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3,401,828

BAKERY TRAY OR THE LIKE

Filed May 19, 1967

2 Sheets-Sheet 1

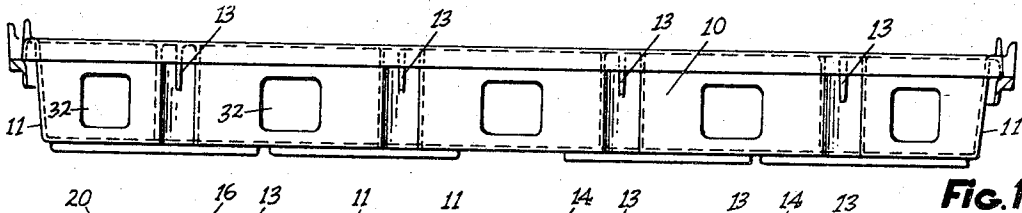


Fig. 1

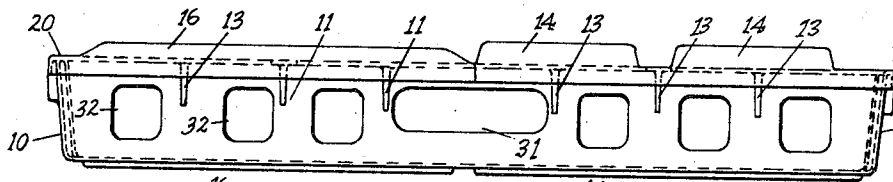


Fig. 2

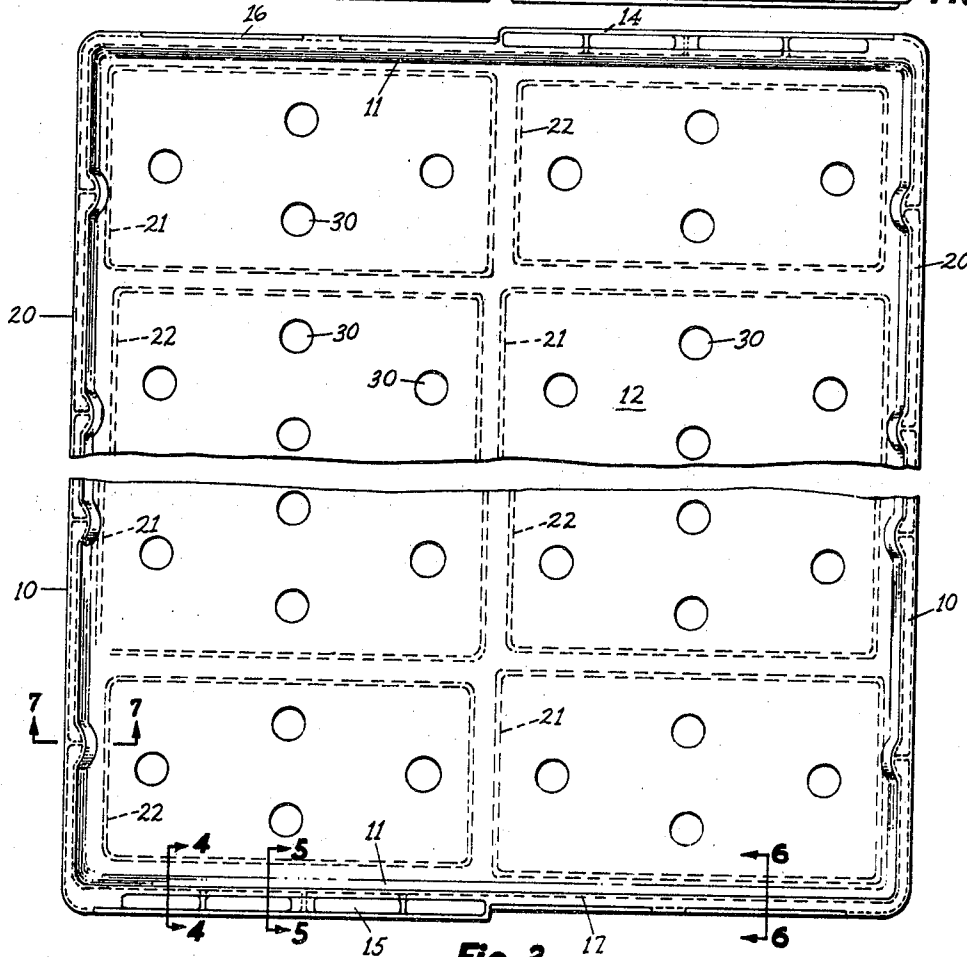


Fig. 3

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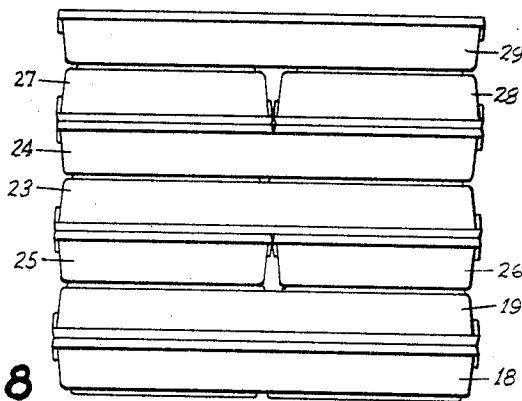
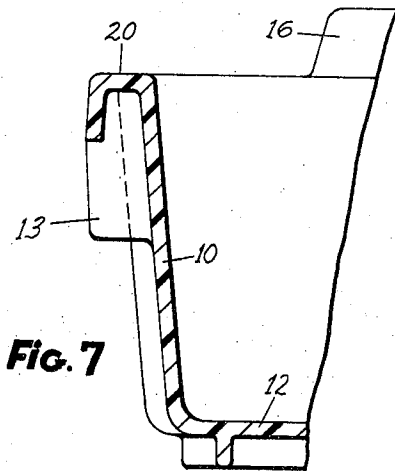
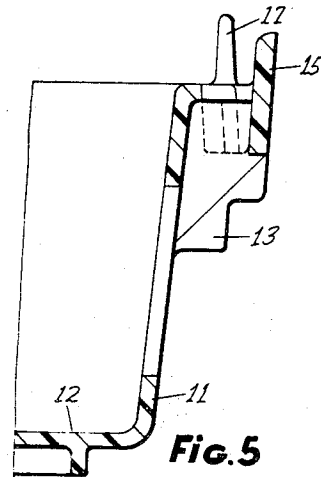
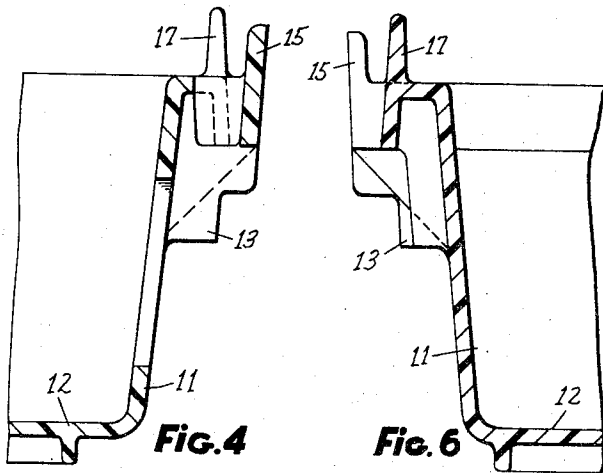


Fig. 8

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BAKERY TRAY OR THE LIKE

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ABSTRACT OF THE DISCLOSURE

A bakery tray and the like of rectangular configuration having a bottom and sloping side walls such that a plurality of like trays may be nested one within the other and capable of stacking in inverted position on top of a like tray to serve as a cover therefor. Stacking elements are provided on the bottom such that a tray in obverse position may be stacked on top of the bottom of a like tray which is in inverted position serving as a cover. Trays of one-half size may be covered by a single tray of full size and vice versa.

Background of the invention

The invention relates to nestable trays for the handling of bakery goods and the like, which when empty may be nested within each other to conserve storage space and which can be stacked upon each other when arranged in alternate obverse and inverse positions.

The art is replete with various structures of trays which can be nested and/or stacked. In most such cases the stacking of one tray upon another requires that one tray be rotated either 90° to 180° with respect to the other. In some instances lids have been provided for trays and stacking is accomplished by superimposing the trays upon each other with the bottom of one tray resting on the lid of the next lower tray.

