

April 15, 1969

G. A. HAMILTON

3,438,482

SHIPPING CONTAINER

Filed March 9, 1967

Sheet 1 of 3

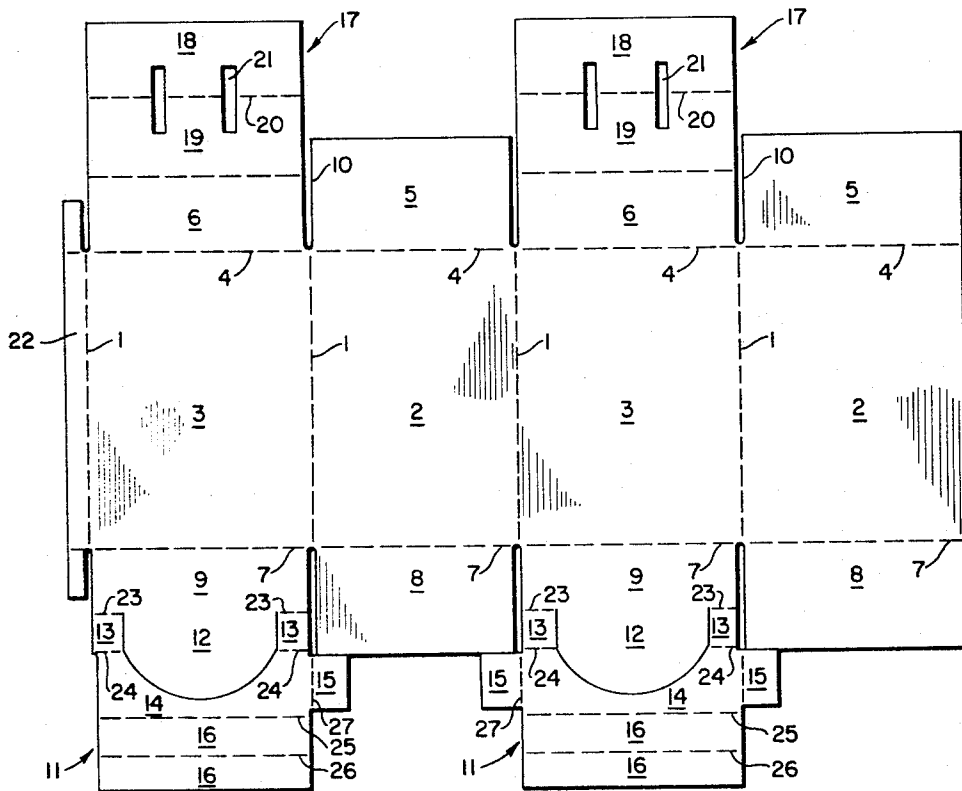


FIG. 1.

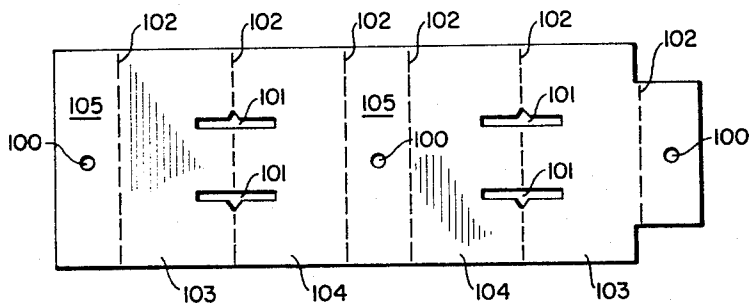


FIG. 2.

