

[54] **CARTON FOR PLURALITY OF CONTAINERS**

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Related U.S. Application Data

[63] Continuation of Ser. No. 85,437, Oct. 30, 1970, abandoned.

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[51] Int. Cl. **B65d 25/54**, B65d 75/08

[58] Field of Search. 206/65 C, 45.31; 229/40

References Cited

UNITED STATES PATENTS

D126,826	4/1941	Lane	206/45.31 UX
2,632,593	3/1953	Minster, Jr. et al.	229/15
2,795,365	6/1957	Currie	229/40
2,843,259	7/1958	Metzger	206/65 C X

3,122,302	2/1964	Wood	229/40
3,233,726	2/1966	Gero	206/45.31
3,270,944	9/1966	Baker	229/40
3,570,746	3/1971	Wood	229/40

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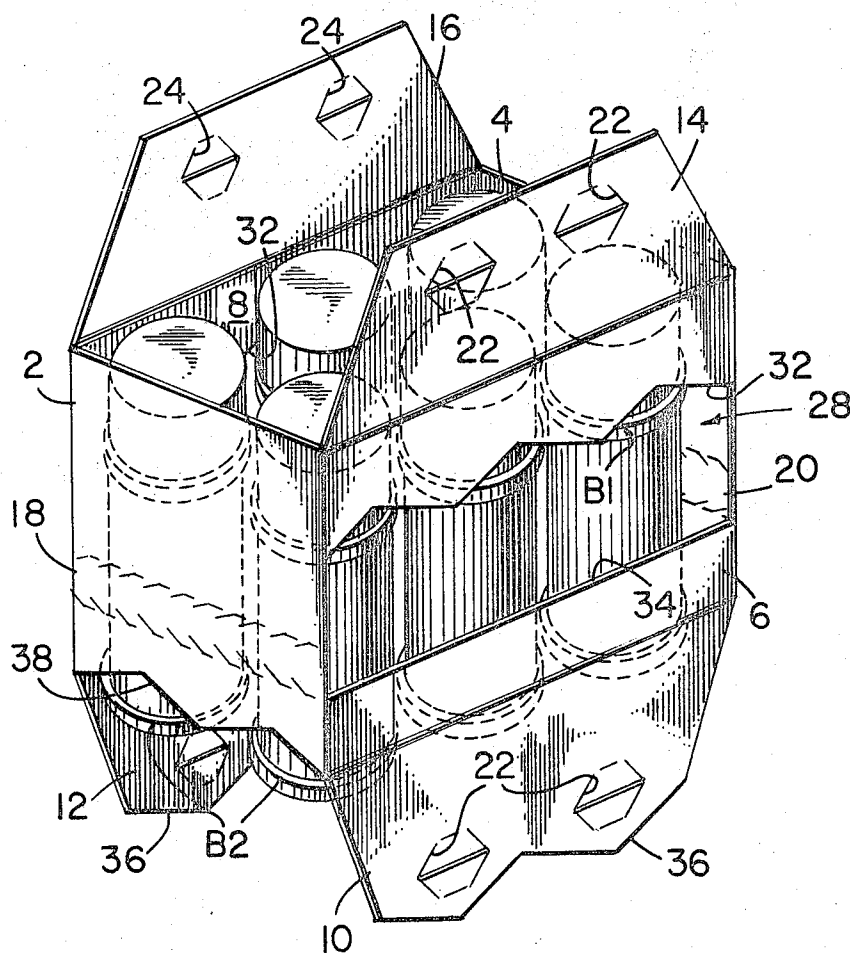
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[57]

ABSTRACT

The invention relates to a carton for carrying a plurality of cylindrical cans arranged in parallel rows. The carton is made from an integral blank, suitably cut and scored so that it can be folded into a sleeve to receive a group of cans. The sidewalls of the carton are provided with window openings. The upper edges of the window openings and the edges of the bottom flaps and end walls of the carton are cut in a zig-zag or wave fashion so that the upper edges, bottom flap edges and end wall edges, in loading the cans into the carton, slide down over the beads of the cans without interference.

