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FOLDABLE VENDING TRAY FOR ICE CREAM CUPS AND THE LIKE
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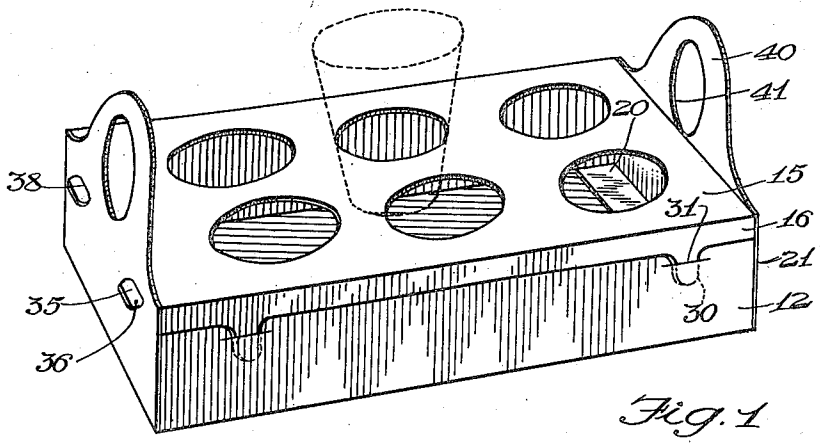


Fig. 1

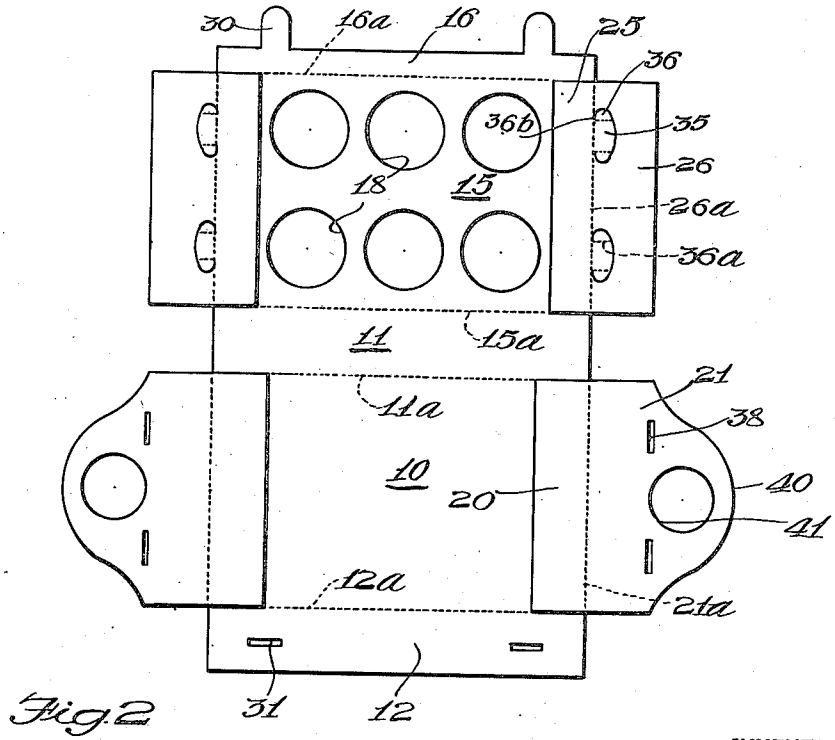


Fig. 2

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FOLDABLE VENDING TRAY FOR ICE-CREAM CUPS AND THE LIKE

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3 Claims. (Cl. 224—45)

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My invention relates to foldable, portable trays, especially adapted for use in handling articles such as ice cream cups, cups of soda water, and the like.

Stores selling refreshments along the highways are frequently called upon to serve ice cream cups or beverages to a number of persons driving up in an automobile, who prefer to be served without getting out; hence, if several trips between the store counter and the automobile are to be avoided a tray must be used capable of carrying enough cups for serving all of the party at one time.

