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N. D. ELLIS ET AL

3,032,185

CAN CARTON

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FIG. 1

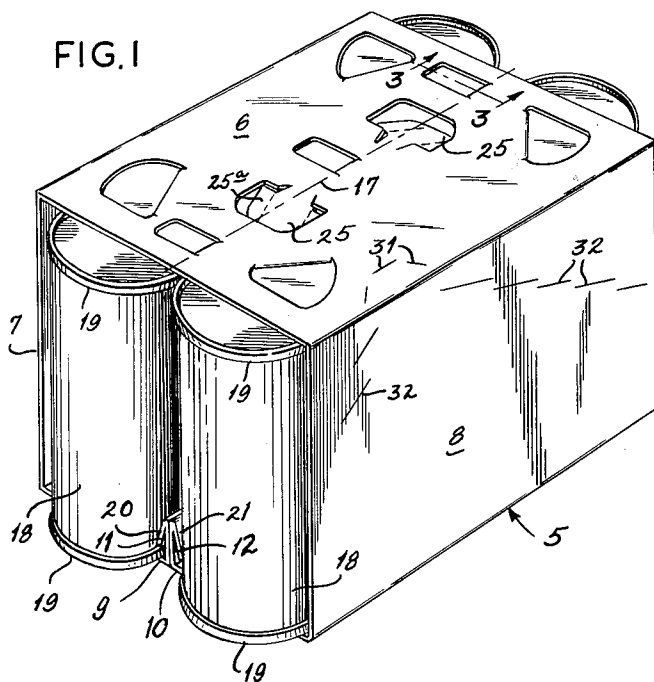


FIG. 3

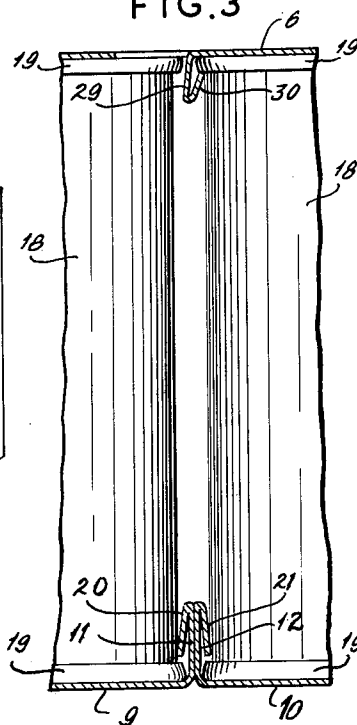
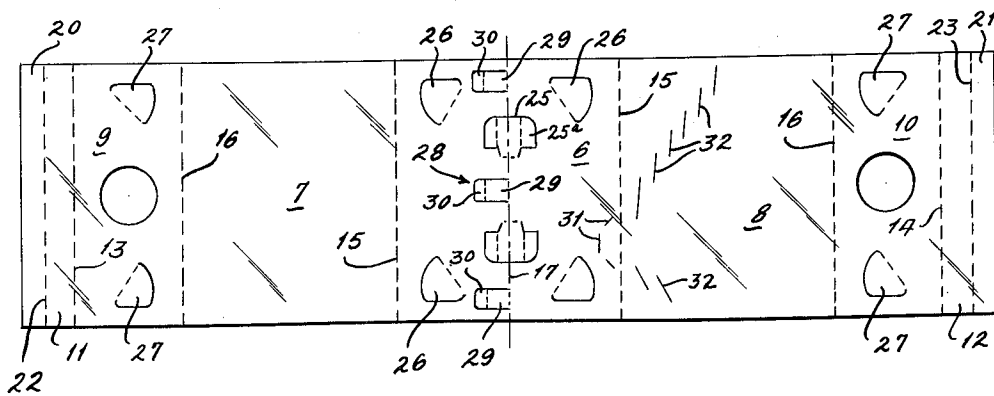


FIG. 2



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3,032,185
CAN CARTON

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The present invention relates to paperboard cartons and more particularly to cartons of the open end type adapted for the retention of two rows of chimed cans, said carton having bottom and top chime engaging tabs.

The present invention is an improvement on the carton shown in United States Patent No. 2,963,148 granted December 6, 1960, which under certain conditions allows the cans therein to become loose and fall out. This is especially true during the carrying of the package, since the top wall bows or flexes upwardly thereby tending to unlock the upper retaining tabs.

