# United States Patent [19]

**Taub**

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[54] **PIVOTALLY ARTICULATED CONTAINER**


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[52] **U.S. Cl.**..... **206/44,** 206/45.11, 206/45.18

[51] **Int. Cl.**..... **B65d 5/48,** B65d 81/36

[58] **Field of Search** ..... 206/44 R, 44 B, 45.11, 206/45.18, 45.21, 45.23, 65 R, 72; 229/16 D, 34 R, 41 R, 41 B, 23 R, 34 HW, 15, 42, 51 DB; 220/31 S



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[57] **ABSTRACT**

A container formed in articulated sections pivotally hinged about fold lines to provide ready access to end panels of retained packages for price-marking purposes. The container itself and a center separator are each formed from a one-piece sheet blank.


**7 Claims, 9 Drawing Figures**

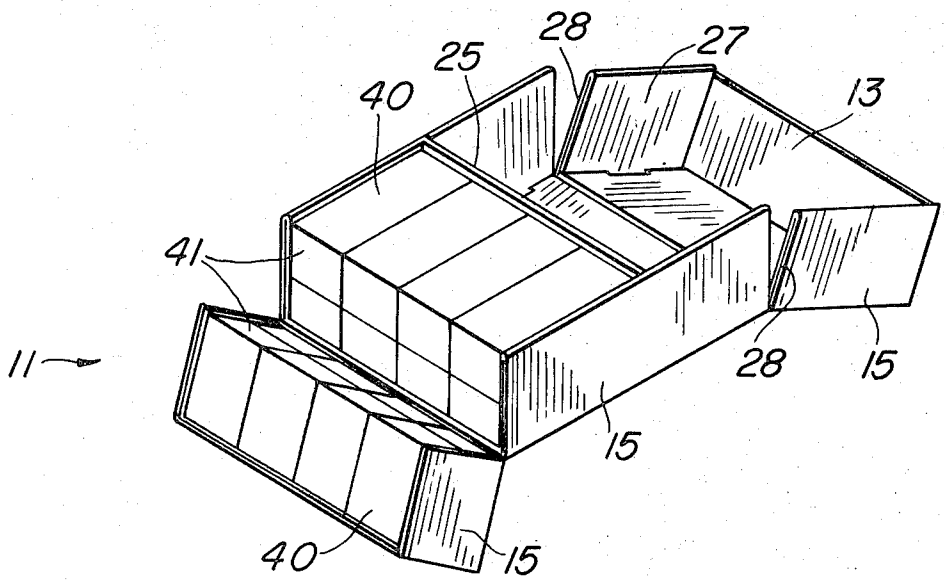


FIG - 1

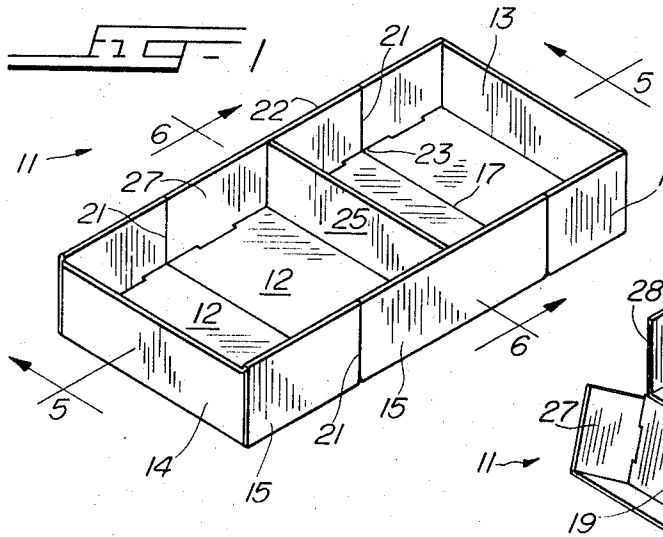



FIG - 2

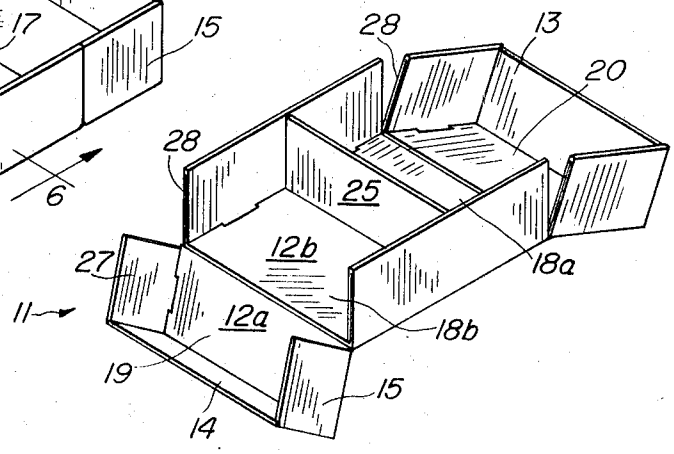



FIG - 3

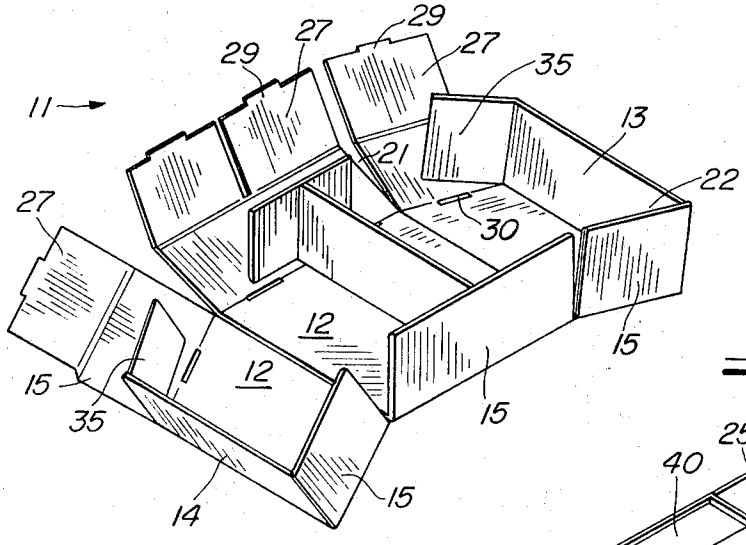



FIG - 4

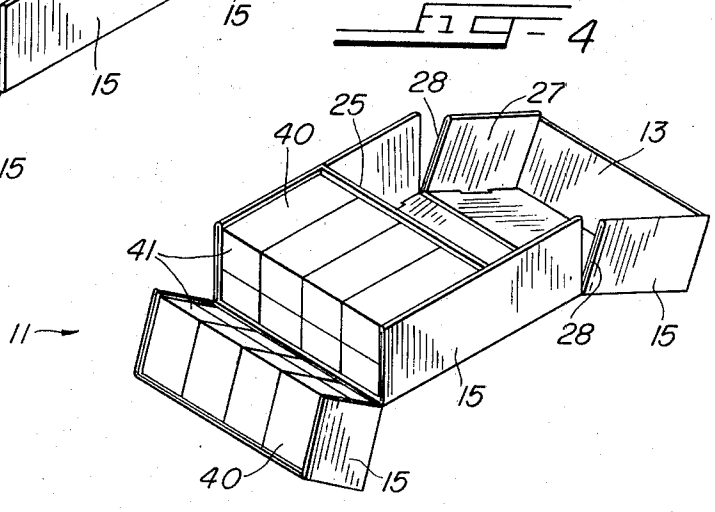


FIG - 5

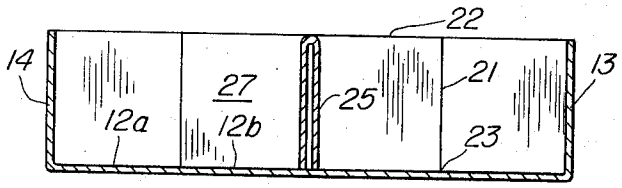



FIG - 6

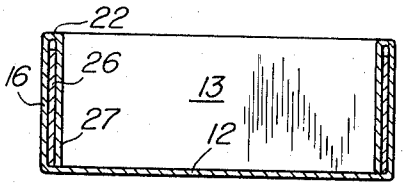



FIG - 7

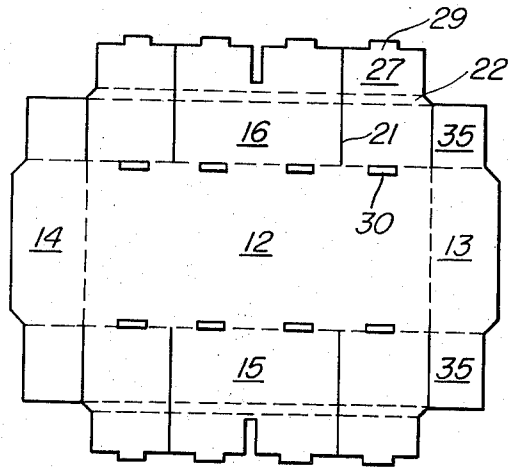



FIG - 8

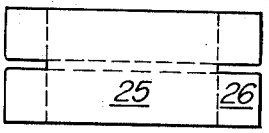
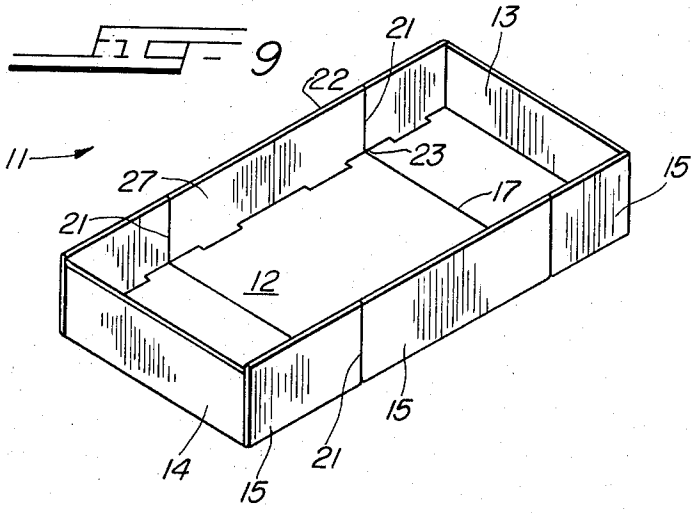



FIG - 9



# PIVOTALLY ARTICULATED CONTAINER

The present invention relates to merchandise containers formed from corrugated cardboard, paperboard, and the like. These containers are adapted to hold articles during shipping, storage and display. At the point of purchase in retail stores it is necessary, in conventional containers, to open each box by either tearing or cutting to expose price panels of every article so that price-marking indicia may be applied. When the articles are arranged in more than one layer, time is consumed in shifting units in outer layers to provide access to price panels in less accessible layers.

