Dec. 20, 1966 F. A. CHIDSEY, JR., ETAL 3,292,843

CARRIER CARTON RETAINING MEMBER

Filed April 27, 1964 2 Sheets-Sheet 1

Fig. 5

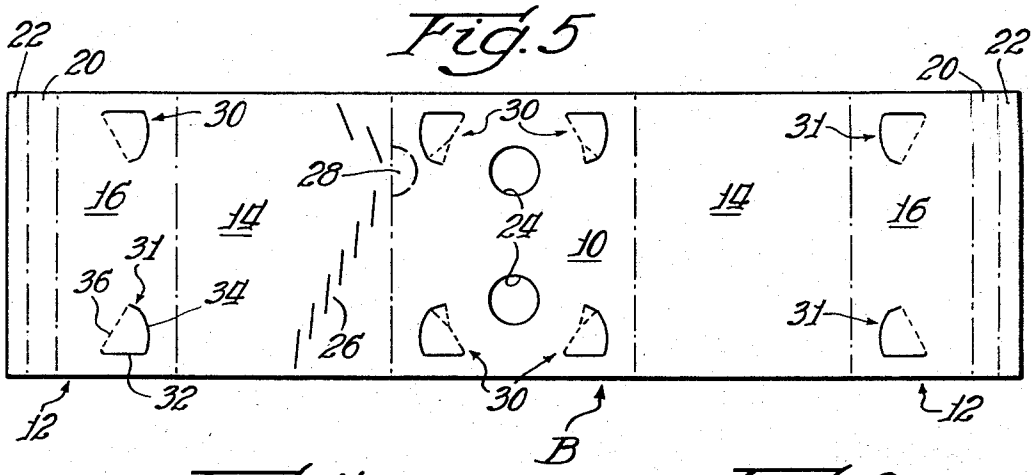


Fig. 4

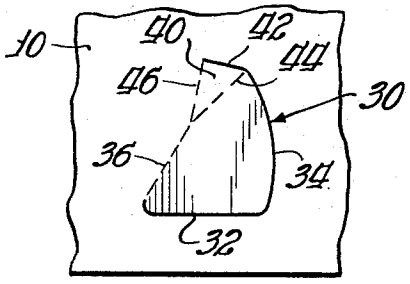


Fig. 2

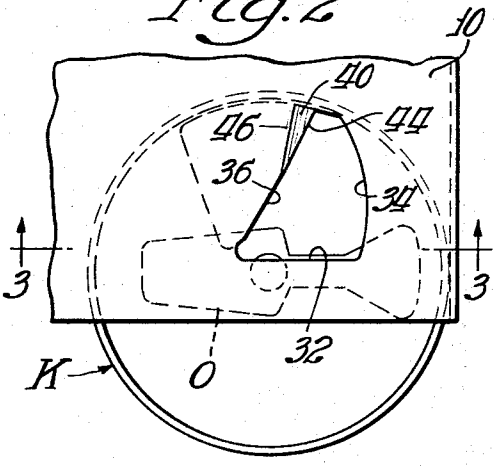


Fig. 1

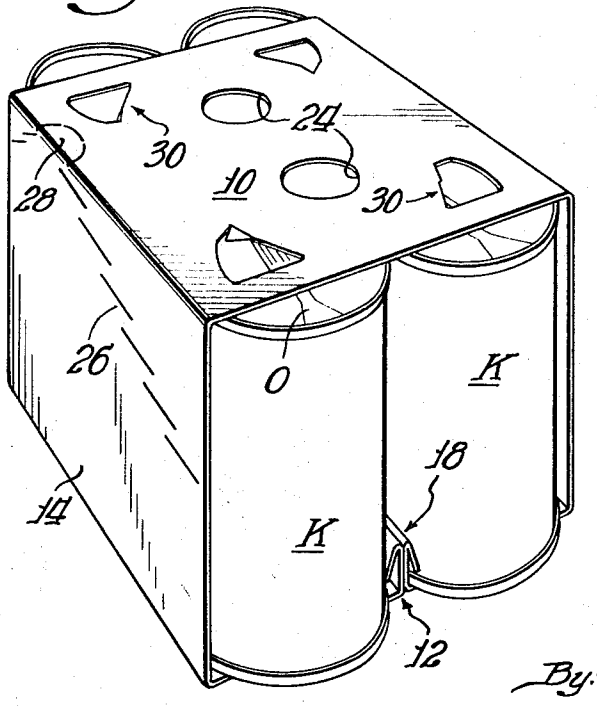
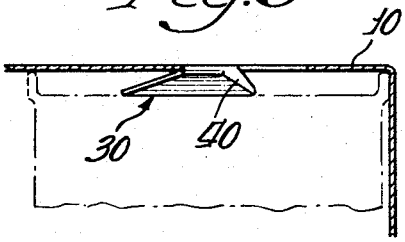


