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SLEEVE CARTON

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Fig. 1

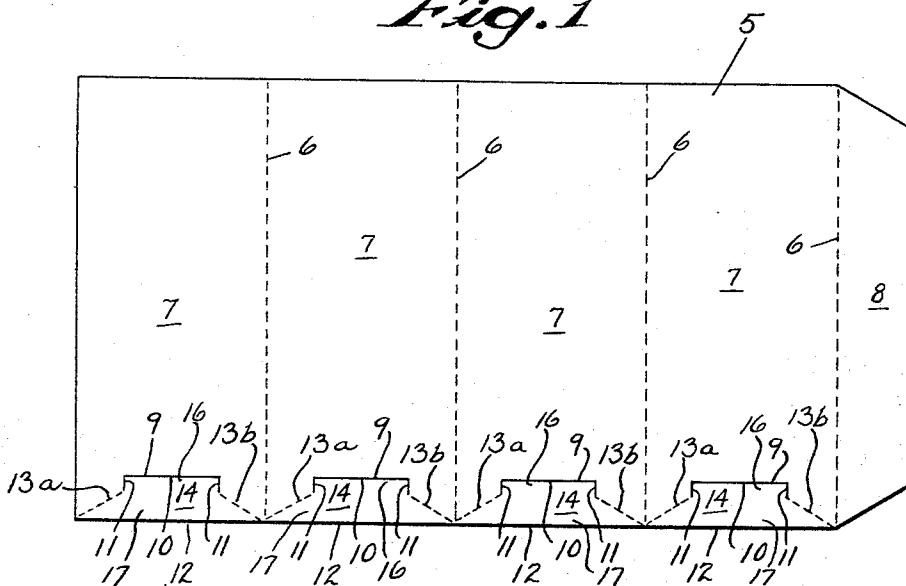


Fig. 2

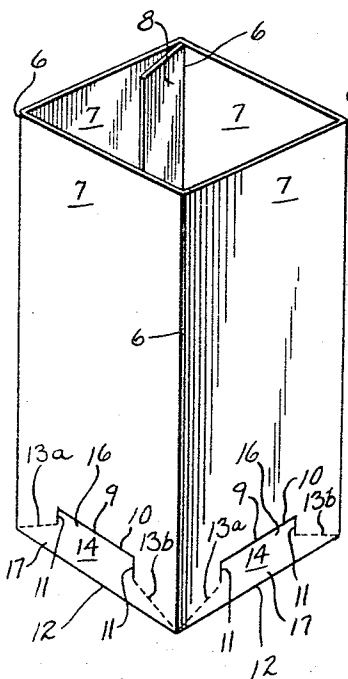


Fig. 3

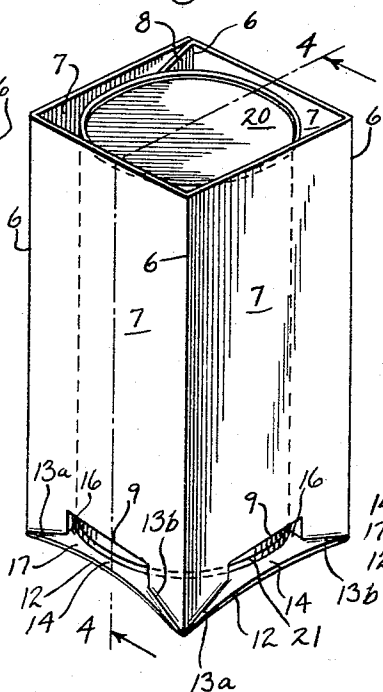
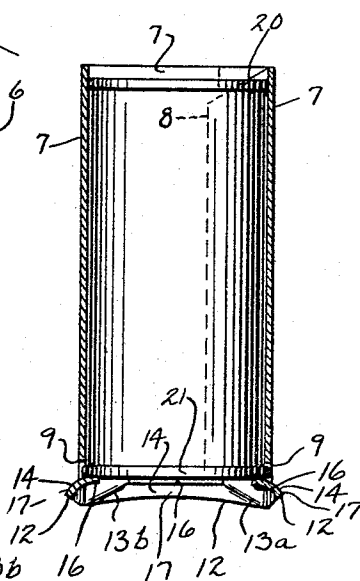


Fig. 4



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SLEEVE CARTON

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5 Claims. (Cl. 229-87)

This invention relates to cartons, more specifically, to cartons of the type generally referred to as "sleeve cartons" which comprise a plurality of wall panels arranged to define a tube-like carton body having at least one open end.

