June 3, 1969 C. G. SMITH ET AL 3,447,733

MODULAR SHIPPING CASE

Filed Dec. 5, 1966

Sheet 1 of 2

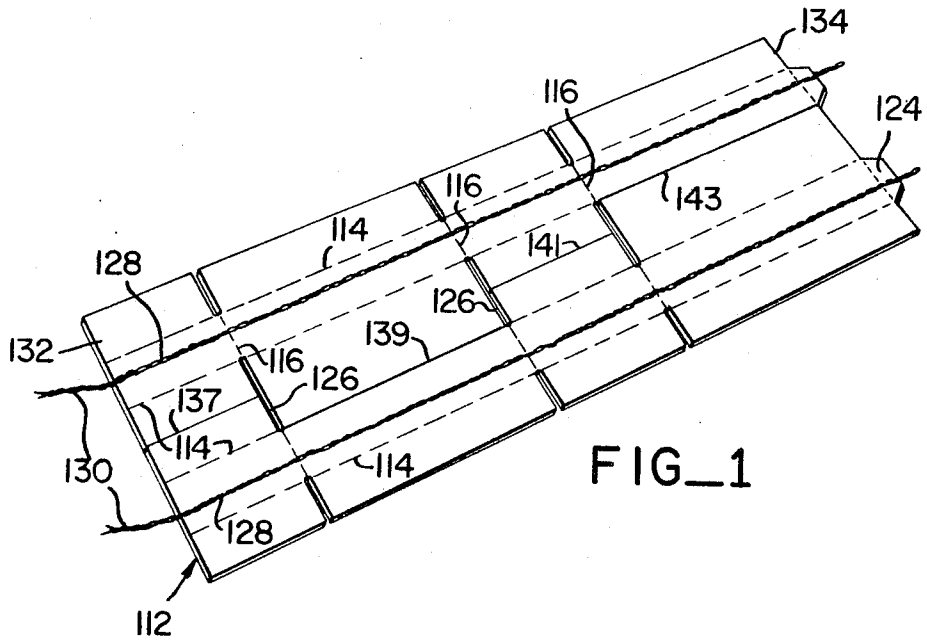


FIG_1

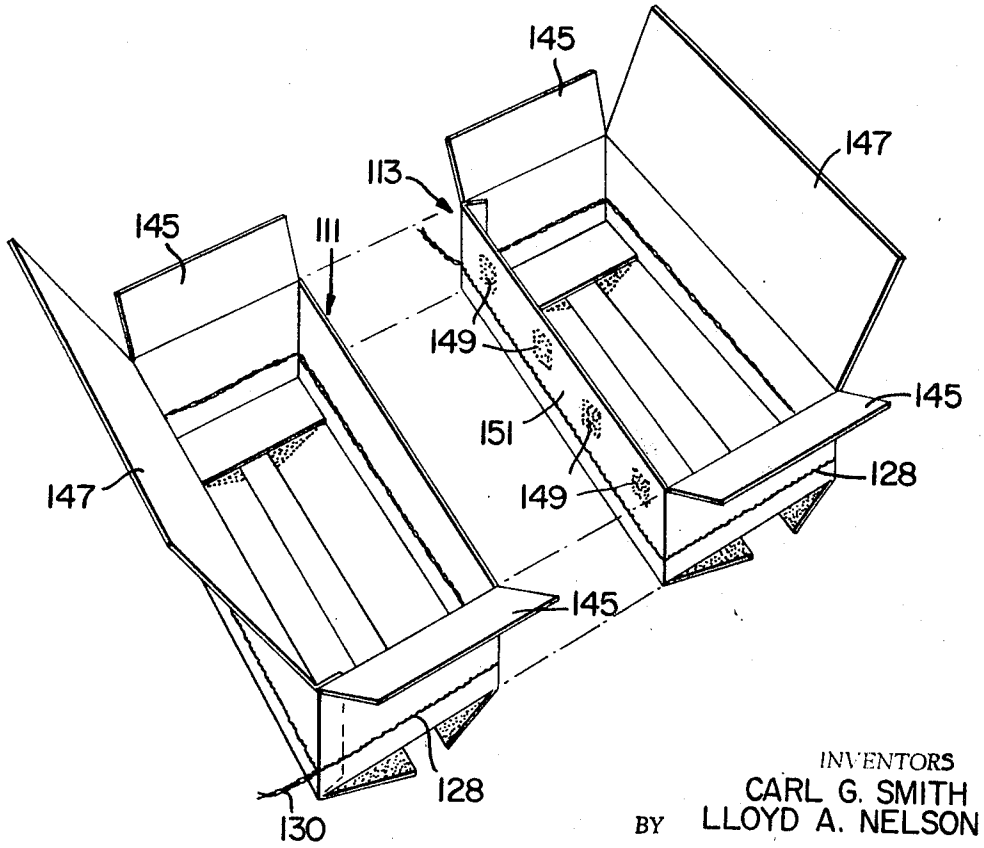


FIG_2

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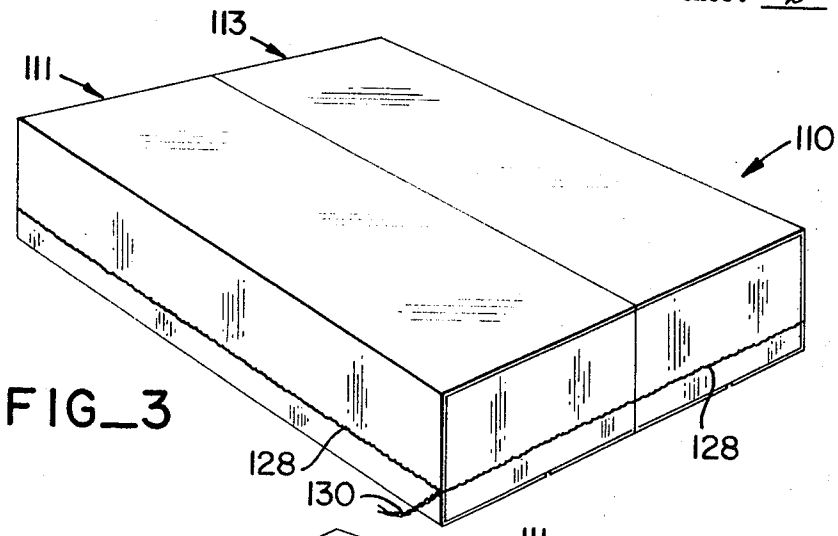


