Aug. 22, 1939. G. K. S. FERGUSON 2,170,714

REINFORCED RECEPTACLE

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Fig. 1.

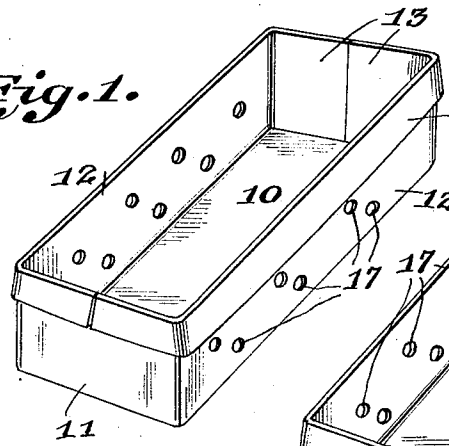


Fig. 2.

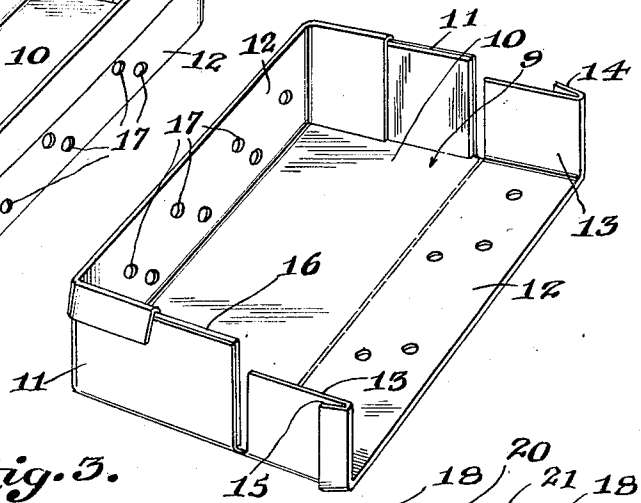


Fig. 3.

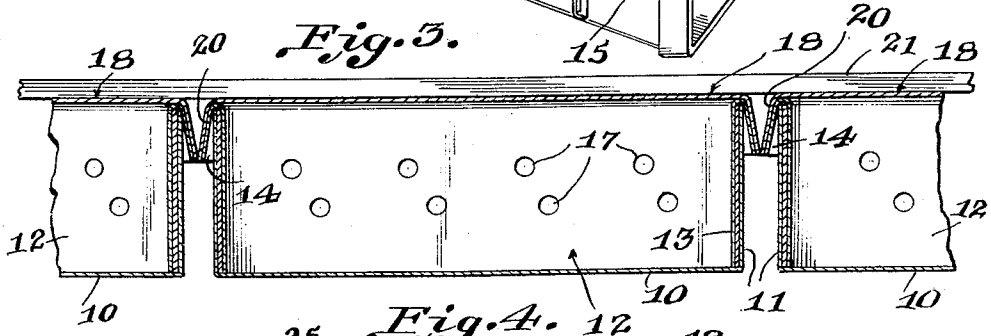
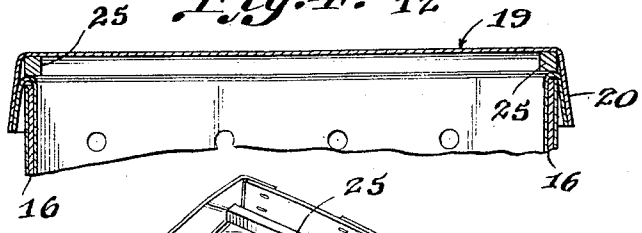


Fig. 4.



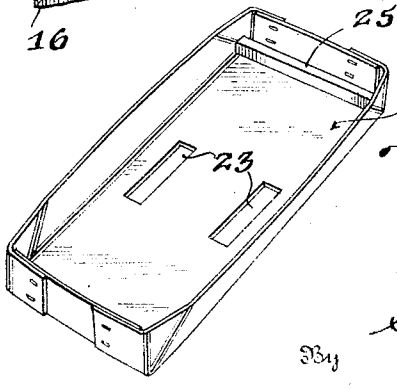


Fig. 5.

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Fig. 6.

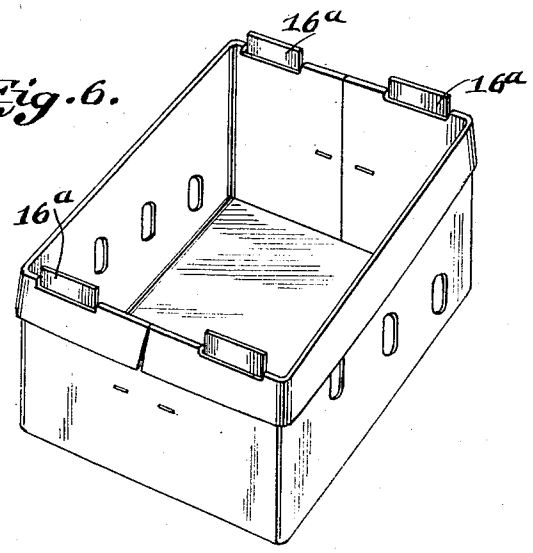


Fig. 7.