14 Claims, 6 Drawing Figures



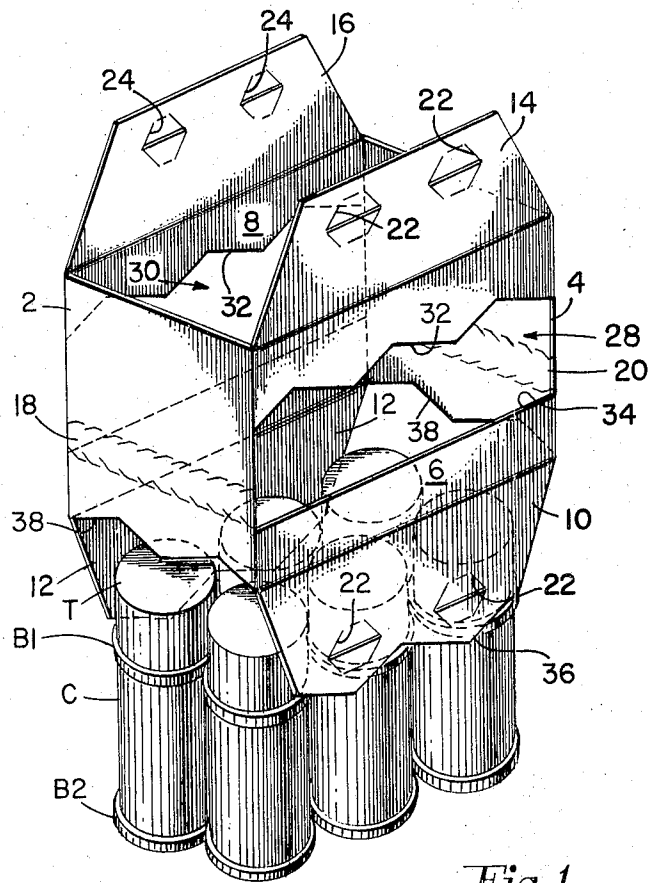


Fig. 1

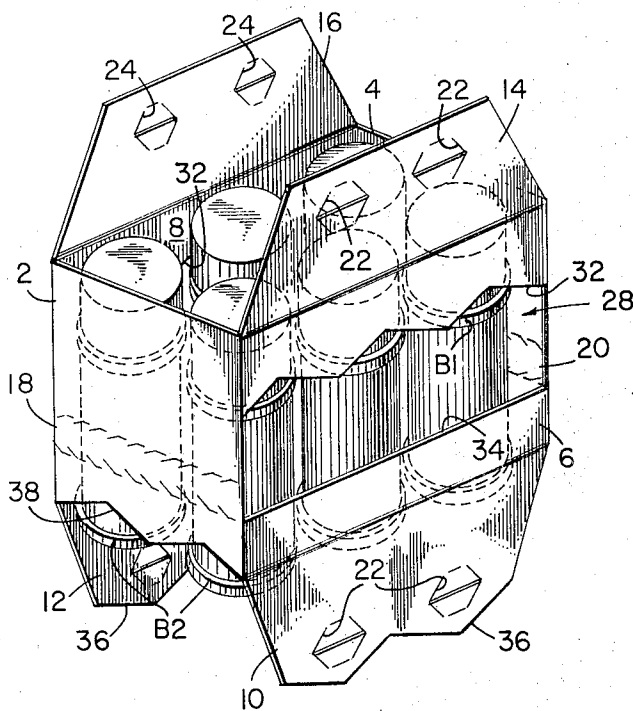


Fig. 2

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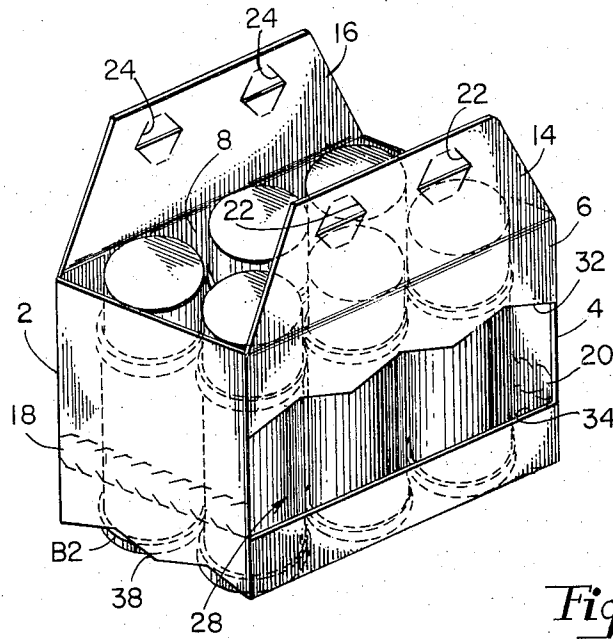


Fig. 3

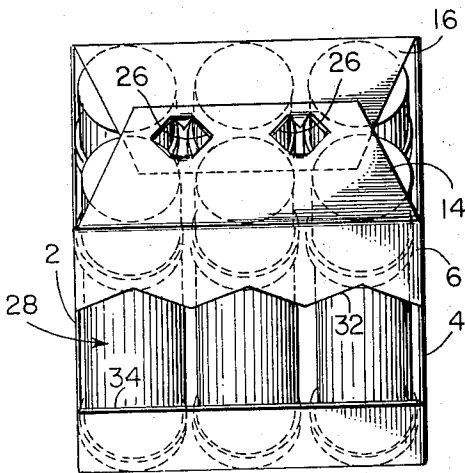


Fig. 4

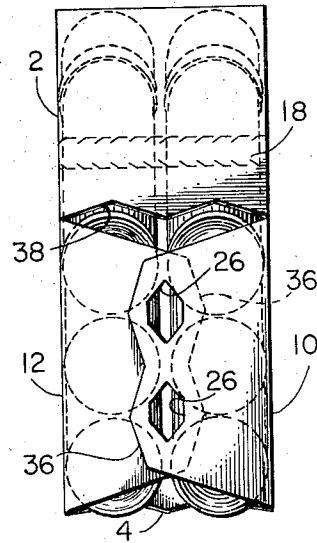


