

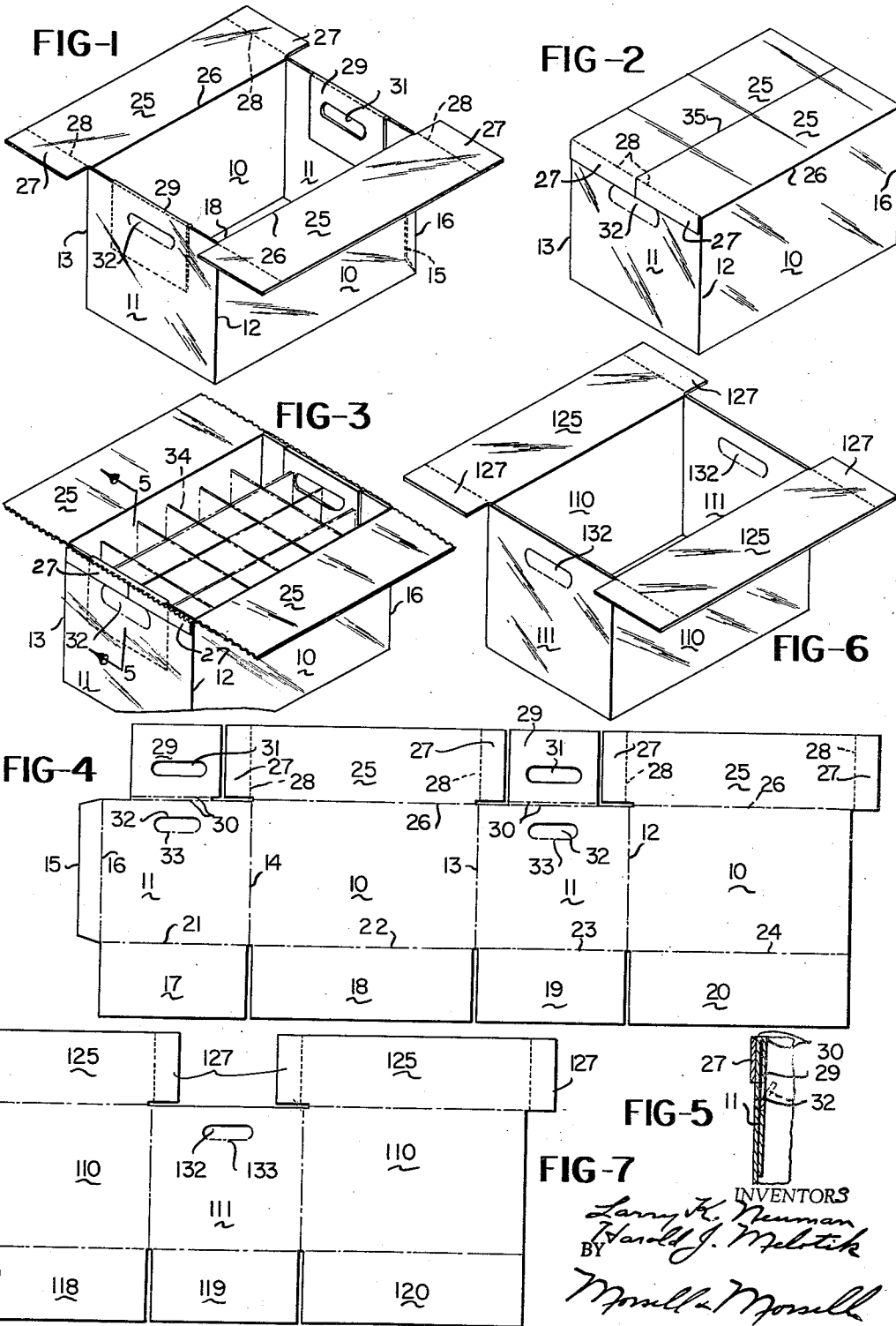
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BOXES WITH A SINGLE PAIR OF CLOSURE FLAPS

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**BOXES WITH A SINGLE PAIR OF  
CLOSURE FLAPS**

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1 Claim. (Cl. 229—38)

This invention relates to improvements in boxes with a single pair of closure flaps, and more particularly to boxes having hand holds and designed to receive returnable beverage containers such as returnable beer bottles.