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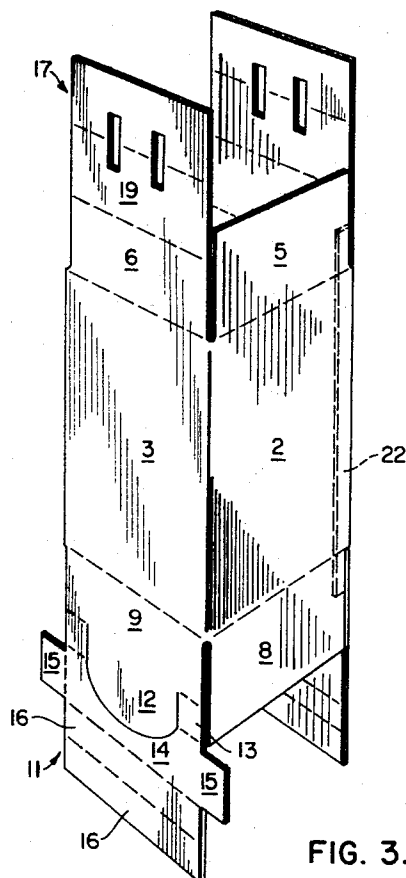


FIG. 3.

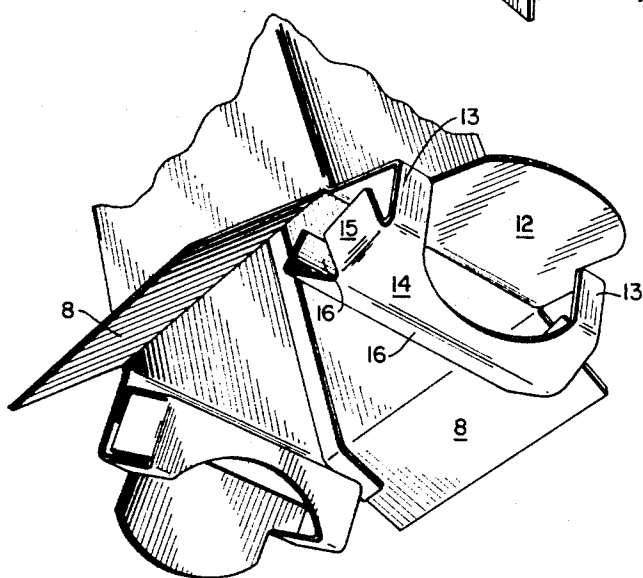


FIG. 4.

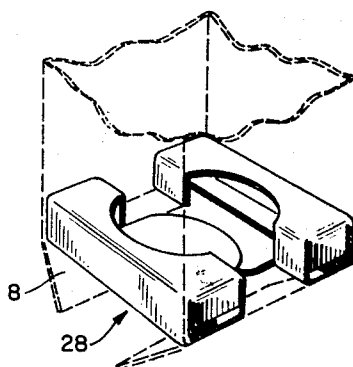


FIG. 5.

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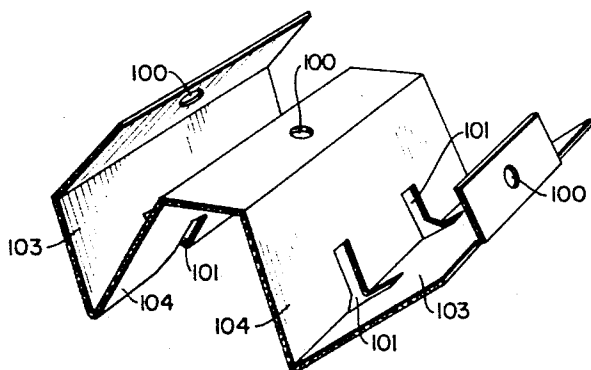


FIG. 6.

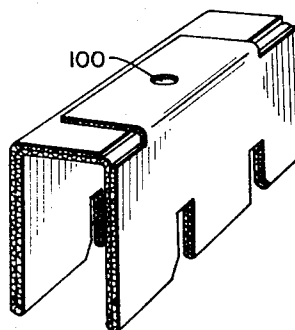


FIG. 7.

