

April 25, 1944.

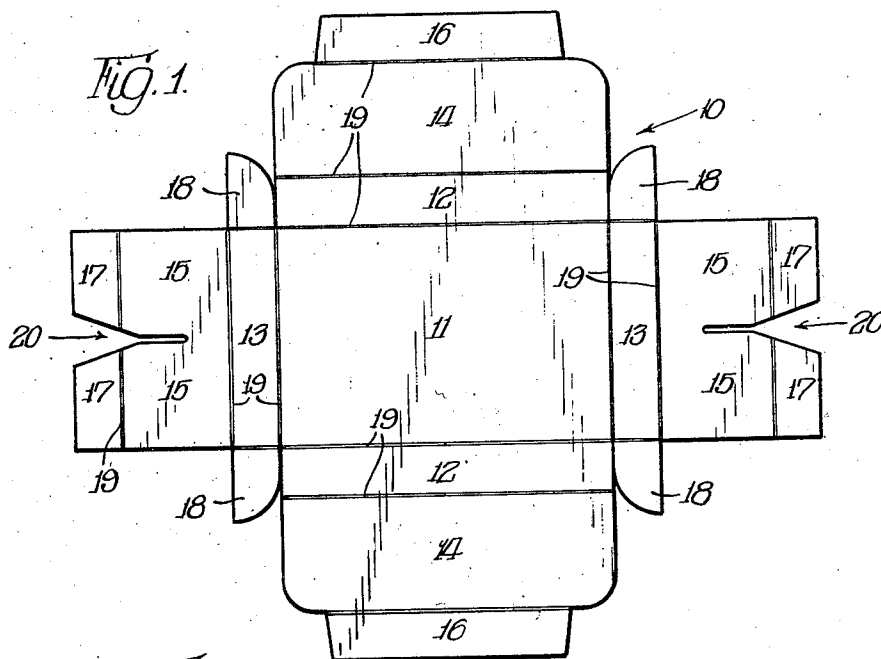
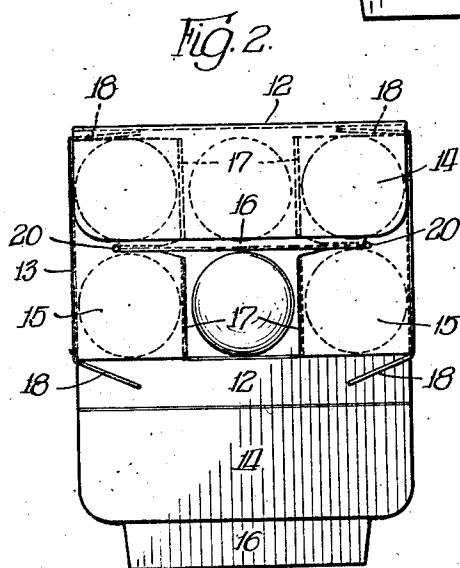
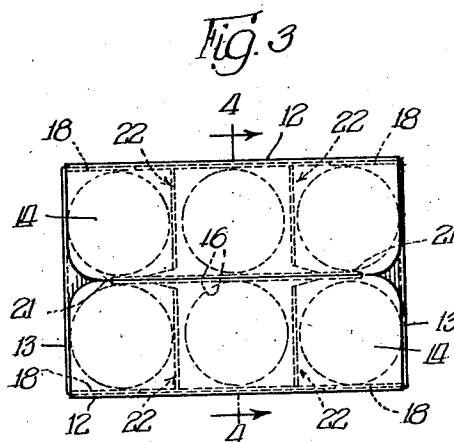
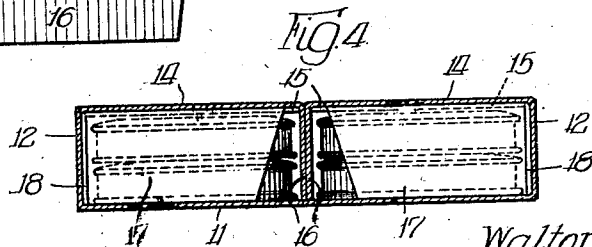
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2,347,183

