April 10, 1951 S. T. BUTTERFILL 2,548,001

DISPLAY SHIPPING CONTAINER

Filed Jan. 9, 1948 2 Sheets-Sheet 1

FIG. 1

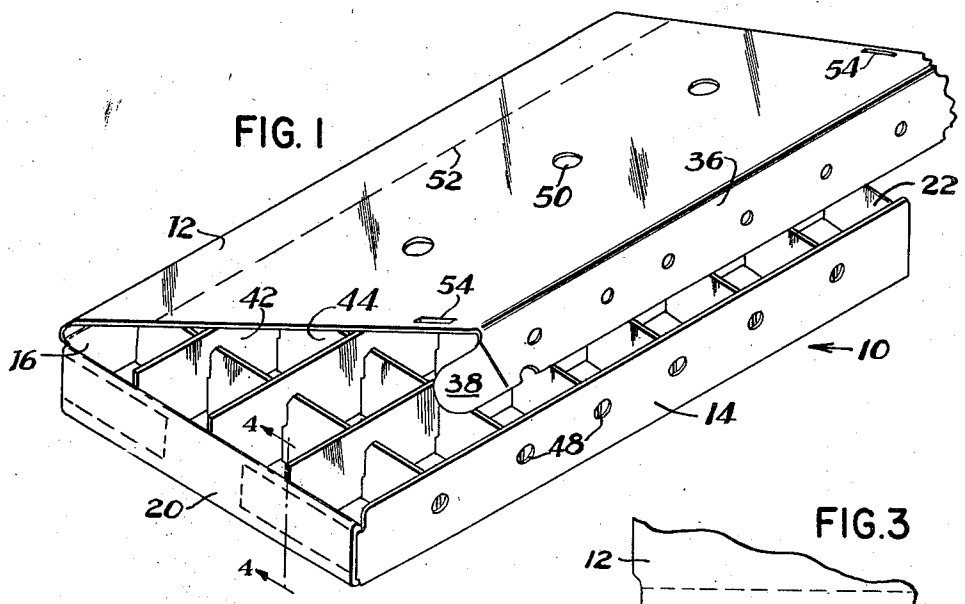


FIG. 2

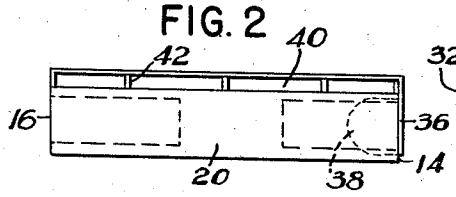
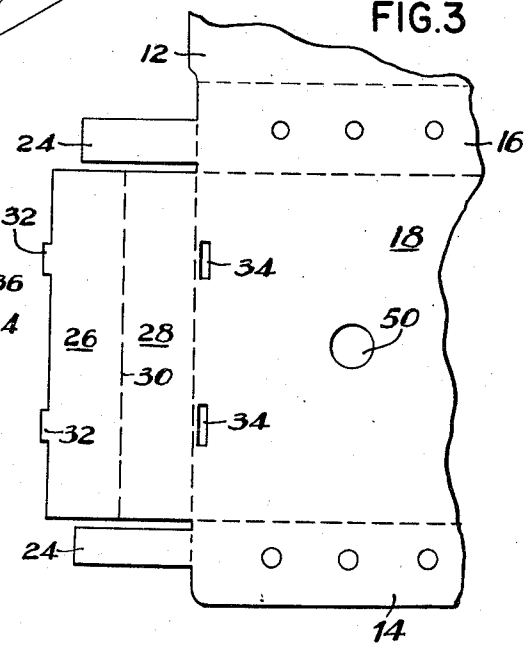