Fig. 3



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Fig. 8

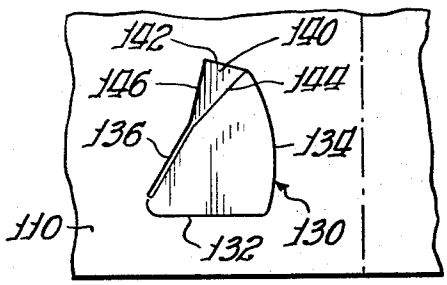
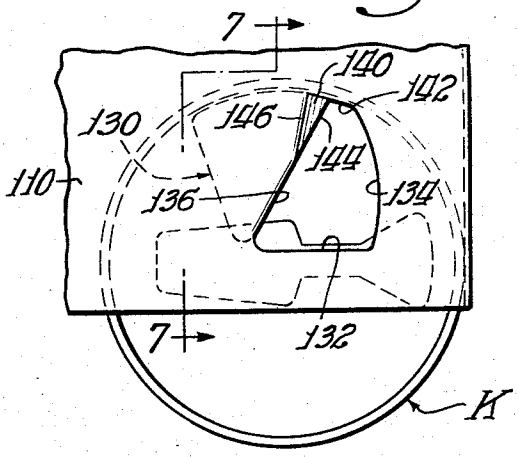


Fig. 6



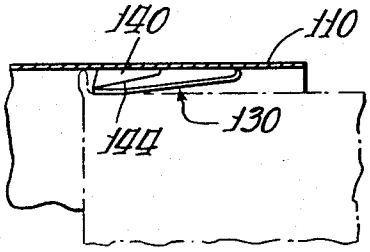


Fig. 7

Fig. 11

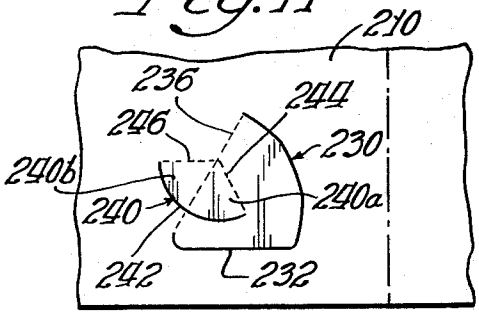


Fig. 9

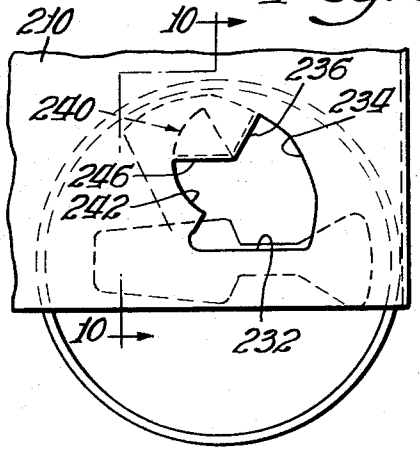
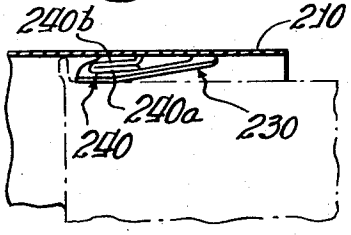


Fig. 10



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CARRIER CARTON RETAINING MEMBER

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Filed Apr. 27, 1964, Ser. No. 362,623
5 Claims. (Cl. 229—40)

This invention relates to paperboard carrier cartons, and more particularly to collapsible open ended tubular cartons adapted to hold a plurality of cylindrical objects with recessed ends, such as chimed cans.

The invention comprehends an improvement over the remaining tab arrangement disclosed in United States Letters Patent No. 2,980,249.

As is known to those familiar with the art of packaging, a common way to package cylindrical objects, such as metal cans, is to wrap them in a tubular, open-end, carrier carton with the cans being arranged in the carton in one or more rows extending longitudinally of the carton. In cartons of this type it is necessary to provide some means of preventing the cans from accidentally moving out of the open ends of the carton. One method of solving this problem is that disclosed in the previously referred to patent wherein can retaining tabs are cut from the top and/or bottom wall panels of the carton and are folded inwardly into the recessed ends of the chimed cans to engage the inside edges of the chimes and thereby prevent the cans from moving out of the ends of the carton.