One of the principal objects of the present invention is to provide an inexpensive carton for two rows of chimed cans having the advantages of open end cartons with center partitions, including preventing the upper wall from bowing away from the tops of the cans, preventing the upper retaining flaps from becoming disengaged, and providing material between the opposite cans in the two rows both at the top and bottom.

Another important object of the invention is to provide an efficient, inexpensive form of open end carton for two rows of chimed cans, such carton having substantially all the advantages of open end cartons with center partitions but being constructed with substantially less material.

A further object of the invention is to provide an open end, sleeve type carton for two rows of chimed cans held side-by-side, in which means are provided at top and bottom for holding the cans in accurate side-by-side relation without the tendency for the chimes of cans in one row to overlap or ride onto the chimes in the other row.

A still further object of the invention is to form on both of the panels against which the can ends bear, a central abutment or contacting means which is adapted to engage edgewise on the chimes of the cans and hold them firmly against their adjacent panels thus assuring that the chimes at the opposite ends of the cans in adjacent rows will not ride one upon the other.

Other objects and advantages of the present invention will become apparent as the description proceeds.

In the drawings:

FIG. 1 is a perspective view of an open end carton embodying the present invention showing the chimed cans positioned therein,

FIG. 2 is a plan view of a blank embodying the present invention, and

FIG. 3 is a cross-sectional view of the carton taken along the line 3—3 of FIG. 1 showing paperboard means between the chimed cans both at the top and bottom.

The invention, as herein disclosed, is embodied in a one-piece carton formed from a strip of foldable paperboard joined to provide an open rectangular, collapsible sleeve. On one of the walls which contacts the can ends is formed a central, narrow, upstanding abutment or partition portion against which the can chimes may engage laterally. On this abutment or partition a pair of opposed, narrow strips project toward the adjacent can chimes and such strips are sufficiently narrower than the abutment or partition so that they may bear directly edgewise against the edges of the adjacent can chimes. On the top wall are downwardly extending tabs with rebent portions which provide material between the opposing cans of each row and which prevent flexing of

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the top wall and keep the top wall adjacent to the top of the cans. This prevents the top wall can retaining tabs from becoming disengaged from the top chimes of the cans and prevents the cans from falling out of the carton.

Referring particularly to the drawings, the carton is indicated as a whole at 5, and comprises an end wall panel 6 which may for convenience be considered the top wall, two side wall panels 7 and 8, and a second end wall panel, for convenience termed the bottom wall, formed of two sections 9 and 10. The sections are formed with narrow attached strips 11 and 12, defined from sections 9 and 10 by crease or score lines 13 and 14.

These strips may if desired be secured together as by means of adhesive to complete the bottom wall. The walls are hingedly related along separating crease lines indicated at 15 and 16. The top wall 6 may if desired be creased centrally at 17, thus providing a pre-glued and collapsible construction. With this arrangement, the two sections of the bottom wall will fold upwardly about the hinge provided by the crease lines 13 and 14 and the side walls 7 and 8 will move in to lie flat against the bottom sections 9 and 10. At the same time the two halves of the top panel 6 will be folded about the crease line 17, allowing the sections of the top panel to be folded one against the other.

When the carton is brought into can carrying condition, two rows of cans indicated at 18 with chimes 19 thereon may be loaded into the carton by sliding them endwise thereinto. In order to assure accurate positioning of the cans there is provided on the narrow strips 11 and 12 a means for engaging downwardly against the upper surfaces of the can chimes to retain the can ends in close relation to the carton bottom sections 9 and 10. This means preferably comprises additional narrow retaining strips 20 and 21 integrally carried by the respective strips 11 and 12. These retaining strips are defined from strips 11 and 12 by crease lines 22 and 23 and in their operative positions the strips are folded to extend downward, in which position the edges of the strips may bear against the adjacent edges of the chimes 19 of the cans.

Due to the action of the retaining strips the cans, when moved into the cartons through the open ends, will slide inward with their ends engaged substantially flat against the bottom panels 9 and 10. This will avoid any tendency of the can chimes at the opposite or upper ends of the cans to lock edgewise against each other which would cause one of the cans to assume a tilted position.

Tabs 25 are preferably formed in the top wall 6 to serve as finger openings whereby the filled carton may be carried. The tabs 25 are pushed downward by the ultimate user of the package. These tabs 25 may have ears 25a thereon to facilitate moving the tabs 25 out of the plane of the top wall 6 and to make the tab 25 more comfortable.