FIG. 3



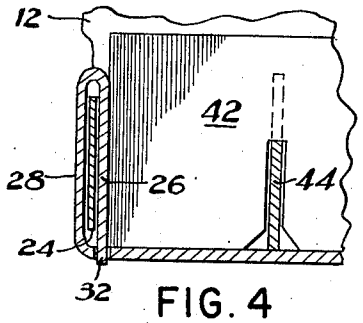


FIG. 4

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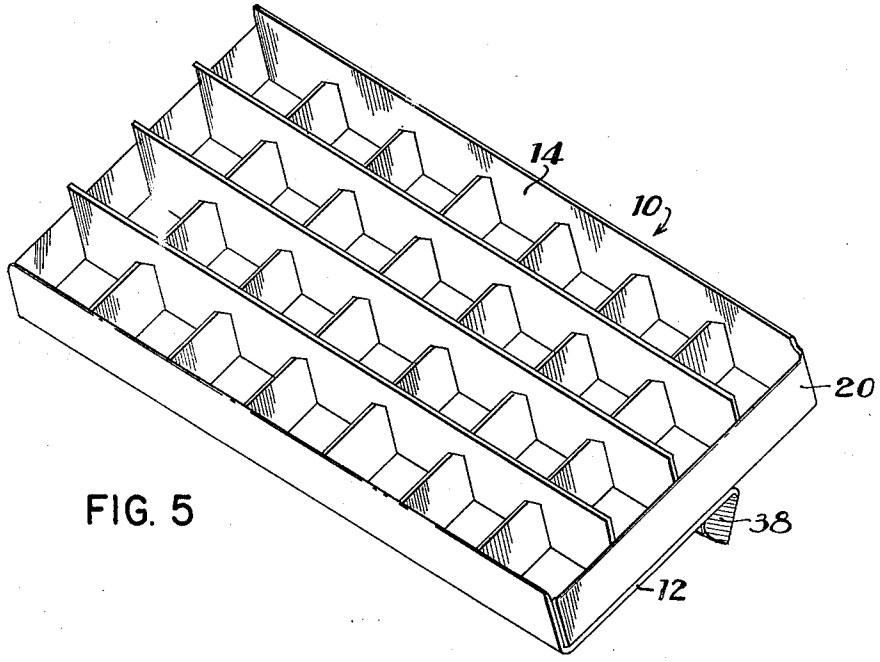
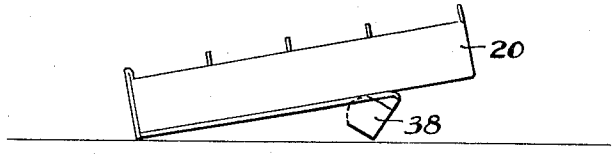


FIG. 5

FIG. 6



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UNITED STATES PATENT OFFICE

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DISPLAY SHIPPING CONTAINER

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Application January 9, 1948, Serial No. 1,400

1 Claim. (Cl. 206—45.21)

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This invention relates to packaging, and has for its principal object to provide a shipping container which is especially adapted for the shipment of fresh fruits, particularly such fruits as are inherently tender or fragile and which must therefore receive a substantial mechanical protection during handling.

It is a further object of the invention to provide such a shipping container or carton which will ensure an adequate supply of fresh air over and around the individual pieces of fruit or the like, because the keeping qualities of such products are dependent upon sufficient ventilation.

Still another object of the invention is to provide a container of the class described which can be fabricated at low cost from such materials as corrugated board, paperboard or the like with a minimum of die-cutting and punching, and with a minimum of waste.

A further object is to provide a container of this class which can be shipped empty in a flat condition, but which is readily assembled to form the set-up container very rapidly and without the use of staples or other fastening devices. Moreover, the particular arrangement to be described enables the hanged lid of the container, after filling, to be firmly secured in closed position without the necessity of applying staples, tape or other fastening means, the fastening elements being formed integrally with the walls of the container.

The above and other objects and advantages of the improved construction will best be understood by referring to the following detailed specification of a preferred embodiment thereof, taken in connection with the appended drawings, in which:

Fig. 1 is an isometric view of an assembled container in accordance with the invention, the lid being open,

Fig. 2 is an end view of the same container, but to a smaller scale, and showing the lid closed and fastened,

Fig. 3 is a plan view of a portion of the blank from which the container is folded,

Fig. 4 is a fragmentary sectional view taken on line 4—4 of Fig. 1, and illustrating the construction of the end wall of the container,

Fig. 5 is an isometric view of the container arranged in a display condition, and

Fig. 6 is an end view of the same.

Referring now to Fig. 1 of the drawings, there is illustrated a shipping box in accordance with the present invention comprising a compartmented tray or base portion 10 and a cover or lid

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12 integrally and hingedly secured thereto. The front wall 14 and rear wall 16 of the tray portion are formed by folding up flaps from the bottom wall 18 of the tray, the end walls 20 and 22 being similarly formed but by a double fold to provide double thicknesses at these points. The manner of construction of the box will be clarified by reference to Fig. 3 of the drawings, illustrating one corner of the blank from which the container is formed. As there shown, the bottom-wall forming panel 18 has front and rear wall forming flaps 14 and 16 separated from panel 18 by scored fold lines shown dashed, and lid 12 is similarly defined by a score line separating it from the rear wall 16.

