United States Patent [19]

Bateman

[11] **3,811,566**

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[54] **TRAY**

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[73] Assignee: **Plastics, Inc.,** St. Paul, Minn.

[22] Filed: **Jan. 24, 1972**

[21] Appl. No.: **220,229**

[52] **U.S. Cl.** ..... **206/509,** 224/48 R, 214/10.5 R

[51] **Int. Cl.** **B65d 21/04**

[58] **Field of Search** ..... 224/45 R, 45 G, 48, 48.7, 224/48.1–48.5; 220/23.4, 23.6, 97 R, 97 D

[56] **References Cited**

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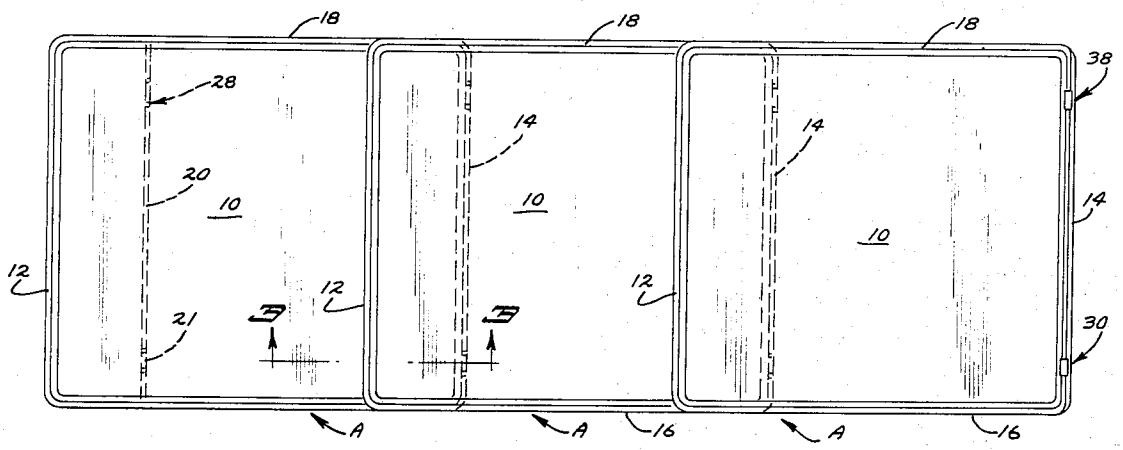
Assistant Examiner—Kenneth Noland
Attorney, Agent, or Firm—Wicks & Nemer

[57] **ABSTRACT**

A tray arrangeable and engageable with an identical tray in partially overlapping relation with a portion of the bottom of the underlying tray exposed which includes a bottom having notch means formed on the undersurface thereof and spaced from one end thereof together with upstanding lug means formed on the top surface of the bottom at the opposite end thereof for engagement with the notch means on the bottom of a tray placed partially on the top of the tray.