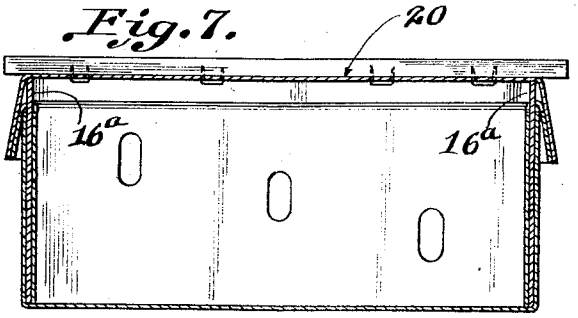
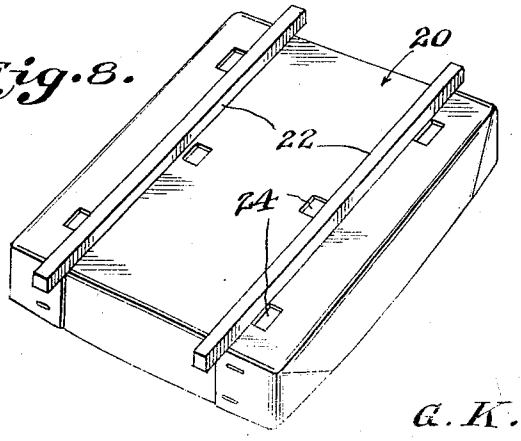


Fig. 8.



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UNITED STATES PATENT OFFICE

2,170,714

REINFORCED RECEPTACLE

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Application August 25, 1937, Serial No. 160,905

2 Claims. (Cl. 229—6)

This invention relates to improvements in receptacles and more particularly to reinforced fiberboard receptacles especially adapted for use in the shipment of vegetables and fruits.

One of the objects of the invention is to provide a receptacle made of sheet material such as fiberboard and so reinforced that it will support the weight of a number of loaded boxes superposed on the same without liability of damaging the fruit or vegetables contained in the box.

A further object is to furnish boxes of the above character which will provide for ventilation of the fruit or vegetables contained in the boxes when loaded in a freight car, truck or the like.

Another object is to supply a novel receptacle which will allow for an over-pack of fruit or vegetables in the container whereby when the cover is removed in market after the fruit or vegetables have been ripened and settled while in transit, the package with the cover removed will give the appearance of and will in fact be a full container.

A still further object is to provide a novel package from a loading-in car or truck viewpoint, and considered primarily from ventilation of the complete load and of the relative packages which make up the units of the load.

To the accomplishment of the foregoing and related ends, the invention consists of the means hereinafter fully described and particularly pointed out in the claims.

The accompanying drawings and the following description set forth in detail certain structures embodying the invention, such disclosed means constituting, however, some of the various structural forms in which the principle of the invention may be used.

In the drawings:

Fig. 1 is a perspective view of the body of a container in accordance with the invention.

Fig. 2 is a similar view with one side of the container open and disclosing reinforcing strips which are arranged in the ends of the body and concealed by the sheet material of which the body is made.

Fig. 3 is a fragmentary vertical sectional view of a number of containers having bodies of the types shown in Figs. 1 and 2, and shown supporting an ordinary spacing strip on which superposed similar receptacles are to rest in a freight car or truck.

Fig. 4 is a longitudinal vertical section view of a fragment of a body of such a receptacle and showing its cover provided with internal cleats which rest on the reinforced ends of the box and hold the cover in an elevated position relatively to the box body to provide for an over-pack.

Fig. 5 is an inverted perspective view of the cover shown in Fig. 4.

Fig. 6 is a perspective view of a modification of the box body in which the reinforcing strips extend above the body to accommodate a cover of the type shown in Fig. 3 and to hold it in elevated position.

Fig. 7 is a longitudinal sectional view of the box shown in Fig. 6 and with the ordinary cover provided with external cleats which serve as spacing means and function to assist in ventilation of a loaded car or truck.

Fig. 8 is a perspective view of the cover of the receptacle shown in Fig. 7.

Referring first to Figs. 1 to 3 inclusive, the body of the receptacle is preferably made of a single piece blank 9 of fiberboard or the like. It is cut and folded to form a bottom 10; end walls 11 and side walls 12; the walls being integral with the bottom.