With the advent of the so-called "pop-top" metal cans which have built-in opening devices with handle portions which project above the outer surfaces of the end walls of the cans, an additional problem is presented, namely that of insuring relatively tight engagement between the can retaining tab and the end wall of the packaged article.

It is therefore a primary object of this invention to provide, in a carrier carton of the type described, spacer means operable to urge the can retaining tab against a related end wall of the can to insure snug engagement between the carton and the can retaining tab.

A more specific object of the invention is the provision, in a carton of the type described, of a spacer member or gusset cut from the top wall of the carrier carton and hingedly attached between the top wall and the can retaining tab and which is operable to urge an adjacent inner portion of the can retaining tab into firm engagement with the recessed end of the can.

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

FIGURE 1 is a perspective view of a carrier carton with can retaining tabs emodying features of the invention;

FIGURE 2 is an enlarged plan view of a portion of the structure illustrated in FIGURE 1;

FIGURE 3 is a transverse vertical section taken on line 3—3 of FIGURE 2;

FIGURE 4 is an enlarged plan view of a retaining tab and surrounding portion of the related wall of the carton from which the tab is cut, with the tab shown in a flat or unfolded position;

FIGURE 5 is a plan view of a blank from which the carton of the previous views may be formed;

FIGURES 6, 7, and 8 are views similar to FIGURES 2, 3, and 4, respectively, but illustrate a modified form of the invention; and

FIGURES 9, 10 and 11 are views similar to FIGURES 2, 3, and 4, respectively, but illustrate yet another modified form of the invention.

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

Referring now to the drawings for a better understanding of the invention, it will be seen that in FIGURE 1, there is illustrated an open-end, sleeve-type, wrap-around, carrier carton, illustrated generally at C, which may be formed from the unitary blank, indicated generally at B, of suitable sheet material such as foldable paperboard, as illustrated in FIGURE 5.

The carton is arranged and disposed to hold a plurality of cylindrical objects such as chimed cans, indicated generally at K which are arranged in one or more rows extending longitudinally of the carton. In the carton illustrated in FIGURE 1, the cans are arranged in two parallel rows disposed in side-by-side relation.

It will be noted from an examination of FIGURES 1 and 2 that the cans illustrated herein are provided with recessed end portions and are of the so-called "pop-top" type, having built-in opening devices, indicated generally at 0, formed integrally with the ends of the cans.

Still referring to FIGURE 1, it will be seen that the carton includes a pair of parallel, transversely extending, vertically spaced top and bottom walls **10** and **12**, respectively, which are interconnected by a pair of opposed, parallel, transversely spaced, vertical side walls **14** to form a tubular structure open at the ends. Referring also to FIGURE 5 it will be seen that, while the top wall **10** is formed from a single panel, bottom wall **12** includes a pair of co-planar bottom wall panels **16** having their outer side edges hingedly attached to the adjacent lower edges of the related side walls **14** and having their inner edges attached to a central can retaining member **18** which extends longitudinally of the carton and projects into the carton between the adjacent rows of cans as disclosed and explained more fully in United States Letters Patent No. 3,010,573. The retaining member **18** is formed from cooperating pairs of first and second strips **20** and **22**, respectively. First strips **20** are hingedly attached to the inner edges of the bottom panels **16** and are disposed to extend into the carton at right angles to the bottom wall in back-to-back relation where they are secured to each other by adhesive means. Hingedly attached to the inner or upper edges of first strips **20** are second strips **22** which extend downwardly and outwardly toward the bottom wall for engagement with the related edges of the can chimes to maintain the cans in firm engagement with the bottom wall of the carton.

It will be understood that the central retaining member previously described is not an essential feature of the invention covered by this application, but may be replaced by other equivalent arrangements.

The one piece top wall **10** of the carton may be provided with a pair of hand grip holes or openings **24** to facilitate grasping and lifting of the package. Also, in order to facilitate opening of the package, one of the side walls **14** may be provided with a series of weakened lines of tear **26**, and the top wall may be provided with a cut score punch out section **28** which affords access to the top of the side wall of the carton, so that the carton may be easily ripped open along the weakened lines of tear.

