PAPERBOARD CARRY TRAY

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Filed Feb. 13, 1963; Ser. No. 258,179

3 Claims. (Cl. 229-32)

This invention relates to a paperboard tray especially intended for use in serving food and, more particularly, to a tray of this type which is shipped and stored in flat folded condition but is adapted to be quickly set up for use as required.

My prior Patent No. 2,794,585, dated June 4, 1957, shows a tray of this general nature, usually referred to as a carry tray, wherein bands formed at the corners of the tray may be bent inward to form loops for retaining containers such as paper cups or tumblers. The present invention relates to improvements in carry trays for this general purpose.

In the carry tray of the present invention a pair of infolded panels are provided medially of each end wall of the tray and are so arranged that upon setting up the tray the medial panel formations automatically set up to form a horizontal panel which is spaced substantially above the bottom of the tray and which is disposed medially of the end wall of the tray with its side edges spaced from the side walls of the tray to form recesses for securely receiving paper cups or like containers.

The horizontal portion of this medial structure is continuous and relatively rigid whereby containers are securely and firmly held against displacement. While the corner-engaging edges of the platform are shown arcuate herein, such edges may be of any desired shape to accommodate containers of various shapes.

The container retaining structure of the present invention is of relatively simple construction and lends itself readily to mass fabrication. Furthermore, the arrangement is such that the container retaining portions set up for use automatically upon setting up the carry tray proper from flat folded condition.

A further advantage of the construction of the present invention resides in the fact that the elements for retaining containers in the corners of the carry tray are separable and independent of the corner tabs and general corner construction of the tray whereby such corner construction is not weakened by the presence of such retainers. Furthermore, since the horizontally extending panel which forms the principal element of the retainer is continuous and unsecured or unsecured it forms a relatively rigid container support or retainer.

A single complete and specific embodiment of the principles of the present invention is set forth herein by way of example but is to be understood that various modifications may be made without departing from the spirit of the invention, the scope of which is limited only as defined in the appended claims.

In the drawings:

FIG. 1 shows one end of a paperboard blank for forming one form of the tray of the present invention, the blank being symmetrical end for end;

FIG. 2 is a fragmentary perspective view of the interior of one end of the tray formed from the blank of FIG. 1;

FIG. 3 is a fragmentary transverse cross sectional view taken approximately on the line III-III of FIG. 2; and

FIG. 4 is a longitudinal cross sectional view taken approximately on the line IV-IV of FIG. 2.

Like characters of reference denote like parts throughout the several figures of the drawing. The blank illustrated fragmentarily in FIG. 1 comprises a central bottom wall forming portion 10, side walls 11 and end walls 12, the side and end walls 11 and 12 joining the bottom wall 10 along score lines designated 13 and 14, respectively. The tray is of the Beers automatic infold type wherein grasping two opposed walls of a folded tray and moving them outwardly and upwardly sets up the entire tray for use. The end walls 12 have score lines at 16 which define triangular corner tabs 17. The side walls 11 have end tabs 18 joined to the side walls along score lines 19.

The present invention is concerned particularly with means at one or both ends of a tray for holding paper cups, glasses or similar containers in the corners of the tray. In accordance with the present invention such means are arranged to set up for use automatically during the aforesaid operation wherein the tray itself is set up for a flat folded condition.

Referring to FIG. 1, two opposed die cuts are formed in the blank at one or both ends, each die cut comprising a straight line portion 20 and an arcuate portion 21 with oblique connecting and terminal die cuts 22 and 23. The opposed die cuts are connected by score lines 25, 26 and 27. The die cuts and score lines 26 through 27 form panels 28 and 29 and are complete in and of themselves for the purpose of the present invention but may be provided with arcuate score lines 30 and die cuts 31 for the ancillary purpose of conveniently accommodating containers of various sizes.

In folding and gluing the blank of FIG. 1 the end walls 12 are folded inwardly over the bottom wall 10 and at the same time the panels 28 likewise folded inwardly toward the center of the tray and against bottom wall 10, moving in parallelism with the end walls. During this movement each panel 29 moves upwardly and inwardly and then downwardly to overlie the panel 28 while remaining horizontal and uncreased, that is, panel 29 maintains parallelism with bottom wall 10. The tabs 17 are then folded upwardly and outwardly about score lines 16.

The tabs 18 of side walls 11 are bent inwardly toward the center of the tray to overlie the side walls 11. Glue is then applied to the exposed upper triangular surfaces of tabs 17 and side walls 11 are folded inwardly over the bottom wall 10 whereby the tabs 18 are pressed against the glued surfaces of tabs 17 and adhere thereto. The tray of the present invention is thus complete in flat folded form and when the tray is set up for use by grasping opposite walls thereof and moving them upwardly and outwardly the walls assume the position illustrated in FIG. 2 and the container supports 28, 29 automatically assume the position shown in FIGS. 2 and 3.

FIG. 3 shows a relatively small container A held between the arcuate edge of panel 29 and side wall 11 while a larger container B is shown with the tabs formed by score line 30 and die cuts 31 bent downwardly to accommodate the same.

1 claim:

1. In a receptacle, a paperboard body comprising a rectangular bottom wall having side walls projecting upwardly from its four edges, tab means connecting the side walls at the four corners of said receptacle, two opposite side walls of said receptacle each having score lines extending from the lower outer corners thereof diagonally upwardly and toward the centers of said opposite side walls, said four side walls of said container being foldable inwardly with the remaining two side walls overlying said two opposite side walls so that the receptacle may be set up for use by moving said two opposite side walls upwardly and outwardly, a pair of opposed die cuts at each of said opposite side walls, said die cuts being spaced in the direction of extension of said opposite side walls and extending across the juncture of said opposite side walls with said bottom wall, each
3. In a receptacle, a paperboard body comprising a rectangular bottom wall having side walls projecting upwardly from its four edges, tab means connecting the side walls at the four corners of said receptacle, two opposite side walls of said receptacle each having score lines extending from the lower outer corners thereof diagonally upwardly and toward the centers of said opposite side walls, said four side walls of said container being foldable inwardly with the remaining two side walls overlying said two opposite side walls so that the receptacle may be set up for use by moving said two opposite side walls upwardly and outwardly, a pair of opposed die cuts at each of said opposite side walls, said die cuts being spaced in the direction of extent of said opposite side walls and extending across the juncture of said opposite side walls with said bottom wall, each pair of die cuts having score lines extending parallel to the direction of extent of said other side walls between the ends of said die cuts, one of said score lines being along said bottom wall and the other along said side wall, and a medial parallel score line extending between said score lines of said receptacle each having score lines extending from the lower outer corners thereof diagonally upwardly and toward the centers of said opposite side walls, means, said four side walls of said container being foldable inwardly with the opposed side walls overlying the other two side walls so that the receptacle may be set up for use by moving said other two side walls upwardly and outwardly, a pair of opposed die cuts at each of said other two side walls, said die cuts being spaced in the direction of extent of said other side walls and extending across the juncture of said other side walls with said bottom wall, each pair of die cuts having score lines extending parallel to the direction of extent of said other side walls between the ends of said die cuts, one of said score lines being along said bottom wall and the other along said side wall, and a medial parallel score line extending between said score lines of said receptacle each having score lines extending from the lower outer corners thereof diagonally upwardly and toward the centers of said opposite side walls.

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