Oct. 13, 1964 C. R. STEWART, JR 3,152,695

CONTAINER FOR A PLURALITY OF UNITS

Filed Aug. 13, 1962 2 Sheets-Sheet 1

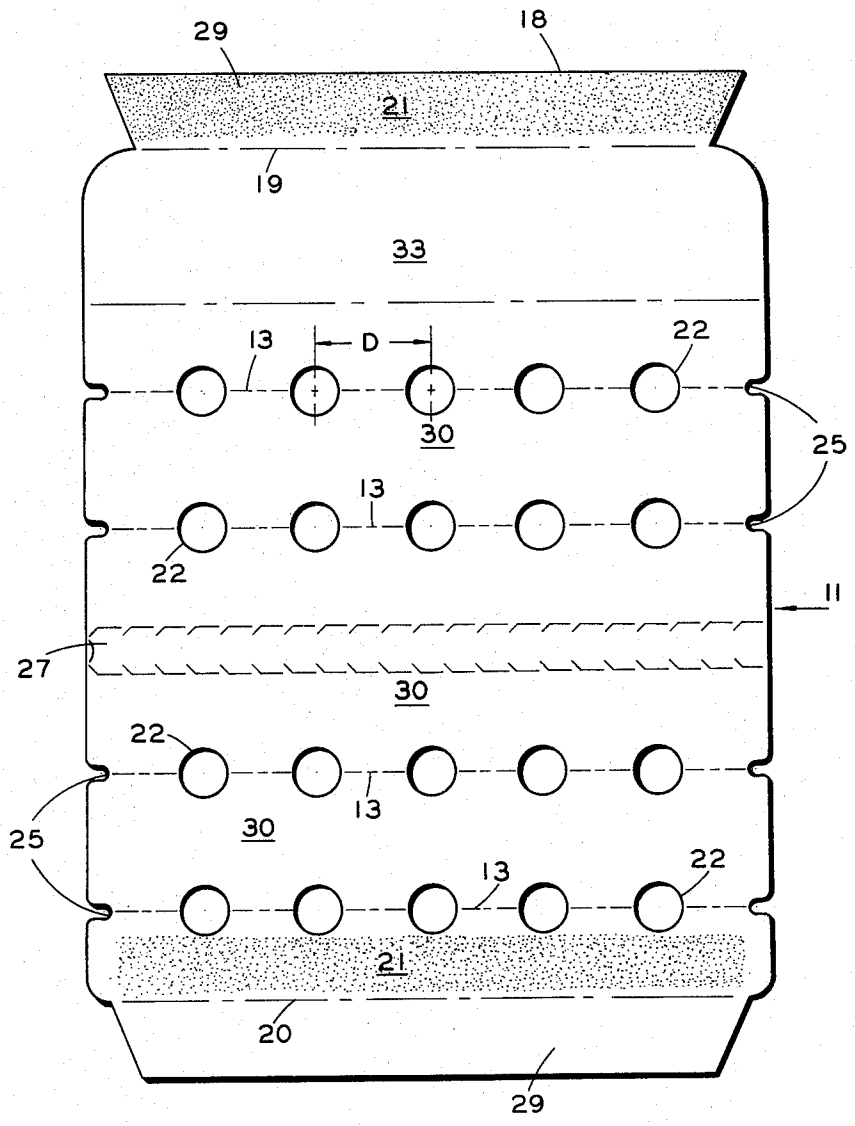


FIG. 1

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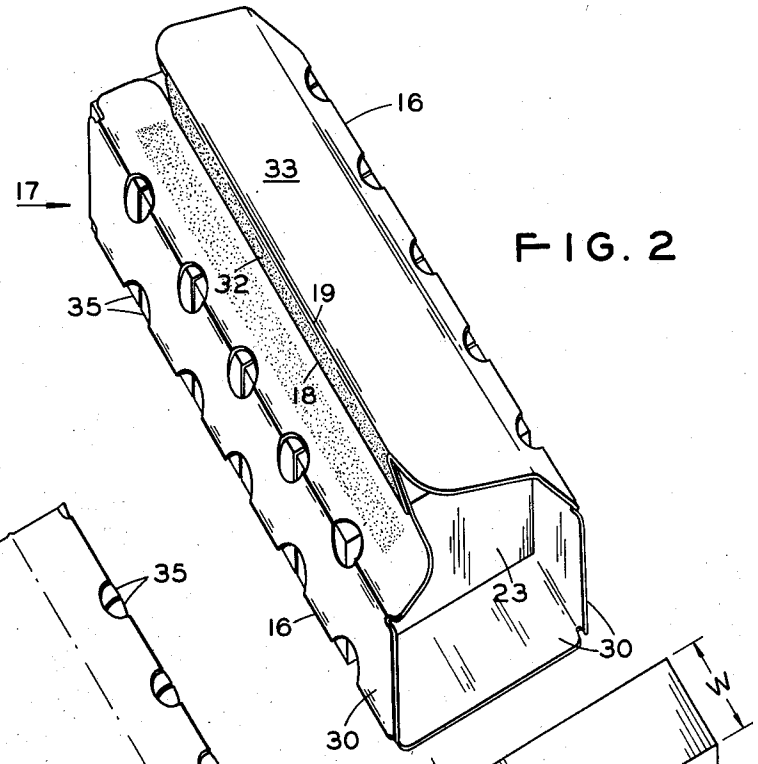


