Nov. 2, 1954 A. L. GIROUX ET AL. 2,693,308

MULTICOMPARTMENT SHIPPING CARTON

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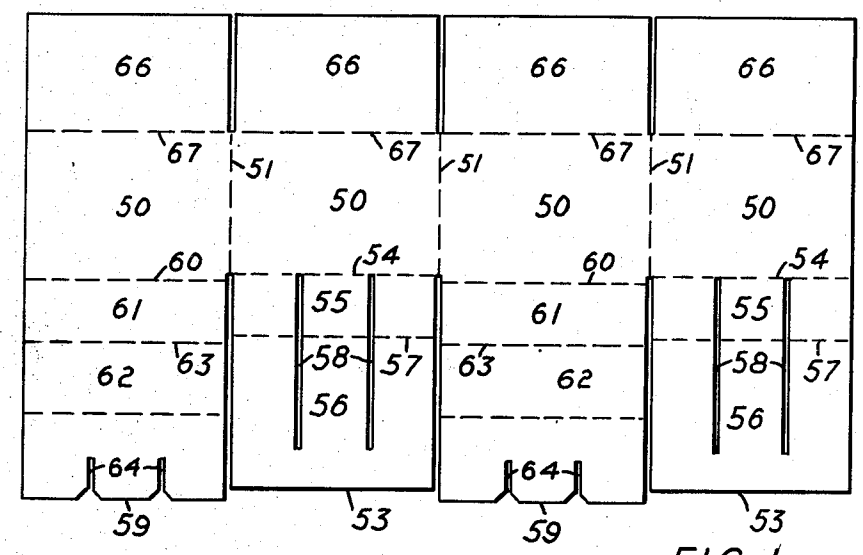


FIG. 1.

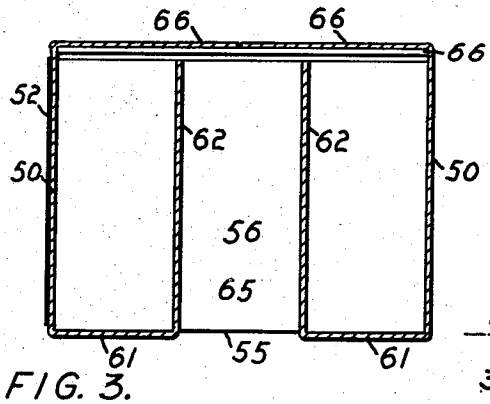


FIG. 3.

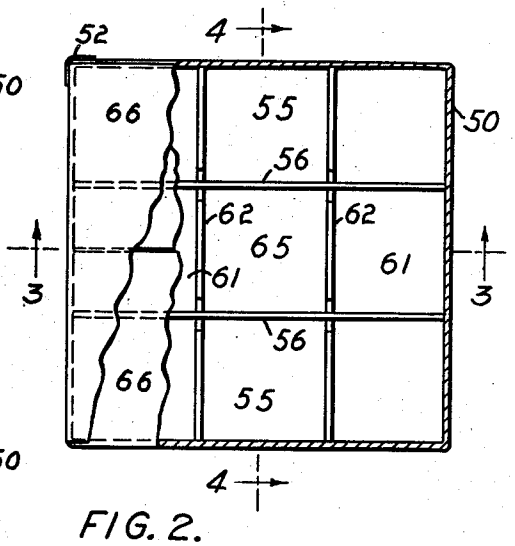


FIG. 2.

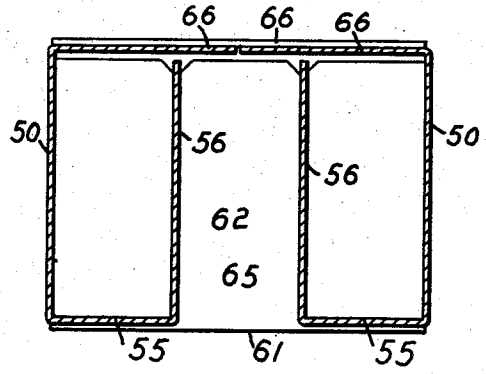


FIG. 4.

