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Giebel

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[54] **COMPARTMENTED TRAY**

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[52] **U.S. Cl.** ..... **229/15,** 229/28 R

[51] **Int. Cl.**..... **B65d 5/20,** B65d 5/42, B65d 5/48

[58] **Field of Search**..... 229/15, 28 R, 27, 30

[56] **References Cited**

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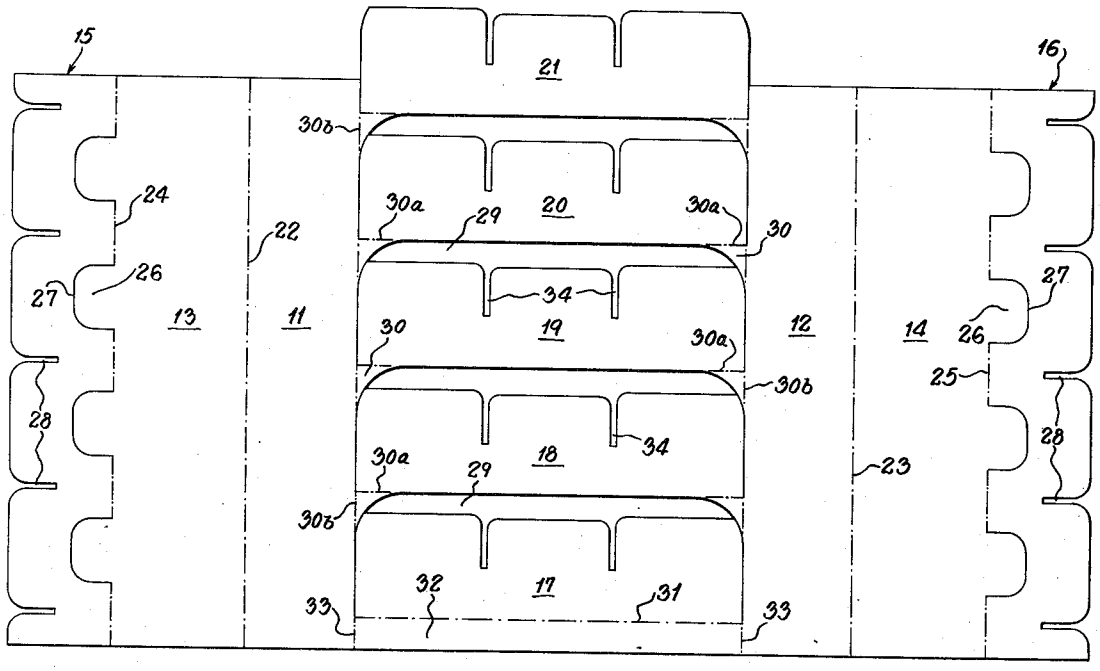
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[57] **ABSTRACT**

A four sided tray with partitioned compartments, which tray is formed from a single die cut folded blank and requires only a single flat sheet to be inserted into the center of the tray to complete the bottom of the tray.