FIG_3

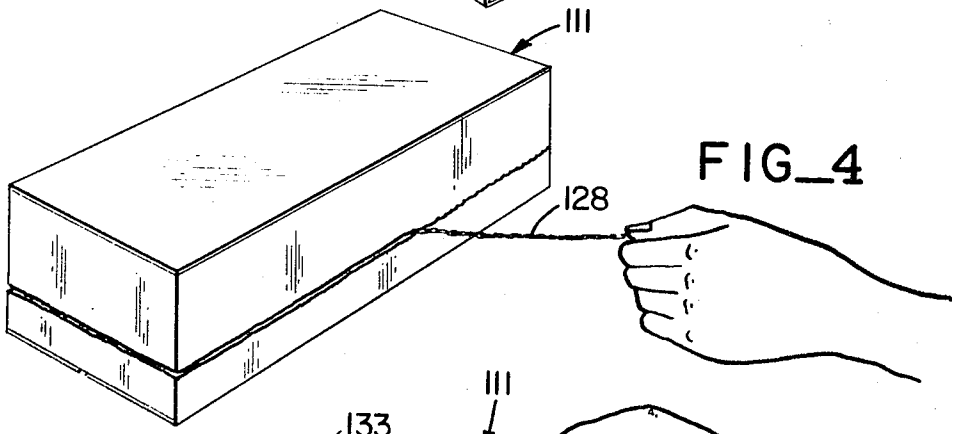


FIG_4

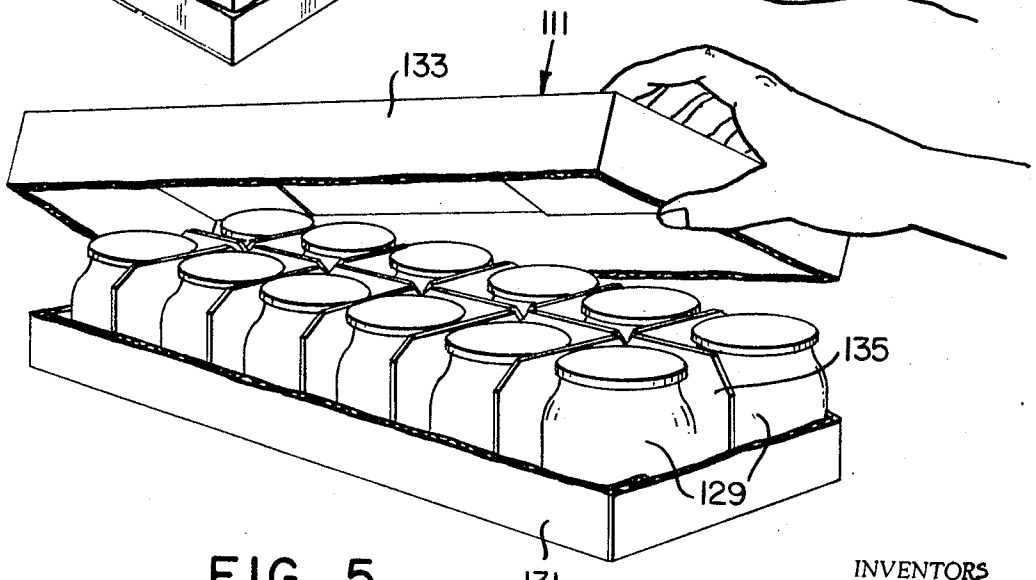


FIG_5

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MODULAR SHIPPING CASE

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U.S. Cl. 229—37 6 Claims

ABSTRACT OF THE DISCLOSURE

A modular shipping case comprised of a pair of container sections arranged in side-by-side relationship with a side panel of one of the container sections in juxtaposition to the side panel of the other container section. The juxtaposed side panels have means thereon interconnecting the same whereby the container sections form a container unit capable of being shipped and stored. The container sections are formed from an initially flat sheet of corrugated material which is provided with fold lines and is cut into two parts which are folded to define the container sections.

This invention relates to improvements in shipping containers and, more particularly, to a shipping case comprised of a pair of separable container sections or modules each adapted to hold articles of merchandise independently of the other.

The present invention resides in a shipping case having a pair of adhesively or otherwise removably interconnected container sections each having a ripcord to permit opening of the section when the sections have been separated from each other. The container sections are formed by cutting a blank into two parts after the blank has been stamped or otherwise handled to provide fold lines and slits in the parts at specific locations thereon. The parts are assembled into the container sections.

While the invention can be used in a number of different ways, it is especially adapted for containing glass food jars of the type used for baby food. For this use, the bottom of each module has two inner and two outer flaps, similar to a standard "RSC" (regular slotted container) shipping case. The top of each module contains two inner flaps and one outer flap. Two modules are joined in siamesed fashion to form a shipping case for 24 jars and initially can be used as a standard 4 x 6 "RSC" shipping case to ship glassware from glass works to food processing plant, for hand or mechanical unloading of glassware and for repacking the finished products, via standard drop packing equipment. Subsequently this modular case can be disjoined into single modules and opened by severing with the ripcord to produce trays (2 x 6) with 12 jars on each tray.

By forming a pair of substantially identical container sections from a single blank, certain advantages result with respect to handling the case containers after the case has been opened. In merchandising certain types of food products, such as baby food in jars, it is convenient to display the products on trays formed by the bottom portion of a shipping case after it has been opened. For baby food jars, for example, it has been the general practice to use shipping cases which hold twenty-four jars in a 4 x 6 single layer distribution. A tray of twenty-four jars distributed in this manner is somewhat unwieldy and the jars oftentimes fall from the tray during shelving operations, resulting in a complete loss of their containers. By utilizing two trays where one formerly was used, the job of transferring the products to a display is simplified.