The principal object of my invention is therefore to provide a simple, inexpensive, foldable vending tray, made of cardboard or similar material and adapted to be stacked in the flat or collapsed form in a box or package from which units of the vending trays may be taken as required and set up into usable form.

It is a further object of the invention to design a tray of the above character which may be formed from pieces or sheets of inexpensive cardboard, popularly known as chipboard.

Another object of the invention is to construct the novel tray in a manner to be well reinforced, in order that it may retain its shape after it is set up.

A further object of my invention is to provide a vending tray of the character described which is so cheap to manufacture that it may be thrown away after having once been used, or given away for advertising purposes or future use.

With the above objects in view, and any others which may suggest themselves from the description to follow, a better understanding of the invention may be had by reference to the accompanying drawing, in which—

Fig. 1 is a perspective view of the tray after it has been set up; and

Fig. 2 is a plan view of the tray in the developed form.

In accordance with the foregoing, specific reference to the drawing indicates the base of the tray to be a section 10 of rectangular form, the same being extended at the rear with a section 11 and at the front with a section 12, the sections 11 and 12 being foldable on lines 11*a* and 12*a* to vertical position when the tray is to be set up.

The tray is further formed with a section 15 similar to the section 10 and extending from the section 11. The section 15, which is cut with a plurality of circular openings 18, is foldable forwardly from the section 11 on a line 15*a*. The section 15 is further extended with a final section 16 which is foldable downwardly from the section 16 on the line 16*a* when the tray is being set up.

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A strip 20 is applied over the section 10 at each side with a permanent adhesive; and each strip 20 is extended outwardly with a wing 21 which is foldable upwardly from the related strip 20 on a line 21*a*.

The section 15 receives a strip 25 at each side the same being secured by a permanent adhesive and extended outwardly with a wing 26, the latter being foldable downwardly on a line 26*a* from the related strip 25 when the tray is being set up.

The section 16 is extended at laterally spaced points with a pair of tongues 30; and the section 12 is formed with slots 31 at points corresponding with the positions of the tongues 30.

Each of the wings 26 is cut to include a pair of tongues 35 projecting outwardly from the strip 25. Each tongue 35 is formed with a pair of terminal tabs 36 which are foldable relative to the tongue on lines 36*a*. Also, the tabs 36 are separated from the strips 25 by incisions 36*b*.

The wings 21 are of the same width as the wings 26 and formed with a pair of slots 38 at points spaced similarly to the tongues 35. Beyond the slots 38 the wings 21 are extended with crowned formations 40 which contain large circular openings 41.

The section 10 may be considered as the base of the tray, and in order to set the same up the sections 11 and 12 are bent to upstanding positions on the lines 11*a* and 12*a*, respectively. The section 15 is now folded forwardly on the line 15*a* to become the top of the tray, and the terminal section 16 is folded down to overlap the folded section 12, using the latter as a support. In addition, the tongues 30 are inserted into the slots 31, as shown in Fig. 1, to secure the section 16 against accidental displacement.

The tray is now set up in box form, and its sides remain to be assembled. Accordingly, the wings 26 are folded down to meet the base 10 of the tray and form supports for the top 15 thereof. The downfolding action of the wings 26 does not apply to the tongues 35, however, which extend outwardly from the strips 25 after the wings 26 have been folded down. Thus, when the wings 21 are swung upwardly toward a vertical position, they will intercept the projecting tongues 35. The slots 38 are only of a width suitable to receive the body portions 35 of these tongues but not the tab extensions 36. Therefore, these are momentarily folded upon the said body portions 35 and

passed through the slots 38 as the wings 21 complete their movements to the vertical position. Since the tongues 35 are now fully projected from the wings 21, their tabs 36 may be unfolded to extend endwise from the slots 38, so that the tongues are now fully on the outside of the wings 21, as shown in Fig. 1, and lock the wings to the top of the tray.

The tray is now completely set up; and the openings 18 in its top 15 are suitable for the insertion of the paper cups in which ice cream or soda water is sold and served. Whether the cups fit in the openings 18 or rest on the bottom of the tray, they will remain substantially upright and resist upsetting tendencies as the tray is carried.

