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Goodsite

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[54] **CORNER CAP**

[75] Inventor: **James R. Goodsite,** Sandusky, Ohio

[73] Assignee: **Westvaco Corporation,** New York, N.Y.

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Related U.S. Application Data

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[52] **U.S. Cl.** ..... **229/14 C,** 229/34 HW, 229/DIG. 1

[51] **Int. Cl.** **B65d 5/50**

[58] **Field of Search** ..... 229/14 C, DIG. 1, 34 HW

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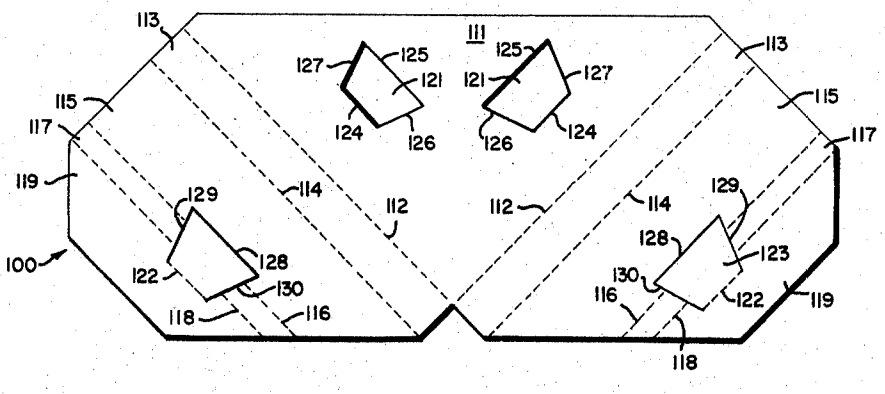
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Primary Examiner—Leonard Summer

[57] **ABSTRACT**

The present invention is embodied in a corner cap construction for reinforcing shipping containers wherein the corner cap comprises a plurality of panels of multi-ply corrugated paperboard or the like which panels are folded adjacent one another in face-to-face contact and secured together without stitching, stapling, gluing or taping.

2 Claims, 2 Drawing Figures



100
111
112
113
114
115
116
117
118
119
121
122
123
124
125
126
127
128
129
130

FIG 1

111
113
115
117
123

FIG 2

CORNER CAP

This application is a division of the copending application Ser. No. 830,001, filed June 3, 1969. Now U.S. Pat. No. 3,613,985.

BRIEF DESCRIPTION OF INVENTION

This invention relates to an improvement and simplification in corner cap construction and deals particularly with a corner cap configuration having a figure 9 shape in cross section, which may be placed between a heavy appliance or the like and the walls of a container to protect the appliance during transportation and shipment.

In the packaging of heavy appliances such as refrigerators, air conditioners, driers and the like, cushioning pads are usually provided between the appliance and the walls of the container to protect the appliance from being injured during transportation and storage. One type of pad commonly used comprises a series of strips of corrugated paperboard adhered together in face contact to form a pad of substantial thickness which is sufficiently compressible to prevent injury to the appliance. Other pads take the form of foam-type rails or rigid fiberboard elements which are properly notched to conform to the contours of the product being shipped. While these pads are effective for their intended purpose, they require considerable time to assemble and use a substantial amount of material. It is an object of the present invention to provide a corner cap pad capable of providing the desired cushioning effect and which is simple to produce and which is very economical to manufacture. Moreover it is an object of this invention to provide a corner cap construction which serves as a spacing, retaining and stacking device in addition to its cushioning function.

A feature of the invention resides in the fact that the corner caps may be provided for the corners of the shipping container to protect the appliance and also to add vertical stacking strength to the container. When the appliance is provided with handles, knobs or other elements projecting outwardly from the surface thereof, in many cases the wall of the container must be spaced a substantial distance from the surface of the appliance itself. In such an event, the cushioning pad must be of very substantial thickness, or notched to clear the protrusions, in order to fill the space between the appliance and the container. It was found that by folding a sheet of corrugated paperboard of multi-ply thickness, to provide a series of connected layers having a typically figure 9 shape in cross section, a pad could be economically formed to fill the space between one wall of the container and a parallel wall of the appliance. By staggering the fold lines in the corrugated blank it became possible to form flanges, or cushioning cells in the corner cap itself, for intimately hugging the contours of the appliance. The corner cap was then provided with integral securing means in the panels to hold the entire structure together. A pad so formed was accordingly substantially less expensive than a pad built up of many thicknesses of corrugated board adhered together, or, than any of the other corner cap constructions previously deemed satisfactory.

Another feature of this invention is the provision of a novel blank assembly for a corner cap which is normally flat and which is cut and scored to be readily foldable to its useable figure 9 configuration.

An additional feature of the present invention resides in the incorporation in the blank itself of means for locking the several panels of the corner cap together in its final configuration.

