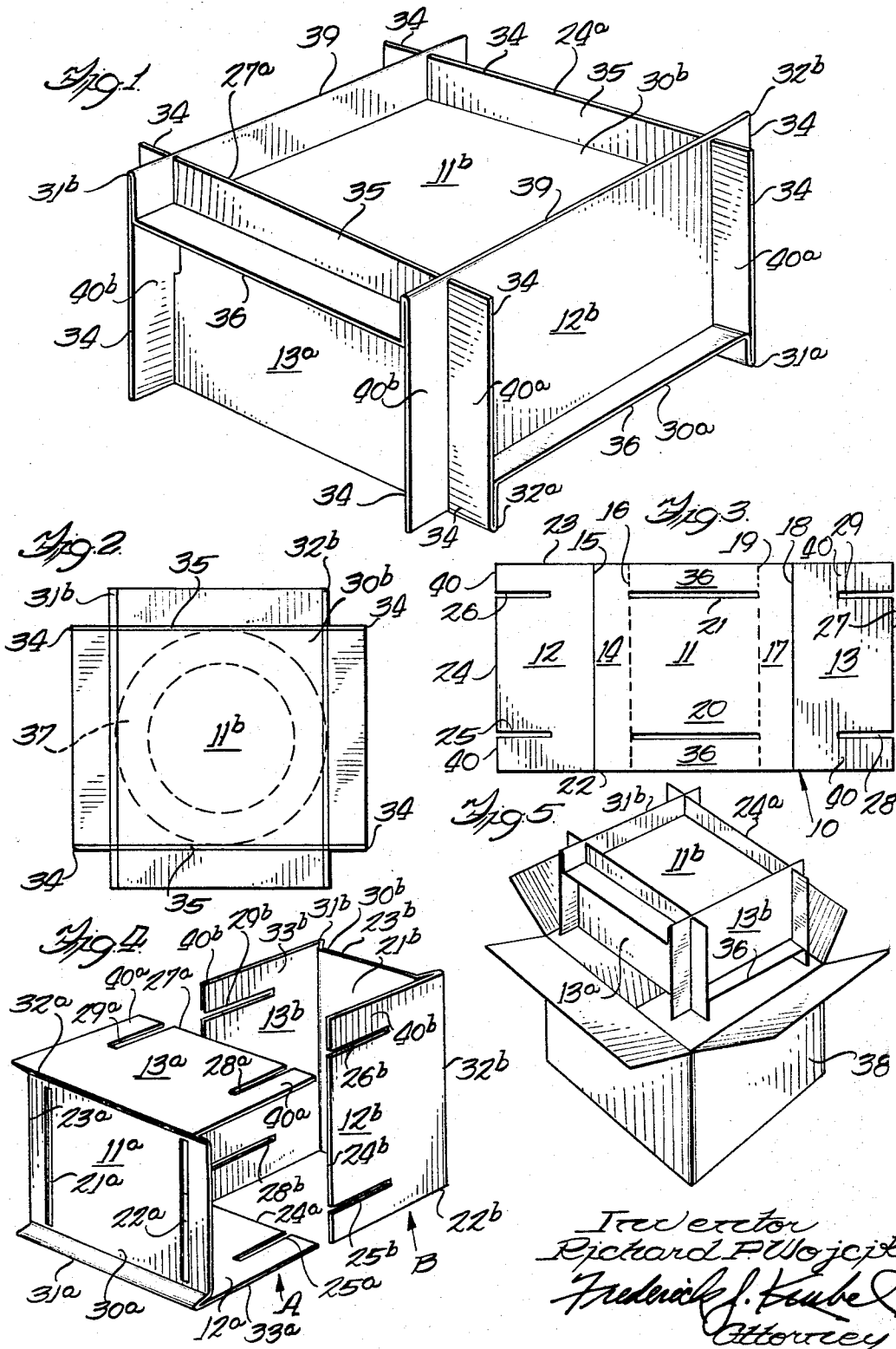


Oct. 18, 1966

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3,279,677

ARTICLE ISOLATING PACKING CONSTRUCTION AND THE LIKE AND
BLANK FOR MAKING THE SAME
Filed Oct. 27, 1964



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3,279,677

ARTICLE ISOLATING PACKING CONSTRUCTION AND THE LIKE AND BLANK FOR MAKING THE SAME

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Filed Oct. 27, 1964, Ser. No. 406,751

5 Claims. (Cl. 229-14)

This invention relates to shipping containers. Particularly the invention relates to a construction adapted to isolate an article within a shipping container.

It is a general object of this invention to provide an improved article isolating and protecting construction adapted for use as an inner packing or liner in a shipping container, and the like, to support and position an article packed therein to minimize damage or injury of the article.

