

Aug. 17, 1965

A. BROKOP

3,201,024

COLLAPSIBLE SERVICE TRAY

Filed May 28, 1963

2 Sheets-Sheet 1

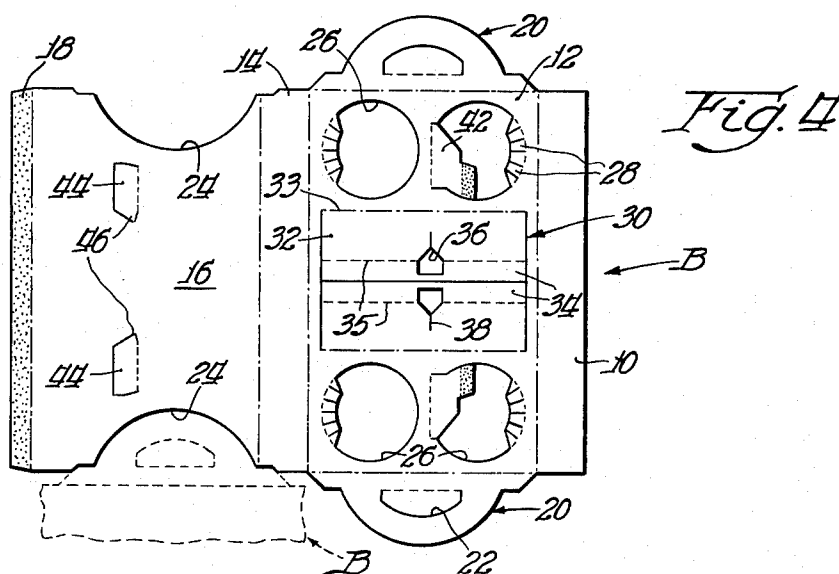


Fig. 3

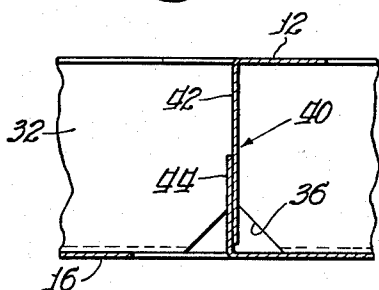


Fig. 2

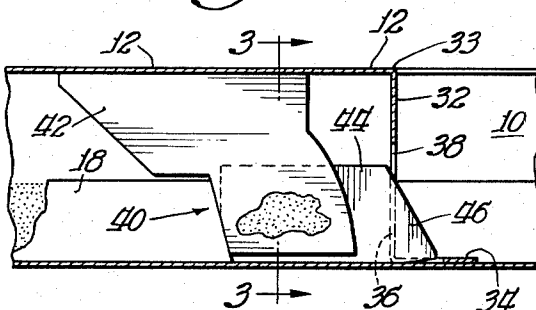
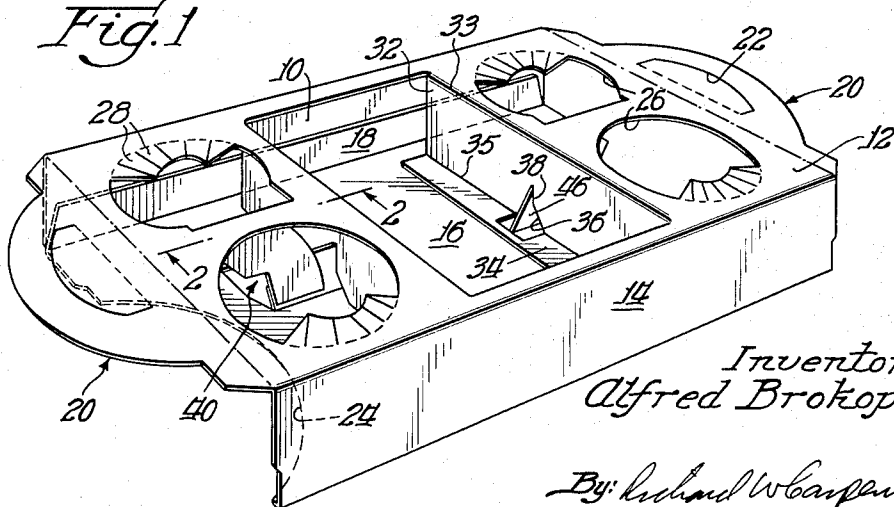


