

July 7, 1964

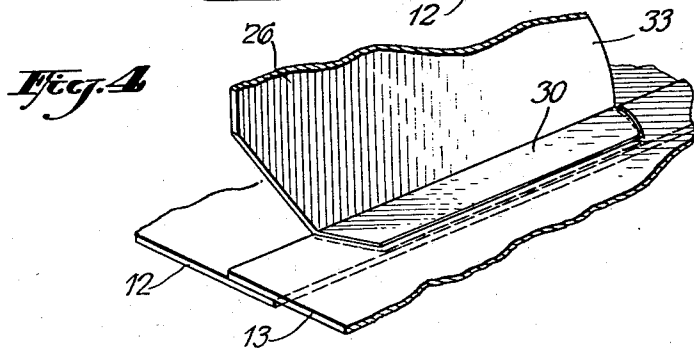
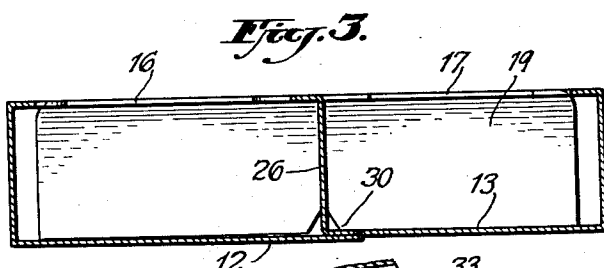
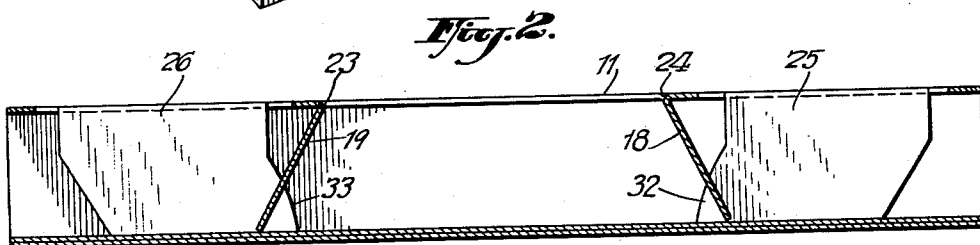
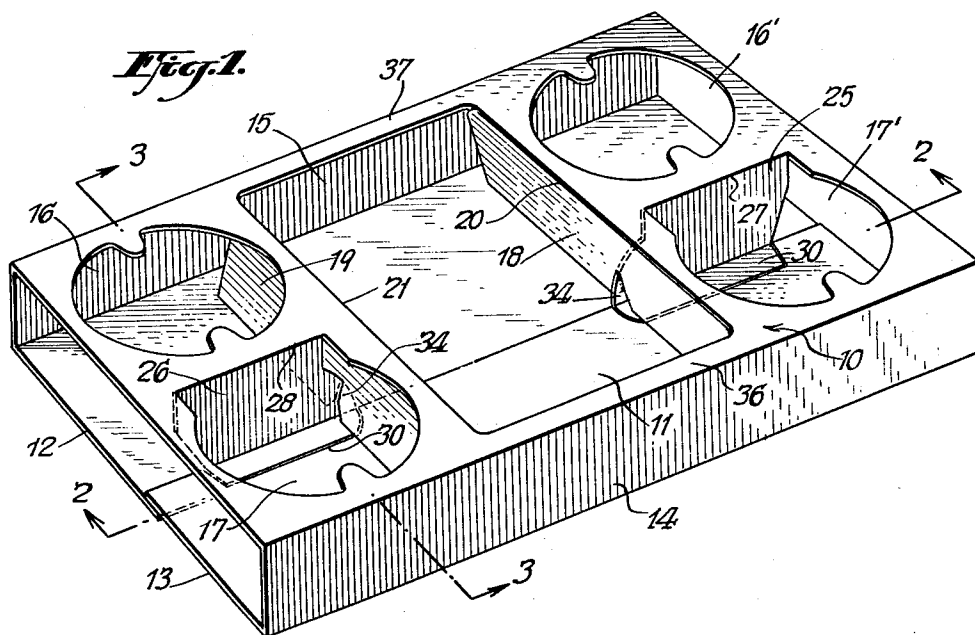
F. A. WENZEL

