May 22, 1962

H. W. FORRER

3,035,692

PAPERBOARD CARRIER

Filed Dec. 16, 1959

2 Sheets-Sheet 1

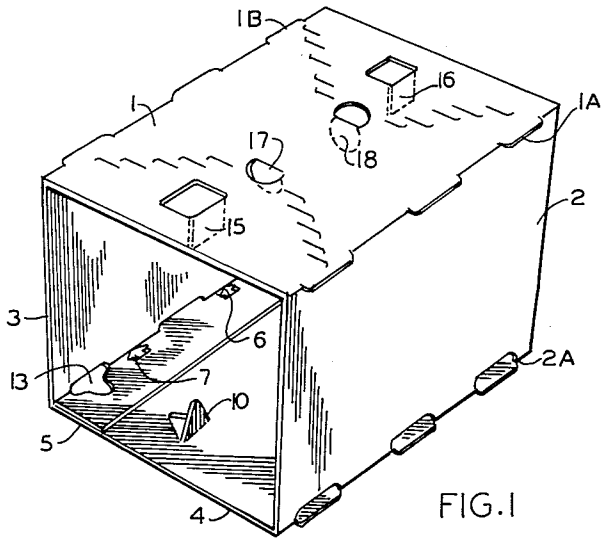

FIG. 1

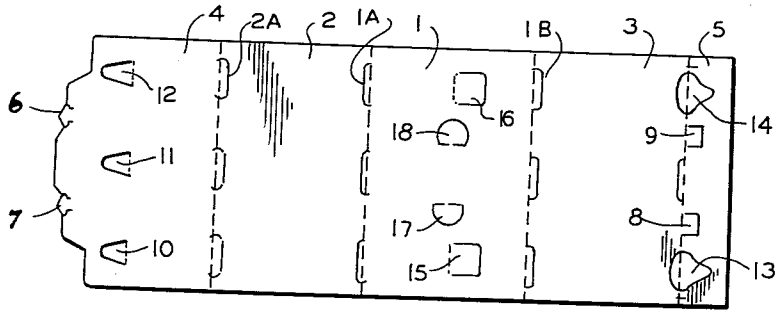

FIG. 2

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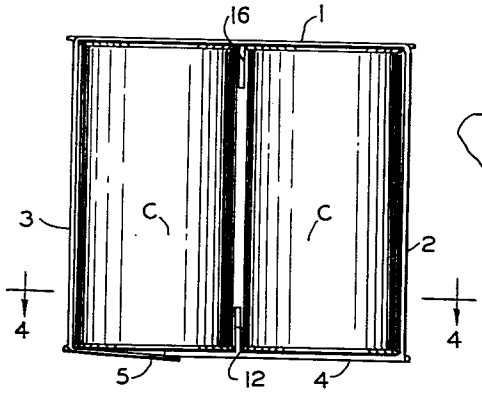
FIG. 3



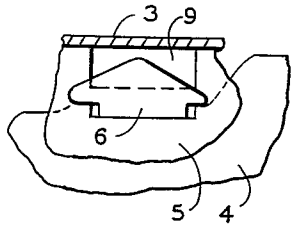
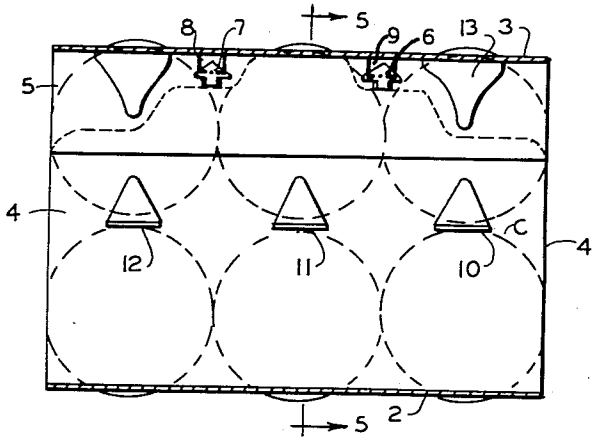


FIG 6

FIG. 4



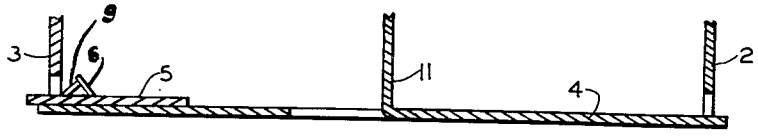


FIG. 5

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3,035,692

PAPERBOARD CARRIER

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Filed Dec. 16, 1959, Ser. No. 859,952
1 Claim. (Cl. 206—65)

This invention relates to paperboard carriers and more particularly to a carrier for packaging two rows of objects to be packaged and which is specially constructed to afford a stable structure when such carriers are stacked one on top of another.