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MULTICOMPARTMENT SHIPPING CARTON

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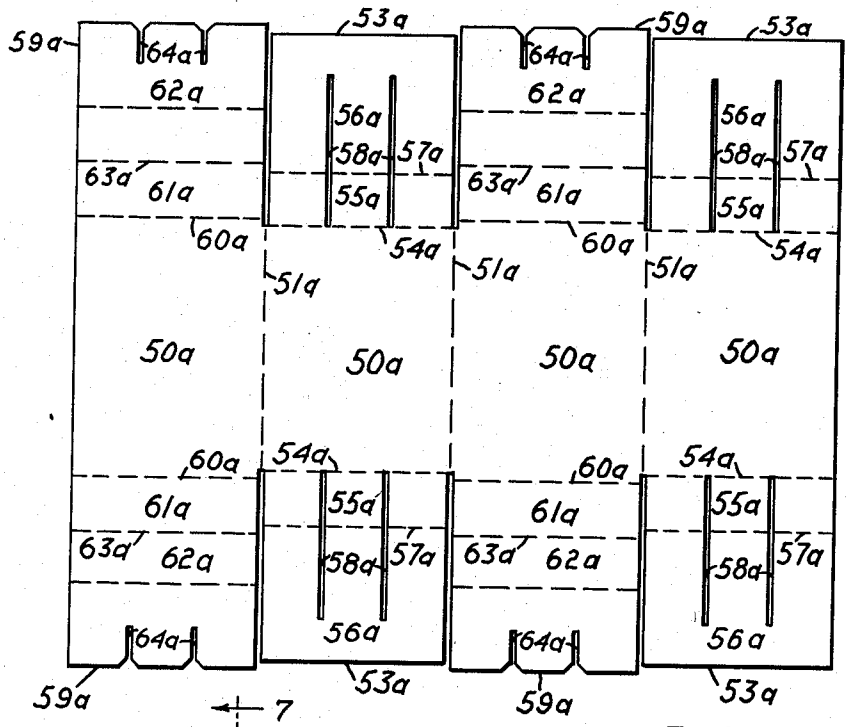


FIG. 5.

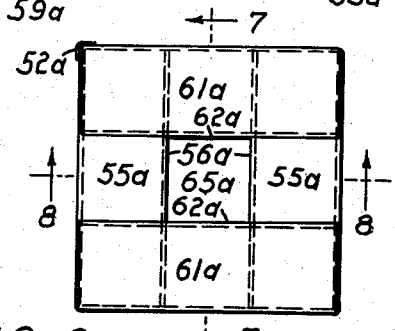


FIG. 6

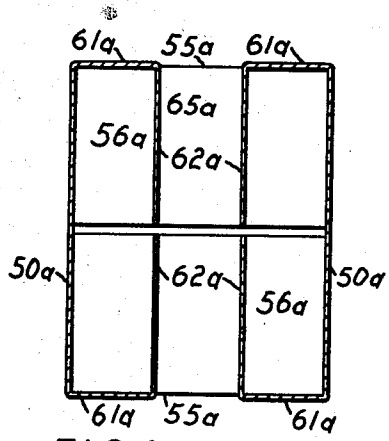


FIG. 7.

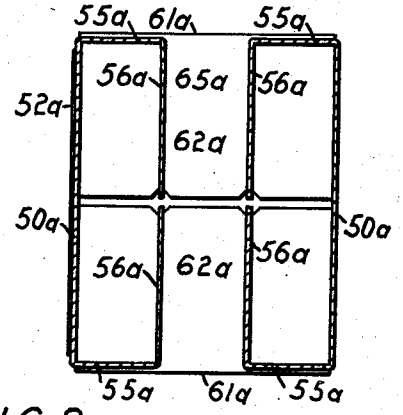


FIG. 8.

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MULTICOMPARTMENT SHIPPING CARTON

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Application February 11, 1950, Serial No. 143,644

3 Claims. (Cl. 229—28)

This invention relates to multicompartment shipping cartons and has for its object to provide a knockdown multicompartment carton that has great rigidity and strength when assembled.

In packaging fragile articles such as goblets, cups, vases and the like for shipment, it has been the usual practice to carefully pack the individual articles in a shipping container of rigid construction, the articles being so packed that they are held against relative movement in the container and the container being of a strong and rigid construction so that the articles will not be subjected to compression due to distortion of the container by weight imposed thereon. The alternatives, high cost of shipment, and high percentage of loss due to breakage, have resulted in retail prices so high as to greatly impede the sale of such articles.