FIG. 2

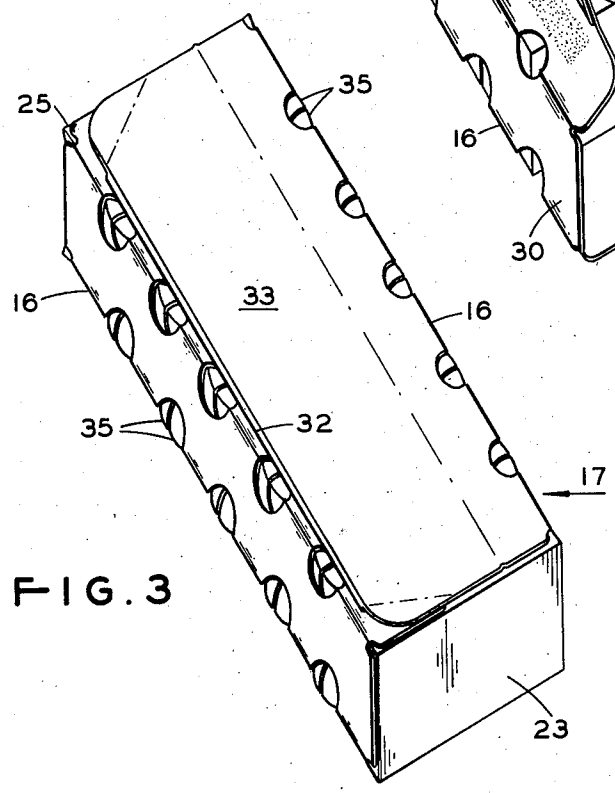


FIG. 3

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CONTAINER FOR A PLURALITY OF UNITS

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3 Claims. (Cl. 206—65)

This invention relates to a container for a plurality of juxtaposed parallelepipedon units, and in particular, to open end paperboard sleeves for packaging a number of units such as paperboard boxes.

In a variety of industries it is desirable to package a number of products contained in individual boxes within a single carton. Usually the individual boxes are stacked together in one or more rows and some type of paperboard carton is used to securely package the boxes. For purposes of display by the merchandisers it is often desirable to make the carton open ended. In such a manner the labeling on the two end boxes will be visible and the ability to locate a particular product stored with other types of products will be improved. Thus a variety of open end or sleeve type cartons have been developed for containing a number of smaller boxes.

In providing a carton with open ends a problem arises as to how the individual units within the carton may be securely packaged. When in transit the individual boxes, unless securely bound, are likely to shake loose from the carton and considerable damage may result. Thus it is essential that the carton tightly clamp the boxes without damaging them. And of course, at the same time the expense involved in constructing the carton and packaging the units contained within it must be held to a minimum.

My invention relates to an open end sleeve type carton for containing a number of units such as the aforementioned boxes by means of a carton which has a unique holding feature. Briefly, the carton comprises a sheet of paperboard material of sufficient strength to tightly bind the individual boxes without rupturing. The sheet of paperboard is formed into a rectangular sleeve containing a number of cutouts or apertures along its edges. The perimeter of the sleeve is slightly less than the perimeter of the boxes contained within it. Through use of an integral mechanical lever acting flap the sleeve is formed into a rectangular configuration to barely compress the deformable boxes. Consequently, the corners of each box are forced slightly through their respective apertures thereby preventing the boxes from sliding. Thus, an inexpensive container requiring a minimum amount of set-up time is produced.

It is, therefore, one object of this invention to provide for a new and improved container for securely binding a number of individual units.

Another object of this invention is to provide for a new and improved sleeve container which may be quickly assembled about a number of boxes.

Other objects and advantages of this invention will be apparent upon reading the following description taken in connection with the drawing in which:

FIGURE 1 illustrates a top plan view of the container of this invention in its paperboard sheet form;

FIGURE 2 is a perspective view of the container formed from the sheet of FIGURE 1 and in its expanded form with several boxes contained therein; and

FIGURE 3 is a perspective view of the container and boxes of FIGURE 2 with the container in its reduced form.