In order to prevent the cans from accidentally moving out of the open ends of the carton there are provided in the top and/or bottom walls of the carton, adjacent the ends of the walls, can retaining tabs **30** and **31** disposed over and under, respectively, the end cans of each row. The can retaining tabs **30** and **31** in the top and bottom walls of the carton are of the same general type as those disclosed in United States Letters Patent No. 2,980,249.

It will be understood, of course that where cans having chimes at only one end are packaged, only one wall of the carton will be provided with can retaining tabs.

As best seen in FIGURE 5, each tab **31** is generally triangular or pie-shaped with its sides defined by a first cut line **32**, extending generally parallel to the adjacent edge of the carton top wall, a second cut line **34**, which is arcuate and extends inwardly from one end of cut line **32**, and a hinge line **36** extending between the other or free ends of cut lines **32** and **34**.

This invention is directed to providing special retaining tabs for carrier cartons used in the packaging of cans having built-in opening devices formed in end walls of the cans. With this type of can construction, a special problem is created by the additional depth in the recessed end wall, namely, the problem of maintaining the retaining tab **30** in firm or snug contact with the end wall of the can.

I have discovered a means of accomplishing this result by providing a spacer member **40** between each can retaining tab **30** and the top wall **10** of the carton.

Referring now to FIGURE 4, it will be seen that retaining tabs **30** are similar to tabs **31**. However, tabs **30** are each connected to the carton wall **10** by means of a preferably generally triangular spacer member or gusset **40** which is disposed between the tab and the caron wall. As best seen in FIGURE 4, hinge line **36**, between tab **30** and carton wall **10**, extends about halfway from the free end of cut line **32** to the free end of cut line **34**, and spacer member **40** is positioned between the inner end of hinge line **36** and the inner end of cut line **34**.

Spacer member **40** has a relatively short outer edge defined by cut line **42**, extending inwardly from the inner end of cut line **34**, and a pair of side edges defined by a pair of hinge lines **44** and **46** which diverge inwardly from the inner end of hinge line **36** to the opposite ends of cut line **42**. Thus, spacer **40** is hingedly attached to tab **30** on hinge line **44** and is hingedly attached to carton wall **10** on hinge line **46**, while tab **30** is hingedly attached to carton wall **10** on hinge line **36**. As best seen in FIGURE 3, when the tab and spacer member are folded into normal can retaining position, spacer member **40** extends vertically between the carton top wall **10** and the inner end of can tab **30** to maintain the can tab in snug engagement with the end wall of the can. In the embodiment of the invention illustrated in FIGURES 1–5, it is contemplated that hinge lines **36**, **44**, and **46** would be formed in a conventional manner, that is with scoring and/or creasing or cutting rules, and would be either scored, cut scored, or cut in a line of perforation.

Turning now to FIGURES 6–8, it will be seen that a modified form of the invention is provided. The carton construction of this embodiment is basically the same as that of the previously described embodiment of FIGURES 1–5, except that a novel means has been provided for forming the can tab spacer **140** and the hinge lines **136**, **144**, and **146**.

In this embodiment, the spacer member **140** is formed by a debossing operation wherein a single one-piece die is used to form the spacer **140**, and hinge lines **136**, **144**, and **146**, as opposed to the conventional crease rule, and make ready combination. In this arrangement the spacer member, once formed, functions in the same manner as spacer member **40** of the previous embodiment to maintain retaining tab **130** in snug engagement with the related end wall of the can. The great advantage of forming the spacer member and hinge lines with a one piece debossing die is that it is much more efficient and expeditious than forming the very short hinge lines with the conventional crease rule, cutting rule, and make ready combination.

Turning now to FIGURES 9–11, it will be seen that yet another form of the invention is shown. In this embodiment hinge line **236** extends the entire distance between related ends of cut lines **232** and **234**, and the

spacer member **240** is attached to the carton wall **210** and the retaining tab **230** in a different manner from the spacer members of the previous embodiments.

As best seen in FIGURE 11, spacer member **240** includes a pair of integral triangular sections or gussets **240***a* and **240***b* which are cut from material of the carton wall **210** and the retaining tab **230**, respectively, and are hingedly attached to the tab and wall along diverging hinge lines **244** and **246** which extend from a medial point on hinge line **236** outwardly toward the opposite ends of an arcuate cut line **242**. The sections **240***a* and **240***b* are hinged to each other on a portion of hinge line **236** and are disposed and arranged to be folded into back-to-back relation between the upwardly facing surface of the infolded can tab **230** and the downwardly facing surface of the carton top wall. In this way spacer **240** serves to urge the can tab **230** into snug engagement with the recessed end wall of a packaged can in the same general way as the spacer members of the other embodiments.

