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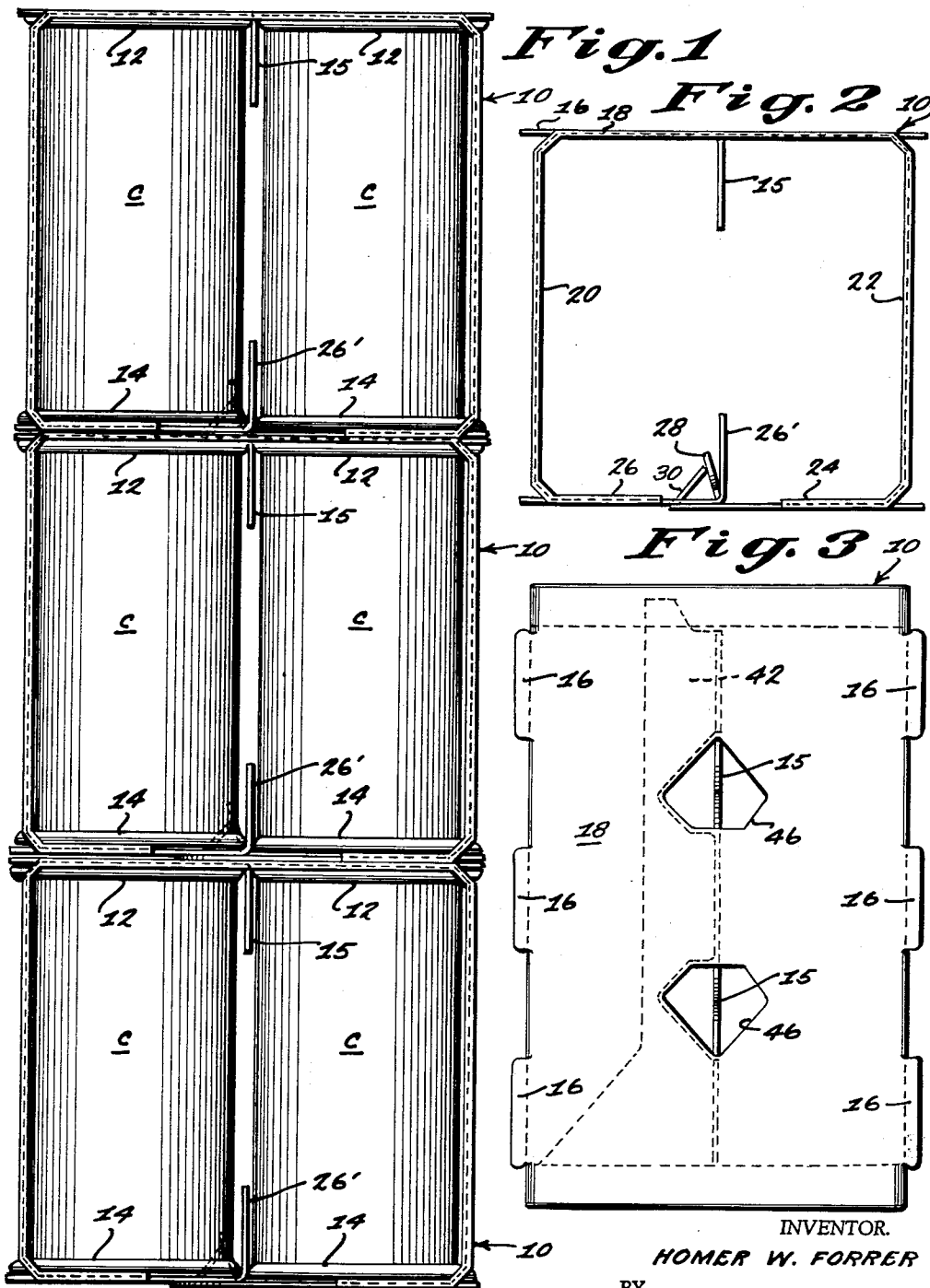
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3,006,530

