a single flat rectangular panel of the same type employed in the early described embodiment and is hingedly attached along one side edge to the upper edge of one of the side walls 212.

The inner section 224 of top wall 220, like the inner

section of the embodiment of FIGURE 1, is formed of five panels which cooperate to form a retaining member 226, and, as best seen in FIGURES 6 and 10, beginning with the adjacent side wall panel 212 have been numbered 230, 232, 234, 236, and 238, respectively. However, in this embodiment the panels are not folded back onto each other as in the case of the previous embodiments but continue all the way across the top of the carton with the last relatively narrow panel 238 being adhesively secured to an upper portion of a side wall 212. Panels 232 and 234 converge downwardly and are hingedly connected in the same manner as the corresponding panels of the earlier embodiments, and the other relatively narrow panel 236 hingedly interconnecting panels 234 and 238 is disposed in a horizontal plane coplanar with panel 230 and symmetrically related thereto.

As in the case of the previous embodiment the upper portions of the side walls and the sloping panels 232 and 234 of the retaining member, as well as narrow panel 238, are all provided with openings for receiving end portions of the packaged articles.

The top wall outer panel 222, like the corresponding panel of the other embodiment is provided with cut lines 240 which afford finger grip openings for handling the carton.

Referring again to FIGURE 6, it will be seen that a horizontally disposed flange or strut 270 has been cut from portions of panels 232 and 234 so as to project horizontally across the carton from panel 230 to panel 236. This strut serves as additional reinforcement for the retaining member of the carton as well as reinforcement for the handle portion of the top wall. The strut 270 is generally H-shaped as a pair of U-shaped cuts 272 have been made in opposite sides of the strut in vertical alignment with the edges of finger grip openings in the outer panel 222 of the top wall. Tabs formed by the cuts 272 remain hinged to the strut and may be folded downwardly into the carton in a manner corresponding to the finger grip tabs of the inner top wall panel of the earlier embodiment. Portions of panels 234, 236, and 238 may be cut out, as at 274, to provide a notch for receiving the free end of strut 270. Also the portion of the blank cut out of panels 234 and 232 to form the openings 250 may be retained as tabs 276 and left to project horizontally outward from the respective panels 230 and 236 over the tops of the end portions of the packaged articles.

Thus, it will be seen that this embodiment like the other embodiments of the invention provides a carrier carton with a composite end wall having a center retaining member with openings in the upper portion thereof aligned with openings in the upper portions of the opposed side walls of the carrier for cooperation therewith to receive end portions of the packaged articles.

It will be understood that when the carrier is used for the packaging of articles such as tapering bottles with caps, the composite wall of the carrier must of necessity be the top wall; however, if the package is intended for use with symmetrical cylindrical objects such as chimed cans the carton may be reversed, with the bottom wall of the carton being formed as a composite wall and the top wall of the carton as a single piece flat panel.

We claim:

1. A sleeve-type, wrap-around, carrier carton, formed from a unitary blank of foldable paperboard, for enclosing two opposed, parallel rows of articles arranged in adjacent, side-by-side relation, comprising:

- (a) a pair of vertically spaced, transversely disposed end walls;
- (b) a pair of transversely spaced, vertically disposed side walls extending between and connected to respective end walls to form a generally tubular structure;
- (c) the carried articles at corresponding end portions

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defining a space extending between the rows longitudinally of the carton;

- (d) the one end wall of the above mentioned corresponding end portions of the carried articles being a composite wall including a pair of sections having corresponding edges hinged to the side walls and having opposite edges extending beyond each other with portions thereof disposed in overlying relation;
 - (e) one of said sections defining thereby a single, flat, horizontal, outer panel;
 - (f) the other of said sections including a pair of inwardly directed inner panels projecting from spaced locations along the other section into the carton between the adjacent articles of the opposed rows and having inner edges thereof interconnected to form a continuous retaining member across the one end wall of the carton between the spaced rows;
 - (g) the side walls and the inner panel of the retaining member having generally at the portions thereof adjacent the outer panel openings aligned longitudinally of the carton with each other for receiving and trapping thereby opposite end portions of said adjacent articles.
2. A sleeve-type, wrap-around, carrier carton, formed from a unitary blank of foldable paperboard, for enclosing two opposed, parallel rows of tapered articles arranged in adjacent, side-by-side relation, comprising:
- (a) a pair of vertically spaced, transversely disposed end walls;
 - (b) a pair of transversely spaced, vertically disposed side walls extending between and connected to respective end walls to form a generally tubular structure;
 - (c) the side walls having corresponding planar portions thereof disposed adjacent and aligned directionally similar to the outer sides of the carried articles to define thereby converging panels disposed adjacent the tapered portions of the carried article;
 - (d) the carried articles at the corresponding end portions defining a space extending between the rows longitudinally of the carton;
 - (e) the one end wall at the above mentioned corresponding tapered end portions of the carried articles being a composite wall including a pair of sections having corresponding edges hinged to the converging side panels and having opposite edges extending beyond each other with portions of the sections disposed in overlying relation;

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(f) one of said sections defining thereby a single, flat, outer panel;

(g) the other of said sections including a pair of inwardly directed inner panels projecting from spaced locations generally in line approximately with the longitudinal center axis of the spaced rows into the carton between the adjacent articles of the opposed rows and having the inner edges thereof interconnected to form a continuous retaining member extending across the one end wall of the carton between the spaced rows;

(h) the converging panels of the side walls and the inner panels of the retaining member having generally at the end thereof adjacent the outer panel openings therein aligned longitudinally of the carton with each other for receiving and trapping therein opposite end portions of said adjacent articles.

3. A carrier carton according to claim 2, wherein said other section includes in addition to the pair of inwardly directed inner panels a pair of adjacent panels connected to the respective inner panel, and the adjacent panels abut in face-to-face relation with the other panels including at least the outer panel and are bonded thereto operable to secure the panels relative to one another.

4. A carrier carton according to claim 3, wherein the inner panels of said other section of the composite end wall are continuous along the length of the carton.

5. A carrier carton according to claim 3, wherein the inner panels of said other section have tabs formed or punched therefrom that cooperate in generally face-to-face relation with the outer panel across the composite end wall.

6. A carrier carton according to claim 3, wherein the inner edges of the inner panels are interconnected along a single fold line extending longitudinally of the carton within the space extending between the rows of the adjacent articles.

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