The present invention has for an object to provide a knockdown multicompartment carton of paperboard or the like which is of simple and inexpensive construction, which can be shipped and stored in knockdown form, which is easy to assemble, and which has the strength and rigidity necessary for the protection of fragile articles against breakage.

The carton of the present invention has a collapsible body of rectangular form and a combined closure wall and partition structure at one or both ends thereof, the partition structure being formed by integral extension of portions of the closure wall which form an interlocking crisscross system of upright partitions within the body which not only stiffen the end wall structure, but also internally brace the collapsible body portion of the carton.

Reference should be had to the accompanying drawings forming a part of this specification, in which:

Fig. 1 is a plan view of a blank from which a multicompartment carton embodying the invention may be formed;

Fig. 2 is a top plan view of a carton assembled from the blank shown in Fig. 1, portions of the top and bottom walls being broken away to show the interior partition structure;

Fig. 3 is a vertical section through the carton taken on the line indicated at 3—3 in Fig. 2;

Fig. 4 is a vertical section through the carton taken on the line indicated at 4—4 in Fig. 2;

Fig. 5 is a plan view of a blank from which a carton embodying a modification of the invention may be formed;

Fig. 6 is a top plan view of a carton formed from the blank shown in Fig. 5;

Fig. 7 is a vertical section through the carton taken on the line indicated at 7—7 in Fig. 6; and

Fig. 8 is a vertical section through the carton taken on the line indicated at 8—8 in Fig. 6.

In Figs. 1 to 4 of the drawings an eight-compartment carton embodying the invention is shown. In the construction shown in Figs. 1 to 4, the eight-compartment carton is a square carton having an open space at the center which is adapted to receive a positioning peg to hold the carton in fixed position on a shelf or in a shipping crate.

As shown in Fig. 1, the collapsible body of the carton is formed by four integrally joined rectangular portions **50** of the blank that are hinged to one another along fold lines **51**. The fold lines **51** form three corners of the square carton, and the fourth hinged corner is formed by suitable means such as a tape **52**

joining the free ends of the end sections **50** of the blank.

A pair of flaps **53** are joined to the bottom edges of an opposed pair of upright walls **50** by fold lines **54**, and each of these flaps has a bottom portion **55** and a partition portion **56** hinged to the portion **55** by a fold line **57**. Each of the flaps **53** has two parallel slots **58** which extend from the fold lines **54** at right angles thereto across the bottom portion **55** and partway across the partition portion **56**. A second pair of flaps **59** are hinged to the bottom edges of the other pair of opposed parallel walls **50** by fold lines **60**, and each of the flaps **59** has a bottom portion **61** and a partition portion **62** hinged to the bottom portion **61** by a fold line **63**.

The width of each flap and the length of the upright wall to which said flap is hinged will hereinafter be considered as being the horizontal dimension measured parallel to the bottom edge of said wall. As herein shown, the width of each flap corresponds to the length of the upright wall to which it is hinged.

In assembling the carton the flaps **53** are first folded inwardly to dispose the bottom portions **55** thereof horizontally between the parallel walls **50** to which the flaps are attached, and the partition portions **56** are placed in upright position parallel to the walls **50** to which the flaps **53** are attached. The flaps **59** are then folded inwardly to bring the bottom portions **61** thereof against the bottom portions **55** and flaps **53**, and the partition portions **62** are inserted in the slots **58** of the flaps **53**. The partition portions **62** are preferably the same height as the partition portions **56** and the partition portions **62** are provided with notches **64** that register with the partition members **56** and receive the portions of the partition members **56** above the upper ends of the slots. The width of the bottom portions **55** of the flaps is equal to one-third the width of the box so that the partition portions **56** are spaced from one another the same distance that they are spaced from the parallel walls **50**.

The width of the bottom portions **61** of the flaps **59** is substantially the same as that of the bottom portions **55** of the flaps **53** so that the partition portions **62** are spaced from one another the same distance that they are spaced from the upright walls **50** disposed parallel thereto. The bottom portions **55** and **61** leave a square hole in the bottom of the carton and the central portions of the partitions **56** and **62** enclose the opening at the center of the carton, thus providing eight compartments in the carton and a central open space **65**. The eight compartments are provided in a carton which is square in horizontal cross section and which has greater rigidity because of its form than an elongated rectangular carton providing eight compartments by means of intersecting partitions. The top of the container may be provided with conventional cover flaps **66** connected to the top edges of the walls **50** by fold lines **67**.