The usual procedure for price-marking merchandise shipped in cartons involves opening closure flaps at an end of the container. Cartons may also be opened by cutting with razor blades and other sharp objects, but this poses a danger to soft packages covered by cardboard, cellophane, plastic film and the like. Merchandise containers often incorporate tear strips which are pulled to separate the container into sections, thus increasing the number of accessible package price panels. But these strips are expensive, and when they are made of fragile materials such as cardboard they are unsatisfactory since excessive care is required to prevent tear strip breakage. After pricing, units which have been marked are usually manually removed from their container and stacked on shelves. In some cases, goods are displayed for sale in their original shipping containers. The latter procedure eliminates the step of manually stocking units on shelves, but when price panels of each unit are not readily accessible the step of shifting layers to provide access must still be performed so that each unit may be priced.

It is a principal object of the present invention to provide a container for shipping and storing merchandise in which price-marking indicia can be applied quickly to price panels of package units arranged in several layers or rows, without tearing or cutting the container to provide access. The container of the present invention is preformed in sections adapted to be pivotally hinged about fold lines, thus providing ready access to end panels of packages on either side of the fold lines.

It is a related object of the invention to provide a container which is constructed from a one-or two-piece blank, without need for staples, glue or other external fastening means. The preferred embodiment is also inexpensive to manufacture, since it is constructed from low-cost materials such as cardboard, and because no tear strips or tapes are needed.