The cans may be retained within the carton and prevented from endwise movement by means of inwardly foldable tabs 26 and 27 formed respectively in the upper and lower walls of the carton. These tabs when folded inwardly tend to move against the can ends due to the resiliency of the foldable paperboard and the edges of the tabs will engage edgewise against the inner portions of the can chimes thus preventing the cans from movement outwardly of the carton.

The improvement to the carton hereinbefore described comprises means connected to the top wall 6 to retain the top wall 6 in close relation to the tops of the cans 18 at all times. The top wall 6 is provided with tabs 28 having a downwardly extending portion 29 and a shorter upwardly rebent portion 30, which is rebent 180° toward the unstruck portion of the top wall 6 as shown.

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These tabs 28 are of predetermined width and provide material between the chimes 19 of opposing cans 18 in the two rows. In addition, the rebent portions 30 lock under the upper chime of a can 18 to prevent the top wall from flexing upwardly when the carton is carried by the carrying means. The resiliently hinged tabs 26 are thereby restricted from becoming disengaged from the cans and maintain their retaining relation with the can chimes 19 during carrying of the carton. With the pre-glued cartons, the tabs 28 should be bent and rebent into the position shown in FIG. 3 before the cans are slid endwise into the carton.

The carton may be provided with scores 31 and stepped scores 32 to provide a small section which can be pushed in and then torn down in order to release the cans from the carton.

From the foregoing it is apparent that the present invention provides an effective open end can carton formed of a relatively small amount of paperboard, whereby it can be inexpensively produced. Due to the center partition strip having the downwardly projecting retaining strips the cans are guided to move accurately into the carton with the chimes of cans in adjacent rows maintained in side by side relation without likelihood of the chimes at the upper ends riding one upon the other.

It may be noted that while the retaining strips for engagement with the chimes have been described as located on the bottom wall, this has been merely for convenience of description as it is broadly immaterial in practice which of the can end engaging walls is considered the top and which is considered the bottom.

It is preferable not to have the cartons pre-glued along the narrow strips 11 and 12 although they may be if so desired. If the cartons are not pre-glued, then a crease along the longitudinal center 17 of the top wall 6 will not be necessary. It is preferable to deliver the carton to the packer in the form of flat unglued blanks which are wrapped around a group of two rows of cans.

In this form of the invention, a convenient procedure for enclosing the cans with the carton blank is to place two rows of cans upon the top panel 6 whose tabs 28 have been bent at right angles out of the plane of the top wall 6 with their rebent portions 30 engaging the chimes of the cans; then fold upwardly the side walls 7 and 8; and then fold the strips 11 and 12 and the attached retaining strips 20 and 21 one against the other and move them to a generally right angular position with respect to their attached bottom wall sections 9 and 10. Adhesive is applied to one of the strips 11 or 12.

The bottom wall sections 9 and 10 are folded over against the cans 18 and at the same time the folded strips 11, 12, 20 and 21 are brought into place between the can rows, thus bringing the carton parts into the relationship shown in FIGS. 1 and 3. The strips 11 and 12 are held together until the adhesive has set. This may be done by applying pressure laterally against the side walls 7 and 8. The strips 20 and 21 by bearing downward on the edges of the lower chimes 19 hold the cans in place against the bottom wall panels 9 and 10 and tend to prevent locking of the chimes one over the other. The tabs 28 with their depending portions 29 and rebent portions 30 tend to prevent the locking of the upper chimes one over the other, and at the same time, lock the top wall 6 to the cans so that the top wall 6 does not flex upwardly during carrying, thereby eliminating the possibility that the upper retaining tabs 26 will accidentally become disengaged from the can, as might happen if the tabs 28 are not present.

This invention is intended to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

1. An open end, rectangular, sleeve-type carton

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formed of flexible, folding paperboard and adapted to enclose two rows of closed, chimed cans in side-by-side relation, said carton having a top wall panel, side wall panels joined to opposite edges of the top wall, a bottom wall panel section connected to the lower end of each side wall, the free edges of the bottom wall panels meeting centrally of the bottom, each of such panel free edges having connected thereto an upwardly projected strip, the upper edge of each of the strips carrying an integral, downwardly and outwardly folded strip having a width less than the upwardly projecting strip, whereby the lower edge of each downwardly projecting strip provides a downwardly presented abutment spaced from the adjacent bottom panel, the upwardly and downwardly projecting strips being of such length as to extend substantially the distance between the carton open ends, means located centrally of the top wall and aligned with the axis through the open ends of the carton for carrying the carton, said top wall panel having downwardly extending tabs between cans in opposite rows, said tabs having a rebent portion thereon which extends upwardly to engage the downwardly directed surfaces of the upper chimes, thereby maintaining the top wall panel in close relation to the tops of said chimed cans, and inwardly foldable, chime-engaging means formed within the contour of the top wall and adapted to be folded through 180° to their chime-engaging position, such means being adapted, due to the resilience of the paperboard, to swing inwardly away from the normal plane of the top wall and remain in chime-engaging condition.

