

[54] **CROSS PLAY DOUBLE WALL TRAY**

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[51] Int. Cl. **B65d 5/22**

[58] Field of Search..... **229/34 HW, 34 R,**
229/DIG. 5, DIG. 2, DIG. 4

[56] **References Cited**

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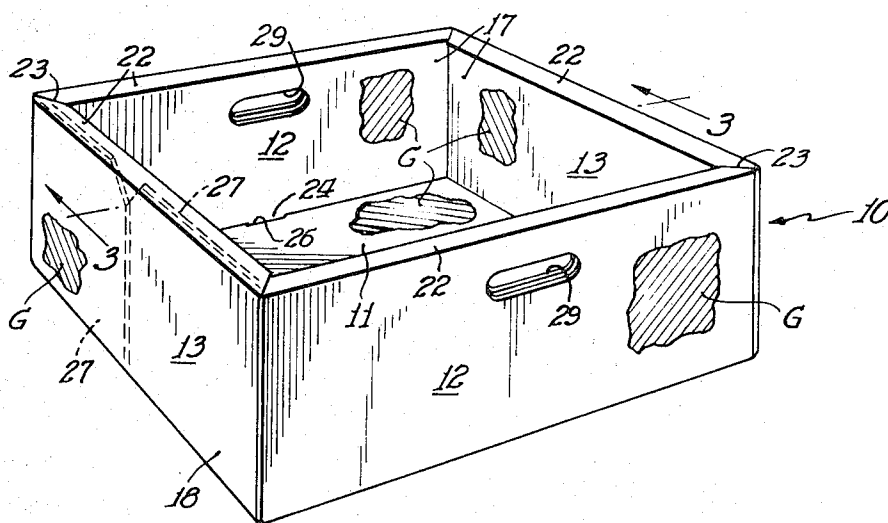
Assistant Examiner—Stephen Marcus

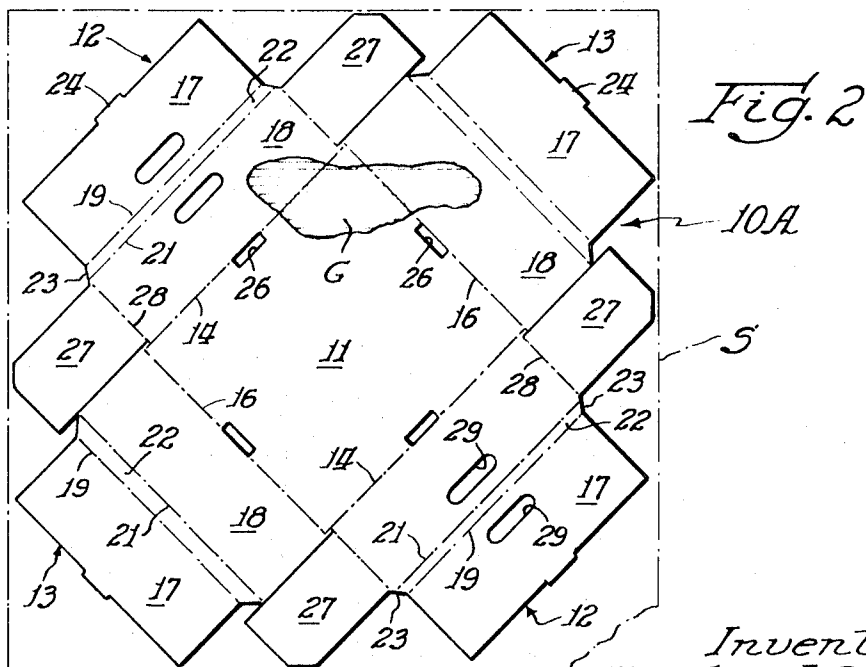
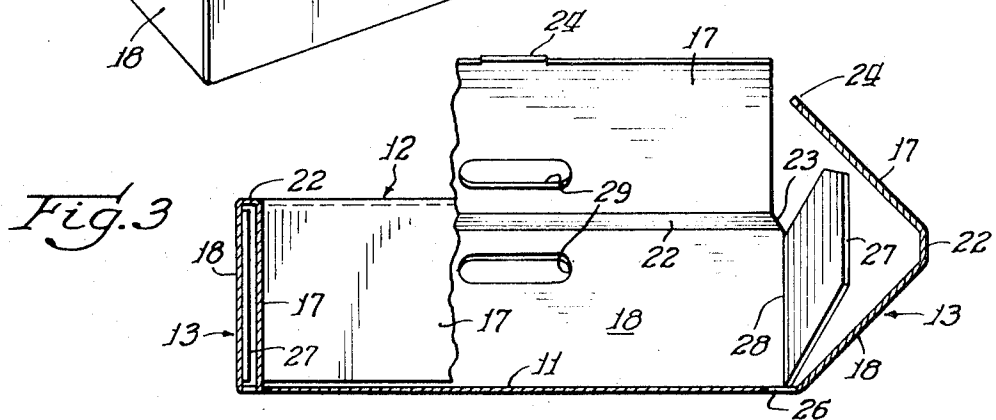
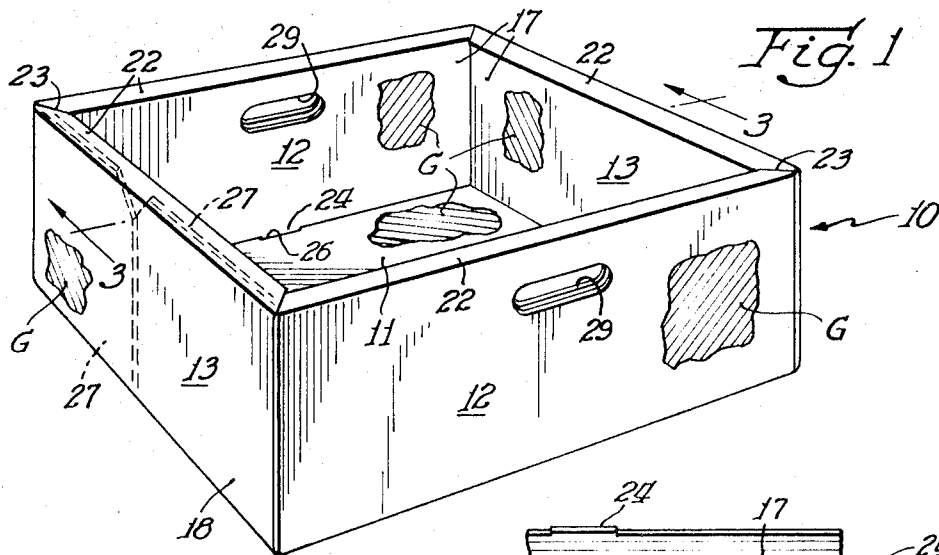
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[57] **ABSTRACT**