An eight compartment carton can be advantageously formed with an end closure and partition structure at the top as well as at the bottom, in which case combined partition and top wall forming flaps identical with the bottom flaps shown in Fig. 1 may be provided. Where a combined wall and partition structure is provided at opposite ends of the carton the height of the bottom partitions will be less than the height of the container, so that the partition portions of the top structure can register with the partition portions of the bottom structure when the carton is assembled.

Figs. 5 to 8 show an eight compartment container provided with a combined wall and partition structure like that shown in Figs. 1 to 4 except that the partition members are shorter and an identical wall and partition structure is provided at the top of the carton. The flap structure in the modification shown in Figs. 5 to 8 is the same as shown in Figs. 1 to 4 and parts are identified by the same reference numerals with the addition of the letter "*a*." In the form shown in Figs. 5 to 8 the central opening **65***a* extends entirely through the carton and provides a convenient handgrip for lifting the carton.

It is to be understood that in accordance with the provisions of the patent statutes, variations and modifications of the specific devices herein shown and de-

scribed may be made without departing from the spirit of the invention.

What we claim is:

1. A rectangular knockdown multicompartment shipping carton comprising a collapsible body formed by four upright walls hingedly connected at the four vertical corners, and a combined bottom and partition structure bracing said upright walls and dividing the space within the same into compartments, said structure being formed by a first pair of foldable flaps that are continuations of opposite parallel upright walls of said body hinged to the bottom edges thereof and a second pair of flaps that are continuations of the other two upright walls hinged to the bottom edges thereof and interlocked with the flaps of the first pair, each of said flaps being of a width corresponding to the length of the upright wall to which it is hinged, each flap of said first pair having a fold line parallel to its hinged edge and spaced therefrom a distance less than one half the distance between its hinged edge and the opposite upright wall to provide a bottom portion between said fold line and said hinged edge and a partition portion hinged to the bottom portion at said fold line, each flap of said first pair having two parallel slots extending from its hinged edge across its bottom portion and partially across its partition portion, the slots of the two flaps of said first pair being alined, the flaps of said second pair having bottom portions that underlie the bottom portions of the flaps of said first pair and partition portions hinged to their bottom portions, positioned in the spaced slots of the flaps of said first pair and having notches in their top edges spaced to receive the partition portions of the flaps of the first pair, said bottom portions providing the carton with a bottom having a central rectangular opening and said partition portions extending across the spaces between parallel upright walls, and dividing the interior of the carton into compartments the upright walls of which surround said central opening.

2. A knockdown multicompartment shipping carton substantially square in horizontal cross section and comprising a collapsible body formed by four upright walls hingedly connected at the four vertical corners, and a combined bottom and interior partition structure bracing said upright walls and dividing the space within the same into compartments, said structure being formed by four flaps each a continuation of an upright wall and hinged to the bottom edge thereof, each flap being of a width corresponding to the length of the upright

wall to which it is hinged so as to extend across the interior of the carton and comprising a bottom portion and a partition portion hinged to the bottom portion along a fold line parallel to its hinged edge and spaced therefrom a distance substantially equal to one third the distance between opposite upright walls, one pair of flaps being hinged to opposite upright walls and each having two slots extending from its hinged edge at right angles thereto across its bottom portion and partially across its partition portion, the flaps of said pair being disposed with their bottom portions horizontal and their partition portions up right, the slots of the flaps of said pair being alined, the other two flaps being disposed with their bottom portions underlying the bottom portions of the flaps of said pair and with their partition portions upright and in the slots of the flaps of said pair, the bottom portions of said flaps forming a carton bottom with a substantially square central opening and said upright partition portions providing upright walls surrounding said opening and eight substantially square compartments around said opening.

3. A multicompartment shipping carton such as defined in claim 2 in which the height of the partition portions of the combined bottom and partition structure is less than the height of the carton and in which a combined top and partition structure is provided which corresponds to said bottom structure and which provide a top with a central opening alined with the bottom opening and partition portions alined vertically with the partition portions of the bottom structure.

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