Summary

A basic tray according to the present invention is rectangular in shape having a bottom and sloping side walls so that a plurality of trays may be nested one within the other regardless of their end for end orientation. Opposed side walls of the tray are provided over opposite halves of their length with stacking elements so that when one tray is inverted it may be placed upon a tray in the obverse position with the stacking elements of the inverted tray engaging over the tops of those portions of the side walls which do not have stacking elements of the tray which is in the obverse position. Again when serving as a cover end for end orientation may be disregarded. The underside of the bottom of each tray is provided with stacking elements such that when a tray is serving as a cover and is in inverted position, a like tray may be stacked upon the bottom of the inverted tray and be locked against lateral displacement.

The trays may also be provided in one half sizes having stacking elements along substantially the entire half of one side such that two half size trays may serve as a cover for a full size tray or a full size tray may serve as a cover for two half size trays. The stacking or locking elements on the underside of the tray are arranged so that two half size trays may be laterally locked on the inverted bottom of a full size tray and that a full size tray can be locked on the bottom of two inverted half size trays.

Brief description of the drawings

FIG. 1 is a side elevation of a tray according to the invention.

FIG. 2 is an end elevation of the same.

FIG. 3 is a plan view of the same.

FIG. 4 is a fragmentary cross sectional view on an enlarged scale taken on the line 4-4 of FIG. 3.

FIG. 5 is a similar view taken on the line 5-5 of FIG. 3.

FIG. 6 is a similar view taken on the line 6-6 of FIG. 3.

FIG. 7 is a similar view taken on the line 7-7 of FIG. 3.

FIG. 8 is an assembly view showing how a plurality of trays according to the invention may be stacked upon each other.

Description of the preferred embodiment

The basic tray according to the present invention is preferably made of a suitable plastic and is of generally rectangular configuration as best seen in FIG. 3. It has the side walls 10 and the end walls 11 and the bottom wall 12. The side and end walls 10 and 11 are sloped as best seen in FIGS. 1 and 2, so that one tray may nest within another. In order that the trays not become jammed together when nested, the stops 13 are provided at spaced points along the side and end walls.

As best seen in FIG. 3, stacking elements are provided along substantially one half of the top of the opposed end walls 11 as indicated at 14 and 15. The other halves of the side walls at the top do not have stacking elements and these halves are indicated at 16 and 17. A plurality of trays as described may be nested one within the other so long as their long axes extend in the same direction regardless of end for end orientation.

When it is desired to use one of the trays as a lid for a like tray, the tray is inverted and it then stacks on top of a tray in the obverse position with the stacking elements 14 engaging over the portion 17 and the stacking portion 15 engaging over the portion 16 of the tray which is in the obverse position. Again end for end orientation is of no consequence. Two trays disposed in the position above described are shown in FIG. 8 at 18 and 19. It will be seen that the tops of the side walls 10 are flat as indicated at 20 in FIG. 7 so that the portions 20 of a pair of mutually inverted trays simply abut each other.

The underside of the bottom of each tray is provided with a pattern of alternate rectangular flanges of two sizes. In FIG. 3 the larger rectangular flanges are indicated at 21 and the smaller rectangular flanges are indicated at 22. It will be noted that the rectangular configurations are arranged in two rows with one row being substantially in each half of the bottom and that the rectangles 21 and 22 alternate within a row and also transversely. The relationship in size of the rectangles is such that a rectangle 22 of one tray will fit over a rectangle 22 of another tray when two such trays are disposed bottom to bottom. By this means when a tray is inverted to form a lid for a lower tray and it is desired to stack yet another tray in obverse position on top of the inverted tray, the interengagement between the flanged rectangles 21 and 22 locks the trays against lateral displacement. Two trays in this relationship are shown in FIG. 8 at 23 and 24.