Fig. 5

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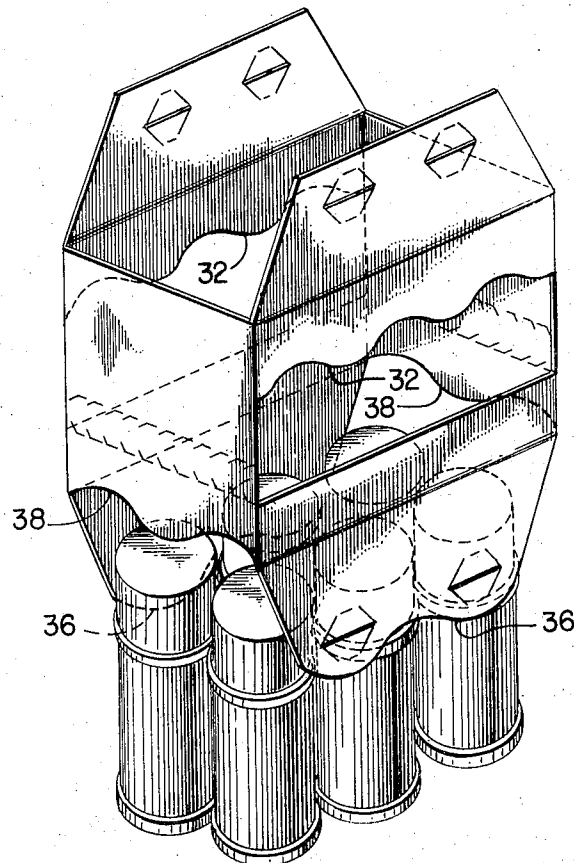


Fig. 6

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CARTON FOR PLURALITY OF CONTAINERS

This is a continuation of application Ser. No. 85,437, filed Oct. 30, 1970, now abandoned.