The present invention provides for the formation of a pair of container sections which are normally joined together and which have side wall ripcords stitched therein. While they are joined, the container sections define a shipping case unit that can be shipped and stored in the usual manner, however, the sections can be separated from each other and opened by pulling on their ripcoards so that a pair of trays are formed. The trays are of a convenient size for quickly and easily transferring the products to a display shelf.

The primary object of the invention is to provide a shipping case formed from a pair of container sections which are removably joined together so that, upon separation, the side walls of the sections can be severed and the bottoms of the sections can be used as trays for supporting the contents for display or other purposes.

Yet another object of this invention is to provide a blank of cardboard material from which a pair of shipping case sections can be formed after the blank has been stitched along a pair of spaced, longitudinally extending lines whereby each section has a ripcord stitched in its side wall to thereby avoid having to place the ripcords in the sections after the same are assembled.

Other objects of this invention will become apparent as the specification progresses, reference being had to the accompanying drawing wherein:

FIG. 1 is a perspective view of a blank for forming the shipping case of this invention;

FIG. 2 is a perspective view of a pair of shipping case modules formed by the blank of FIG. 1;

FIG. 3 is a perspective view of the shipping case formed by attaching the sections of FIG. 2 together; and

FIGS. 4 and 5 are views showing the way in which the sections are opened to expose their contents.

Case **110** is formed from a blank **112** of the type shown in FIG. 1. This blank is provided with four longitudinal fold lines **114** and four transverse fold lines **116** in addition to a pair of boxmaker's tabs **124**. Blank **112** also has slits **126**, including three central slits, at particular locations thereon relative to fold lines **114** and **116** so that, when the blank is divided into two parts in a predetermined manner, the parts can be manipulated to form the modules as shown in FIG. 2.

Blank **112** is first stamped to form fold lines **114** and **116** and slits **126**. Following this operation, the blank is moved through a sewing machine and ripcords **128** are stitched in the panels which correspond to the side walls of respective modules. The stitching operation is continued beyond the end edges of the blank. Thus, each ripcord **128** has an end **130** projecting outwardly from the corresponding end edge **132** of blank **112**.