The conventional slotted type box for returnable beer bottles normally has a pair of end closure flaps and a pair of side closure flaps, the latter being foldable over the end closure flaps in closing the case. This box also has hand holds in the end walls. When these conventional boxes are returned with the empties to the brewery they are put into an automatic machine which removes the empties from the boxes, the latter being then disposed of. During this procedure, the side wall flaps of the box must be folded down, and the end wall flaps must be held down by the workmen until adjacent boxes are in a position to do the holding. This procedure is quite troublesome because manipulation of the end flaps involves the use of extra manpower. While the desirability of eliminating the end flaps has been heretofore recognized, it was heretofore thought that if said end flaps were omitted this type of one-trip box would have insufficient strength near the hand holds.

It is a general object of the present invention, therefore, to provide an improved box of the class described which is so constructed as to make it possible to eliminate the end wall flaps while providing novel means for reinforcing the hand holds, both during original handling with the filled beer bottles as well as during the handling of the boxes with empties, the construction being such that it consumes no more material than the conventional slotted container.

A more specific object of the invention is to provide a construction as above described in which there are extension flanges on the ends of the side wall flaps which are cut from material which would otherwise be present in end wall flaps, said extension flanges being adapted to be secured externally to the box along the upper edges of the end walls in a position to reinforce the hand holds when the box is closed, the said reinforcing flanges being adapted to be severed from the ends of the side wall flaps when the covers are ripped open so as to remain in hand hold reinforcing position.

A further object is to provide, in one form of the invention, additional means connected to the upper edges of the end walls, and folded inwardly of the container, for further reinforcing the hand holds.

Another object of the invention, in addition to the reinforced hand holds and the two-flap return features, is to provide a container which is easier for the customer to open.

With the above and other objects in view, the invention consists of the improved box with a single pair of closure flaps, and all of its parts and combinations, as set forth in the claim, and all equivalents thereof.

In the accompanying drawings, in which the same reference numerals designate the same parts in all of the views:

FIG. 1 is a perspective view of one form of the box prior to loading and prior to closing of the covers;

FIG. 2 is a similar view showing the box after it has been loaded and after the covers have been closed;

FIG. 3 is a similar view showing the same box after the customer has ripped the side closure flaps to open

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position, the dot-and-dash lines indicating the cardboard partitions customarily used in beer boxes;

FIG. 4 is a plan view of a cut and scored blank for the box of FIGS. 1-3;

FIG. 5 is a fragmentary sectional view taken approximately on the line 5-5 of FIG. 3;

FIG. 6 is a perspective view like FIG. 1 showing a modification; and

FIG. 7 is a fragmentary plan view of a cut and scored blank showing how the modification of FIG. 4 is made.

Referring more particularly to the drawings, first to FIGS. 1-5, inclusive, the box includes side walls 10 and end walls 11 foldably connected to each other on lines of scoring 12, 13 and 14, there being an assembly flap 15 foldably connected to one of the end walls 11 on a line of scoring 16. The box is provided with the conventional bottom closure flaps 17, 18, 19 and 20 which are foldable on lines of scoring 21, 22, 23 and 24 to close the bottom of the box in the customary manner, these flaps being suitably secured to each other either by stapling or by an adhesive.

Instead of having similar closure flaps at the top of the box as is customary, the present invention provides a novel arrangement whereby the objects of the present invention are accomplished while using the same amount of material heretofore used in producing the conventional boxes with two pairs of top closure flaps. With the present invention there are side wall closure flaps 25 foldably connected to the upper edges of the side walls 10 on lines of scoring 26. These flaps depart from standard practice by being provided with extension flanges 27 which project from the ends of the flaps 25 and which are foldable on perforated lines 28. As is clear from FIG. 4, these extension flaps come from material which would otherwise be part of end wall flaps. The rest of the material between the extension flaps 27 forms an inner hand hold reinforcing flap 29 which is foldably connected to the upper edge of the adjacent end walls on double lines of scoring 30. Each of these reinforcing flaps is formed with a hand hold 31 positioned for registration with the end wall hand hold 32. The latter usually has the material within the outline left foldably connected on a lower fold line 33 so that the hand hole is normally closed unless the material is pushed inwardly by the hand.