4 Claims, 4 Drawing Figures



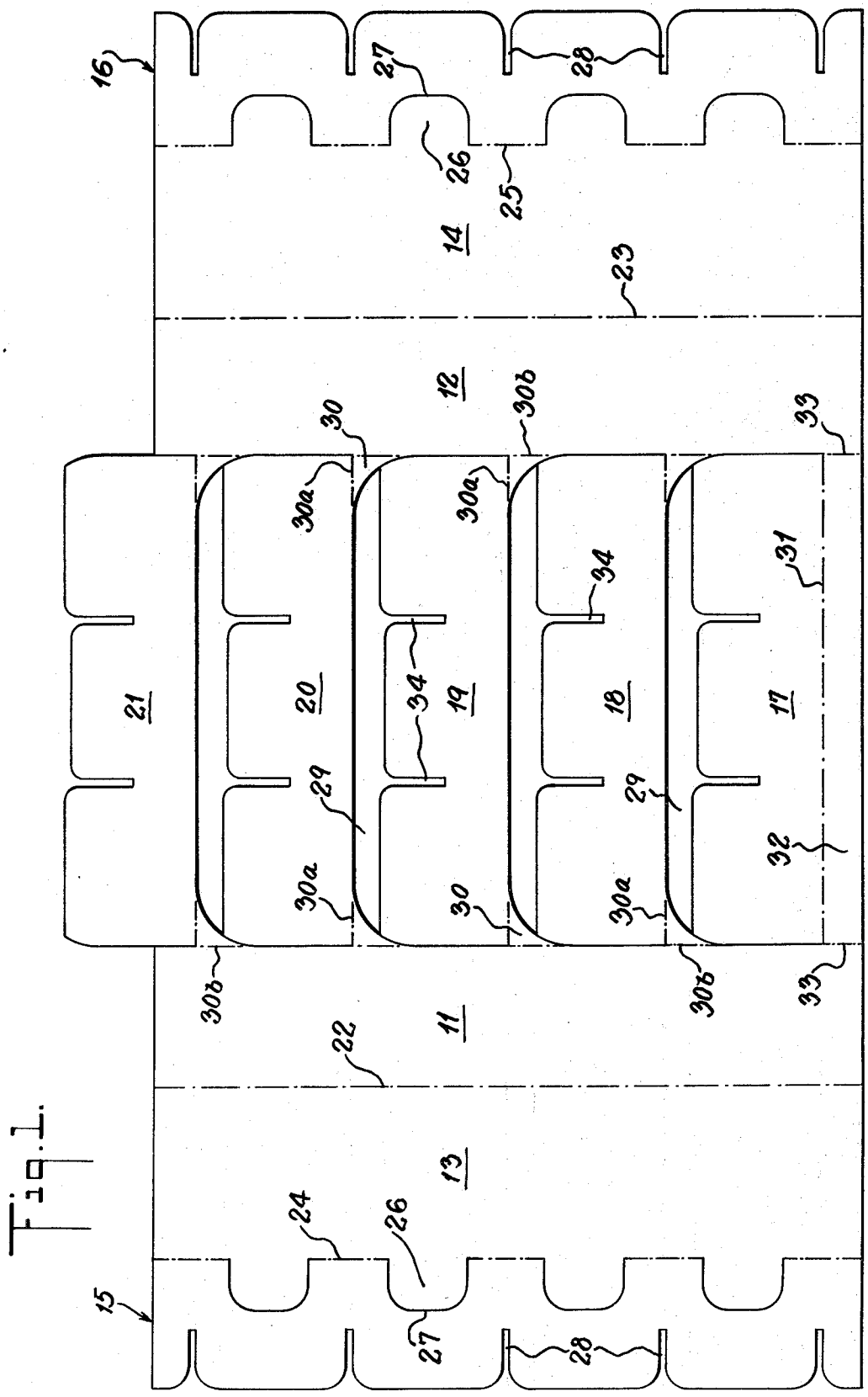

16
27
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30b
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30a
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Fig. 1.

Fig. 2.

Fig. 4.

Fig. 3.

COMPARTMENTED TRAY

BACKGROUND OF THE INVENTION

Trays or cartons with cells or compartments are well known and are shown in patents such as Buttery U.S. Pat. No. 2,527,702, Gariepy U.S. Pat. No. 2,542,504 and Wainberg U.S. Pat. No. 3,400,876. However, the compartmented tray of the present invention is an improvement over the trays or cartons shown in the prior art primarily in the manner in which the blank is cut and folded into a tray.

The blank for the tray can be cut on high speed cutters and assembled without the need for costly hand labor. The design also allows the customer to store the blanks in flat condition and set them up when needed into a tray. The trays can be loaded with a product and then carried, transported or stacked until needed.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a blank for a compartmented tray which is simple and economical to manufacture and can be easily set up into a tray.

It is a further object to provide a tray which can be formed from a single die cut folded blank and requires only a single flat sheet to be inserted into the center of the tray to complete the bottom of the tray.

It is a further object to provide a compartmented tray which has sufficient strength to hold products in the compartments and permit the loaded tray to be carried, transported or stacked.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages will become apparent from the following description which is to be taken in conjunction with the accompanying drawings, in which:

FIG. **1** is a plan view of the blank for the tray of the present invention;

FIG. **2** is a perspective view of the blank of FIG. **1** partially folded;

FIG. **3** is a perspective view of the completed tray with the center bottom sheet partially inserted prior to insertion of the tray into a container; and

FIG. **4** is a cross sectional view along the line **4 — 4** of FIG. **3.**

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings there is shown in FIG. **1** a flat substantially rectangular blank of sheet material, such as corrugated board, fibreboard or the like of a weight suitable for the type of tray to be constructed. The blank is die cut and scored to form side panels **11** and **12,** bottom panels **13** and **14,** first partition members **15** and **16** and second partition members **17, 18, 19, 20** and **21** at right angles to the first partition members. The side panels **11** and **12** are hinged respectively to the bottom panels **13** and **14** by slit score lines **22** and **23.** The first partition members **15** and **16** are hinged respectively to the bottom panels **13** and **14** by slit score lines **24** and **25.** Extending from such score lines **24** and **25** are bottom tabs **26** which are cut out of the first partition members **15** and **16** along lines **27.** The first partition members **15** and **16** are provided with slots **28** extending about half way into the partition member, the purpose of which will be described hereinafter. The second partition members **17, 18, 19, 20** and **21** are spaced from each other by cut out portions **29** and are attached to the side panels **11** and **12** by corner members **30.** The second partition members **18, 19, 20** and **21** are hinged to the corner members along slit score lines **30***a*. The second partition member **17** is hinged along slit score line **31** to a top cross member **32** secured to the side panels **11** and **12** along slit score hinge lines **33.**