Fig. 1



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2 Sheets-Sheet 2

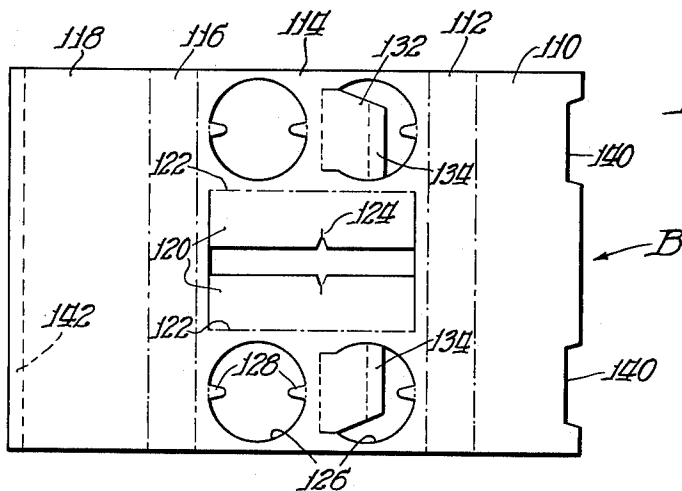


Fig. 8

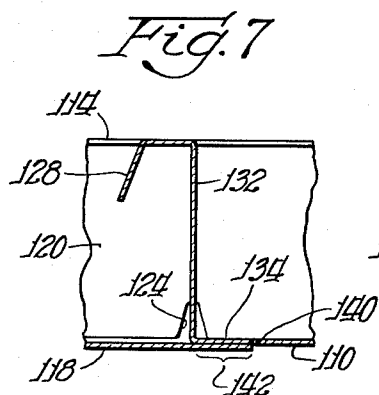


Fig. 7

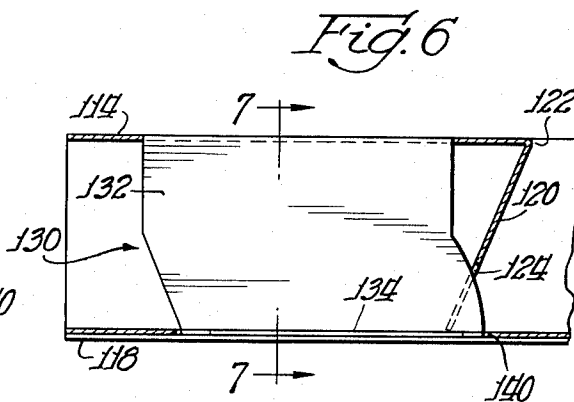


Fig. 6

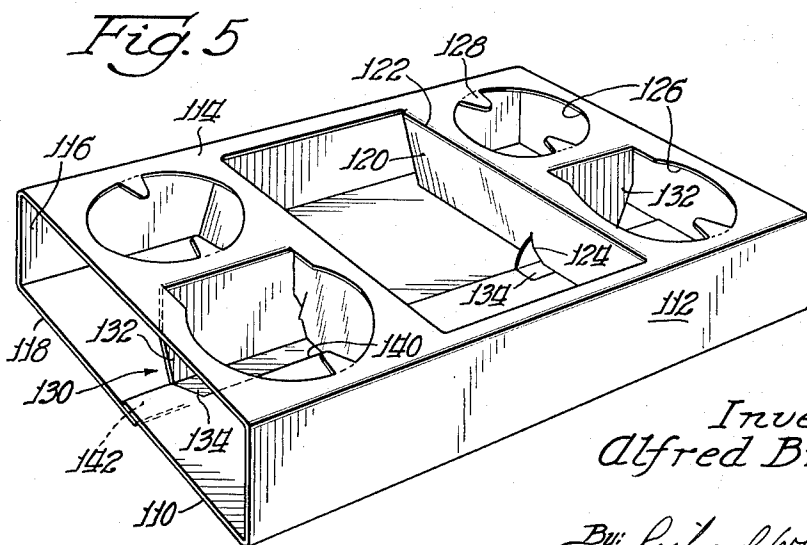


Fig. 5

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1

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COLLAPSIBLE SERVICE TRAY

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1 Claim. (Cl. 229—30)

This invention relates to service trays, and more particularly to collapsible trays formed of paperboard for use in the handling and serving of food and beverages at "Drive-In" service establishments such as outdoor theaters, refreshment stands, and the like.

This invention comprehends an improvement on the type of service tray disclosed in United States Letters Patent Nos. 2,640,589 and 3,001,684.