2. A package comprising a group of two juxtaposed, parallel rows of closed, chimed cans held upright within a rectangular, open-end carton formed of flexible, folding paperboard, such carton including a top wall panel enclosing the upper end of the can group, side walls enclosing the sides of the can group, each side wall carrying at its lower end a bottom wall section enclosing the bottoms of one row of cans, the free edges of the bottom sections meeting centrally along the line between the can rows and each edge having connected thereto an upwardly projecting strip disposed between the can rows, such strips being secured flatwise against each other and each strip carrying an integral, downwardly projecting strip of less width than the upwardly projecting strips, such downwardly projecting strips being folded on the outer sides of their attached strips and in contacting relation with the can sides, such strips extending the length of the carton between its open ends with the bottom edge portions of each of the downwardly folded strips presented respectively in abutting relation to the upper surfaces of the can chimes on the lower ends of the cans of the two can rows to hold the cans against their bottom wall sections, said top wall panel having tabs extending downwardly between the chimed cans of different rows, said tabs having a rebent portion thereon which extends upwardly to engage the downwardly directed surfaces of the upper chimes, thereby maintaining the top wall panel in close relation to the tops of said chimed cans, and means on the carton engageable with the cans for preventing them from accidentally moving longitudinally of the carton out of an end of the carton.

3. An open end, rectangular, sleeve-type carton formed of flexible, folding paperboard and adapted to enclose two rows of closed, chimed cans in side-by-side relation, said carton having a top wall panel, side wall panels joined to opposite edges of the top wall panel, a bottom wall panel section connected to the lower end of each side wall panel, the free edges of the bottom wall panels meeting centrally of the carton, each of such panel free edges having connected thereto an upwardly projected strip, the upper edge of each of the strips carrying an integral, downwardly and outwardly folded strip having a width less than the upwardly projecting strip, whereby the lower edge of each downwardly projecting strip provides a downwardly presented abutment spaced from the adjacent bottom panel

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for engagement with chimes presented by said cans to prevent vertical movement of the cans relative to the bottom wall panel sections of the carton, the upwardly and downwardly projecting strips being of such length as to extend substantially the distance between the carton open ends, and means integral with the carton engageable with the cans for preventing them from accidentally moving longitudinally of the carton out of an end of the carton, said top wall panel provided with tabs having a downwardly extending portion between the chimed cans of different rows, said tabs having a rebent portion of lesser width than said downwardly extending portion which extends upwardly to engage the downwardly directed surfaces of the upper chimes, thereby maintaining the top wall panel in close relation to the tops of said chimed cans.

4. An open end sleeve-type carton formed of foldable paperboard and adapted to hold two rows of chimed cans in side-by-side relation, said carton comprising interconnected top, side and bottom wall panels, the bottom wall panel having thereon a narrow, centrally disposed, upstanding partition extending axially of the carton, narrow chime engaging strips extending downward on opposite sides of the partition and adapted to engage the upwardly directed surfaces of the lower chimes of cans disposed between the narrow partition and the side walls, said top and bottom wall panels having retaining means thereon engageable with the cans for preventing them from sliding out of the ends of said carton, the top wall panel having thereon downwardly extending tabs having a rebent

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portion thereon which extends upwardly to engage the downwardly directed surfaces of the upper chimes, thereby maintaining the top wall panel in close relation to the tops of said chimed cans.

5. An open end sleeve-type carton formed of foldable paperboard and adapted to hold two rows of chimed cans in side-by-side relation, said carton comprising four interconnected wall panels, at least two of said wall panels having retaining means engageable with the cans for preventing said cans from sliding out of the ends of said carton, two of said wall panels positioned adjacent to the ends of said chimed cans, the other two of said walls being side walls and extending between said walls positioned adjacent to the ends of said cans, one of said walls positioned adjacent to the ends of said cans being formed of one piece of material and having thereon spaced finger receiving openings and spaced tabs struck from said wall, said tabs extending inwardly between said cans and having a rebent portion thereon which extends outwardly to engage the innermost surfaces of the chimes of said cans, thereby maintaining said wall panel in close relation to the ends of said chimed cans.

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