Another object of the invention is the provision of an improved packing construction adapted for use as a container liner and which itself is a container defining a suspended chamber.

A further object of the instant invention is the provision of a packing structure adapted for use as a container liner and which is constructed from a plurality of identical blanks, whereby inventory requirements may be minimized.

An additional object of the instant invention is the provision of an improved and simple blank design whereby the improved construction can be produced for minimal cost.

A yet further object of the instant invention is the provision of an article isolating and protecting structure which is adapted for use as an inner liner for shipping containers, and the like, and which defines an enclosed rectilinear compartment from corners of the walls of which buffers, bosses, ribs or the like, extend outwardly to space all compartment walls substantially equally from the container walls to minimize imbalance of distribution of impact forces.

In accordance with the general features of the instant invention, a packing construction, itself a container, adapted as an isolating compartment for fragile articles is adapted, as a liner, to be placed within an outer shipping container. The packing construction provides an enclosed chamber within which an article is packed to suspend it within an outer or shipping container. The construction is a rectilinear body having four sides and a top and bottom completely enclosing the chamber within which a fragile article may be isolated. Extending outwardly from each of the edges at which the surfaces comprising the construction meet are a plurality of buffers, webs, bosses or spacers which are adapted to space uniformly all of the construction surfaces from the walls of a container in which the construction is adapted to be used as a liner. Furthermore, the isolating or packing construction may be made from two identical blanks which are simply scored for folding and which are provided with only a few die cut openings to facilitate assembling, whereby costs can be minimized.

The foregoing and other objects, features and advantages of the present invention will become more apparent upon consideration of the following description and appended claims, when considered in conjunction with the accompanying drawings wherein the same reference character or numeral refers to like or corresponding parts throughout the several views.

On the drawings:

FIG. 1 is a top perspective view of one embodiment of the instant invention.

FIG. 2 is a top plan of the construction shown in FIG. 1.

FIG. 3 is a plan view of the uniform blank employed for forming the construction shown in FIGS. 1 and 2.

FIG. 4 is a perspective view showing a pair of blanks folded and positioned immediately prior to assemblage into the construction seen in FIGS. 1 and 2.

FIG. 5 is a reduced perspective view taken from the same direction as FIG. 1 and showing an outer container in which said construction may be used as a liner.

Now having reference more particularly to the drawings, attention is invited to FIG. 3 which illustrates the uniform blank employed in the present invention. The blank, designated generally by the numeral 10, comprises a rectangular medial section 11 and a pair of substantially identical rectangular end sections 12 and 13.

The end section 12 is separated from the medial section 11 by an integral elongated rectangular panel 14 which is disposed between said medial section 11 and the end section 12. Panel 14 is bounded on the end section 12 side by a vertical line of scoring 15, and said panel 14 is bounded on its medial section 11 side by a reverse line of scoring 16. The lines of scoring 15 and 16 are substantially parallel to each other.

The end section 13 is separated from the medial section 11 by an integral elongated rectangular panel 17 which is disposed between said medial section 11 and the end section 13. Panel 17 is bounded on the end section 13 side by a line of scoring 18, and said panel 17 is bounded on its medial section 11 side by a reverse line of scoring 19. The lines of scoring 18 and 19 are substantially parallel to each other and to the lines of scoring 15 and 16.

Blank 10 is substantially a rectangular shape and in the embodiment illustrated the width is longer than the height when considered from the view shown in FIG. 3. Panels 14 and 17 are substantially identical to each other.

Having further reference to FIG. 3, it is seen that there are provided in the medial section 11 a pair of slots 20 and 21. Each of the slots 20 and 21 extends transversely of section 11 substantially to the lines of scoring 16 and 19 to which said slots are normal. Each of said slots 20 and 21 may be die cut in a conventional fashion and is parallel to the other and to a respective bottom edge 22 and top edge 23 of the blank 10, as illustrated in FIG. 3. The slots 20 and 21 are each spaced inwardly from their respective edges 22 and 23 a distance equal to the width of the panels 14 and 17, respectively.

Continuing reference to FIG. 3, the end section 12 is bounded by left side 24 which is substantially parallel to the line of scoring 15. The lines of scoring 15 and 16 intersect the bottom and top edges 22 and 23 of blank 10.

A pair of elongated vertically spaced parallel slots 25 and 26 extend inwardly or normally from the edge 24 into the blank section 12. The slots 25 and 26 are spaced from and parallel to the edges 22 and 23, respectively. The distance of the spacing of the slots 25 and 26 from the respective bottom and top edges 22 and 23 is equal to the distance by which the slots 21 and 20 are spaced from said top and bottom 22 and 23, respectively. The foregoing spacing places each of the slots 25 and 26 on a line with a respective one of the slots 20 and 21, which line is horizontal in FIG. 3.