CONTAINER

Filed Feb. 16, 1942

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 5

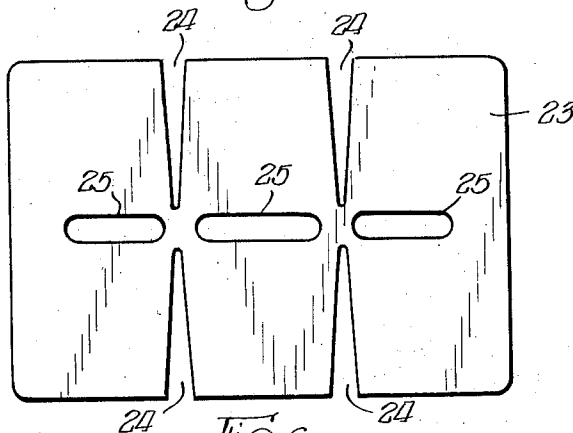


Fig. 6

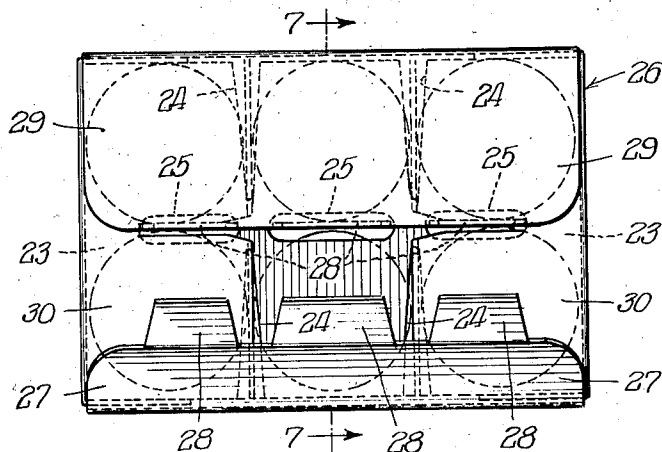
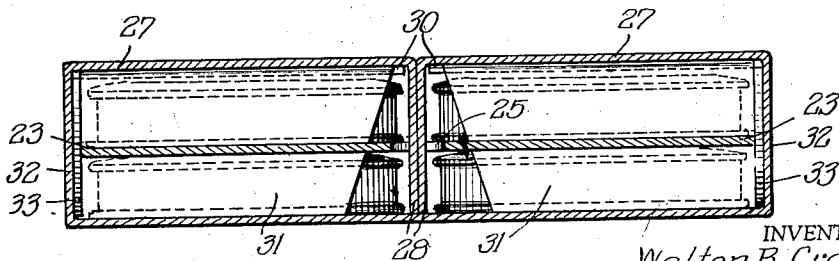


Fig. 7



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UNITED STATES PATENT OFFICE

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CONTAINER

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Application February 16, 1942, Serial No. 431,024

2 Claims. (Cl. 229—28)

This invention relates to improvements in containers. More particularly, it pertains to improvements in shipping containers of the type constructed from single blanks of material having interlocking cover extensions forming cellular structures and possessing other correlated improvements and discoveries which enhance the utility of such containers.

Generally, it is an object of the present invention to provide a container which is simple yet sturdy and durable of construction, economical of manufacture, and which readily and efficiently lends itself to packing, erecting, and storing and which otherwise can easily be manipulated with freedom from structural or other mechanical disadvantages.

More specifically, it is an object of the invention to provide a container struck from a single blank of material interlockingly to be wrapped or erected around its contents.

Yet more specifically, it is an object of the invention to provide a cellular shipping container or carton in which the cell structure is formed from interlocking extensions of the cover assembly.

Another object of the invention is the provision of a container having a top portion which, upon assembly, will form interlocking longitudinal and transverse or cross partitions to provide an inner cellular structure.