In forming the blank into the compartmented tray, the second partition members **17, 18, 19, 20** and **21** are folded along score lines **30***a* and **31** into vertical positions so that the partitions are parallel to each other. Each set of side panel **12,** bottom panel **14** and first partition member **16** are folded along score lines **30***b* and **33, 23** and **25** into a substantially U-shape. The slots **28** of the first partition member **16** are then inserted into the slots **34** nearest to the side panel **12,** as shown in FIG. **2.** When the slots are inserted into each other to their full depths, the partition members will be aligned with each other. The opposite side panel **11,** bottom panel **13** and first partition member **15** are folded and positioned in the same manner. The blank will then be fully assembled and formed into the tray shown in FIG. **3.** A cross section of a portion of such tray is shown in FIG. **4.**

It will be noted that, as the first partition members are erected, the tabs **26** will then extend from opposite sides toward each other and form a bridge or partial bottom through the center of the tray. The partial bottom can be covered by inserting a single flat sheet **35** between the first partition members and over the tabs, as shown in FIG. **3.** The tray will then have a complete bottom.

The completed filled trays can be stacked, carried or transported in the form shown in FIG. **3,** with a suitable cover for each tray, or in a carton for each tray or a multiple number of trays.

Thus among others, the several aforenoted objects and advantages are most effectively attained. Although a somewhat preferred embodiment of the invention has been disclosed and described in detail herein, it should be understood that this invention is in no sense limited thereby and its scope is to be determined by that of the appended claims.

Having thus described the invention, what is claimed is:

1. A blank made from a generally rectangular sheet adapted for folding into a four side tray having a bottom, two opposite side walls, and a plurality of intersecting partitions to form compartments comprising

a central section cut out to define a plurality of horizontal parallel second partition members, an end top cross member parallel to the second partition members, and corner members;

the end second partition member being hinged to the said top cross member and the other second partition members being horizontally hinged at their ends to the said corner members;

the said second partition members each having a pair of spaced vertically slots extending inwardly from the horizontal edge opposite the hinged edge, the slots on the same sides of the second partition members being aligned;

opposite side panels vertically hinged to the said corner members and cross member;

bottom panels vertically hinged to the said opposite side panels, the width of each bottom panel being approximately equal to the distance from the aligned slots on the sides of the second partition members nearest the said bottom panel to the ends of the said partition members nearest the said bottom panel;

and first partition members hinged to the said bottom panels;

the said first partition members having bottom tabs projecting into the said first partition members from the line hinging the said first partition members to the bottom panels;

each said first partition member having a plurality of horizontal slots equal in number to the said second partition members and being positioned to align with extended hinge lines of the said second partition members;

the slots of the partition members being of a depth to permit the slots to be inserted into each other so that the first and second partition members will be of the same height, whereby the said blank can be set up to form a compartmented tray with the said bottom tabs forming a partial bottom through the center of the tray.

2. The blank of claim **1** comprising a flat sheet having a length approximately equal to the length of the bottom panels and a width approximately equal to the distance between the slots of the second partition members, said sheet being adapted to be inserted over the said bottom tabs to form a complete bottom through the center of the tray.

3. A compartmented tray formed from a cut and scored blank comprising

a plurality of parallel, vertical, transverse partitions;

a narrow end top cross member parallel to the transverse partitions;

corner members;

the end transverse partition being hinged to the top cross member and the other transverse partitions being transversely hinged at their ends to the said corner members;

the transverse partitions each having a pair of spaced slots extending downwardly on each side of the partition, the slots on the same sides of the partitions being aligned and equally spaced from the ends of the partitions;

opposite side panels longitudinally hinged to the said corner members and cross member;

bottom panels hinged to the said opposite side panels, the width of each bottom panel being approximately equal to the distance from the aligned slots on the sides of the transverse partitions nearest the said bottom panel to the ends of the said transverse members nearest the said bottom panel;

longitudinal partitions hinged to the said bottom panels and having a plurality of slots extending upwardly, the said slots corresponding in number to the transverse partitions;

each connected said side panel, bottom panel and longitudinal partition being folded into a U-shape with the slots of the transverse partitions and the said longitudinal partition positioned and cut to lock the partitions together at the points where the mating slots meet; and

bottom tabs cut out of the longitudinal partitions and projecting toward the center of the tray from the lines hinging the said longitudinal partitions to the said bottom panels, the said tabs being in the same plane as the bottom panels, whereby the tabs will form a partial bottom through the center of the tray.

4. The tray of claim **3** in which a flat sheet, having a length approximately equal to the length of the bottom panels and a width approximately equal to the distance between the slots of the transverse partitions, is inserted over the said bottom tabs to form a complete bottom through the center of the tray.

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