Referring to FIGURE 1, a sheet 11 of paperboard material of predetermined dimensions is provided with several folds. Four parallel fold lines 13 extend across

the full width of the paperboard sheet 11 and represent the four longitudinal junction edges 16 of container 17 illustrated in FIGURES 2 and 3. These fold lines may be indented in the paperboard sheet by any of a number of conventional methods. Two additional fold lines 19 and 20 are provided on the paperboard sheet for purposes to be explained later. Coated on the sheet 11 and between fold line 20 and its adjacent edge fold line 13 and also between fold line 19 and its adjacent end edge 18 are two strips 21 of latex adhesive material.

Along each fold line 13 a number of cutouts 22 are provided which in the particular embodiment are of circular design. The distance D between the centers of two adjacent cutouts corresponds to the dimension W of a single box 23 contained therein. At each end of each fold line 13 a smoothly contoured cutback portion 25 is provided. Along one surface of the container 17 a tear strip 27 is provided by means of a number of parallel perforations. Ends 29 are substantially of like configuration in order that they may be overlapped.

In forming the paperboard sheet 11 into a container 17, the two ends 29 are secured together, thereby forming a sleeve. In the particular embodiment these two ends may be joined by a conventional cement or glue. The four fold lines 13 are creased and upon so doing it can be seen from FIGURE 2 that three rectangular container faces 30 are thereby provided. Upon creasing fold lines 19 and 20 a mechanical lever type flap 32 is provided upon the fourth face 33 of the container.

Referring to FIGURE 2, it can be seen that there are six boxes 23 of parallelepiped configuration contained within the sleeve with their corners aligned with a cutout or aperture 22. Each cutout is sized for receiving two adjacent corners 35 of two boxes. After the sleeve has been formed and while still in its enlarged form of FIGURE 2, the boxes may be readily inserted.

Upon insertion of the boxes 23 the sleeve container 17 is ready to be closed by means of its mechanical lever flap 32. It can be seen from FIGURES 2 and 3 that this flap extends substantially the full length of the container. The container is simply closed by causing end surface 29 of the flap with its adhesive strip 21 to be pressed against the other adhesive strip 21. It is apparent that with pressure on edge 19 face 33 is subjected to a torque. With adherence of the two strips 21 to each other, the flap 32 is maintained in a depressed position as shown in FIGURE 3. While the rubber latex cement appears to be a preferable means for securing the flap it is apparent that other means such as several bands will also maintain the flap in a depressed position.

It is essential that in designing the carton that its perimeter, when in its closed rectangular position of FIGURE 3, is slightly less than the perimeter of the boxes. Consequently, when the container is closed it will necessarily compress the boxes. The illustration of FIGURE 3 is slightly exaggerated in order to show the manner in which the center portion of each box is bowed inwardly to a small degree with its corners 35 slightly extending through a cutout 22. In this manner the boxes, being deformable, are rigidly held in their respective positions within the container. A sliding action by the boxes is impossible since the corners of each box are locked in the cutouts. The cutback portions 25 at the ends of each edge 16 of the container likewise serve to permit deflection of the corners of the two end boxes. Consequently, the likelihood of the ends of the container tearing is substantially reduced.

Upon reaching the purchaser who may be a retail operator, it is quite conceivable that a number of the described cartons containing boxes will be stacked upon each other. Since the general configuration of the carton

is rectangular and its surfaces are relatively smooth, there will be no difficulty in pulling out a particular carton and its boxes from underneath a stack of such cartons. When the retail operator desires to remove the boxes from their container he simply rips out the tear strip 27 along one side of the container. Thus the pressure exerted by the container on the boxes is released and the boxes may be readily removed.

Although the particular embodiment of my carton is designed for containing only one row of boxes it is apparent that the container may be enlarged for holding several rows of boxes. The perimeter of the container, when closed, will be slightly less than the combined perimeter of the several rows. In such a container the outside rows of boxes are held rigidly by means of the corners of the boxes flush to the outside surfaces of the carton extending slightly through the cutouts. The inner rows of boxes will be held tightly between the outside rows.

While the description herein has related mainly to a container for boxes it is also suitable for packaging other types of units. Any unit of a parallelepipedon configuration and of a deformable substance enabling it to be slightly compressed will be readily received in the container.

Although only one embodiment of this invention has been illustrated, it will be apparent to those skilled in the art that other embodiments may be made without departing from the spirit of this invention and the scope of the following claims.

I claim:

1. A carton containing a plurality of juxtaposed rectangular deformable units, said carton comprising a sleeve having open ends and formed by four walls, the junction edge of at least two of said walls having a plurality of cutouts, each of said cutouts positioned for exposing two adjacent corners of two units, one of said walls having a longitudinal lever flap, said carton assuming a rectangular shape with a predetermined perimeter upon securement of said flap against its wall whereby the walls of said units are bowed inwardly about their center portions with the corners of said units extending into their respective cutouts.

2. The carton of claim 1 in which said cutouts comprise substantially circular apertures.

3. The carton of claim 2 in which said cutouts are positioned on all four junction edges of said carton with the ends of each said junction edge having a cutout portion for exposing the corners of the two end units.

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