Each of flaps 14 and 16 has, extending from each end thereof, a tab 24 separated from the main body of the flap as by a score line, and each of the end walls of the assembled container is formed of two panels such as 26 and 28 which are of similar shape and separated by a score line such as 30. In assembling the container, front and rear wall panels 14 and 16 are folded up 90° from the bottom panel 18, and tabs 24 are folded in 90° from the panels 14 and 16. The two-part end panel 16—28 is then turned up 90°, and its portion 26 is folded down around the tabs 24 to secure them, and thereby the front and rear wall panels, in upstanding position. Integral lugs such as shown at 32 on panel 26 may then be fitted into slots 34 in the bottom panel 18 (see Fig. 4), whereby the base or tray portion 10 of the box is securely held in the Fig. 1 position without the use of any staples or other fasteners.

The lid or cover portion 12 is provided with a flap 36 which is bent down from the general plane of the lid so as to overlie the front wall 14 when the box is closed, and at each of its ends flap 36 carries a lug 38 having a rounded end and adapted to be tucked into the space between the separate plies of the end wall structures, as illustrated in Fig. 2, thereby securing the lid firmly but removably in its closed position. It will be observed, particularly from Fig. 2, that the end walls such as wall 20 are somewhat shorter than are the front and rear walls 14 and 16. Thus, there is provided a gap 40 between the closed lid 12 and the tops of the end walls, these gaps at opposite ends of the box providing for the passage of fresh air across and around the contents of the box, thus ensuring adequate ventilation thereof, while protecting the contents against any mechanical injury or contact with external objects.

In order to provide a separate compartment for each of the contained articles or pieces of fruit,

there is provided a "nest" or partition assembly comprising a plurality of spaced lengthwise dividers 42 slotted to receive a plurality of perpendicular dividers 44. The lengthwise dividers are preferably of such height as to support the lid 12 when the latter is in its closed position, that is, about the height of the front wall 14, while the fore and aft dividers 44 are of approximately the height of the end walls 20 and 22. In this way, it is ensured that the ventilating channels or gaps 40 are unobstructed lengthwise of the gap, and an ample circulation of air is assured. For ease in assembly, the slots in these dividers may be chamfered at their open ends, as indicated by numeral 46 in Figs. 1 and 4.

The front and rear walls 14 and 16 are preferably pierced by a plurality of ventilating holes 48, and registering holes are formed in flap 36 which will overlap the front wall when the box is closed. Similarly, the lid 12 and bottom panel 18 may be provided with registering apertures such as 50 (Figs. 1 and 3) for vertical air flow.

A score line 52 may be formed lengthwise of the cover member or lid 12 as shown in Fig. 1, for the purpose of folding such lid rearwardly around the back wall 16 and thence along the bottom 18, where the carton or container is to be used for display. In order to hold the same in an inclined position for this purpose, the flap 36 is preferably folded back about 180° from the position shown in Fig. 1, and lugs 38 are allowed to rest within slots 54 formed in the lid 12. Thus, when the container is supported in the position shown in Figs. 5 and 6, lugs 38 are held against straightening out by the weight of the container and its contents, and these lugs, and the flap 36 connecting the same, support the container in a preferred position for display of the contents.

The feature just described is, of course, optional, since the structure of the container as such is not modified thereby in any way which would interfere with its function as a shipping container alone. The provision of score line 52 and slots 54 does not appreciably increase the cost of the container.

It will be seen from the above that the invention provides a shipping container for fruit which, while low in cost and easy to assemble and use, provides a maximum of mechanical protection for the fruit without interfering with the free flow of an adequate volume of air over and around the contents. However, many changes and modifications in the particular construction chosen for illustration may be made without departing from the spirit of the invention as defined in the appended claim.

What is claimed is:

A shipping and display container comprising a tray portion, a cover panel hinged to one wall of said tray portion, a flap along an opposite edge of said panel and adapted to overlie the opposite wall of said tray when the container is in closed position, lugs extending from each end of said flap, a score line along said cover panel parallel to the hinge line thereof and spaced from the hinged edge a distance approximately equal to the height of the adjacent wall of said tray portion, and slots in said cover panel located to receive the ends of said lugs when said flap and said cover panel are tucked beneath said tray portion, to provide an inclined support for said tray portion.

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