PAPERBOARD CARRIER HAVING MEANS FOR SEPARATING CANS THEREIN

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4 Sheets-Sheet 1



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4 Sheets-Sheet 2



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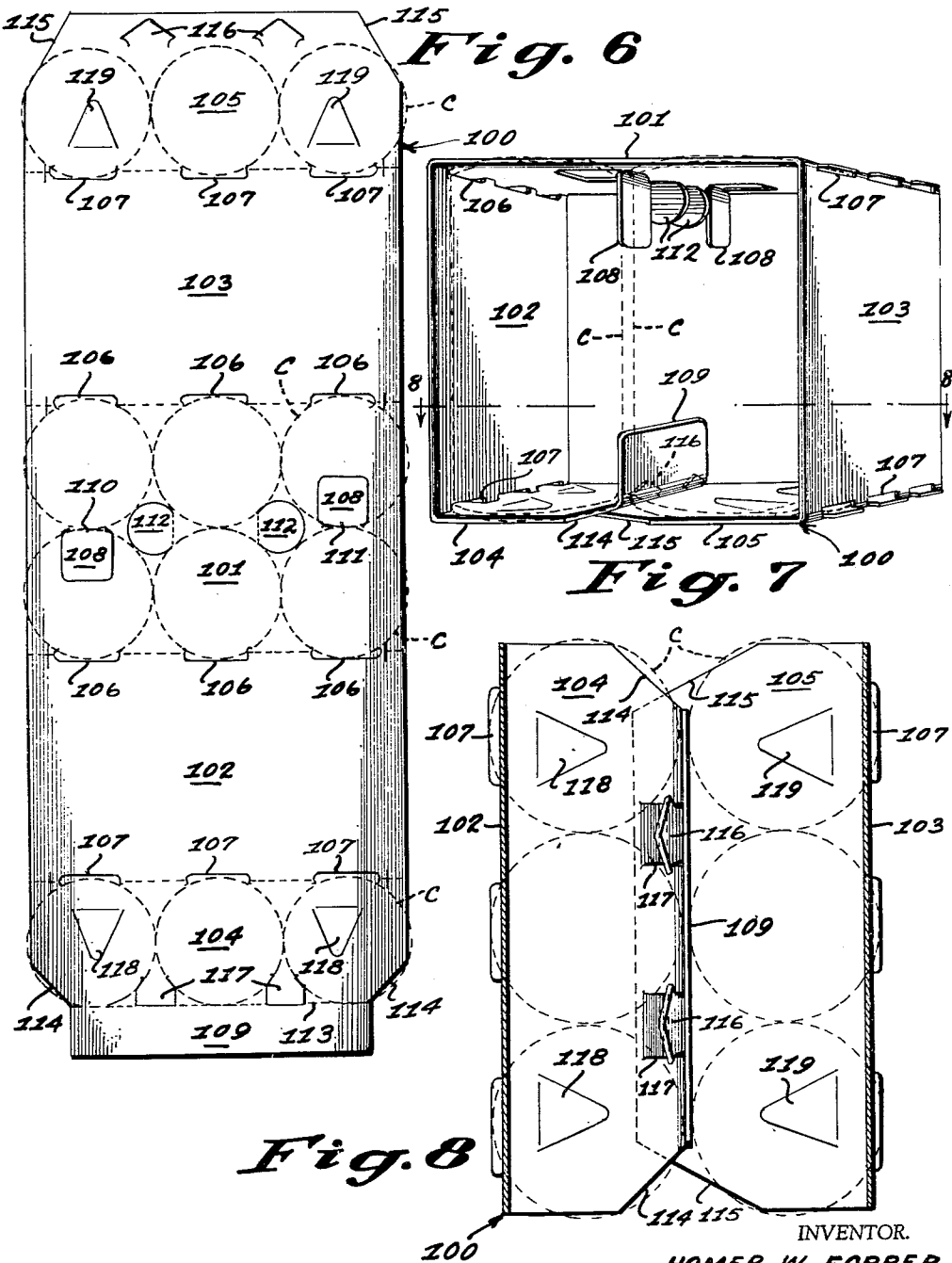
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PAPERBOARD CARRIER HAVING MEANS FOR SEPARATING CANS THEREIN