A further object of the invention is the provision of a container in which the cover has interlocking extensions by which it is held in spaced protective relationship with respect to its contents thereby permitting the elimination of additional protective elements.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Fig. 1 is a plan view of a preferred form of a shipping container blank adapted for use in accordance with the principles of the present invention;

Fig. 2 is a plan view of the container blank illustrated in Fig. 1 showing the manner of wrap-

ping the same about the container contents and illustrating one portion of the cover in open position;

Fig. 3 is a plan view and illustrates the same container completely assembled and in interlocking position;

Fig. 4 is a transverse sectional view taken along the lines 4—4 of Fig. 3 and looking in the direction of the arrows;

Fig. 5 is a plan view of a pre-cut insert adaptable to function as a cushioning member and cell-dividing element between layers of the container contents;

Fig. 6 is a plan view of a partly assembled container having a modified form of cover extension adaptable for use with inserts such as shown in Fig. 5; and

Fig. 7 is a transverse sectional view taken along the lines 7—7 of Fig. 6 and looking in the direction of the arrows.

Referring more particularly to Fig. 1 of the drawings there is illustrated generally at 10 a container blank which has been stamped out of a single blank of any suitable material in any suitable manner. Preferably, the type of material used may be ordinary chipboard although any other inexpensive or other adaptable material may be used. The center portion 11 of this blank has extensions which form respectively side walls 12 and 13, covers 14 and 15 with cover extensions 16 and 17 and side wall extensions 18. These portions of the blank are defined by score lines 19 which in their preferred form are deeply cut to facilitate rapid assembly. In filling such a container the contents are distributed about the bottom portion 11 and thereupon the extending portions are wrapped or folded around the sides of the contents and in so doing the side walls are formed, whereupon the cover flaps are interlockingly engaged with each other thereby forming longitudinal and transverse partitions within the container to provide a cellular structure. More specifically, this is accomplished by raising in upright position the extensions 13 and inwardly folding against the contents the extensions or flaps 18, thereafter folding the cover portions 15 toward the tops of the contents allowing the extensions 17 to meet and jointly to pass between the contents downwardly until they strike the bottom of the carton. Thereafter the remaining cover portions 14 are folded downwardly and in superposed relationship with respect to the cover portions 15 in a similar manner until the extensions 17 also meet and pass into the bi-

furcated or slotted portions indicated generally at 20 in the cover portions 15.

In Figs. 2, 3 and 4 the development of this assembly can more readily be seen, as well as the resulting interlocking longitudinal and cross partitions which conveniently may be indicated at 21 and 22 respectively in Fig. 4 forming a multicellular structure.

Referring now to Figs. 5, 6 and 7 there is provided a blank 23 having cut-out portions 24 and 25. This blank is conveniently adaptable for use as a cushioning or protective element to place upon layers of materials with which the container is packed. It is obvious that one or more of such layers can be used provided the proper type of container is used in conjunction therewith but for convenience in illustration a container structure somewhat similar to that shown in the preferred illustration is here shown. When using such protective element it is necessary, of course, in order to permit the cover portions to interlock and form the longitudinal and transverse partitions whereby the cellular structure is obtained, properly to cut the extending portions of such covers in a manner whereby they are adapted to be received by the blank 23. This is conveniently illustrated in Fig. 6 wherein the blank 23 is illustrated in dotted line position between layers of the contents of a container 26 and showing a cover portion 27 partly in upraised position with cut extension members 28 about to enter the cut portions 25 of the blank 23. The other cover portion 29 is shown already located in position as also are the lower cover members 30.

Referring to Fig. 7 the above arrangement is more clearly illustrated in final assembled position wherein the extensions 28 on the cover portions 27 are located to form the longitudinal partition passing through the openings 25 and the extensions 31 of the lower cover portions 30 forming transverse partitions. Side walls 32 as well as side wall extensions 33 are also provided of course in this construction. It will be observed that this protective element 23 provides additional completely enclosed cells by acting as a spacing arrangement and this protective element is especially desirable where it is not convenient to otherwise wrap the contents of such containers.

In both containers it will be noted that the longitudinal and transverse partitions hold the cover portions in spaced relation from the top layer of the container contents by virtue of the extensions which are thrust against the bottom portion of the container and in this manner additional protective and cushioning means are provided by the cover.