This invention is related to the invention of Patent 2,786,572, Gentry issued March 26, 1957, and is an adaptation of Patent 2,827,165, Gentry issued March 18, 1958.

In order to provide a compact carrier which is adapted for sturdy stacking, the packaged articles may be arranged within the carrier with respect to each other in such a way as to facilitate stability. This arrangement may be effected and maintained by constructing the carrier in a manner conducive to carton stability and the method employed in forming the package comprising the carrier and its contents may be adapted to facilitate the formation of a stable package.

A principal object of this invention is to provide a paperboard carrier for packaging objects in two rows and which is adapted for stable stacking.

Another object of this invention is to utilize structural features of a carrier having locking tabs for the purpose of aiding in arranging the packaged articles in a manner conducive to stability and compactness.

The invention in one form as used in packaging two rows of cylindrical objects of similar or identical configuration comprises a top panel of a width approximating twice the diameter of one of the objects to be packaged, a pair of side panels foldably joined to the opposite edges of the top panel, a pair of bottom panels respectively secured along fold lines to the bottoms of the side panels, the bottom panels being of different widths and, if desired, may be overlapped in an off-center arrangement, a plurality of separating tabs struck out of the wider of the bottom panels and foldable inwardly of the package along medial fold lines, the openings formed upon striking the separating tabs also being configured to serve as tightening apertures whereby the wider panel is engaged and drawn toward the narrower bottom panel. Preferably conventional object retaining slits are formed at each corner fold line of the package and in accordance with a feature of this invention at least one of the slits along the fold line between the narrow bottom panel and the adjacent side wall may be configured to serve as a tightening aperture whereby the narrow bottom panel is engaged and drawn toward the wider panel in package tightening overlapping relation and of course means are provided for securing the lap panels together.

For a better understanding of the invention reference may be had to the following detailed description taken in conjunction with the accompanying drawings in which FIG. 1 is a perspective view of a carrier constructed of paperboard and embodying the invention and from which the objects to be packaged have been removed; FIG. 2 is a plan view of a paperboard blank from which the carrier of FIG. 1 may be formed; FIG. 3 is an end view of a carrier such as is depicted in FIG. 1 but showing the articles to be packaged inside the wrapper; FIG. 4 is a plan view in section taken along the line 4—4 indicated in FIG. 3; FIG. 5 is an enlarged end view in section of a portion of the structure depicted in FIG. 4 and taken

along the line 5—5 indicated in FIG. 4; and in which FIG. 6 is a fragmentary view partially in section depicting locking tabs utilized in forming the carrier of this invention.

With reference to FIG. 1 the numeral 1 is used to designate the top panel of the carrier while numerals 2 and 3 respectively designate side panels which are foldably joined along opposite edges of the top panel 1 and which extend downwardly therefrom. Numeral 4 designates a bottom lap panel which is foldably joined to the lower edge of side panel 2 while the numeral 5 is used to designate a bottom lap panel which is foldably joined to the bottom edge of a side panel 3. It will be observed from the drawing and particularly from FIG. 1 that bottom lap panel 4 is considerably wider than bottom lap panel 5.

For the purpose of fastening the lap panels 4 and 5 together suitable locking tabs 6 and 7 are formed along the edge of the bottom panel 4 while suitable retaining tabs 8 and 9 are struck out of bottom lap panel 5. These locking tabe 6 and 7 and their cooperating openings formed when retaining tabs 8 and 9 are struck out are fully disclosed and claimed in the aforementioned Patent No. 2,786,572.

For the purpose of separating the lower inner edges of the cans in one row from the adjacent edges of the cans in the other row a plurality of separating tabs 10, 11 and 12 are struck out of the bottom lap panel 4 and are hinged along the fold lines disposed medially of the carton. Thus as can clearly be seen in FIG. 3 the objects packaged such as are designated "C" sit in a flat stable relation since their bottom edges are separated by the tabs 10–12 inclusive. This feature together with the off-center relation of the overlapping ends of the bottom lap panels 4 and 5 constitute essential features of this invention.