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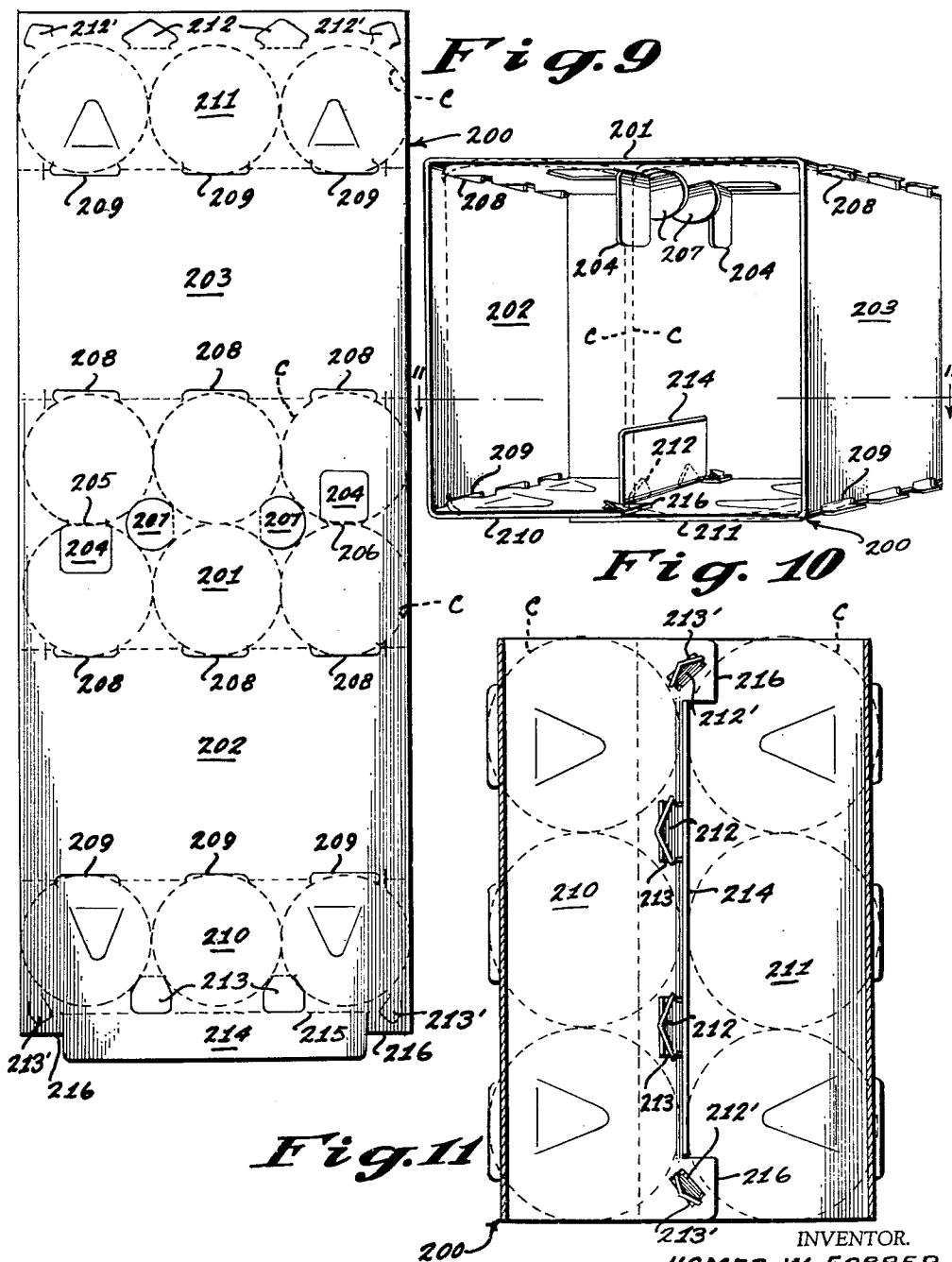
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PAPERBOARD CARRIER HAVING MEANS FOR SEPARATING CANS THEREIN

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5 Claims. (Cl. 229—40)

This invention relates to paperboard carriers for cans and more particularly to a wrapper type paperboard carrier arranged to maintain a can load therein evenly positioned for stable vertical stacking. This is a continuation-in-part of copending application Serial No. 626,385, filed December 5, 1956, now abandoned in favor of the present application.