In the modification of FIGS. 6 and 7, all parts are identical and are indicated by the same numerals preceded by the digit "1." In the modification, however, the extra hand hold reinforcing flaps 29 are eliminated, as is clear from FIGS. 6 and 7. This renders this construction somewhat less expensive to assemble.

*Use*

In the use of the invention, referring first to the form of FIGS. 1-5, inclusive, the box is first assembled to the condition shown in FIG. 1 with the hand holding reinforcing flaps 29 folded inwardly into parallelism with the end walls 11. These may be glued or stapled in this position if desired. However, it is less expensive to do no securing and to make use of the standard beer bottle partitions such as the partitions 34 of FIG. 3 to hold the reinforcements 29 in the position of FIG. 1. Thereafter the case is loaded and the side wall flaps 25 are folded to the closing position of FIG. 2 with their longitudinal edges meeting at 35. The extension flanges 27 are folded at right angles on the lines of scoring 28, and are either stapled or adhesively connected in the position of FIG. 2. In this position the lower edges of the extension flanges 27 are in substantial registration with the upper margins of the hand holds so that they serve as a reinforcement for the hand holds during handling.

When the user receives the case of FIG. 2 he inserts his fingers between the edges at 35 and rips the side wall closure flaps 25 open by tearing on the perforated lines 28. This leaves the extension flanges 27 in hand hold reinforcing position, as shown in FIG. 3.

When the case of empties is returned to the brewery, the hand holds are still reinforced and there are no troublesome end wall flaps. The boxes of FIG. 3 with the empties therein may then be fed to the automatic machine for removing the empties and there is no need to have extra manpower to manipulate end wall flaps and get them out of the way, as there are no such flaps. It is to be noted that the box of FIGS. 1-5, inclusive, has the end wall reinforced in the region of the hand holds on both sides of the end walls—that is, the extension flanges 27 reinforce externally above the hand holds, and the reinforcing flaps 29 reinforce internally both above and below the hand holds and on the sides thereof. Thus, a very strong box is provided utilizing substantially the same amount of material as is used in a standard slotted container.

In using the modification of FIG. 7, the procedure is the same except that there is no internal reinforcement such as the reinforcement 29 of FIGS. 1-5, inclusive. The form of the invention of FIG. 7 does, however, have the extension flanges 127 to reinforce the upper edges of the end walls over the hand holds.

From the above it is clear that both forms of the invention can be manufactured at approximately the same cost as a standard slotted container while providing the important advantages of a return box devoid of end flaps, of a box having reinforced hand holds both before and after use by the consumer, and of a box which is easier for the customer to open.

Various changes and modifications may be made without departing from the spirit of the invention, and all of such changes are contemplated as may come within the scope of the claim.

We claim:

In a closed rectangular box of the type having side and end walls with hand holes in upper portions of said end walls and with a pair of side wall flaps which have free edges which are folded toward one another into closing position over the top of the box, said free edges being located intermediate the width of the box and providing an access line for the hand between said edges, the improvement comprising extension flanges projecting from the ends of said side wall flaps and folded at right angles thereto on fold lines which are so positioned over the upper edges of the end walls that said flanges are located in overlapping relationship against the exterior of the end walls above the hand holes, said flanges being devoid of connection with said free edges of the flaps, means securing said flanges to the upper portions of the exterior of the end walls above the hand holes to reinforce the upper margins of the latter, said flanges having adjacent ends over said hand holes which are devoid of connection with said free edges of said flaps and which meet at a line in alignment with said access line of the free edges of the flaps, said fold lines for the extension flanges being perforated lines to provide for opening of the box by inserting the hand between said free edges of said flaps at said access line and by ripping the side wall flaps on said perforated fold lines to leave the extension flanges in reinforcing position on the end walls above the hand holes.

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