It is an object of this invention to provide, in a tray of the type described, a construction which affords a greater degree of rigidity than that of the tray disclosed in Patent No. 2,640,589, and which at the same time utilizes appreciably less stock than the tray disclosed in Patent No. 3,001,684.

A more specific object of the invention is the provision, in a tray of the type described, of a longitudinally extending partition hingedly interconnecting the top and bottom walls of the tray and which is formed from stock cut entirely from at least one of the top and bottom walls.

Another specific object of the invention is the provision, in a tray of the type described, of a pair of handles hinged to opposite ends of the top wall of the tray and cut from the stock of the bottom wall of an adjacent tray blank so as to require no additional material.

These and other objects of the invention will be apparent from an examination of the following description and drawings, wherein:

FIGURE 1 is a perspective view of a service tray embodying features of the invention;

FIGURE 2 is a longitudinal, vertical section taken on line 2—2 of FIGURE 1;

FIGURE 3 is a transverse, vertical section taken on line 3—3 of FIGURE 2;

FIGURE 4 is a plan view of the blank from which the carton of the previous views may be formed; and

FIGURES 5—8 are similar to FIGURES 1—4 but illustrate a modified form of the invention.

It will be understood that certain elements have been intentionally omitted from certain views where they are believed to be illustrated to better advantage in other views.

Referring now to the drawing for a better understanding of the invention, it will be seen that a preferred form of the invention is illustrated in FIGURES 1 through 4.

As best seen in FIGURE 1 the tray in the erected condition, is generally tubular in shape having end portions E adapted to receive and retain beverage containers and a recessed well or center portion C adapted to receive and retain articles of food such as sandwiches. The tray is collapsible and may be formed from a unitary blank B of suitable sheet material, such as foldable paperboard, as illustrated in FIGURE 4 of the drawings.

In looking at the plan view of the blank B it will be seen that the blank is divided by a series of parallel score lines into the following panels arranged in adjacent relationship, from right to left: first side wall panel 10, top wall panel 12, second side wall panel 14, bottom wall panel 16, and glue flap or panel 18. The glue flap is disposed in overlapped relation and adhesively secured to a first side wall panel 10 to form a tubular or sleeve like construction which may be readily assembled to the erected position shown in FIGURE 1.

Hinged to and projecting outwardly from the end edges of top wall panel 12 are a pair of handles

2

20 having central, finger receiving openings 22. As best seen in FIGURE 4 the blank B of the tray is formed and arranged so that, when adjacent blanks are nested, the portion of the stock required for a handle of one tray may be cut from the stock used to form the bottom wall of the tray to be formed from an adjacent blank. By this arrangement it is possible to nest adjacent blanks on a single sheet or web of paperboard and thereby provide handles without requiring any additional stock.

It will be seen that the top wall of the tray is interrupted and extends only over the end portions E of the bottom wall to provide a means for retaining cups or similar containers for holding beverages. The top wall panel 12 is provided with apertures 26 for receiving the cups which rest on the upper surface of bottom wall panel 16. If desired the portions of the top wall, at the edges of apertures 26, may be provided with a plurality of hinged fingers projecting into apertures 26 to facilitate in retaining the cups within the apertures.

Central portion C of the tray is defined by a pair of longitudinally spaced, transversely extending center partitions 30. Each of the partitions 30 includes a vertical portion 32, hinged at its upper edge to the adjacent inner edge of a top wall panel section along a transverse hinge line 33 and having a relatively thin horizontally disposed strip or foot 34 hinged to its lower edge along a parallel hinge line 35.

The vertical portion 32 of each transverse partition may be provided with a centrally disposed opening 36 communicating with a vertical or longitudinally extending slit 38, the purpose of which is hereinafter described.

As best seen in FIGURES 1 and 2 the tray is provided at each end thereof with a relatively short longitudinally extending partition indicated generally at 40 comprising a pair of sections 42 and 44 which are cut from and hinged to the top and bottom wall panels, respectively, and which are disposed to project inwardly toward each other in overlapped relation where they are adhesively secured together to form the partition 40. It will be understood that, by forming the partition from sections cut from the top and bottom wall panels of the blank, it is possible to achieve this rigid construction of the tray disclosed in Patent No. 3,001,684, and still use a blank of the same length as that disclosed in Patent No. 2,640,589.