BACKGROUND OF THE INVENTION**1. Field of the Invention**

This invention relates to cartons and is directed more particularly to a carton for carrying a plurality of cylindrical cans.

2. Description of the Prior Art

Cartons for carrying a plurality of cans or bottles in parallel rows are well known and are frequently provided with window openings in the side walls thereof. In packing the cartons with groups of cans, usually six or eight cans are received by the carton blank which is in the form of a sleeve having bottom and top flaps. As the cans are properly positioned the bottom flaps are folded inwardly and cemented or otherwise joined together to form the bottom of the carton and the top flaps are likewise folded inwardly and joined together to form the top of the carton. The top flaps may be provided with aligning apertures which serve as finger grip means for the pack. The cans may be seen by way of the window openings in the sides of the carton.

In loading the cans into the carrier the leading edges of the bottom flaps and end walls, as well as the upper edges of the window openings, frequently catch on the beads of the cans, resulting in a damaged or torn carton and requiring that the group of cans concerned be returned through the packaging line which in turn usually requires manual handling.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a carton of the type above described having the leading edges of the bottom flaps and end walls and the upper edges of the window openings so configured that such edges will readily slide over the beads of the cans to be contained therein.

With the above and other objects in view, as will hereinafter appear, a feature of the present invention is the provision in a carton of the type above referred to of leading edges of bottom flaps and end walls and upper edges of window openings of zig-zag or wave configuration.

The above and other features of the invention, including various novel details of construction and combinations of parts, will now be more particularly described with reference to the accompanying drawings and pointed out in the claims. It will be understood that the particular device embodying the invention is shown by way of illustration only and not as a limitation of the invention. The principles and features of this invention may be employed in various and numerous embodiments without departing from the scope of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Reference is made to the accompanying drawings in which is shown an illustrative embodiment of the invention from which its novel features and advantages will be apparent.

FIG. 1 is a perspective view of one form of carton illustrative of an embodiment of the invention and showing the carton in early stages of receiving a group of cans;

FIG. 2 is similar to FIG. 1 but showing a later stage in the packing of cans in the carton;

FIG. 3 is similar to FIG. 2 but shows the carton with the bottom flaps folded inwardly;

FIG. 4 is a perspective view showing the upper flaps folded inwardly;

FIG. 5 is a perspective view showing the bottom flaps in the folded-in position; and

FIG. 6 is similar to FIG. 1 but illustrative of an alternative embodiment of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, it will be seen that the illustrative carton includes end walls 2, 4; side walls 6, 8; bottom flaps 10, 12 and top flaps 14, 16. The end walls 2, 4 may be provided with perforated tear strips 18, 20 to facilitate opening of the carton. The top flaps 14, 16 may be provided with push-through tabs 22 adapted to be aligned with push-through tabs 24 to form finger holes 26 when the top flaps are folded inwardly, as shown in FIG. 4.

Still referring to FIG. 1, the side walls 6, 8 are provided with window openings 28, 30 defined by the end walls 2, 4 and upper and lower edges 32, 34 respectively.

A group of cans C to be packed in a carton usually comprises six or eight cans. Illustrated in FIG. 1 are cans C of an aerosol type provided with a top cap T. The can C or top cap T is generally provided with an upper bead or raised portion B1 and the can is generally provided with a lower bead B2. The beads B1, B2, in effect form ledges which extend radially beyond the periphery of the can otherwise.

In the packing operation, the carton is generally formed as a sleeve, as shown in FIG. 1, adapted to receive a group of the cans C. In sliding into the sleeve, the upper bead B1 engages first a leading edge 36 of each of the bottom flaps 10, 12. The upper bead B1 next engages a leading edge 38 of each of the end walls 2, 4. Thereafter, the upper bead B1 engages the upper edges 32 of the window openings 28, 30. In the meantime, the edges 36 of the bottom flaps 10, 12 have engaged the lower beads B2, followed by engagement of the end wall edges 38 with the lower beads B2.