Containers constructed in accordance with the principles of the present invention have many advantages. For example, such structural features as the central partition which is doubly reinforced and of I-beam-like contour and of sufficient length to space the cover away from the contents of the container. This gives added strength and rigidity as well as added protection and eliminates the use of pads and corrugated materials and effects a great saving in paper alone. Generally, conventional containers such as those provided with telescoping tops and bottoms as well as others often had double wall thicknesses as well as unnecessary extensions which resulted in sticking and gripping and made stacking and storing of such containers cumbersome. These disadvantages are also overcome

and eliminated by providing a smooth surfaced container. It will be seen that the edges of the upper portions of the cover are rounded which permits easy opening by lifting diametrically opposite edges and that the top portions of the cover are spaced marginally inwardly which eliminates contact with adjacent containers and thereby prevents the covers from catching or easily being opened. It is not essential as heretofore to paste strips of binding material completely around the container to hold the cover in place since a small label at the joint of the upper portions of the cover performs the necessary function. All the scores for folding are cut-in scores so as to make folding easy and rapid. The container is a strictly folding and not set-up box and is cut from a single blank of material which eliminates the necessity for providing additional cell structures and the fact that the cover extensions interlockingly provide the desirable transverse and longitudinal partitions which result in the desired cell structure all integrally connected with each other is one of the chief features and advantages of the invention. In addition to the great saving in paper and the fact that the least expensive kind of paperboard, such as chipboard, can so conveniently be used, the entire construction it will be seen makes for economy in manufacture.

With respect to the dividing member which is used to separate the cellular structure into upper and lower compartments it might be observed that such an element need not necessarily take the form of a detached insert. It is within the contemplation of the invention that this member by the adaptation, for example, of an extra marginal portion along one of its uncut edges may conveniently be secured adhesively or in any other suitable manner by fixing the same at the appropriate portion of one of the side walls so that it becomes part of the container blank as a unitary structure. Of course, where it is appropriate to provide a plurality of such superposed cell structures a plurality of such dividing members may similarly be affixed to the container blanks wherever desirable.

The container is particularly advantageous for the packing of fragile materials because of the individual cellular construction which is provided and it is contemplated that all kinds of similar commodities which conveniently can be packed and shipped in such containers may utilize the construction of the present invention. For example, cosmetics packed in brittle containers, such as those illustrated in the drawings, or other porcelain-like materials, not to mention spark plugs, piston rings and the like, may be packed in the instant type of carton.

It will thus be seen that the objects hereinbefore set forth may readily and efficiently be attained and since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, may be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A shipping package constituting a die-cut single foldable blank of material, which comprises a bottom panel defined by score lines, and extensions adjoining said bottom panel, said end extensions having integral end and partial top walls overlying end marginal portions of said bottom panel and transverse partitions defined by score lines, said transverse partitions being separated from each other and said partial top walls being bifurcated centrally and outwardly past a line defining their longitudinal axis and forming slots therein, side extensions joining said bottom panel and said side extensions having integral side walls, top wall portions and longitudinal partitions defined by score lines, said last named top wall portions overlying said partial top walls and extending marginally and arcuately inwardly of the edge of the end walls with said longitudinal partitions abutting each other and being interlockingly and frictionally engaged with said bifurcated partial top walls to hold said

carton in erect and locked position, and a cushioning and spacing element disposed in a plane intermediate the bottom panel and top wall structures and having apertures therein adapted interlockingly to receive and frictionally engage said adjacent longitudinal partitions and said spaced apart transverse partitions.

2. A shipping container, which comprises a bottom portion, a top portion and side walls, said top consisting of a plurality of layers, each of said layers having extension members and forming longitudinal and transverse partitions within said container, and the upper of said layers extending marginally and arcuately inwardly to points defining the beginnings of said longitudinal partitions, and a cushioning and spacing member disposed between the bottom portion and top portion, said member having apertures therein adapted to receive and engage said longitudinal partitions and said spaced apart transverse partitions when the same are in closed position.

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