In securing a paperboard wrapper carrier about cans arranged in more than one row, there is a natural tendency for the lateral rim portions or chines of the cans in one row to ride or slip upwardly on the rim portions or chines of the adjacent row of cans and thereby present uneven or slanting top and bottom surfaces on each wrapper packaged group of cans that often makes it quite difficult to stack such package units in a stable manner for retail display or the like.

It has previously been proposed to dispose partition means within a carrier structure of this sort between the rows of cans so as to provide a separating element at the can chines by which they are prevented from shifting to ride upon one another and throwing the package unit out of square. The use of such partition means in wrapper type carriers, however, involves difficulties, particularly where such carriers are secured by bottom wall locking tabs rather than being glued.

Bottom wall locking tabs are normally centered for securing manipulation at the dead spaces within a package unit of cans resulting from the cylindrical form of the cans, but when a chine separating partition means is employed in the carrier it becomes necessary to shift the locking tabs off center to avoid this partition. There is enough dead space between the cans to permit this off center shifting of the locking tabs intermediately of the can rows, but it is not possible to provide locking tabs at the ends of the can rows if this is done, as the space available for end locking tabs is originally quite limited and becomes entirely inadequate if obstructed by partition means. In the absence of end locking tabs, the bottom wall lap panels are left insecure adjacent their ends so as to be subject to being caught and torn loose during handling unless arranged specially to avoid this result, or unless the partition means is provided in a form that allows end locking tabs to be provided as well.

According to the present invention chine separating partition means is provided in a paperboard, wrapper type, carrier for cans so as to obtain effective chine separation at both the top and bottom of the carrier, while at the same time making it possible to form a secure and serviceable carrier with or without end locking tabs as desired.

The present invention is described in further detail below in connection with the accompanying drawings, in which:

FIG. 1 is an end view of a stack of three wrapper enclosed packages arranged in accordance with the present invention;

FIG. 2 is an end view of the erected paperboard wrapper carrier employed in forming the packages shown in FIG. 1;

FIG. 3 is a top plan view corresponding to FIG. 2;

FIG. 4 is a plan view of the blank for the paperboard wrapper carrier shown in FIGS. 1, 2 and 3;

FIG. 5 is a corresponding plan view of the blank shown in FIG. 4 after folding development to prepare it for use;

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FIG. 6 is a plan view of a blank for a modified form of paperboard wrapper carrier embodying the present invention;

FIG. 7 is a perspective view illustrating the form assumed by the paperboard wrapper carrier shown in FIG. 6 when folded and secured about a package group of cans;

FIG. 8 is a sectional detail in plan taken substantially along the line 8—8 in FIG. 7;

FIG. 9 is a plan view of a blank for a further modified form of paperboard wrapper carrier embodying the present invention;

FIG. 10 is a perspective view illustrating the form assumed by the paperboard wrapper carrier shown in FIG. 9 when folded and secured about a package group of cans; and

FIG. 11 is a sectional detail in plan taken substantially along the line 8—8 in FIG. 7.

Referring now in detail to the drawings, a stack of three paperboard wrapper carriers embodying the present invention is shown illustrated in FIG. 1, each of the carriers being indicated generally by the numeral 10 and having two rows of cans C arranged therein.

The cans C each have top and bottom rims or chines 12 and 14, respectively, that extend through aligned elongated positioning slots arranged along top and bottom hinge lines of the carrier with a top and bottom slot adjacent each can C. A partition section 15 is arranged between the top lateral rims 12 of the two rows of cans C within the carrier 10, while a separating flange or flap 26' is disposed between the bottom rims 14 to prevent the top and bottom rims 12 and 14 from riding on one another and thereby maintaining the packages square so that additional paperboard wrapper carriers loaded with cans C can be stacked on top of one another in a stable manner.