With the above and other objects in view that will hereinafter appear, the nature of the invention will be more clearly understood by reference to the following detailed description, the appended claims and the several views illustrated in the accompanying drawing.

DESCRIPTION OF DRAWING

FIG. 1 shows in blank form one embodiment of the present invention in the form of a corner cap; and,

FIG. 2 shows a perspective view of the corner cap of FIG. 1 completely assembled.

DETAILED DESCRIPTION

The corner cap of the present invention is formed from a single sheet of foldable sheet material, such as fiberboard and commonly multi-ply sections of corrugated paperboard, that is scored, cut and folded in a specific manner further described herein. The corner cap so constructed serves to function as an interpacking within a shipping container to position and retain an article within the shipping container in spaced relationship with respect to the walls thereof.

FIG. 1 shows the corner cap construction **100** in blank form. For this purpose the blank **100** is cut and scored to form panels substantially as shown in FIG. **1.** The blank includes a common base panel **111** which has attached thereto a plurality of panels **113, 115, 117** and **119,** at right angles to one another, which are separated from one another by fold lines **112, 114, 116** and **118.** The scored fold lines **112, 114, 116** and **118** each define the marginal edges of the panels which are folded to produce the cushioning cells shown in FIG. **2.** The different panels are proportioned so that when all of the panels are folded along their respective fold lines, panels **111, 115** and **119** lie parallel to and in face-to-face contact with one another. Further, panels **113** and **117** at each side of base **111,** assume a parallel relationship with one another but separated by the width of panels **115** and **119.** This final configuration when inserted in the respective corners of the shipping container as shown in FIG. **2,** yields corner caps wherein the cushion cells have their internal faces **117** at right angles to one another. Panel **111** offers protection at the bottom of the article and the two right angle cushion cells position the article side walls an equal distance from the container side walls. Corner caps for this purpose would be positioned at each of the lower and upper corners of the article to protect the article top and bottom along with the respective side walls.

The novel locking means for each corner cap cushion is the same as that used in the FIG. **1** embodiment of applicant's prior U.S. Pat. No. 3,613,985. Panel **111** includes a pair of cut outs **121** defined by cut lines **124–127,** and, each is designed to cooperate with a tongue member **123** partially formed from the blank material in panels **115, 119** and the entirety of panel **117.** The tongue member **123** in each cushion cell is inserted in, to frictionally engage the respective cut out **121** located in base panel **111** as described hereinbefore and as illustrated in FIG. **2.**

The corner cap so described utilizes the novel features of the present invention in a unique manner to satisfy a different application. In particular, the corner

cap would be useful in the shipping of furniture as a three way cushioning pad, especially where projections on the furniture required considerable space to be filled. The fact that the blank for forming the corner cap could be shipped flat for erection at the point of use would make it a desirable replacement for molded fiber or foam pieces which have a volume storage problem. Variations in horizontal clearances could be carried out by simply changing the dimensions of the panels as needed. The thickness of the common base panel **111** could be increased as desired by the addition of a hingedly connected panel to the free edge of panel **111** to be folded over or under.

It will further be understood by those skilled in the art that the drawing illustrates only one of the possible embodiments which this invention could take. If it was desired to support a particular article in even greater spaced relationship with respect to the shipping container walls, a plurality of additional panels could be provided while retaining the novel locking feature in each panel as described herein. It would also be possible to vary the spacing and heights of the article positioning cushioning cells or flanges to accommodate articles of different size and shape. Moreover, where the packaged article had a variety of protuberances, such as knobs, dials or corners, cutouts could be made in the blank to accommodate same without impairing the function of the corner cap. Other details of construction could also be altered without departing from the principles of the invention as defined in the appended claims.

I claim:

1. A cushioning member in the form of a corner cap formed from a single blank of foldable sheet material comprising:

a. a first base panel;

b. a plurality of independent and integral cushioning cell forming panels attached to each of two adjacent edges of said base panel, said cell forming panels being separated from one another along spaced and parallel fold lines to form four distinct panels having lateral widths of different dimensions;

c. each of said four distinct panels being folded to form separate cushioning cells at the two adjacent sides of said first base panel wherein the first and third panels of each cushioning cell lie parallel and separated from one another while the fourth panel of each cushioning cell lies parallel and in face-to-face contact with the first base panel; and,

d. an integral locking means formed from said panels, said locking means consisting of a pair of apertures formed in said first base panel and a pair of locking tabs, one cut from each of the second, third and fourth panels and hinged in the fourth panel of each cushioning cell, each locking tab being frictionally engaged within an aperture to retain the various panels of each cushioning cell in their assembled condition.

2. The corner cap of claim **1** wherein the cushioning cells are formed at right angles to one another and each has a substantially figure **9** cross sectional configuration.

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