1 Claim, 9 Drawing Figures



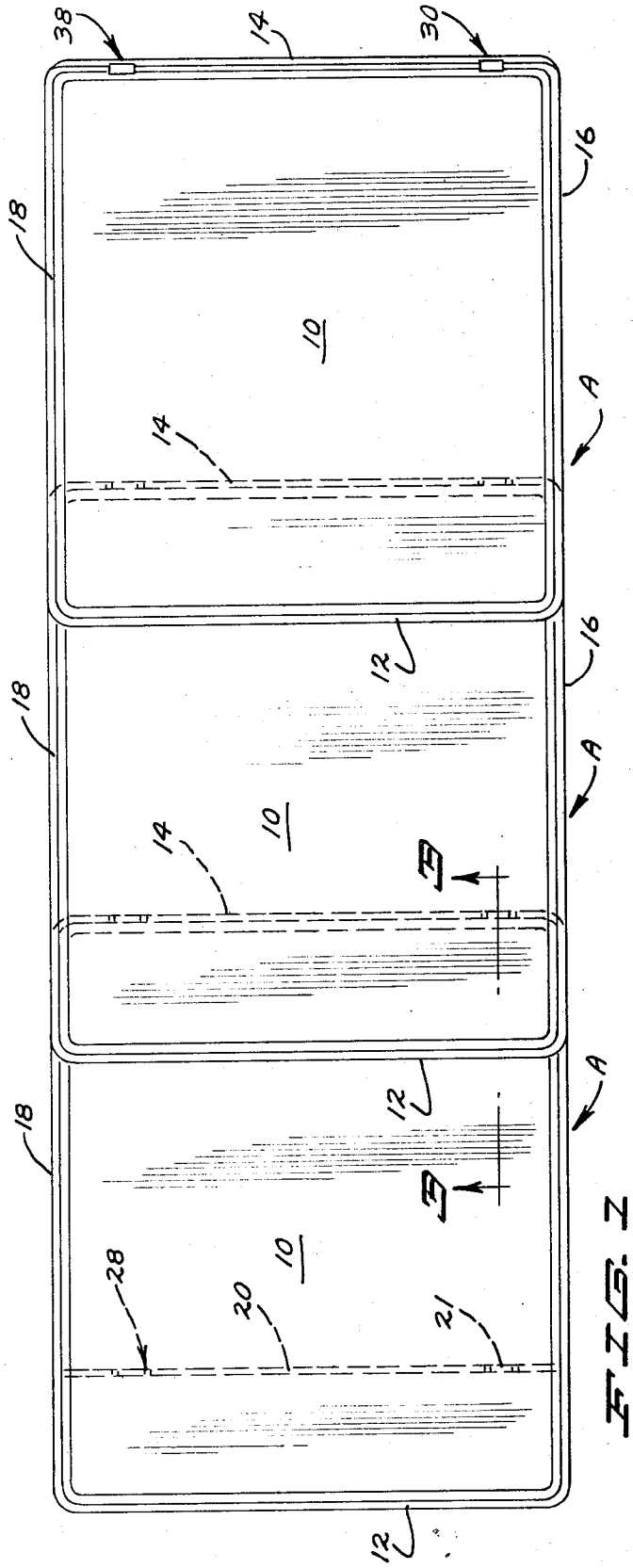


FIG. 2

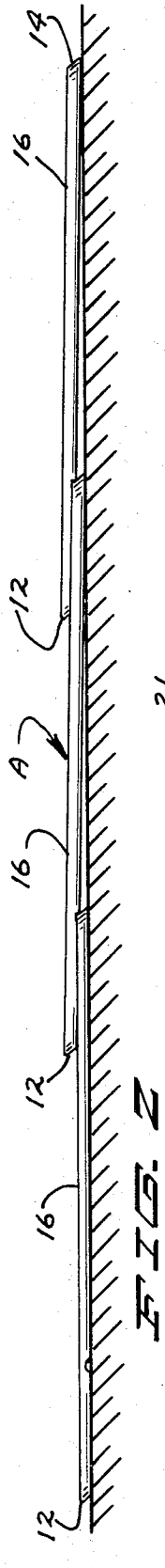


FIG. 2

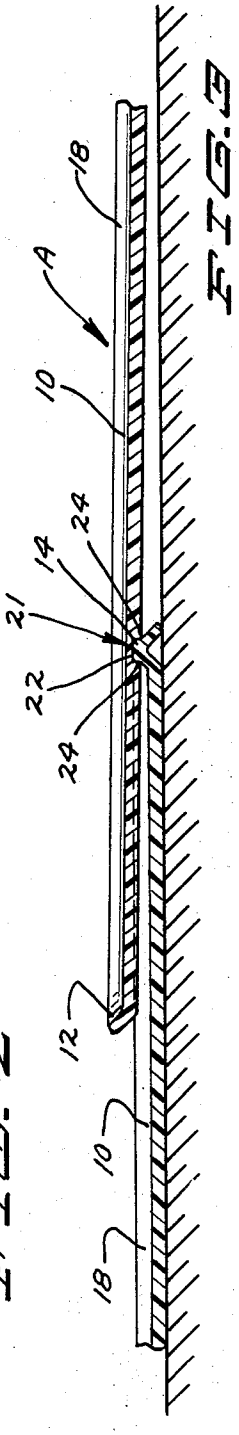


FIG. 3

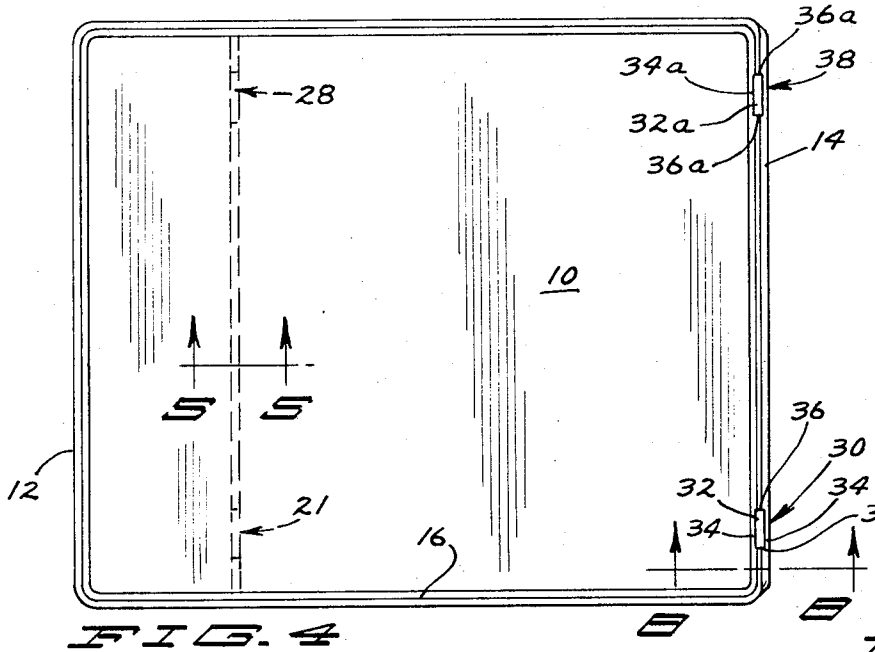


FIG. 4

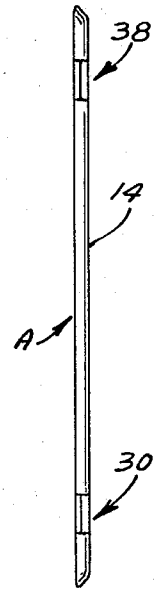
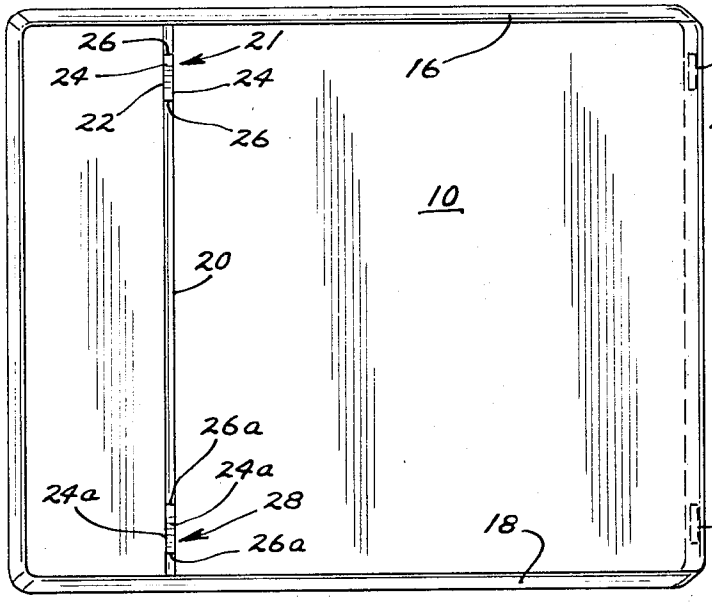


FIG. 5



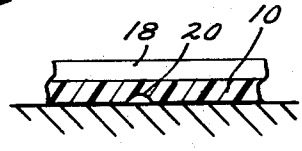


FIG. 9

FIG. 6

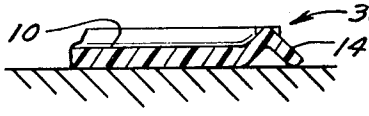


FIG. 8

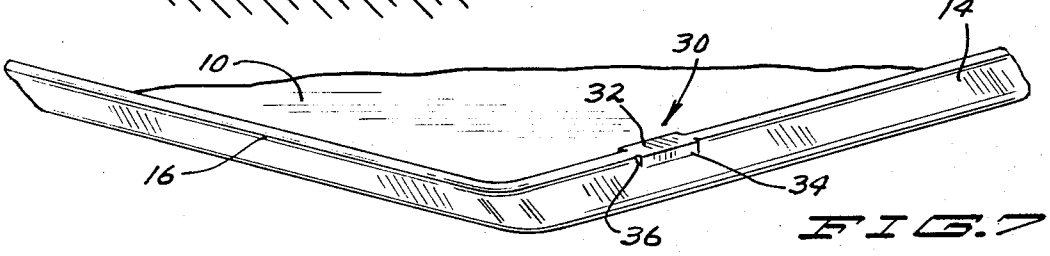


FIG. 7

TRAY

SUMMARY OF THE INVENTION

In present day travel in large aircraft, space for storage of trays used in serving meals is very critical. Conventional trays are stored edge to edge on shelves in a storage container until used. The containers may be in the form of open ended sleeves, aisle carts or similar devices having runners or shelves on which the trays are placed. With the present invention additional trays may be stored in a given container.