Each side wall is provided at its ends with flaps 13, each of which is about half the size of one of the end walls so that the flaps will form a double thickness for each end wall when the blank is folded in such manner as to bring the flaps within the end walls.

Each side wall and its flaps are provided with a downwardly and outwardly extending rim 14 and the parts of these rims on the flaps 13 provide grooves 15 to receive the upper edges of the end walls. As fiberboard is relatively stiff, this construction will permit the blank to be set up without the use of extraneous fastening means, but of course, if a stronger construction is desired, such fastening means may be used. As the rims taken together substantially encircle the upper edge portion of the box body, they will function as spacers for adjacent boxes and as handles for the box.

In accordance with the invention each end wall is reinforced by a piece 16 of wood or the like, and each piece is of the same height as the body of the receptacle so that they will bear the weight of loaded boxes superposed thereon. Each reinforcing piece stands between an end wall 11 and corresponding end flaps 13, and as it is thereby concealed, it will not act to chaff or damage fruit or vegetables contained within the box.

The body is preferably provided with ventilating holes 17 in some or all of its walls.

The box body shown in Figs. 1 and 2 is designed for use with covers of the type shown at 18, 19, or 20, as illustrated respectively in Figs. 3, 5 or 8.

In each of these figures the cover has an annular skirt 20 which embraces the rim of the box body and assists in spacing the covered box from adjacent boxes and also forms part of the handles heretofore mentioned.

If such boxes are loaded side by side and in superposed relation, as indicated in Fig. 3, conventional spacing strips 21 may be laid across the tops of several boxes and other similar boxes may then be stacked on these strips and due to the reinforcements 16 of the boxes the weight placed on these strips will be directly borne by the reinforcements, and there will be no liability of a fiberboard receptacle crushing due to the weight of a load stacked on the same.

Instead of using the conventional strips 21 I propose to provide covers as shown in Fig. 8, each provided with a pair of external cleats 22 which are secured to the cover and project outwardly beyond its ends so as to engage the cleats of similar boxes arranged at its ends, to space the boxes and provide for ventilation. Of course, the covers may have ventilating holes as shown respectively at 23 and 24 in Figs. 5 and 8.

The cleats 22 will also serve the same purpose as the strips 21 in supporting the boxes above, and as they will be supported by the reinforcements in the ends of the boxes, there will be no crushing of the lower boxes.

For over-pack purposes, I propose to secure internal cleats 25 in the cover adjacent its ends, as shown in Fig. 4 so that such cleats will be supported by the reinforced ends of the body of the box and will hold the skirted cover in an elevated position relatively to the body of the box. Here again for loading a car or truck, boxes with such covers may be used with the spacing strips 21 of Fig. 3 or the external cleats 22 shown in Fig. 8.

Instead of having the reinforcing strips 16 of the same height as the body of the box, such strips 16a may project above the upper edge of the box, and they will then function to hold any of the covers in an elevated position for over-pack purposes, as clearly indicated in Fig. 7.

Obviously a single reinforcing piece may be used at each end of the box as in Fig. 2 or two such pieces may be used at each end as shown in Fig. 6. Furthermore, these pieces may be secured to the body of the box or they may be loosely arranged therein so that they can be inserted or removed when desired. In an over-packed box, such as shown in Figs. 6 and 7, the reinforcing pieces should be removable so as not to detract from the appearance of the package when the cover has been removed and the fruit or vegetables are placed on display.

Boxes of the above character may be loaded in a car or truck in such manner that each box will be slightly spaced from adjacent boxes to take care of ventilation, refrigeration or the like.

While I have disclosed what I now consider to be preferred embodiments of the invention, I am aware that changes can be made in the details disclosed without departing from the spirit of the invention as expressed in the claims.

What I claim and desire to secure by Letters Patent is:

1. An over-pack receptacle for fruit, vegetables or the like comprising a relatively deep and stiff fiberboard body having opposite plural thickness walls, a cover for the body including a top, and reinforcing pieces having greater compressive strength than fiberboard extending from the bottom of the body through the plural thickness walls to a position above the upper edge of the body and supporting the top of the cover in an elevated position relatively to the upper edge of the body.

2. An over-pack receptacle for fruit, vegetables or the like comprising a relatively deep and stiff fiberboard body having opposite plural thickness walls, a cover for the body including a top, board thin reinforcing pieces having greater compressive strength than fiberboard extending from the bottom of the body through the plural thickness walls to a position above the upper edge of the body and supporting the top of the cover in an elevated position relatively to the upper edge of the body, and cleats secured to the upper surface of the top, arranged immediately above said reinforcing pieces and having their ends projecting outwardly beyond the plural thickness walls of the body.

GEORGE K. S. FERGUSON.