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SERVICE TRAY

Filed April 1, 1963

2 Sheets-Sheet 1



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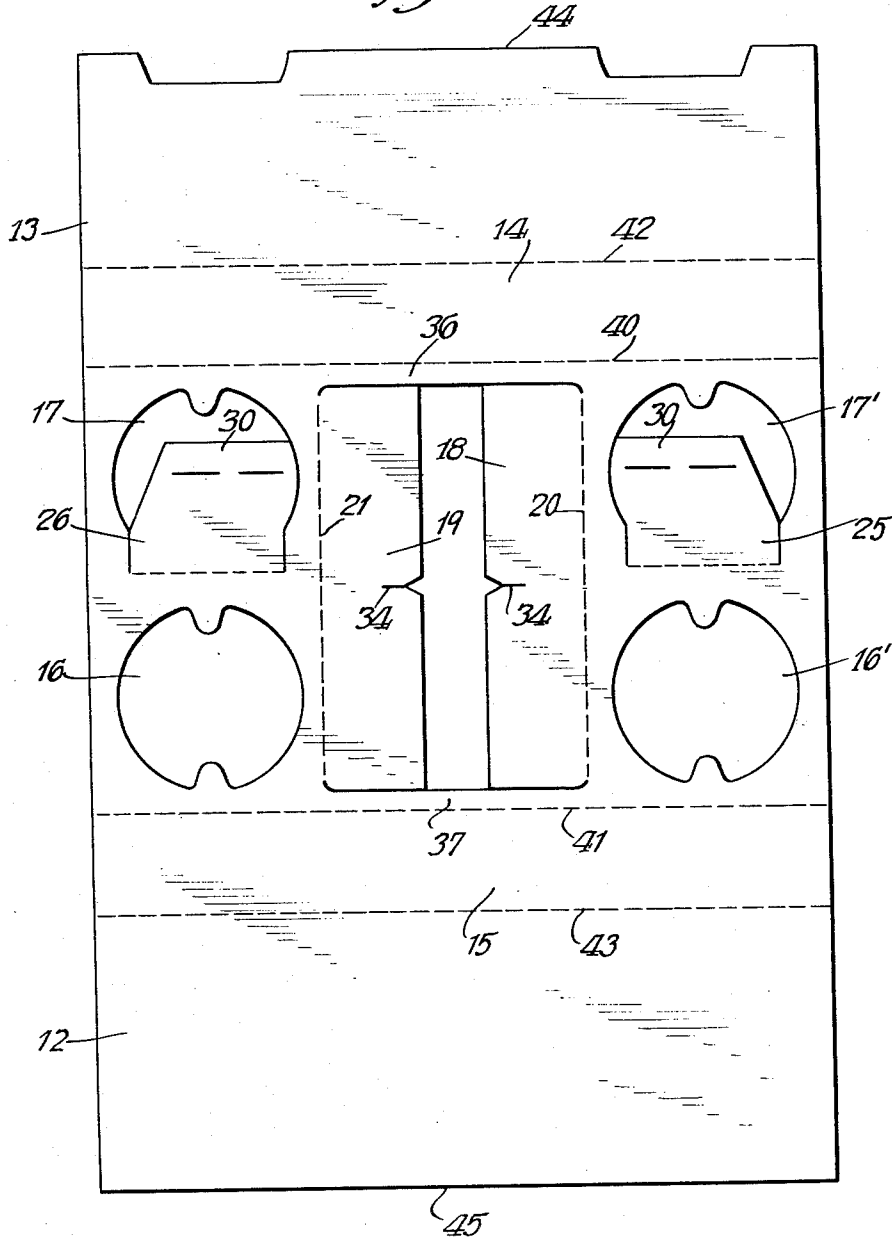
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SERVICE TRAY

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Fig. 5.



1

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3,140,035 SERVICE TRAY

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This invention relates to improvements in service trays of types adapted to be used for carrying food and beverages.

More particularly the invention concerns improvements in the general types of service trays such for example as are disclosed in my U.S. Patent No. 3,001,684. Such trays provide a central compartment of generally rectangular form and adapted to receive items such as sandwiches or other food, whereas at the ends of the tray, pluralities of apertures are provided for receiving beverage containers or the like. Such trays are formed with elongated side walls and a bottom wall, and also with transverse partitions which define the sandwich compartment and separate same from the areas for receiving the beverage containers. The trays are designed to be sold in collapsed condition and when same are about to be put into use, same are designed so that such transverse partitions may be swung downwardly from the plane of the top of the tray to positions between the side walls thereof and there become locked to provide means which will hold the tray firmly in set-up condition ready for use.