Trays of one half of FIG. 3 (divided horizontally as seen in FIG. 3) may be provided; and it will be clear that such trays will have the same stacking elements as the full sized tray, will have only one-half of the flanged rectangles on the bottom; but two such half size trays may be stacked side by side upon an inverted tray and locked against lateral movement. This arrangement is shown in FIG. 8 with the trays 25 and 26 of half size stacked upon the inverted tray 19. Similarly, two half size trays may be inverted to serve as a lid for a tray in the obverse position and such arrangement is shown in FIG. 8 where the inverted half size trays 27 and 28

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are stacked upon the tray 24. Again a single full size tray 29 may be stacked upon the bottoms of the half size trays 27 and 28 as shown in FIG. 8.

It will be understood that the material of which the trays are made does not constitute a part of the invention and the trays may be made of any suitable material. The details as to perforations 30 in the bottom are entirely optional and should not constitute a limitation upon the invention. The same is true of the hand holes 31 and the ventilating holes 32. Thus, no limitation not set forth in the claims which follow is intended or should be implied.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A rectangular tray adapted, in the obverse position, to contain bakery products and the like, and in the inverse position, to function as a cover for a like tray in the obverse position, said tray having a bottom wall characterized by a flat upper surface in the obverse position, and sloping side walls, whereby a plurality of such trays in the obverse position may be nested one within another, one pair, only, of opposed side walls having stacking elements extending over substantially opposite halves of their length, each of said stacking elements comprising a flange spaced outwardly from the respective side wall and separated from the respective side wall by a slot, the remaining halves of said side walls having an upstanding flange spaced outwardly to cooperate with an opposed slot to provide a tongue-and-groove engagement, whereby a tray in the inverse position may serve as a cover for a like tray in the obverse position, with the stacking elements of the tray in the inverse position engaging the tops of the opposite side wall of the tray in the obverse position which are free from stacking elements, and with the stacking elements of the tray in the obverse position engaging the halves of the tops of the opposite side walls of the tray in the inverse position which are free from stacking elements.

2. A tray according to claim 1, wherein the underside of the bottom wall is provided with locking elements, whereby a tray in the obverse position may be locked against sidewise movement on the bottom of a like tray which is in the inverse position and serving as a cover for yet another like tray in the obverse position.

3. A structure according to claim 2, wherein said locking elements are constituted by a plurality of downwardly depending flanges arranged in rectangular forms, the rectangles formed by said flanges being of two sizes alternately arranged, the sizes of said rectangle being such that the smaller flanged rectangles of one tray fit within the larger flanged rectangles of another tray when two such trays are disposed bottom to bottom.

4. A tray according to claim 3, wherein said flanged rectangles are disposed in two rows, each in one half of the bottom.

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5. In combination, a plurality of rectangular trays adapted, in the obverse position, to contain bakery products and the like, and in the inverse position, to function as covers for like trays in the obverse position, said trays having each a bottom wall characterized by a flat upper surface in the obverse position, and sloping side walls, and some of said trays being of full size and some of said trays being of half size, said full size trays being nestable within each other and said half size trays being nestable within each other, one pair, only, of opposed side walls of said full size trays having stacking elements extending over substantially opposite halves of their length, each of said stacking elements comprising a flange spaced outwardly from the respective side wall and separated from the respective side wall by a slot, the remaining halves of said side walls having an upstanding flange spaced outwardly to cooperate with an opposed slot to provide a tongue-and-groove engagement, and said half size trays having like stacking elements on those walls which are of the same length as in the full size trays, whereby a full size tray, in the inverse position, may serve as a cover for a like tray, or two of said half size trays placed side by side, in the obverse position, or vice versa, with the stacking elements of the full size tray engaging the tops of the opposite side walls of another full size tray, or the tops of the opposite side walls of the half size trays, which are free from stacking elements.

6. The combination of claim 5, wherein the underside of the bottom wall of each half tray is provided with locking elements and wherein the underside of the bottom of each full size tray is provided with double the number of locking elements of a half size tray whereby two full size trays, or two half size trays and a full size tray, may be locked against sidewise movement with respect to each other, when such trays are disposed bottom to bottom.

7. The combination of claim 6, wherein said locking elements are constituted by a plurality of downwardly depending flanges arranged in rectangular forms, the rectangles formed by said flanges being of two sizes alternately arranged and of such size and disposition that the smaller flanged rectangles of one tray fit within the larger flanged rectangles of another tray when such trays are disposed bottom to bottom.

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