Also, trays larger than those presently used can be accommodated with no additional space necessary. Additionally, with the subject invention the trays are releasably engaged one with the other, and one tray may be easily pulled from a container by pulling upon an overlying tray. This further aids in removing a tray which is the innermost tray in a container. With the present tray construction a constant level and low profile is maintained along the sides of the trays whereby a tapered formation is not needed.

In the drawings forming part of this application:

FIG. 1 is a top plan view of three stacked trays each embodying the invention.

FIG. 2 is a side elevational view of the trays of FIG. 1.

FIG. 3 is a sectional view on the line 3—3 of FIG. 1.

FIG. 4 is a top plan view of a tray.

FIG. 5 is an end elevational view of a tray.

FIG. 6 is a bottom plan view of a tray.

FIG. 7 is a perspective view of a portion of the corner of a tray showing particularly one of the engaging lugs on the edge of the tray.

FIG. 8 is a sectional view on the line 8—8 of FIG. 4.

FIG. 9 is a sectional view on the line 9—9 of FIG. 4.

Referring to the drawings in detail the tray A includes the substantially flat rectangular bottom **10** and formed on one edge thereof is a first wall **12.** Formed on the opposed edge of the bottom is a second wall **14** which is generally triangular in cross section. A first outwardly extending oblique side wall **16** is formed on one edge of the bottom **10** and a second oblique side wall **18** is formed on the opposite edge. The numeral **20** designates a groove formed transversely in the undersurface of the bottom **10** which is arcuate in cross section for most of its length. At a point spaced inwardly of the side wall **16,** the groove **20** is formed with a notch **21** having a flat bottom **22,** right angular parallel sides **24** terminating in right angular end walls **26.** A second notch **28** is identical to notch **21** and is formed at a point spaced inwardly from the sidewall **18.** The identical portions bear the same reference numeral accompanied by a lower case letter *a*.

Further provided is a first upstanding lug **30** formed on the upper edge of the wall **14** and spaced inwardly from the wall **16.** The lug **30** is formed integrally with and blended into the wall **14** with a configuration including the rectangular flat top **32,** the depending right angular and vertically disposed sides **34** and the partial right angular and vertically disposed ends **36.**

A second lug **38** is provided which is identical to lug **30** and is also spaced inwardly from the wall **18.** The identical portions of the lug bear the same reference numerals accompanied by a lower case letter *a*. The length of the notches **21** and **28** is greater than the length of lugs **30** and **38** whereby the lugs are easily positioned within the notches as hereinafter described. The notches **21** and **28** are spaced from the wall **12** a distance whereby one tray upon the other overlaps the other tray the desired amount, particularly FIGS. **1, 2,** and **3.** The amount of overlap of one tray over the other tray is such that the lever arm is not sufficient with weight on the short arm to lift up the remaining portion of the tray. When a tray is in the aforementioned overlapping arrangement with the lugs in the designated notches the remaining portion of the wall **14** positions within the groove **20.**

In utilizing the trays A the same are stacked and stored by placing the front portion of one tray in overlapping relation to a rear portion of a tray beneath whereby the lugs **30** and **38** engage within the notches **21** and **28,** respectively. As a result space is saved, the trays are releasably hooked together and an overlying tray may be used to push or pull a tray or trays hooked to the same. When the lugs engage into the respective notches the trays are positively and correctly engaged.

I claim:

1. A tray arrangeable and engageable with an identical tray in partially overlapping relation and with a portion of the bottom of the underlying tray exposed, comprising:

a. a bottom having a relatively low first wall on one edge, and

b. a relatively low second wall on the opposed edge,

c. said bottom having a groove extending across the undersurface thereof and at least one notch having a rectangular outline formed in the groove,

d. at least one upstanding lug having a rectangular outline formed on the top edge surface of the first wall of said bottom at the opposite end of the bottom for engagement with said notch on the bottom of a tray placed partially on the top of the tray with the first wall extended into the groove.

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