The above noted positioning slots in the carriers 10 have tabs 16 extending thereat, as illustrated further in FIGS. 2 and 3, and the length of each slot is less than the diameter of the cans C so that the top and bottom rims 12 and 14 extend through the slots to be retained in secured relation therein. The paperboard wrapper carrier 10 otherwise comprises a top wall panel 18, side wall panels 20, 22 foldably hinged to opposite side edges of top wall panel 18, and a pair of bottom wall lap panels 24, 26 foldably hinged at the respective bottom edges of side wall panels 20, 22 and proportioned to overlap across the bottom ends of the cans C, with the terminal flap portion 26' foldably hinged on the inner bottom wall lap panel 26 for disposition in separating relation between the bottom can ends. The wrapper thereby forms a rectangular four sided package having open ends of the type disclosed in U.S. Patent No. 2,786,572, issued March 26, 1957. The invention is not limited to lap panels arranged on the bottom side of cans C, however, as the lap panels can be arranged on any side of the carrier 10.

Top wall panel 18, side wall panels 20, 22 and bottom wall lap panels 24, 26 comprise a blank (see FIG. 4) having transverse score lines therein to arrange the panels in a foldably hinged series, with each panel having a length corresponding to the multiple diameter of a row of cans C. The width of the side wall panels 20, 22 corresponds to the height of the cans C arranged within the carrier and the bottom wall lap panels 24, 26 when overlapped and secured form a composite bottom wall having a width equal to that of the top wall panel 18 and corresponding to the width of the two rows of cans C.

The paperboard wrapper carrier 10 is arranged to be tightly folded and secured about two rows of cans C during a packaging operation, the bottom wall lap panels 24, 26 being formed with aligned locking and retaining tabs 28 and 30, respectively, for securing the end portions of the wrapper together by manipulation of the locking tabs

28 so as to extend them from the outer bottom wall lap panel 24 in which they are formed to an interlocking position inwardly through the openings in the other bottom wall lap panel 26 at the retaining tabs 30 therein, as disclosed and claimed in the above noted U.S. Patent No. 2,786,572.

To allow the wrapper to be drawn about the cans C tightly, depressible tabs 32 are arranged in each of the bottom wall lap panels 24, 26 whereby the end portions of the wrapper can be gripped through the openings formed by depressible tabs 32 and pulled tightly about the cans C so that the locking tabs 28 can be extended in securing position, as disclosed and claimed in U.S. Patent No. 2,809,486, issued October 15, 1957.

An outer strip 34 is provided on the edges of the top wall panel 18, side wall panels 20, 22 and bottom wall lap panels 24, 26, the outer strip 34 being arranged on the edges thereof perpendicular to the transverse score lines between adjacent panels, and extending throughout the width of top wall panel 18 and side wall panels 20, 22, and for a portion of the width of bottom wall lap panels 24, 26, in the manner and for the purpose disclosed and claimed in copending application Serial No. 602,114, filed June 25, 1956.

A lateral extension 38 is formed on one of the strips 34 adjacent the top wall panel 18, the lateral extension being intermediately foldable to define the partition section 15 and a securing section 42. The securing section 42 has a projecting tab member 44 extending from its outer edge with the length of tab member 44 being substantially one-half that of the width of securing section 42. During the folding development of the blank, as shown in FIG. 5, the tab member 44 is disposed between the other outer strip 34 and the adjacent top wall panel 18 on the edge of carrier 10 opposite the edge at which lateral extension 38 is formed thereby securing the lateral extension 38 to the top wall panel 18. Glue is applied to the face of outer strips 34 and securing section 42, as indicated by stippling in FIG. 4, whereby upon folding of outer strips 34 and securing section 42, the outer strips 34 will be secured in face-to-face relation with the adjacent panels by the glue application.