Generally speaking, the present invention provides a sleeve carton which includes foldable members defined in at least two wall panels near an open end of the carton, which members have a portion which can be swung inwardly to underlie the base of an article packaged in the carton and prevent it from moving through an open end of the carton and, in some instances, depending upon the configuration of the article, hold it in a locked or semi-locked position in which it is restrained against movement through the carton. The foldable members have a configuration such that when they are in position to hold an article in the carton, the article is held above the lowermost edge of the carton and is cushioned so as to provide protection for the article, thereby enhancing the use of the carton for packaging fragile articles.

The main object of this invention is to provide a new structure for a sleeve carton; another is to provide a sleeve carton having structural means for holding an end of an article packaged in the carton; still another is to provide such means in a sleeve carton without using extra material. A more specific object is to provide the particular carton structure illustrated herein for carrying out the aforesaid objects of this invention, and another specific object is to provide the new or improved details of construction as hereinafter set forth and claimed. Other objects may become apparent from the following description made with reference to the drawings wherein:

FIG. 1 is a plan view of a blank for forming the carton of this invention;

FIG. 2 is a perspective view of the carton erected from the blank of FIG. 1;

FIG. 3 is a perspective view showing an article inserted in the carton; and

FIG. 4 is a vertical sectional view of the package of FIG. 3.

In the description which follows and in the claims, structural details of the carton will be identified by specific names for convenience and clarity of description. The names, however, are intended to be as generic in their application as the art will permit. Throughout the several drawings, the same reference numerals refer to the same parts.

FIG. 1 illustrates a blank 5 which can be erected into a carton incorporating the structural features of this invention. A set of four parallel score lines 6 divide the blank into four wall panels 7 and a glue flap 8.

Near one end of each wall panel 7, there is formed a cut line 9 which extends through each wall panel. Each cut line 9 as shown herein has an arcuate configuration including a central portion 10 and leg portions 11 extending from each end of the central portion and terminating short of the free edge 12 of a wall panel. The term free edge used with reference to a wall panel refers to that edge of a panel which surrounds an open end of a carton. The central portion 10 of a cut line 9 is shorter than the width of a wall panel in which it is located.

Hinge lines 13 are formed in the wall panels, with a first hinge line 13a extending from a first end of one leg

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of the cut line 9 and ending along the free edge 12 of a wall panel, and a second hinge line 13b extending from a second end of a cut line to the free edge 12. In the illustrated form, the cut lines 13 taper towards one another and are spaced furthest apart from one another along the free edge 12.

There is thusly defined in each of the wall panels 7 a foldable member 14 which is bounded on one side by a cut line 9, bounded on two other sides by hinge lines 13, and bounded on a fourth side by a free edge 12 of a wall panel. That part of each foldable member 14 surrounded by a cut line 9 forms an internal tongue 16, which is actually a portion of a wall panel.

The blank 5 may be formed of any suitable carton material, such as paperboard, cardboard, or other foldable sheet material including plastics; the blank may be uncoated or can include functional coatings such as heat sealed coatings, barrier coatings, etc., such as are of general use in the carton art. The score line 6 and hinge lines 13 can be formed in the blank by any suitable creasing or scoring mechanism which will define a line along which the carton material can be folded. The cut lines 9 can be die cut by known mechanisms and may comprise a continuous slit that extends entirely through the thickness of the wall panel as shown in the drawings, or may also comprise a perforated line, such as one formed of spaced slits, which can be separated from the balance of the wall panel when it is desired to place an article inside the carton.

In order to erect the blank 5 into a carton as shown in FIG. 2, the wall panels are hinged along the score lines 6 and the glue flap 8 is joined to the interior of one wall panel by any suitable adhesive. The carton can be erected by machine or manually. Other carton styles besides the glue flap type can be used in the practice of this invention.