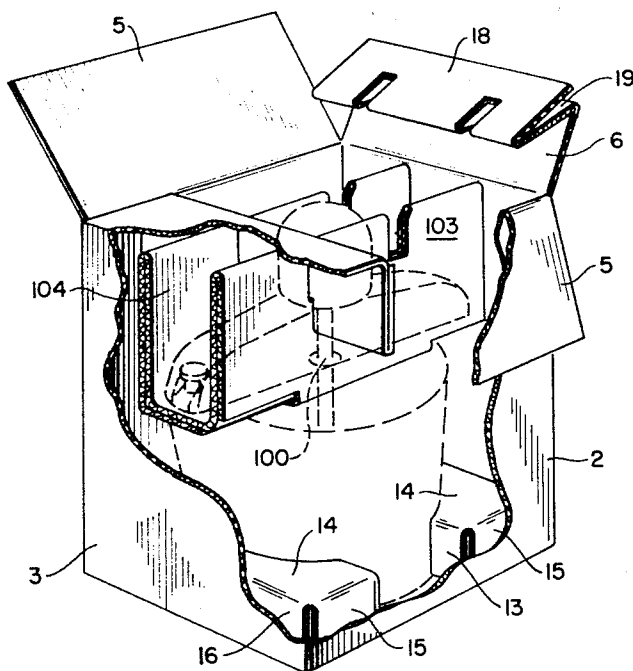


FIG. 8.

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SHIPPING CONTAINER

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marle Paper Company, Richmond, Va., a corporation
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U.S. Cl. 206—46

5 Claims

ABSTRACT OF THE DISCLOSURE

The present invention provides a two-piece carton uti-
lized for packaging items such as ice-cream freezers. One
piece, or blank, is folded to form all of the walls of the
carton and, in addition, an integral contoured support
in the bottom of the carton and an integral insert retainer
in the top of the carton. The second piece, or blank, is
the insert which engages with and is supported by the
insert retainer.

BACKGROUND OF THE INVENTION

The packaging of items such as ice-cream freezers has
previously required the utilization of a large number of
preformed corrugated board pieces. Not only were the
pieces, or blanks, difficult and time-consuming in assem-
bly, but there was an appreciably greater material cost
due to the large number of blanks. The present invention
makes most of such a carton out of only one piece of
corrugated board. Occasionally, it is desired to also
have a corrugated board insert, in the case of an ice-cream
freezer carton, in addition to the rest of the carton. But,
even with such a carton requiring two corrugated board
pieces it is apparent that the present invention still re-
sults in considerable savings to the packager both in labor
and material costs.

SUMMARY OF THE INVENTION

The present invention provides a blank for the produc-
tion of a carton comprising a sheet scored to divide it
into at least two endwalls and at least two sidewalls; bot-
tom and top cover flaps hingedly attached to said at least
two endwalls; bottom and top reinforcing flaps hingedly
attached to said at least two sidewalls; contoured fold-
able support means hingedly attached to each of the bot-
tom reinforcing flaps; and foldable insert retainer means
hingedly attached to each of the top reinforcing flaps.

The blank of the present invention may be utilized to
assemble a carton adapted for the storage and shipping
of articles of commerce comprising upstanding sidewalls
and endwalls; bottom and top cover flaps hingedly at-
tached to said endwalls and projecting inwardly from the
lower and upper ends of said endwalls to form exterior
top and bottom walls of said carton; bottom and top
reinforcing flaps hingedly attached to the sidewalls and
projecting inwardly from the lower and upper ends of
said sidewalls to form at least a part of interior top and
bottom walls of said carton; folded support means hing-
edly attached to each of the bottom reinforcing flaps and
contoured to support articles of specific shape; and folded
insert retainer means hingedly attached to each of the top
reinforcing flaps.

BRIEF DESCRIPTION OF THE DRAWING

FIGS. 1 and 2 show a precut blank of a carton and an
insert therefor, respectively.

FIG. 3 shows a perspective view of the carton partially
assembled.

FIGS. 4 and 5 show perspective views of the assem-
bly of the contoured foldable support means.

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FIGS. 6 and 7 show a perspective view of the assem-
bly of the insert.