It is a further object of the invention to provide a container which allows ready access to a plurality of layers or rows of packages, and which is adaptable to a wide variety of sizes and numbers of packages.

It is another object of the invention to provide a container having a one-piece internal separator for preventing shifting displacement of adjacent rows of packages against each other.

Yet another object of the invention is to provide a shipping container in which articles can also be displayed at the point of purchase.

Other objects and advantages of the invention will become apparent from reading the following specification in conjunction with the drawing, in which:

FIG. 1 is a perspective view of a preferred embodiment of the container of the invention showing a divided inner section flanked by pivotal sections;



FIG. 2 is a perspective view of the container of FIG. 1 with the end sections pivotally displaced;

FIG. 3 is a perspective view of the container of FIG. 1 in a partly assembled state and indicating the mode of assembly used;

FiG. 4 is a perspective view of the container with a central and an end section filled with packaged articles, and illustrating the manner in which pivotal displacement of the end section exposes the ends of the packaged articles for convenient price marking;

FIG. 5 is a cross-sectional view of the container of FIG. 1 taken along the line 5—5 of FIG. 1;

FIG. 6 is a cross-sectional view of the container of FIG. 1 taken along the line 6—6 of FIG. 1;

FIG. 7 is a plan view of the planar blank used in producing the container of FIG 1, dotted lines indicating fold lines;

FIG. 8 is a plan view of the blank used as the divider for the center section of the container of FIG. 1;

FIG. 9 is a perspective view of a different embodiment of the container of the invention, in which there is no center divider between the two pivotal sections.