Top wall panel 18 is provided with apertures 46 arranged intermediate the width of top wall panel 18 for gripping carrier 10 in carrying relation. Aligned apertures 48 are provided in lateral extension 38 and extend through partition section 15 and securing section 42. When lateral extension 38 is folded in face-to-face relation with top wall panel 18, as shown in FIG. 5, the lateral extension apertures 48 coincide with the top wall panel apertures 46 and the score line between securing section 42 and partition section 15 is arranged centrally of the top wall panel apertures 46.

Upon further folding of partition section 15 in perpendicular relation to securing section 42 along the score line between the respective sections 15, 42, the partition section 15 is disposed centrally of top wall panel apertures 46, as shown in FIG. 3. The distance between the top wall panel apertures 46 is greater than the distance between the apertures 48 formed in partition section 15 since apertures 48 are elongated in partition section 15. Thus, a portion of the top wall panel 18 is accessible between apertures 46 for finger gripping in a carrying relation.

The modified embodiment of the paperboard wrapper carrier of the present invention illustrated in FIGS. 6, 7 and 8, and indicated generally therein by the reference numeral 100, like the previously described embodiment, comprises a top wall panel 101, a pair of side wall panels 102 and 103 at opposite sides of the top wall panel 101, and a pair of bottom wall lap panels 104 and 105 respectively associated with the side wall panels 102 and 103; and all of which panels are arranged as a foldably hinged series in a blank of elongated form as seen in FIG. 6.

When folded and secured about a package group of cans C, such as is indicated by dotted lines in FIGS. 6, 7

and 8, the paperboard wrapper assumes the form illustrated in FIG. 7, in which the top wall panel 101 is shown arranged across the top of the packaged rows of cans C, with the side wall panels 102 and 103 folded downwardly at the sides thereof and the bottom wall lap panels 104 and 105 overlapped therebeneath. As in the previously described embodiment, upper and lower positioning slots 106 and 107 are spaced along the foldably hinged edges of the side wall panels 102 and 103 for retaining engagement thereat with the chines of cans C, and upper and lower medial chine separating means are provided at 108 and 109.

The upper chine separating means 108 comprises a pair of tabs formed in the top wall panel 101 along medial hinge lines at 110 and 111, as seen in FIG. 6, for folding downwardly in separating relation between the upper chines of the cans C at the ends of the rows forming the package group, as seen in FIG. 7. In a package group of the size illustrated, in which there are two rows of these cans C, top chine separation of the end pairs of cans C is adequate for maintaining the package square thereat. Additional tabs 108 can be readily provided whenever needed or desired, as fully sufficient space otherwise remains in the top wall panel 101 for locating depressible tabs 112 at the dead spaces between the cans C of the package group to provide finger apertures for carrying purposes.

It should also be noted that the tabs 108 are specially arranged in the top wall panel 101 in that the hinged extent thereof is arranged oppositely from the respective medial hinge lines 110 and 111. This arrangement provides a significant advantage in manipulating the tabs 108 to a chine separating disposition during an automatic packaging operation as is disclosed and claimed in copending application Serial No. 795,086, filed February 24, 1959, now Patent No. 2,933,867, granted April 26, 1960.

The lower chine separating means 109 comprises a flange formed by a flap member foldably hinged at the overlapped edge of the inner bottom lap panel 104 along a score line 113. This flap member forming the lower chine separating means 109 is also specially formed in that it is located and restricted in length along the score line 113 so as not to extend at the open ends of the wrapper carrier 100 substantially beyond the point at which the bottom edge chines of the respective end pairs of packaged cans C are adjacent. In addition, both the inner and outer bottom lap panels 104 and 105 have the end edges thereof relieved diagonally toward the overlapping edges thereof as illustrated at 114 and 115, respectively, so as to maintain substantially the entire extent of these end edges within the cylindrical outline of the end pairs of cans C, as seen best in FIG. 8.

By this arrangement, in which respect it should be noted that the first described embodiment is substantially similar, it is possible to maintain the bottom lap panels 104 and 105 tight and secure against being torn loose during handling in instances where locking and retaining tabs 116 and 117 are only provided intermediately of the rows of cans C. The wrapper carrier 100 further incorporates lap panel tightening apertures 118 and 119 in the same manner and for the same purpose as in the first described embodiment.