The linear distance between the slots 25 and 26, that is, the length of the side 24 between said slots 25 and 26, is substantially equal to the length of each of the slots 20 and 21. Restated, the length of the side 24 between the slots 25 and 26 is equal to the width of the panel 11.

In the form of the invention illustrated in the drawings, the slots 25 and 26 extend into the blank section 12 a distance which may be twice the distance that each of said slots 25 and 26 is from its respective bottom 22 or top 23.

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Having reference again to FIG. 3, the blank section 13 is bounded by right side 27 which is parallel to the lines of scoring 18 and 19. The lines of scoring 18 and 19 extend the entire height of the blank from bottom 22 to the top 23.

A pair of vertically spaced elongated parallel slots 28 and 29 extend normally inwardly from side 27 into the panel 13. The slots 28 and 29 fall substantially on horizontal lines defined by the slots 20 and 21, respectively. The slot 28 is parallel to the bottom 22. The slot 29 is parallel to the top 23.

The slot 28 is spaced from the bottom 22 a distance substantially equal to the distance of the spacing between the slot 20 and the bottom 22; the slot 29 is spaced a distance from the top 23 equal to the distance of the spacing of the slot 21 from the top 23. Each of the slots 28 and 29 extends inwardly toward the section 11 a distance which is substantially equal to twice the distance of the spacing between said slots and adjacent bottom 22 and top 23, respectively.

The length of the side 27 between the slots 28 and 29 is substantially equal to the length of each of the slots 20 and 21; that is to say, the length of the side between the slots 28 and 29 is equal to the width of the section 11 between the lines of scoring 16 and 19.

The end sections 12 and 13 have substantially the same dimensions and bear a mirror image relationship to each other, as illustrated in FIG. 3.

The blank 10 may be fabricated from fiberboard or any other suitable material, dependent upon requirements of a product to be packaged in the structure formed from the blanks. Each of the constructions which is formed from said blanks comprises a pair thereof folded and interfitted or assembled in the manner illustrated in FIG. 4, to which reference is now had. One of the folded blanks is referred to generally as A and the other thereof is referred to generally as B, as illustrated in FIG. 4.

To facilitate understanding of relationship of the parts of the folded sections A and B in the finished construction, designations A or B have been added to some numerals of reference in FIGS. 1, 2, 4 and 5. That is to say, while in the instant verbal description a part or component may be or has been identified only by a reference numeral, when such numeral is applied to FIGS. 1, 2, 4 and 5, it may have applied or appended in juxtaposition a letter designating the folded section (A or B) to which said component belongs. For example, slot 29 of the blank 10 in FIG. 3 appears as slot 29A in section A and slot 29B in section B, and so forth.

To form the structure shown in FIG. 1, a pair of blanks 10 are employed. Each blank is bent in identical fashion as follows: The end sections 12 and 13 together with associated vertical panels 14 and 17 are bent along respective lines of reverse scoring 16 and 19 upwardly from the position shown in FIG. 3. Thereafter, the end sections 12 and 13 are folded downwardly along parallel lines of scoring 15 and 19 to form the folded sections A and B, as shown in FIG. 4.

The bending or folding in the foregoing manner causes the development of an exterior channel 30 bounded by parallel flanges 31 and 32, the height of which is substantially equal to the width of the panels 14 and 17. Additionally, there is formed on the opposite face of the section 11 an interior channel 33 which is bounded by the sections 12 and 13 which form the sides of said channel.

To assemble the device, interior channels 33A and 33B are adjusted to facing position, as illustrated in FIG. 4, with the respective channel sides 12A and 13A of section A disposed in perpendicular relationship with the channel sides 12B and 13B of section B, as illustrated in FIG. 4.

The sections 12A and 12B and 13A and 13B are then pushed together and interlocked or interfit by registering four pairs of slots as follows: 29A with 29B, 28A with 28B, 25A with 25B and 26A with 26B, to form the con-

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struction shown in FIGS. 1, 2 and 5. Such assembly results in the formation of an article isolating container construction having a substantially completely enclosed substantially rectilinear chamber which may be defined or bounded by walls as follows: On the top and the bottom, respectively, by those portions of sections 11B and 11A disposed between slots 20 and 21 and reverse lines of scoring 14 and 17, and on its four sides by those portions of sections 12A and 13A and sections 12B and 13B which are disposed between the slots 28A and 29A, 25A and 26A, and 28B and 29B and 25B and 26B.

