Nov. 28, 1961 F. A. CHIDSEY, JR 3,010,573

CAN CARTON WITH CURVED CHIME ENGAGING MEANS

Filed Jan. 31, 1961

FIG. 2

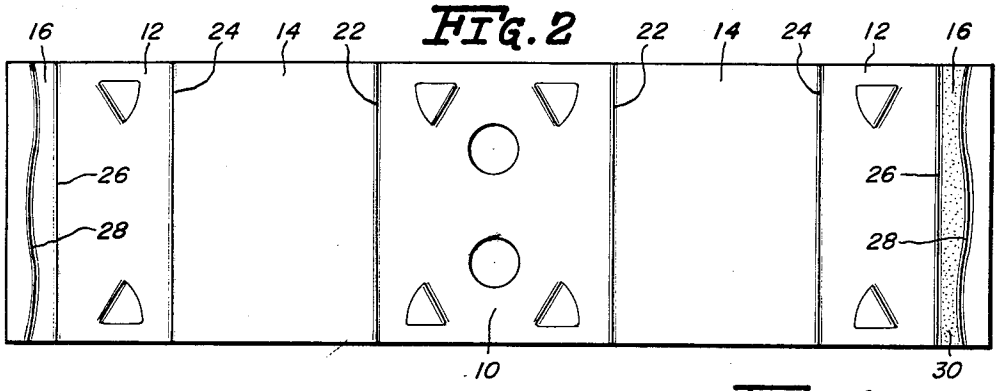


FIG. 1

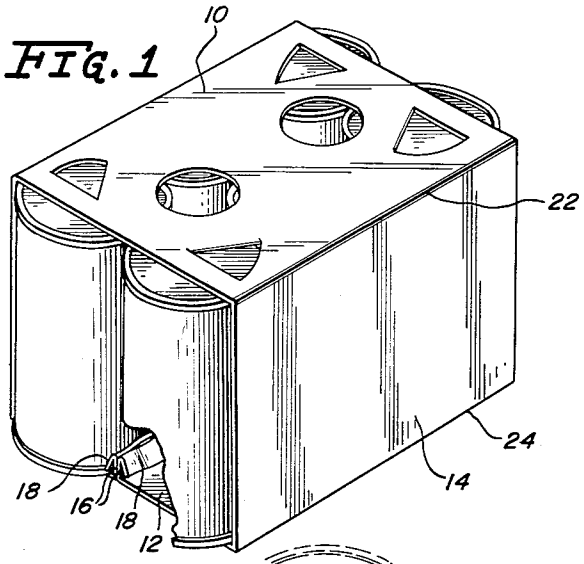
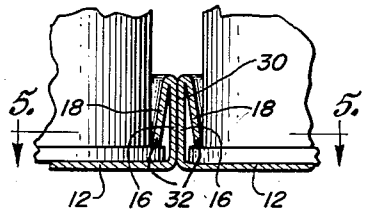


FIG. 4



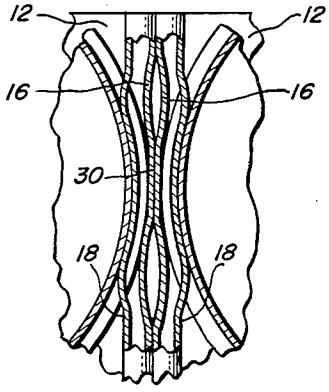
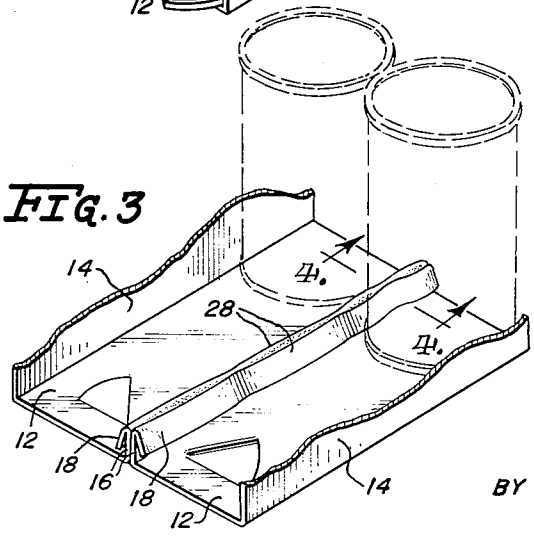


FIG. 5

FIG. 3



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3,010,573
CAN CARTON WITH CURVED CHIME ENGAGING MEANS

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1 Claim. (Cl. 206—65)

This invention relates to cartons and more particularly to collapsible open ended tubular cartons formed of paperboard and adapted to hold a plurality of chimed cans.

The invention comprehends an improvement over the carton disclosed in United States Letters Patent Number 2,963,148, issued December 6, 1960, to Raymond A. Cote.

Cartons of the type disclosed in the aforementioned patent have several advantages over prior art cartons, the primary advantage being the elimination of a full center partition between the separate rows of cans so as to reduce, by approximately twenty percent, the amount of board needed to produce each carton.

In utilizing chime engaging flanges or strips to maintain the cans in proper position, however, it is essential that there be maximum contact between the flanges and the chimes of the adjacent cans.

It is therefore an object of this invention to provide in a tubular open ended partitionless carton, a means for maintaining the cans carried by the carton in their proper position at all times.

A more specific object of the invention is the provision of improved can chime engaging flanges or strips contoured to afford maximum contact with the chimes of the adjacent cans.