Since such trays are often used in dispensing food and beverages from establishments such as roadside stands, it is highly important that same be quite inexpensive because of competitive conditions and inasmuch as such trays are generally discarded after a single instance of use.

The present invention involves improvements in the form of the blank of paperboard or other sheet material which is to form the tray and such as will afford a considerable saving in the area of material required, particularly as regards the features involving the locking of the transverse partitions when the tray is set up for use. That is, in accordance with the invention, these features are so provided that use may be made of material which is cut out in forming certain of the apertures for the beverage containers in lieu of using extension flap portions for that purpose of the form shown in the above-mentioned patent.

The above-mentioned transverse partitions in accordance with the invention may be very quickly swung downwardly to their locking positions and so that they extend diagonally downwardly and outwardly of the sandwich compartment, whereby such compartment will be in a form having a wider area at the bottom and better adapted to retain the food items or material therein and at the same time affording added strength to the set-up assembly.

Various further and more specific objects, features and advantages of the invention will appear from the description given below, taken in connection with the accompanying drawings, illustrating by way of example a preferred form of the invention.

In the drawings:

FIG. 1 is a perspective view of a tray embodying the invention in its preferred form;

FIG. 2 is a vertical sectional view taken substantially along line 2—2 of FIG. 1;

FIG. 3 is a transverse sectional view taken substantially along line 3—3 of FIG. 1;

FIG. 4 is a perspective view showing various details of the construction; and

FIG. 5 is a plan view of a die-cut blank for forming the tray as shown in FIG. 1.

Referring now to the drawings in further detail, the

tray as shown in FIG. 1, comprises a top area 10, having a central opening, preferably rectangular, to provide for a compartment 11, in which items such as sandwiches or other food may be deposited through such opening to rest upon bottom portions as at 12 and 13 of the tray, which is provided with side walls 14 and 15. The top area of the tray is also formed with apertures as at 16, 17, 16' and 17' providing for cavities for receiving beverage containers.

The sides of the sandwich compartment are defined by transverse wall portions as at 18, 19, which are cut from the top area of the tray but are still connected thereto along hinge lines as at 20, 21, formed by cutting part way through the paperboard or other sheet material of which the tray is made and so that, upon setting up the tray from a collapsed condition to the position shown in FIG. 1, these partitions 18 and 19 may be swung downwardly and outwardly about said hinge lines to the positions best shown in FIG. 2. Here it will be noted that these transverse partitions have been swung past a vertical plane to over-center positions so that they are inclined downwardly and outwardly, thus providing, as shown, a compartment which is wider at the bottom than at the top. Thus also inwardly-directed ridges as at 23, 24 are provided at the top, which are effective in preventing dislodgment of items of food or food material from the compartment.

In order to provide means for locking the transverse partitions 18 and 19 at the positions shown in FIG. 2, portions of the sheet material may be struck from the areas of the beverage container apertures, for example apertures 17 and 17', to provide vertically-extending stays as at 25 and 26, which are connected to the top area of the tray along hinge lines as at 27, 28. When the tray is in set-up condition, these stays extend vertically downwardly as shown in FIGS. 2 to 4, and the lower edges thereof are formed with footing portions as at 30 which are adhered to one of the tray bottom portions 12 along the area where the bottom portions 12 and 13 are adhered together in overlapped relation in forming the bottom of the tray. The bottom portion 13 may be cut away at areas corresponding to the footings 30 (see FIG. 4) so that the latter may be adhered directly to the bottom portion 12, thus permitting the tray to be shipped in compact flattened condition without an extra layer of the sheet material at the footings 30 which would be required if the lapped portion of the bottom area 13 were not thus cut away.

Each of the stay areas 25, 26 at the ends thereof which are adjacent the transverse partitions 18 and 19 respectively, may be formed with protruding portions as at 32, 33, which are adapted to be received in slits as at 34 formed at the mid-portions of the partitions 18 and 19. Thus when the portions 32 and 33 are engaged by the slits of the partitions 18 and 19, the parts will come into an effectively locked relationship, thereby securely retaining the tray in its set-up condition against collapse.