We claim:

1. An open-end, sleeve-type, wrap-around carrier carton formed from a unitary blank of foldable paperboard for enclosing at least one row of cylindrical objects, such as chimed cans, having on corresponding ends thereof recessed end walls, comprising:

(a) opposed pairs of parallel walls hingedly interconnected to form a tubular structure for enclosing the ends and sides of the objects;

(b) one of the walls enclosing the ends of the objects having, adjacent each open end thereof, a retaining tab attached thereto, on a hinge line and adapted to be folded into the carton toward the inner surface of said one wall for disposition within an adjacent recessed end of a packaged object to prevent the object from accidentally moving out of the open end of the carton; and

(c) a spacer member foldably connected to said tab and said one wall and operable to urge a portion of said tab into snug, abutting engagement with the recessed end wall of said packaged object;

(d) said spacer member comprising a pair of panels hinged to each other and to the retaining tab and one carton wall, respectively.

2. An open-end, sleeve-type, wrap-around carrier carton formed from a unitary blank of foldable paperboard for enclosing at least one row of cylindrical objects, such as chimed cans, having on corresponding ends thereof recessed end walls, comprising:

(a) opposed pairs of parallel walls hingedly interconnected to form a tubular structure for enclosing the ends and sides of the objects;

(b) one of the walls enclosing the ends of the objects having, adjacent each open end thereof, a retaining tab attached thereto, on a hinge line and adapted to be folded into the carton toward the inner surface of said one wall for disposition within an adjacent recessed end of a packaged object to prevent the object from accidentally moving out of the open end of the carton; and

(c) a spacer member foldably connected to said tab and said one wall and operable to urge a portion of said tab into snug, abutting engagement with the recessed end wall of said packaged object;

(d) said spacer member being generally triangular in shape having a free end edge defined by a cut line and a pair of side edges defined by a pair of diverging fold lines which connect the member to the retaining tab and one carton wall, respectively;

(e) said spacer member, said spacer member fold lines, and said retaining tab hinge line being co-planar and depressed from one surface of said one carton wall.

3. An open-end, sleeve-type, wrap-around carrier carton formed from a unitary blank of foldable paperboard for enclosing at least one row of cylindrical objects, such

as chimed cans, having on corresponding ends thereof recessed end walls, comprising:

(a) opposed pairs of parallel walls hingedly interconnected to form a tubular structure for enclosing the ends and sides of the objects;

(b) one of the walls enclosing the ends of the objects having, adjacent each open end thereof, a retaining tab attached thereto, on a hinge line and adapted to be folded into the carton toward the inner surface of said one wall for disposition within an adjacent recessed end of a packaged object to prevent the object from accidentally moving out of the open end of the carton; and

(c) a spacer member foldably connected to said tab and said one wall and operable to urge a portion of said tab into snug, abutting engagement with the recessed end wall of said packaged object;

(d) said spacer member comprising a pair of hingedly interconnected panels adapted to be folded into back-to-back relation and interposed between and generally parallel to said retaining tab and said one carton wall.

4. An open-end, sleeve-type, wrap-around carrier carton formed from a unitary blank of foldable paperboard for enclosing at least one row of cylindrical objects, such as chimed cans, having on corresponding ends thereof recessed end walls, comprising:

(a) opposed pairs of parallel walls hingedly interconnected to form a tubular structure for enclosing the ends and sides of the objects;

(b) one of the walls enclosing the ends of the objects having, adjacent each open end thereof, a retaining tab adapted to be folded into the carton toward the inner surface of said one wall for disposition within an adjacent recessed end of a packaged object to prevent the object from accidentally moving out of the open end of the carton; and

(c) a spacer member foldably connected to said tab and said one wall and operable to urge a portion of said tab into snug, abutting engagement with the recessed end wall of said packaged object;

(d) said spacer member comprising a single Y shaped panel having a triangular shaped head portion defined by a cut line and a pair of diverging fold lines hinged to said one carton wall and said retaining tab, respectively, and an integral, elongated, narrow neck section defined by a pair of parallel fold lines which are continuations of said last mentioned fold lines and which are also hinged to said one carton wall and said retaining tab, respectively.

5. A carton according to claim 1, wherein said spacer member, said spacer member fold lines, and said retaining tab hinge line are formed by a debossing operation with a single die.

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