In order to prevent obstruction of the edges 36, 38 and 32 by the can beads, which prevents the carton from sliding smoothly about the cans, each of the edges 36, 38, 32 is provided with a configuration that prevents the edges from being parallel with the beads. For when an edge that is parallel to the bead engages the bead it frequently stops there, being progressively jammed harder against the bead. However, an edge which engages the bead at an angle tends to slip over the bead, riding smoothly along the side of the can.

Accordingly, the edges 36, 38, 32 are cut in a zig-zag pattern, as shown in FIG. 1, or in a wave pattern, as shown in FIG. 6, whereby to obviate the possibility of jamming.

In operation, the carton is formed sleeve-like, as illustrated in FIG. 1. As the cans C advance into the carton, the bottom flap edges 36 ride smoothly over the upper beads B1, and subsequently the lower beads B2. The side wall edges 38 also engage the upper beads B1 and pass easily thereover.

Referring to FIG. 2, it will be seen that the side wall edges 38 meet the lower beads B2 and the upper edges

32 of the side window openings 28, 30 meet the upper beads B1 of the cans.

After the cans are properly positioned within the carton, or as the cans are being positioned, the bottom flaps 10, 12 are folded inwardly and joined (FIG. 3 and 5) by pushing the aligned tabs 22, 24 inwardly to define bottom finger holes 26, followed by folding inwardly and joining of the top flaps 14, 16 (FIG. 4) in the same manner, whereby to enclose the cans within the carton.

It is to be understood that the present invention is by no means limited to the particular construction herein disclosed and/or shown in the drawings, but also comprises any modifications or equivalents within the scope of the disclosure. For example, various other edge configurations readily may be substituted for the two embodiments shown which are merely illustrative of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A package comprising:

- a. a carton having a top, a bottom, a pair of side walls and a pair of end walls and a plurality of containers therein;
- b. said containers being substantially cylindrical and each having at least one annular bead, said beads lying in a plane, said containers further being arranged in at least two rows having at least two containers in each row;
- c. said pair of end walls being interconnected by said pair of side walls, and the plane of said beads being substantially normal to the planes of said walls;
- d. a bottom flap hingedly connected to each of said side walls and bent inwardly to form said bottom upon which said containers rest;
- e. the free edge of each of said bottom flaps being of a configuration such that no substantial part thereof is parallel to the planes of said side walls, said free edges having alternately projecting and recessed portions, said projecting portions having extremities thereon underlying the space between adjacent containers in a row; and
- f. the lower edge of each of said end walls being of a configuration such that no substantial part thereof is parallel to the plane of said beads, said

lower edges having projections disposed in the space between adjacent containers in adjacent rows.

2. The invention according to claim 1 in which the configuration of said lower edge of at least one of said end walls comprises a plurality of straight lines at an angle to said plane of said beads.

3. The invention according to claim 2 in which said configuration is of a zig-zag pattern.

4. The invention according to claim 1 in which said configuration of said free edge comprises a plurality of straight lines at an angle to said plane of said side walls.

5. The invention according to claim 4 in which said configuration is of a zig-zag pattern.

6. The invention according to claim 1 in which said configuration of said lower edge of at least one of said end walls comprises a curved line.

7. The invention according to claim 6 in which said configuration is of a wave pattern.

8. The invention according to claim 1 in which said configuration of said free edge comprises a curved line.

9. The invention according to claim 8 in which said configuration is of a wave pattern.

10. The invention according to claim 1 in which said side walls are provided with window openings therein defined by upper and lower edges, said upper edges being of a configuration such that no substantial part thereof is parallel to said plane of said beads, said upper edges having alternatively projecting and recessed portions, said projecting portions being disposed in spaces between said containers and said recessed portions being disposed adjacent said containers.

11. The invention according to claim 10 in which said configuration of said upper edges comprise a plurality of straight lines at an angle to said plane of said beads.

12. The invention according to claim 11 in which said configuration is of a zig-zag pattern.

13. The invention according to claim 10 in which said configuration of said upper edges comprise a curved line.

14. The invention according to claim 13 in which said configuration is of a wave pattern.

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