It will now be apparent that the novel tray has a number of meritorious features. First, it is formed to receive the cups to a depth where they receive ample lateral support in the top 15, so that the cups are maintained in the upstanding position as they are carried. Further, the strips 20 and 25 lend the base and top sections of the tray double thickness and strength, so as to counteract collapsing or sagging tendencies in these sections from the weight of the filled cups or the possible awkward handling of the tray. Further, the assembly of the wings 26 and 21 in doubled formation imparts a firm vertical support for the top of the tray and its filled contents, such support being supplemented by the front and rear walls 12—11 of the tray. Further, the crowned sections 40, made with the openings 41, serve as carrying handles for the tray in case it is not supported from underneath. Further, the tongues 35 procure locking joints with the terminal wings 21 at four points, insuring the permanent joining of the side portions of the tray against accidental displacement. A tray is thus had which is originally in a flat form to be stacked compactly in quantities, yet foldable in a manner to produce a box or carton which is compact, strong, and neat in appearance. It goes without saying that the tray, despite its structural and perforated formations, affords ample space for identifying or advertising data; and the limited amount of material necessary for production of the tray not only enables it to be made from the small, or waste, sections of stock, but also involves a negligible cost when the trays are given away or discarded subsequent to use.

While I have described the invention along specific lines, various minor changes or refinements may be made therein without departing from its principle. One such change may be the formation of the side wings 21 and 26 integrally with the sections 10 and 15, respectively, where the material of the tray is sufficiently stiff or sturdy to hold its shape without the doubling reinforcing strips 20 and 25. I reserve the right to employ the modification just described and any other changes and refinements which may come within the scope and spirit of the appended claims.

I claim:

1. A foldable vending tray comprising a base section of substantially rectangular form, back and front sections extending from the base section for forming back and front walls, a top section extended from the back section to form a top, a terminal section extended from the top section and adapted to overlap the upstanding front section, means for closing the sides of the folded structure, and means for locking said terminal section to said front section, said closing means comprising strips adhesively secured over the side portions of the top section and extended outwardly with wings which form a portion of the sides when said top section has assumed the form of a top, and other strips adhesively secured over the side portions of the base section, such other strips being extended outwardly with wings which form other portions of the sides and lie in overlapped relation to the first-mentioned wings, said first-mentioned strips being extended outwardly with tongues, the second-mentioned wings being formed with slots narrower than said tongues and positioned to register with the same when the second-mentioned wings are in the folded position, the tongues being undercut from the sides to permit their side portions to be folded over their medial portions and render the tongues sufficiently narrow to pass through said slots, said side portions then being unfolded to form locking tabs for said second-mentioned wings.

2. A foldable vending tray comprising a base section of substantially rectangular form, back and front sections extending from the base section for forming back and front walls, a top section extended from the back section to form a top, a terminal section extended from the top section and adapted to overlap the upstanding front section, means for closing the sides of the folded structure, and means for locking said terminal section to said front section, said closing means comprising wings extending from the sides of the top section to form a side of the tray when the latter is in the form of a top, other wings extending laterally from the base section and adapted to overlap the first-mentioned wings, said other wings being extended outwardly with narrower portions, and the latter being formed with openings to lend them the form of handles when said other wings are in the folded position.

3. A foldable vending tray comprising in combination a base section of rectangular form, front and back sections extending from opposite sides of the base section and foldable to a vertical position to define opposite front and back walls, a top section extending from the upper edge of the back wall section and forming a top wall for the tray, a terminal section extending from the forward edge of the top section lying outside of the front wall, wings extending from opposite ends of both the top and bottom walls, said wings when folded upwardly forming the side walls of the tray, the wings of the top wall lying in overlapping relation with the wings of the bottom, the wings of the bottom wall having spaced openings therein, the wings of the top section having spaced tabs formed therefrom, said tabs fitting the openings in the bottom wings when the box is set up, said top having a plurality of article receiving openings formed therein.

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