Referring now to FIGS. 1 through 3, there is shown a container of a preferred embodiment of the invention which is a tray-like rectangular box 11 having a floor 12, end walls 13 and 14, and a pair of side walls 15 and 16. Fold lines 17 extending laterally across the floor 12 between the side walls 15 and 16 divide the box into an intermediate section 18 and two end sections or compartments 19 and 20 adjacent the intermediate section 18. Each side wall is divided into distinct panels by a generally vertical slit 21 extending from an outer edge 22 to a base terminal 23 of the wall, said terminal 23 corresponding to a lateral limit of a fold line 17. A vertical separator or separator means 25 divides the intermediate section 18 into two equal intermediate compartments 18*a*and 18*b*. The separator 25 also divides the entire box 11 into equal halves.

Flanges 27 are integrally formed with and are generally coextensive with each side wall 15 and 16. The flanges 27 are hinged along fold lines 22 defining upper or outer edges of the side walls. The flanges 27 are hinged inwardly to overlie the side walls 15 and 16, forming slots 28 coextensive with each flange 27. A downwardly pojecting tab or tab means 29 projects from a free end of each flange 27. Slits 30 are cut into the lateral edges of the floor 12 at positions corresponding to the tabs 29. The flanges 27 are locked in place by seating of corresponding tabs 29 and slits 30. The end walls 13 and 14 are each formed integrally with a pair of flaps 35 hinged along spaced fold lines to the end walls at their lateral limits. The flaps 35 are adapted to engage slots 28 formed between the side walls 15 and 16 and their overlying flanges 27.

The separator 25 and fold lines 17 define base panels on the floor 12. Base panels 12*a* of the end sections 19 and 20 are each bounded by a fold line 17 and end wall 13 and 14, and the two side walls 15 and 16. Base panels 12*b* in the intermediate sections 18*a* and 18*b* are each bounded by the separator 25, a fold line 17, and the side walls 15 and 16, all as illustrated in FIG. 2.

The vertical separator 25 is formed from a single sheet folded upon itself to provide a double-webbed wall 25 extending transversely across the intermediate section 18. Each web of the double-webbed wall is integrally formed wiht a transversely extending tab or wing tab 26. When the container is assembled, the tabs 27

extend in opposite directions and normally to the wall **25.** The tabs **26** project into and are held within slots **28** defined by side walls **15** and **16** and overlying flanges **27** of the intermediate section **18,** so that the separator is secured against lateral displacement or shifting. The vertical separator **25** serves to maintain articles **40** held in the container **10** in proper alignment during shipment and storage. The articles are thereby cushioned against damage caused by shifting of adjacent rows of merchandise **40.**

Operation of the container **10** is best understood upon reference to FIG. **4.** The container or box **11** is provided with a cover (not shown) in order to protect and secure the merchandise **40** retained therein during shipment and storage. When the outer covering or wrapper is removed, it is generally desired to apply price-marking indicia to an end panel **41** of each package **40.** Access to opposed end panels **41** is obtained merely by pivotally swinging an end section **19** away from an adjacent intermediate section **18***b* to effect an arcuate separation of adjacent rows of merchandise. Every unit is thereby exposed without removing any of the articles **40** from their container. When there are more rows of merchandise than shown in FIG. **4,** additional fold lines and sections are provided.

The container **11** is constructed from the one-piece blank shown in FIG. **7.** A one-piece blank for the center separator **25** is shown in FIG. **8.** Cardboard, paperboard, pliable plastics, and other materials in sheet form are suitable for the blanks.

The center separator may be omitted entirely in order to reduce weight and cost, as shown in FIG. **9.**

Since many modifications of the above invention are possible, it is not intended that it be limited to the embodiment described. The true scope of the invention is defined by the following claims.

What is claimed is:

**1.** A shipping and display container adapted to hold a multiplicity of packaged units in an organized array,

said container comprising a plurality of linearly disposed, article-housing sections including a pair of walled end sections, a walled intermediate section therebetween and an articulated uniplanar floor beneath each said sections and integrally formed therewith, each said end sections being joined to said intermediate section thereadjacent along a laterally extending fold line formed in said articulated floor whereby said end sections are each pivotal downwardly with respect to said intermediate section along said fold line,

said end sections and said intermediate section each being adapted to hold a row of articles extending thereacross, whereby upon pivotal shifting of said end sections about each said fold line in said articulated floor, facing end panels of any articles contained in respective said sections are exposed and rendered readily accessible for application of price marking indicia thereto.