Referring to FIGURE 1 of the drawings, it will be seen that the longitudinal partitions sections 42 and 44 may be offset longitudinally of the carton with respect to each other, so that the innermost end 46 of bottom section 44 projects into the center or well of the carton where it can be positioned within opening 36 and slit 38 of related center transverse partition 30, when the carton is in erected condition, to afford additional rigidity for the carton tray.

Referring now to FIGURES 5 through 8 of the drawings it will be seen that a modified form of the invention is shown. In this embodiment, as in the case of the previously described embodiment, the end portions of the tray are provided with longitudinally extending partitions hingedly attached to the top and bottom walls of the tray and which are formed from stock taken entirely from at least one of the top and bottom wall panels. In this embodiment the stock is taken entirely from the top wall of the tray; whereas, in the previously described embodiment a portion of stock was taken from the top wall and the other portion of the stock was taken from the bottom wall panel of the tray.

In the arrangement of the blank illustrated in FIGURE 8 it will be seen that the blank is divided by a plurality of parallel score lines into the following panels, from right to left: first bottom wall panel 110, first side wall panel

3

112, top wall panel 114, second side wall panel 116, and second bottom wall panel 118.

In this arrangement the bottom wall is comprised of a pair of panels or sections which have overlapped portions secured to each other to form a tubular or sleeve-like construction similar to that of the previously described embodiment.

This tray is also divided into end and center portions with the center portion being defined by a pair of transverse partitions 120 extending vertically downward from and hinged to inner edges of the top wall panel 110. Transverse partitions 120 are each provided at their lower edge with a centrally disposed vertically arranged slit 124, the purpose of which is hereinafter described. Also, top wall panel 110 may be provided at each end thereof with a plurality of cup receiving holes 126 having retaining fingers 128 projecting thereinto.

In this embodiment, as in the previous embodiment, the end portions of the tray are provided with longitudinally extending vertical partitions 130 hingedly attached between the top and bottom wall panels of the tray, and cut entirely from the stock of the top wall panel of the tray.

Each partition 130 includes a vertically extending portion 132 hingedly attached to the top wall of the tray and have hingedly attached to its lower edge a horizontally extending strip or foot 134.

As previously mentioned, in this embodiment the bottom wall comprises a pair of bottom wall panels having inner ends disposed in overlapped relation and adhesively secured to each other. As best seen in FIGURE 8 the upper or second bottom panel 110 is provided inwardly adjacent each end thereof with a notch or cutout portion 140 disposed directly under the foot 134 of the adjacent longitudinal partition 130 when the tray is in erected condition.

By this construction it is possible to apply one line of glue to the edge of the lower bottom wall panel 118, so that when the bottom panels are disposed in overlapped relation the glue will secure the panels to each other all the way along the adjacent edges of the respective bottom wall panels except in the recessed or notched areas, and in these areas the glue will serve to secure the feet 134 of the longitudinal partitions to the outer or lower bottom wall panel 118. Thus, one gluing operation is all that is required to serve two purposes: first to secure the bottom wall panels to each other in overlapped relation, and second to secure the longitudinal partition feet to the bottom wall of the tray.

I claim:

A collapsible, compartmented, open-ended tubular, service tray, comprising:

4

- (a) a pair of spaced, parallel top and bottom wall panels;
- (b) a pair of spaced, parallel side wall panels hingedly attached to and extending between said top and bottom wall panels to form a tubular structure;
- (c) said top wall panel including a pair of coplanar sections located at opposite ends of the tray to provide double-wall, cup-receiving end sections and having their adjacent inner edges spaced from each other to provide therebetween a single-wall, food-receiving, center section;
- (d) a pair of transverse partitions hinged to the inner edges of respective top wall panel sections and extending toward the bottom wall panel to define the ends of said center wall section;
- (e) said end sections each including a central, longitudinal partition hingedly attached to and extending vertically between the top and bottom wall panels;
- (f) said longitudinal partition including a medial leg portion and a lower foot portion;
- (g) the bottom wall panel including a pair of generally coplanar panel sections having inner edge portions overlapping medially of the tray;
- (h) the marginal edge portion of the uppermost bottom wall panel section being cut away locally and the foot portions of said longitudinal partitions being disposed to fit in the cut away portions to overlap the marginal edge portion of the lowermost bottom wall panel section;
- (i) a single strip of adhesive material between the marginal edge portion of the lowermost bottom wall panel section, and the marginal edge portion of the uppermost bottom wall panel section and the foot portions of the longitudinal partitions operable to secure them together.

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