FIG. 8 shows the assembled carton with insert and ice-
cream freezer in situ.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 shows a plan view of a cardboard blank of the
present invention. It will be seen from this blank that
the carton of the present invention may be made primarily
from a single piece of corrugated material. The carton
blank shown in FIG. 1 may be rotary cut to reduce cost.
The corrugated material is of about 275 lb. strength, but
this strength may be varied within limits without depart-
ing from the present invention.

The carton blank of FIG. 1 is provided with vertical
or transverse scorelines 1 which subsequently create ver-
tical corners of the carton. Scorelines 1 divide the carton
into endwalls 2 and sidewalls 3. Top longitudinal scores
or fold lines 4 separate the endwalls from top cover flaps
5 and the sidewalls from reinforcing top flaps 6. Likewise,
bottom longitudinal scores or fold lines 7 separate the
endwalls from bottom cover flaps 8 and the sidewalls
from bottom reinforcing flaps 9. It will be noted that the
vertical scorelines are slightly offset from the vertical
free edges 10 of the cover flap by about one-eighth inch;
this provides for ease of folding the flaps of
the carton.

Each reinforcing bottom flap 9 has a contoured support
means as an extension thereof. The contour of support
means 11 is provided by flap extension 12. The line be-
tween flap extension 12 and contoured support means 11
is shown solid to indicate that there is a full cut between
these two parts of the carton blank. Flap extension 12 is
partially convex in shape and has two parallel sides which
abut the contoured support means. The contoured sup-
port means is hingedly attached to reinforcing bottom
flap 9 and consists of several faces of which three have
edges abutting flap extension 12. The contoured support
means has several walls all of which adjoin. Thus, there
are sidewalls 13, which are substantially similar in shape
and abut the parallel edges of the flap extension; wall 14,
which abuts the convex edge of the flap extension; endwalls
15 which adjoin wall 14; and sidewalls 16, which adjoin
wall 14.

Another major feature of the carton blank of FIG. 1
is a foldable insert retainer means 17. The retainer means
essentially includes two faces 18 and 19 which are adapted
to be bent 180° along scoreline 20 so as to lie adjacent
to each other after assembly of the carton. This, in effect,
reduces the length of notch 21 by about one-half.

FIG. 2 shows a plan view of an insert for the carton
of the present invention, especially adaptable where the
carton is meant to package ice-cream freezers. As will
be noted, apertures 100 in the insert are adapted to being
placed over the spindle of an ice-cream freezer once it
is located inside the carton of the present invention. The
insert is also provided with notches 101 which are adapted
to being engaged with the notches of the blank shown in
FIG. 1 pursuant to assembly of the carton. Longitudi-
nal scores or fold lines 102 divide the insert into seven
faces. Faces 103 and 104 are adapted to be bent 180°
along fold lines 102 to lie adjacent to each other and thus
form flaps. Faces 105 are adapted to be in overlying
position once the proper folds are made in the insert, as
will be described hereinafter.

FIG. 3 shows the blank of FIG. 1 in a condition of
partial assembly in forming the carton of the present in-
vention. Overlapping edge 22 provides means for securing
by gluing and/or stapling one sidewall 3 of the box to
the opposite endwall 2 to form a rectangular prism, which
is the basic structure of the carton. Contoured support

means 11 and insert retainer means 7 are also shown in a state of preassembly. The assembly of these portions of the carton will be described hereinafter.

FIGS. 4 and 5 pictorialize the assembly of the contoured support means. Scorelines 23 and 24 are bent to free walls 13 and 14 from flap extension 12. Flap extension 12 will ultimately afford additional reinforcing means in the bottom of the carton. As is apparent, removal of the flap extension from the support means provides a method whereby the support means is contoured so as to eventually abut the sidewalls of an ice-cream freezer. The support means is further folded along scorelines 25 and 26 to form sidewalls 14 and 16 and along scorelines 27 to form endwalls 15 to thus provide two rectangular prisms. The rectangular prisms 29 are shown in FIG. 5 as they eventually appear when completely assembled. Endwalls 15 eventually form the end of the rectangular prisms and abut the endwall 2 of the carton. As is evident, once the foldable support means is in position, the bottom cover flaps may be secured thereunder to provide what amounts to a double bottom for the carton. The cutting out of flap extension 12 from rectangular prisms 28 so as to give a proper contour for the receipt of an ice-cream freezer leaves this portion of the rectangular prism open. Since flap extensions 12 actually overlie each other, there is provided a triple bottom to the carton at this point to give additional cushioning means to an article such as an ice-cream freezer.