The foregoing isolating container assembly also provides bumpers, bosses or spacers or the like 34 at opposite end portions of each of the container's side walls and extending beyond the top and the bottom walls of the container shown in FIG. 1. Said bumpers, spacers or bosses 34 are comprised of the opposite rectangular strips 40 of sections 12 and 13 defined by slots 25 and 28 and 26 and 29 and the edges 22 and 23, respectively. Thereby, a right angular boss, buffer or spacer extends the height of the chamber with each leg of such boss, buffer or spacer substantially the same length and width as the other thereof.

Additionally, the construction provides a medial segment 35 of each side section 12 and 13 extended through respective slots 20 and 21 a distance above the base of channels 30B and 30A equal to the height of flanges 31 and 32. Such last distance is the same as the width of strips 40. The sections 35 comprise outer portions of the sections 12 and 13 lying between respective slots 25 and 26 and 28 and 29.

The foregoing assemblage provides trough lips 36 which extend outwardly from the channels 30A and 30B beyond the side walls formed by the side sections 12 and 13, as illustrated in the drawings. The lips 36 comprise the rectangular portions disposed between slots 20 and 21 and respective adjacent edges 22 and 23. Accordingly, there are formed at opposite sides of each, the top and the bottom of the construction, a pair of right angular bosses, bumpers or spacers comprised of medial sections 35 and lips 36, with those at the top disposed transversely of those at the bottom.

By reason of the foregoing construction, and as illustrated in FIG. 2, a fragile article 37, or the like, may be packed within the article isolating container or construction, which is the subject of this invention. The article 37 may then be uniformly suspended, spaced or buffered within a container 38, as shown in FIG. 5, with the shoulders, spacers or bosses 34 and the bosses or spacers 35 and 36 serving to center the article isolating container with respect to the walls of the container 38 and to absorb and dissipate stress and shock.

It is observed that along eight of the twelve compartment corners right angular bosses or spacers are provided. Along each of the remaining four, which are at the top and bottom, a double thickness 39 is provided which comprises the medial portions of the flanges 31 and 32 which are disposed between opposite bosses or spacers 35.

As many substitutions or changes could be made in the above described construction, and as many apparently widely different embodiments of the invention within the scope of the claims could be constructed without departing from the scope and spirit thereof, it is intended that all matter contained in the accompanying specification shall be interpreted as being illustrative and not in a limiting sense.

What is claimed is:

1. An article isolating liner construction for use in a packing container and the like, comprising, a pair of substantially identical, generally channel-shaped members, each of said channel-shaped members including a flat medial section and a pair of end sections disposed on opposite sides of and at right angles to said medial section, each of said end sections being provided with a pair of parallel slots extending normally to the medial

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section associated therewith and from an edge of the end section, said channel-shaped members being interlocked at said slots whereby the surfaces defining the bottoms of the slots in each end section of one channel-shaped member are in abutting engagement with the surfaces defining the bottoms of respective slots of the end sections of the other channel-shaped members, so as to define an enclosed rectilinear container with each of said end sections of one member intersecting both end sections of the other member substantially at right angles, the spaced edge portions of each end section of each member partially defined by a respective slot and the parallel end section edge adjacent thereto projecting outwardly and normally to a respective end section of the other channel-shaped member when said members are interlocked.

2. An article isolating liner construction for use in a packing container and the like as set forth in claim 1, wherein said slots have substantially the same length and such length is greater than one-half the length of an end section as measured along a line parallel to the axes of the slots provided therein, and each of said medial sections is provided with a pair of parallel slots extending substantially perpendicular to the end sections associated therewith, the free end portion of each end section of each channel-shaped member partially defined by the slots in such end section being insertable through a respective one of said slots of the medial section of the other of said channel-shaped members and projecting normally and outwardly from such medial section when said members are interlocked.

3. An article isolating liner construction for use in a packing container and the like as set forth in claim 2, further including flange means extending along the juncture of each end section and medial section of both channel-shaped members, each of said flange means pro-

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jecting from the medial section associated therewith in a direction normal to such medial section and opposite to a respective end section.

4. An article isolating liner construction for use in a packing container and the like as set forth in claim 3, wherein each of said slots provided in said medial sections has a length substantially equal to the distance between said flange means associated with such medial section, and each flange means of each channel-shaped member is receivable in respective slots of the end sections of the other channel-shaped member when said channel-shaped members are interlocked.

5. An article isolating liner construction for use in a packing container and the like as set forth in claim 4, wherein each of said flange means is integrally formed with a respective end section and a respective medial section, said flange means each including an edge portion of a respective end section and a reversely bent elongated panel, each of said edge portions and the elongated panel associated therewith being arranged back-to-back, each of said elongated panels having one edge thereof hingedly connected to a respective one of said medial sections.

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