The additional embodiment of the paperboard wrapper carrier of the present invention illustrated in FIGS. 9, 10 and 11, and indicated generally by the reference numeral 200 therein, incorporates a top wall panel 201 and a pair of side wall panels 202 and 203 that are counterparts of those in wrapper carrier embodiment 100 just described; the top wall panel 201 having upper chine separating tabs 204 oppositely hinged from medial hinge lines 205 and 206 therein, as well as depressible finger aperture tabs 207; and the side wall panels 202 and 203 having upper and lower can chine positioning slots 208 and 209 spaced along the foldably hinged edges thereof.

In the presently described wrapper carrier 200, how-

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ever, bottom lap panels 210 and 211 are provided that incorporate end locking and retaining tabs 212' and 213', as well as intermediate locking and retaining tabs 212 and 213, along with a lower chine separating flange 214. The chine separating flange 214 is again formed by a flap member that is foldably hinged at the overlapped edge of the inner bottom lap panel 210 along a score line 215 thereat, and that is located and restricted in length so as not to extend at the open ends of the wrapper carrier 200 substantially beyond the point at which the bottom edge chines of the respective end pairs of packaged cans C are adjacent. The remaining lengthwise extent of the inner bottom lap panel 210 at each end of the separating flange or flap member 214 is formed with transversely extending portions 216 having a sufficient reach to overlie the end locking tabs 212' in the outer bottom lap panel 211 so as to allow location of the end retaining tabs 213' in registration therewith for interlocking manipulation medially of the erected wrapper carrier 200. The bottom lap panels 210 and 211 are also formed with tightening apertures at 217 and 218 as in both of the previously described embodiments.

The present invention has been described in detail above for purposes of illustration only and is not intended to be limited by this description or otherwise except as defined in the appended claims.

I claim:

1. A paperboard blank for forming a carrier for two rows of cans having top and bottom rim portions, said blank being scored transversely to define a first panel arranged centrally with respect to the length of said blank, a pair of panels foldably hinged at opposite sides of said first panel, and a pair of lap panels foldably hinged at the sides of said pair of panels opposite said first panel sides, a strip foldably hinged to the panel edges perpendicular to the transverse score lines arranged between adjacent panels, the strips being relatively narrow and adapted to be folded in face to face contact with the panels defining said blank to provide a double thickness of paperboard at said edges, one of the strips having a lateral extension extending therefrom oppositely said first panel and being of substantially the same length as said first panel, said first panel having apertures arranged therein for gripping said paperboard carrier, and said lateral extension having apertures therein adapted for alignment with the apertures in said first panel and having a hinge line arranged intermediately thereof whereby a portion of said lateral extension in the erected carrier is downwardly folded and arranged between the top rim portions of the two rows of cans.

2. A paperboard blank forming a four-sided wrapper with open ends to package two rows of cylindrical objects, such as cans having laterally extending top and bottom rim portions, said blank having four transverse score lines therein spaced for defining a first panel arranged centrally with respect to the length of the blank, a pair of panels foldably hinged at opposite side edges of said first panel, and a pair of lap panels foldably hinged respectively at the edges of said pair of panels opposite said first panel edges, the score lines defining said pair of panels hinged to said first panel being spaced in correspondence with the height of said objects, one of said lap panels having locking tabs arranged therein, the other of said lap panels having retaining tabs cut out therein in alignment with the locking tabs in said one lap panel, whereby said locking tabs may be extended from said one lap panel inwardly through the cut out portions formed by the retaining tabs in the other of said lap panel for securing said lap panels and maintaining the two rows of cylindrical objects tightly enclosed within the wrapper, the panel edges perpendicular to the transverse score lines between adjacent panels having a relatively narrow strip connected thereto, each of the strips extending for the width of said first panel, said pair of panels, and for a portion of the width of said pair of lap panels, the strips being adapted for positioning in face to face relation