As best shown in FIG. 1, the top surface 10 of the tray preferably has portions as at 36, 37 which extend horizontally along the sides of the sandwich or food opening 11, thereby lending considerable rigidity and strength to the side walls at the mid-portions of the tray. At the same time, by cutting the transverse partitions 18 and 19 so that they will be of a length making possible the remaining strips 36, 37, the result will be that the ends of the transverse partitions are spaced somewhat from the side walls of the tray, thereby more readily permitting these partitions to be swung down to their locking positions, while the tray is still being set up from its collapsed condition and without binding or jamming of the parts at the ends of the partitions.

The die-cut blank of paperboard or other sheet material from which the tray may be made, is shown in FIG. 5, with its various parts designated by the same reference characters as in FIGS. 1-4. It will be understood that in shaping the tray, this blank is folded along score lines as at 40, 41 which separate the top surface from the side walls and along score lines as at 42, 43 which separate the side walls from the bottom wall portions 12 and 13, these score lines being preferably formed by cutting the paperboard part way through. Then the upper edge 44 of the blank as shown in FIG. 5, is adhered in overlapping relation to the lower edge 45, here shown, to complete the bottom of the tray. Pluralities of the trays may be shipped in collapsed flat condition with the various portions collapsed for example about the score lines 41 and 42.

As contrasted with the form of blank shown in FIG. 5, the corresponding blank used for making the tray in the above-mentioned patent, is provided with extension flaps which would extend for example a considerable distance above the top edge, such as at 44, of the blank shown in FIG. 5, such extension flaps serving in lieu of the stay portions 25, 26 of the present invention, to provide means for the locking engagement with the slits in the transverse partitions 18, 19. By cutting the stays 25, 26, from the beverage-container apertures in accordance with the present invention, however, a saving amounting to nearly ten percent in the required area of sheet material may be made, and at the same time a more advantageous locating of the transverse partitions is made possible, as above explained.

Although a certain particular embodiment of the invention is herein disclosed for purposes of explanation, further modifications thereof, after study of this specification, will be apparent to those skilled in the art to which the invention pertains. Reference should accordingly be had to the appended claims in determining the scope of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A collapsible service tray comprised of an area of sheet material shaped to provide to top surface, side walls and bottom wall portions connected thereto along score lines, whereby the tray may be collapsed to substantially flattened condition or erected to operative condition with the top surface spaced from the bottom wall portions, said top surface having a generally rectangular opening at its midportion to there provide a compartment for receiving food items, and each of the end portions respectively of the top surface being formed with at least one opening for receiving a beverage container, partitions extending transversely of the side walls of the tray and each being struck from the rectangular opening but connected by score lines to the top surface whereby when the tray is collapsed such partitions may be located in the plane of the top surface and when the tray is erected, same may

be swung downwardly about the latter score lines and thence somewhat outwardly of the food compartment whereby the compartment is wider at the bottom than at the top, and, at the top, ridges are provided at the latter score lines directed inwardly of the compartment, stay portions comprising material struck from one of said beverage container openings at each end of the tray and extending from score lines at the top surface generally vertically downward when the tray is erected and in planes transverse to said partitions, the lower ends of said stays being adhered to the bottom portions of the tray, said partitions each being slotted to engage said stays in substantial locking relation when the tray is erected, such locking relationship being effective to retain the tray in erected condition.

2. A collapsible service tray comprised of an area of sheet material shaped to provide a top surface, side walls and bottom wall portions connected thereto along score lines, whereby the tray may be collapsed to substantially flattened condition or erected to operative condition with the top surface spaced from the bottom wall portions, said top surface having a generally rectangular opening at its midportion to there provide a compartment for receiving food items, portions of said top surface along the sides thereof extending along the sides of said opening for lending rigidity to the side walls at the mid-portion of the tray, and each of the end portions respectively of the top surface being formed with at least one opening for receiving a beverage container, partitions extending transversely of the side walls of the tray and each being struck from the rectangular opening but connected by score lines to the top surface whereby when the tray is collapsed such partitions may be located in the plane of the top surface and when the tray is erected, same may be swung downwardly about the latter score lines and thence somewhat outwardly of the food compartment whereby the compartment is wider at the bottom than at the top, and, at the top, ridges are provided at the latter score lines directed inwardly of the compartment, stay portions comprising material struck from one of said beverage container openings at each end of the tray and extending from score lines at the top surface generally vertically downward when the tray is erected and in planes transverse to said partitions, the lower ends of said stays being secured to the bottom portions of the tray, said partitions each being slotted to engage said stays in substantial locking relation when the tray is erected, such locking relationship being effective to retain the tray in erected condition.

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