After the stitching operation blank **112** is divided into two parts. This is accomplished by severing the blank along an irregular line including segment **137**, a portion of a first of the central slits **126**, segment **139**, a portion of a second central slit **126**, segment **141**, a portion of a third central slit **126**, and segment **143**. The irregular line described above extends from edge **132** to the opposite edge **134** adjacent tabs **124**. In practice, the two parts of the blank are held together by several short "dinks" or coupling members integral with the parts. These "dinks" are formed during the original blanking and scoring operation.

After the blank has been divided, the bottom flaps and the side panels are assembled in the usual manner. However, the top of each module is defined by a pair of end flaps **145** and a single side flap **147**. Flap **147** completely covers the top of its module when the latter is closed. Thus, there is no need for an opposite flap.

Modules **111** and **113** are preferably joined by spot gluing at locations **149** on the normally innermost side panel **151** as shown in FIG. 2. When joined in this manner, the modules define case **110** as noted in FIG. 3 and

the case can be moved and stored without destroying the bond between the modules.

When the case is to be opened, the modules are pulled apart and are opened in the manner shown in FIGS. 3 and 4. The products in the modules are thus accessible and the bottoms of the modules serve as support trays.

Before case **110** is put into use, the modules are joined together. Thereafter, the case can be used for transporting the empty containers to a place of manufacture, such as a filling and processing station. At this latter location, the containers are removed from the case, are filled and processed, and are put back into the case and the case is closed. Thereafter, it may then be stored or transported as desired.

Case **110** is especially suitable for use with glass jars of the type for containing baby food. The dimensions of the cases are preferably chosen so that the cases will contain twenty-four jars in a 4 x 6 pattern. Thus, each of the modules **111** and **113** of case **110** will contain twelve jars in a 2 x 6 pattern. This is a convenient number for handling and avoids having to sever the bottom of case **110** after it has been opened.

While one embodiment of this invention has been shown and described, it will be apparent that other adaptations and modifications can be made without departing from the true spirit and scope of the invention.

What is claimed is:

1. A modular shipping case comprising: a pair of modular container sections formed from respective, initially flat blanks cut from a single sheet of corrugated material having an area substantially equal to the sum of the areas of the blanks and provided with a number of longitudinal and transverse fold lines with said transverse fold lines dividing the sheet into first, second, third and fourth panels, the third panel being between said second and fourth panels and longitudinally spaced from said first panel and said second panel being between said first and third panels and longitudinally spaced from said fourth panel, said sheet being separated into two parts by a number of longitudinal and transverse cut lines, there being a longitudinal cut line extending through each panel, respectively, and a transverse cut line extending partially through the junction of each pair of adjacent panels, respectively, each transverse cut line joining the ends of adjacent longitudinal cut lines, the longitudinal cut lines through the first and third panels being in substantial longitudinal alignment with each other substantially midway between the side edges of the sheet, the longitudinal cut line through the second panel coinciding with a longitudinal fold line of the sheet on one side of the longitudinal cut lines of said first and third panels, the longitudinal cut line through the fourth panel coinciding wtih a longitudinal fold line of the sheet on the opposite side of the longitudinal cut lines of said first and third panels, said blanks being folded along their fold lines to define said container sections with each container section having a pair of opposed end walls provided with top and bottom flap means and a pair of opposed sidewalls provided with bottom flap means, only one of the sidewalls of each container section being provided with top flap means, said container sections being disposed in proximity to each other with the top flap-free sidewall of one section disposed in juxtaposition to the corresponding sidewall of the other sections; and means on the juxtaposed sidewalls for releasably securing the same together to present a container unit capable of being moved and stored.

2. A modular shipping case as set forth in claim **1**, wherein said securing means includes an adhesive at each of a number of spaced locations on said juxtaposed sidewalls.

3. A modular shipping case as set forth in claim **1**, wherein said sheet has a number of slits coinciding with each transverse fold line, respectively, one of the slits at each transverse fold line defining the corresponding transverse cut line.

4. A modular shipping case as set forth in claim **1**, wherein said top flap means of each container section comprises a single top flap coupled to said one sidewall for movement into and out of covering relationship to the open top of the section.

5. A modular shipping case as set forth in claim **1**, wherein said top flap means of each container section comprises a single top flap having an outer longitudinal edge, the longitudinal cut lines of said second and fourth panels defining the outer edges of respective top flaps.

6. A modular shipping case as set forth in claim **1**, wherein said sheet is provided with means extending longitudinally thereof and disposed on each side, respectively, of the longitudinal cut lines of the first and third panels for severing the sheet, whereby the severing means corresponding to each container section can be used to separate the latter into top and bottom portions.

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U.S. Cl. X.R.

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