As is known in the art a package such as is disclosed in the aforementioned Patent 2,786,572 can be folded about articles to be packaged and tightened by suitable machine elements which engage openings formed in the bottom lap panels. According to a feature of this invention such machine elements may engage the openings formed when the separating tabs 10, 11 and 12 are struck out of bottom panel 4.

Such machine tightening elements are also arranged to engage the apertures 13 and 14 formed in bottom lap panel 5 so as to draw that panel toward lap panel 4 in overlapping package tightening relation. According to a feature of this invention tightening apertures 13 and 14 are merely continuations in a large configuration of the slits formed along the fold line between bottom lap panel 5 and side panel 3. Thus the openings 13 and 14 serve not only as tightening apertures but also as can gripping slits corresponding generally to the slits 1A and 1B formed along opposite edges of the top panel 1 as well as the slits 2A on the bottom edge of side panel 2.

For the purpose of separating the end cans at the top thereof suitable tabs 15 and 16 are struck out of the top panel 1, and are foldable inwardly along fold lines disposed medially of the package.

For the purpose of affording finger gripping apertures, suitable tabs 17 and 18 may be struck out of the top panel 1.

From the description above it will be understood that in accordance with this invention a sturdy, compact and stable carton is provided which is peculiarly adapted to stack in a stable fashion. Stability of stacking is due in part to the off-center arrangement of the overlapping ends of the bottom lap panels 5 and 6 which tend simply to tilt one edge of the carton upwardly slightly, such as the edge of adjacent side panel 3, without interfering with stability of stacking in any way. Furthermore it will be under-

stood that the tabs **10–12** struck out of the bottom tend to cause the package to remain in a flat stable relation together with the action of the separating tabs **15** and **16** which are struck out of the top panel **1**. It will also be understood that the dual function of the openings formed when the separating tabs **10** and **12** are struck out whereby these openings serve as tightening apertures constitutes a feature of the invention as well as the dual function of the object engaging slits **13** and **14** whereby these openings grip the cans securely and also serve as tightening apertures to receive suitable machine tightening elements. The tightening element, being so closely associated with the holding slit, is particularly effective to aid in holding the end cans at the bottom of the carton.

While the invention is described herein in connection with locking tabs such as **6**, **7** and their associated retaining tabs **8** and **9** it will be understood that the invention is not limited to this particular fastening means and that other fastening means could be used such, for example, as glue or other means. Furthermore it will be understood that while the panel **1** is described as a top panel and the panels **4** and **5** are described and referred to as bottom panels it will be understood that these terms are used for the sake of clarity and in order to make the drawings readily understandable but that the carton could be turned upside down in which event the panel **1** would then become the bottom panel and the panels **4** and **5** would become top panels.

While I have shown and described a particular embodiment of the invention I do not wish to be limited thereto and intend in the appended claim to cover all such changes and modifications as fall within the true spirit and scope of this invention.

What I claim is new and desire to secure by Letters Patent of the United States is:

A wrapper for packaging two rows of cylindrically shaped objects whose axes are disposed in substantially parallel relation, said wrapper comprising a top wall panel having a width approximating twice the diameter of said objects to accommodate the two rows, a pair of side wall panels foldably joined respectively along opposite edges of said top wall panel, a pair of bottom lap panels foldably joined respectively along the edges of said side wall panels opposite to the edges thereof which are joined to said top wall panel, slits formed along the fold lines defining the functions between said side wall panels and the remaining panels, one of said lap panels being wider at least in a part thereof than the diameter of one of the packaged objects and the other of said lap panels being substantially narrower than said one lap panel, fastening means for securing said lap panels together in overlapping relation, a plurality of triangular tabs struck out of said one lap panel and foldable inwardly along fold lines constituing one side of the triangular tabs and disposed medially of the package to form separating means between adjacent objects in different rows of the packaged objects, the triangular openings formed in said one panel by said tabs constituting tightening apertures whereby said one panel is engaged and drawn toward said other lap panel in package tightening overlapping relation, and at least one tightening aperture formed in said other lap panel directly opposite one of the openings in said one lap panel whereby said other lap panel is engaged and drawn toward said one lap panel in package tightening overlapping relation, said tightening aperture in said other panel being a generally triangular continuation of one of said slits whereby opposed tightening force imparted to said tightening apertures in both of said lap panels imparts a secure gripping action to the adjacent object by respectively securing a part of said object in said one of said slits.

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