FIGS. 6 and 7 show the folding of the insert depicted as a blank in FIG. 2. As is evident from FIG. 6, foldlines 102 provide the means whereby faces 105 may be folded over to abuttingly lie in aligned position, as shown in FIG. 7, such that apertures 100 provide a single opening through the insert. This is so that the spindle of the ice-cream freezer may extend through this portion of the insert. During the folding process, notches 101 are reduced to about one-half in size. It will be noted that the notches are beveled on the leading edges of the folded piece so that they may be more easily engaged with the notches of the foldable insert retainer flap. Once the insert is folded it provides a member of substantial sturdiness by means of a double wall throughout most of the insert and a triple wall on the top of part of the insert.

FIG. 8 shows the carton of the present invention almost completely assembled with an ice-cream freezer located in situ. It is, of course, understood that articles other than ice-cream freezers may be packaged with the carton of the present invention. FIG. 8 also shows the method whereby the notches of the foldable retainer flap are joined with the notches of the insert. And, it is here evident that the insert is especially adaptable for providing a means with the foldable retainer means to position an electric motor which is part of an ice-cream freezer. Thus, it may be seen that, between the top of the freezer and the foldable retainer means, the insert and also the motor are securely positioned against movement. It may also be seen from FIG. 8 that the bottom of the ice-cream freezer is firmly secured in place in the bottom of the carton by the contoured foldable support means.

It will be understood that while there have been given herein certain specific examples of the practice of this

invention, it is not intended thereby to have this invention limited to or circumscribed by the specific details of materials or proportions herein specified, unless specifically indicated, in view of the fact that this invention may be modified according to individual preference or conditions without necessarily departing from the spirit of the disclosure.

I claim:

1. In combination, a carton and an insert affixed within said carton to form at least three substantially separate chambers therein, said carton having insert retainer means comprising at least two spaced flaps extending downwardly from the top of said carton, each flap being provided with a pair of notches extending upwardly from a lower edge of said each flap, said insert comprising at least two spaced walls extending upwardly and adjoined at lower extremities by a connecting panel, each wall being provided with a pair of notches extending downwardly from an upper edge of said each wall and engaged with corresponding notches in said each flap, said walls and said flaps forming a first chamber, centrally located, and adjacent the top of a said carton, said insert forming a second chamber, elongated and extending beneath and on both sides of said first chamber, and said carton forming a third chamber between said insert and the bottom of said carton.

2. The carton and insert of claim 1 including an ice-cream freezer packed in said carton so that the first, second and third chambers are filled, respectively, with an electric motor, a motor-support arm, and a bucket, with a centrally located spindle extending from said bucket, through said insert and motor-support arm, and into said electric motor.

3. The carton and insert of claim 1 including support means integral with the bottom of said carton, said support means comprising at least two spaced rectangular prisms having facing sides contoured to abut and position an article of specific shape, the contours being formed by cutouts which reinforce and cushion the bottom of said carton.

4. The carton and insert of claim 2 including support means integral with the bottom of said carton, said support means comprising at least two spaced rectangular prisms having facing sides contoured to abut and position the bottom of said bucket, the contours being formed by cutouts which reinforce and cushion the bottom of said carton.

5. The carton and insert of claim 4 wherein the combination is formed of two pieces of corrugated board.

References Cited

UNITED STATES PATENTS

2,941,709 6/1960 Plevyak ----- 229—14

FOREIGN PATENTS

1,211,673 3/1960 France.

WILLIAM T. DIXSON, JR., *Primary Examiner.*

U.S. Cl. X.R.

229—14