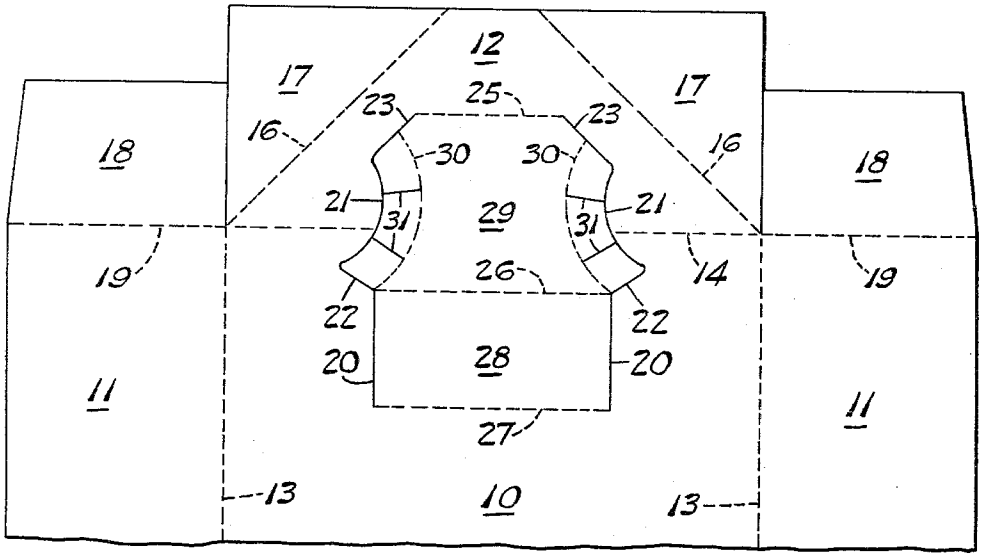
March 23, 1965 K. E. WAGNER 3,174,674

PAPERBOARD CARRY TRAY

Filed Feb. 13, 1963

Fig. 1.



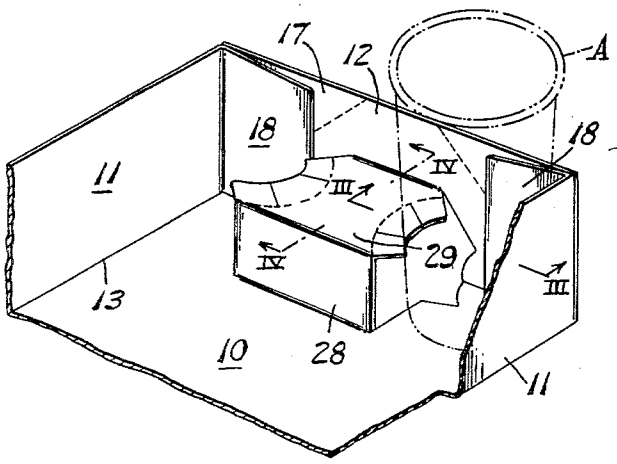


Fig. 2.

Fig. 3.

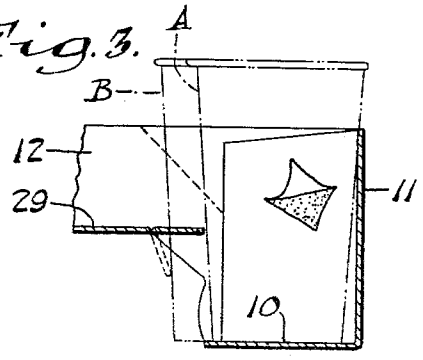
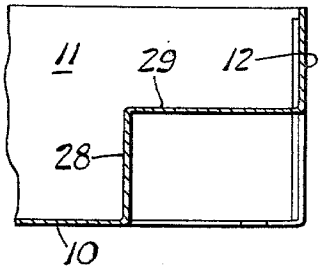


Fig. 4.



INVENTOR.
KENNETH E. WAGNER
BY
Christel & Bean
ATTORNEYS.

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3,174,674

PAPERBOARD CARRY TRAY

Kenneth E. Wagner, Williamsville, N.Y., assignor to Victor Wagner & Son, Inc., Buffalo, N.Y.

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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 inwardly 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 container-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 separate 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 unscored or uncreased 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 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 as 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 **20** 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.

I 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 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 opposite 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 die cuts, said medial score line being spaced from one of the score lines at the ends of the die cuts the same distance as the other end score line is spaced from the score line joining said side wall with said bottom wall.

2. 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 opposite 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 die cuts, said medial score line being spaced from one of the score lines at the ends of the die cuts the same distance as the other end score line is spaced from the score line joining said side wall with said bottom wall, said medial score line and said side wall score line defining a panel and the die cuts at opposite ends of said panel being inwardly arcuate to define container retaining compartments when said receptacle is set up.

3. In a receptacle, a paperboard body comprising a rectangular bottom wall having side walls projecting upwardly from its four edges, 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, 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 each pair of die cuts to form a pair of panels, said medial score line being spaced from one of the score lines at the ends of the die cuts the same distance as the other end score line is spaced from the score line joining said side wall with said bottom wall, said medial score line and said side wall score line defining a panel adapted to be automatically positioned horizontally above said bottom wall when the receptacle is set up to define corner compartments in said receptacle.

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FRANKLIN T. GARRETT, *Primary Examiner.*

EARLE J. DRUMMOND. *Examiner.*