**2.** The container as set forth in claim **1,** wherein each said end sections and said intermediate section include a pair of opposed side walls, and wherein each said end section of said container includes an end wall joined to said floor and to each said side walls of said end sections.

**3.** The container as set forth in claim **2,** wherein said container is formed from a single blank, and wherein each said end sections includes

a. a pair of flanges integral with respective each said side walls of said end sections and hinged thereto along a fold line defining an outwardly facing upper edge of said side walls of said end sections, each said flanges extending downwardly of said upper edge and overlying each said side walls of said end sections in proximity thereto, whereby each said flanges and respective each said side walls of said end sections define a slot therebetween coextensive with said flanges,

b. means securing said flanges in place, and

c. a pair of flaps integral with each said end walls and hinged thereto along spaced fold lines defining lateral limits thereof;

each said flaps extending generally normally to said end walls to parallel said side walls of said end sections and to project into a corresponding said slot, thereby to interlock said floor, said end walls, and said side walls of each end section of said container into a stable, unitary structure.

**4.** The structure as set forth in claim **3,** wherein said means securing each said flanges in place comprise slits formed in said floor adjacent lateral limits thereof and paralleling lateral edges of said floor,

and further comprising downwardly projecting tab means integrally formed with each said flanges at downwardly directed free ends thereof, each said tab means projecting into and seating within a corresponding said slit in said floor to lock said flanges in place.

**5.** A product storage and display container adapted to retain a plurality of articles in an organized arrangement,

said container comprising a plurality of linearly disposed, article-housing sections including a pair of walled end sections, a walled intermediate section therebetween, and an articulated floor therebeneath and integrally formed therewith, each said end sections being joined to said intermediate section thereadjacent along a laterally extending fold line formed in said articulated floor, whereby said end sections are each pivotal downwardly with respect to said intermediate section along said fold line, each said end sections comprising

a. a base panel constituting a segment of said articulated floor, and a pair of laterally spaced side walls and a connecting end wall, all integral with said base panel and extending upwardly of and normally thereto,

b. a pair of flanges integral with respective each said side walls and hinged thereto along a fold line defining an outwardly facing edge of said side walls, each said flanges extending inwardly of said forward edge and overlying respective each said end walls in proximity thereto, whereby each said flanges and respective each said side walls define a slot therebetween coextensive with said flanges,

c. means securing said flanges in place to parallel generally said side walls, and

d. a pair of flaps integral with said end walls and hinged thereto along spaced fold lines defining lateral limits thereof, each said flaps extending normally to said end walls and projecting into a respective said slot between said side walls and said overlying flanges of each said end section to provide an interlocked, stable structure;

said intermediate section comprising

e. a base panel constituting a segment of said articulated floor and having lateral limits corresponding to and in line with lateral limits of said base panels of each said end section thereadjacent, said base panel of said intermediate section being interposed between and flanked by base panels of said end sections and separated therefrom along fold lines in said articulated floor,

f. a pair of laterally spaced side walls integral with said base panel of said intermediate section and extending normally thereto at ends thereof,

g. a pair of flanges integral with respective said side walls and hinged thereto along a fold line defining an outwardly facing edge of respective said side walls, each said flanges extending inwardly of said outwardly facing edge and overlying respective each said side walls in proximity thereto, whereby each said flanges and respective each said side walls define a slot therebetween coextensive with said flanges, and

h. means securing said flanges in place to parallel generally said end walls;

each said end sections being pivotal with respect to said intermediate section along a corresponding fold line in said floor, to effect an arcuate separation of and to provide access to ends of any articles contained in said intermediate section to facilitate application of price marking indicia on the articles without necessitating physical removal thereof from said container.

**6.** The container as set forth in claim **5,** and further comprising separator means extending laterally across said intermediate section, to divide said intermediate section into two compartments, and

means securing said separator means fixed in place.

**7.** The container as set forth in claim **6,** wherein said separator means comprises

a. a sheet folded closely upon itself to form an upstanding double-webbed wall extending transversely across said intermediate section between said side walls thereof and normally to the base panel thereof, to divide said section into two compartments each having an open end opposite said double-webbed wall, and

b. wing tabs integrally formed at each end of each web of said double-webbed wall, pairs of said tabs at each opposed end of said double-webbed wall extending in opposite directions and normally to said wall;

each said tabs projecting into and being held within a corresponding said slot defined by respective said side walls and said overlying flanges of said intermediate section to secure said separator means against shifting displacement.

* * * * *