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with the adjacent panels to provide a double thickness of paperboard at the end edges of said first panel and said pair of panels foldably hinged to said first panel, one of said strips having a lateral extension formed adjacent said first panel and being of a length substantially equal to the length of said first panel, said lateral extension being formed on its outer end with a projecting tab portion adapted for positioning between the strip opposite that to which said lateral extension is attached and said first panel, said first panel having apertures therein to allow gripping of the wrapper thereat, and said lateral extension having a longitudinal score line arranged therein allowing folding thereof to define a partition section and a securing section, said lateral extension being further formed with apertures therein centrally arranged along the longitudinal score line and adapted for alignment with the apertures in said first panel, and said lateral extension apertures having an elongated length in the partition section greater than the corresponding dimension of said first panel apertures.

3. A paperboard blank adapted to form an open-ended package enclosing two rows of cans having chines at the top and bottom edges thereof, said blank having an elongated form and being scored transversely to define a first panel arranged substantially midway of the length of said blank, a pair of panels foldably hinged at opposite side edges of said first panel, and a pair of lap panels foldably hinged at the side edges of said pair of panels opposite said first panel side edges, said first panel being proportioned between said opposite side edges thereof in correspondence with the aggregate width of said two rows of cans to be enclosed, said pair of panels being proportioned between the opposite hinged edges thereof in correspondence with the height of said cans, and said pair of lap panels being proportioned for overlapping and securing to form a composite panel proportioned between the hinged edges thereof in correspondence with said first panel, said blank further incorporating spaced tab elements slit in said pair of panels along the hinged edges thereof and adapted to form positioning slots for engaging the chines of said rows of cans at the top and bottom edges thereof, and a partition flap foldably hinged at the overlapped edge of the inner lap panel of said pair, the hinging axis of said flap being positioned medially between said pair of panels and thereby adapting said flap to be folded to a medial disposition in separating relation between the chines of said rows of cans at the ends thereof adjacent said lap panels, said flap being located along the foldably hinged axis thereof with a length less than the width of said lap panels so as to terminate approximately at the point at which the chines of the respective end cans in said rows are adjacent, said inner lap panel having portions outwardly of the terminations of said flap, said portions extending beyond said foldably hinged axis for overlapping with the other of said overlapping panels.

4. A paperboard blank as defined in claim 3 and further characterized in that said portions of the inner lap panel outwardly of the termination of said flap are formed with openings, and locking tabs aligned with said openings are formed in said outer lap panel and are adapted for insertion in said openings to interlock the lapping panels outwardly of said flap.

5. A paperboard blank adapted to form an open-ended package enclosing two rows of cans having chines at the top and bottom edges thereof, said blank having an elongated form and being scored transversely to define a first panel arranged substantially midway of the length of said blank, a pair of panels foldably hinged at opposite side edges of said first panel, and a pair of lap panels foldably hinged at the side edges of said pair of panels opposite said first panel side edges, said first panel being proportioned between said opposite side edges thereof in correspondence with the aggregate width of said two rows of cans to be enclosed, said pair of panels being

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proportioned between the opposite hinged edges thereof in correspondence with the height of said cans, and said pair of lap panels being proportioned for overlapping and securing to form a composite panel proportioned between the hinged edges thereof in correspondence with said first panel, said blank further incorporating partition means foldably hinged medially of said first panel and thereby adapted for folded disposition in separating relation between the chines of said rows of cans at the ends thereof adjacent said first panel, spaced tab elements slit in said pair of panels along the hinged edges thereof and adapted to form positioning slots for engaging the chines of said rows of cans at the top and bottom edges thereof, and a partition flap foldably hinged at the overlapped edge of the inner lap panel of said pair, the hinging axis of said flap being positioned medially between said pair of panels and thereby adapting said flap to be folded to a medial disposition in separating relation between the

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chines of said rows of cans at the ends thereof adjacent said lap panels, said flap being located along the foldably hinged axis thereof with a length less than the width of said lap panels so as to terminate approximately at the point at which the chines of the respective end cans in said rows are adjacent, said inner lap panel having portions outwardly of the terminations of said flap, said portions extending beyond said foldably hinged axis for overlapping with the other of said overlapping panels.

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