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 complete package illustrating a set up carton embodying features of the invention, with the cans shown in position within the carton;

FIGURE 2 is a plan view of the blank from which the carton of FIGURE 1 is formed;

FIGURE 3 is a view similar to FIGURE 1 but with portions of the carton structure and cans removed in order to illustrate more clearly the relationship of the cans to the chime engaging strips of the carton;

FIGURE 4 is a fragmentary transverse vertical section taken on line 4—4 of FIGURE 3, illustrating the relationship of the chime engaging strips to the can chimes and bottom panels of the carton; and

FIGURE 5 is a fragmentary horizontal sectional view taken on line 5—5 of FIGURE 4.

It will be understood that 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 better understanding of the invention, and particularly to FIGURE 1, it will be seen that the carton is of a tubular construction, open at opposite ends, and comprising a pair of parallel horizontal top and bottom walls interconnected by a pair of parallel vertical side walls which define therewith a cavity that is generally rectangular in vertical cross section.

Although, throughout the description in the specification the horizontal walls will be referred to as top and bottom walls, it is to be understood that the positions of these walls can be changed without affecting the basic teachings of the invention.

The top wall comprises a flat generally rectangular panel **10**, and the bottom wall comprises a pair of generally flat rectangular bottom panels **12**, which when

joined together in a manner hereinafter described are of substantially the same general area as the top wall panel **10**. The side walls also are each formed of a generally flat rectangular side wall panel **14**.

As best seen in FIGURES 1, 3 and 4, the bottom wall panels **12** have upstanding from their adjacent inboard edges a pair of generally vertically disposed longitudinally extending inboard strips **16** which project inwardly toward the center of the carton substantially at right angles to the plane of the bottom wall of the carton. Hingedly connected to the inner edge of each inboard strip **16** is the inner edge of an outboard strip **18** which is folded back almost 180° so as to project outboardly and outwardly toward the respective bottom wall panels.

As best seen in FIGURE 2, the carton can be formed from a single flat sheet of suitable sheet material such as foldable paperboard. The blank may be cut and scored to provide the panels of the carton which have been previously described, with the top wall panel **10** being hingedly attached at its opposite edges along parallel score lines **22** to the respective side wall panels **14**. Each of the side wall panels **14** are hingedly connected at their opposite edges along score lines **24** to the respective bottom wall panels **12**. Hingedly connected to opposite edges of each of the respective bottom wall panels **12** along parallel score lines **26** are the respective strips **16** which, in turn, have hingedly connected to their other edges, along the curved score lines **28**, the respective strips **18**.

When the carton is in set up condition as seen in FIGURE 1 the strips **16** of the respective bottom wall panels **12** are disposed in full face abutting relationship with each other and preferably banded together by a layer of adhesive **30** interposed therebetween.

As, best seen in FIGURE 4, at their outer edges the outboard strips **18** present outwardly facing abutment surfaces **32** which are spaced inwardly from their related bottom wall panels a distance only slightly greater than the height of the can chimes. Thus, when the cans are in position, with the can chimes disposed between the bottom wall panels **12** and the abutment surfaces **32**, the vertical movement of the cans relative to the bottom wall panels is prevented.

The essence of this invention resides in the provision of the curved score lines **28** between the inboard and outboard strips of the respective panels **12**. The effect of the curved scoring is to cause the outboard strips **18** to bow out of parallel with their respective inboard strips **16**.

The purpose of this is two-fold. First, the portions of the outboard strips which engage the cans exert a pressure on the cans at the places of engagement so as to increase the amount of contact between the strips and the cans; secondly, the pressure transmitted by the cans to the outboard strips at these places of engagement is transmitted along the bowed strips to the inboard strips at places located between the first mentioned places of engagement with the cans. Thus, the outboard strip tends to move back into parallel with its related inboard strip so as to cause a more equalized pressure thereagainst throughout the entire length of the carton and thereby insure contact between all portions of the adhesive coated surfaces of the inboard panels. This overcomes a problem of non-uniform contact between the adhesive coated areas which is sometimes caused by the bowing outward of the outboard strips at places located between the cans.

I claim:

An open ended, rectangular, sleeve-type carton formed of foldable paperboard and adapted to enclose two parallel rows of chimed cans in side-by-side relation, said carton comprising: one pair of walls lying adjacent and parallel to the ends of the cans; another pair of parallel

walls spaced from each other and hingedly connected to the outboard edges of the walls of said one pair; one of the walls of said one pair including a pair of co-planer panels extending inboardly from the respective walls of said other pair and having their inboard edges meeting centrally of the carton; each of said panels having hingedly connected to its inboard edge an inboard strip projecting inwardly toward the center of the carton; each of said inboard strips having hingedly connected to its inner edge an outboard strip projecting outboardly and outwardly toward its related panel, the outer edge of each outboard strip presenting an outwardly facing abutment spaced from said related panel for engagement with chimes presented by said cans to prevent vertical movement of the cans relative to said panels; said strips being

substantially co-extensive with the length of the walls of the carton; the inboard strips of the respective panels being adhesively secured to each other; the hinge lines between the inboard and outboard strips of each panel being curved to cause the outboard strips to bow out of parallel with their related inboard strips and thereby increase pressure on the adhesive surfaces of the inboard panels and also increase the contact areas between the outboard strip abutments and the adjacent can chimes; and means integral with the carton engageable with the cans for preventing them from accidentally moving longitudinally of the carton out of an open end of the carton.

No references cited.