When an article is to be packaged inside the carton, such as the can 20 shown in FIG. 3, each foldable member 14 is folded along its hinge lines 13 so that the internal tongue 16 lies inside the carton body; FIG. 4 also illustrates this condition. The base portion 17 of each foldable member 14 (i.e. that portion exclusive of the tongue 16) folds or bends outwardly so as to extend away from the interior of the carton with its major portion being at an angle to the rest of the wall panel 7 from which it is formed.

When a foldable member 14 is swung into the position described in the preceding paragraph, an article such as the can 20 can be inserted inside the carton and a tongue 16 of each foldable member will underlie a bottom end of the article. With foldable members 14 formed in at least two wall panels of a carton, preferably in two opposed wall panels, an article 20 will be prevented by the tongues from passing through an end of the carton. The resiliency of the carton stock aids in holding the tongues in position.

Where the article 20 has a flange 21 along the end which rests on the tongues 16 of the foldable members 14, such as is the case with the can shown in the drawings, the flange 21 can project through the slot bounded by a cut line 9 which is developed when a tongue 16 is rotated inside the carton and thereby becomes locked in place. This latter condition is shown in FIG. 4. If the article has not such flange or other projecting portion which can extend into such a slot, the article can be held in place in the carton if such is necessary by other means, such as overwrapping the sleeve carton, or placing some form of closure material over an opposite open end of the carton which does not have foldable members, or other suitable means; even with this latter type of article, however, the article is prevented from passing through at least

that open end of the carton which has the foldable members 14. If desired, the sleeve carton can be made with only one end open and the other end closed by any type of conventional top closure, such as with a tuck flap, sealed panels or locking flaps, and the open end would have the foldable members. When the carton is made with two open ends, the members 14 could be formed about each open end of the carton to hold an article in position.

As an additional feature, the end of the article 20 which is retained on the tongues of the foldable members 14, is held in a position wherein it is raised above the bottom edge of the carton. The base portions 17 of the foldable members 14 become bowed upwardly by rotating the tongues 16 inside the carton body, and the carton will rest upon those portions of the wall panels which do not become raised when the members 14 are folded along the hinge lines 13. This cushioning effect made possible by the structure of this invention gives protection to the articles 20 packaged in the carton by suspending them above the surface of an object on which the carton might be rested.

There has thus been provided a carton structure which is capable of attaining the several objects of this invention. The carton can be used to package a variety of articles and has structural provisions for preventing an end of an article from passing through an open end of a sleeve carton. The carton construction herein provided is suitable for assembly on high speed machinery, and the carton is of simple construction which requires no additional material. In its broader aspects, the invention is not limited to the specific construction described herein, but it may be embodied in structures which change one or several of the disclosed features, or in other carton structures not described herein. It is to be understood that it is intended to cover all changes and modifications of the example of this invention herein illustrated, and other embodiments not shown, which do not constitute a departure from the true spirit and scope of this invention.

I claim:

1. In a carton having a plurality of wall panels defining a tube-like carton body having at least one open end, the combination therewith of foldable members for

engaging of an article inserted in the carton, each such member being defined by:

- (1) a free edge of a wall panel surrounding an open end of the carton,
- (2) a cut line in said wall panel having first and second ends spaced from said free edge,
- (3) a first hinge line formed in said wall panel and extending between the first end of the cut line and said free edge, and
- (4) a second hinge line formed in said wall panel and extending between the second end of the cut line and said free edge;

there being a foldable member of the aforesaid construction defined in at least two wall panels of the carton;

each said foldable member being foldable along the first and second hinge lines to a position in which the portion of a member bounded by the cut line is inside the carton body to underlie an article inserted in the carton.

2. A carton according to claim 1 in which each cut line is arcuate in shape and has a central portion that is further from said free edge of the wall panel than are the first and second ends of the cut line.

3. A carton according to claim 2 in which the first and second hinge lines taper towards each other and are furthest apart along said free edge of a wall panel.

4. A carton according to claim 1 in which each cut line has a central portion and opposed legs joined at each end thereof to define a generally U-shaped configuration opening towards said free edge of a wall panel.

5. A carton according to claim 4 in which the first and second hinge lines taper towards each other and are furthest apart along said free edge of a wall panel.

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