A multi-wall tray is formed from a cut and scored blank of corrugated container board or the like. In cutting and scoring the blank all of the score lines are inclined at an angle, preferably 45°, to the flute direction of the board. When the blank is folded to define the tray structure, the tray walls consist of plies of different flute orientation resulting in good stacking strength, at least ten per cent better than trays having normally oriented flutes in the corrugated board thereof. Moreover, there is a saving in board in orienting the blank therein in the fashion described.

1 Claim, 3 Drawing Figures





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CROSS PLAY DOUBLE WALL TRAY

BACKGROUND OF THE INVENTION

THE PRIOR ART

The prior art appears to be best exemplified in the following patents: R. W. Beach, U.S. Pat. No. 1,760,106, May 27, 1930; J. H. Bonini et al. U.S. Pat. No. 2,852,133 Sept. 16, 1958; E. J. LePain U.S. Pat. No. 3,355,092 Nov. 28, 1967.

SUMMARY OF THE INVENTION

The structure according to the present invention is related to a tray formed from a cut and scored blank of corrugated paperboard, the blank being cut from a sheet of corrugated paperboard in such a fashion that the score lines of the blank are inclined at an angle to the flutes of the corrugated paperboard. When the blank is folded to the assembled position, the direction of the flutes of the corrugated board is such as to augment the stacking strength of the loaded trays when they are placed one on top another.

THE DRAWINGS

FIG. 1 is an isometric view of a tray constructed in accordance with the present invention;

FIG. 2 is a plan view of a cut and scored blank of corrugated paperboard for forming the tray of FIG. 1; and

FIG. 3 is a vertical sectional view taken generally along the plane indicated by the numerals 3—3, looking in the direction of the arrows.

The improved tray according to the present invention is denoted generally by the reference numeral 10 and is formed from a cut and scored blank 10A, said blank being cut from a sheet S of corrugated paperboard or the like having the flute direction G thereof extending in the direction shown.

The cut and scored blank 10A consists of a rectangular bottom panel 11, opposed end walls 12 and opposed side walls 13 foldably connected along score lines 14 and 16 to opposite ends and sides of the bottom panel 11.

Each of the opposed end and side walls 12 and 13 include respective inner and outer wall elements 17 and 18 foldably connected to each other along spaced parallel score lines 19 and 21 to provide a horizontal rib 22 therein, seen more particularly in FIG. 1. Each of the horizontal extending ribs 22 is beveled at 23 at the end thereof to provide mitred corners seen in FIG. 1.

Structure is provided for locking the inner wall elements 17 to the bottom panel 11, and each of the distal edges of the inner wall elements 17 is provided with a locking lug 24 adapted to engage a Walker-type slot 26 formed in bottom panel 11 along the score lines 14 and 16 at the edges thereof.

The inner and outer wall elements 17 and 18 are adapted to be folded into generally facing relationship

as seen particularly in FIG. 3.

Structure is provided for locking the inner and outer wall elements 17 and 18 of the side walls 13 to the end walls 12, and each of the outer wall elements 18 of such opposed side walls 13 is provided at the ends thereof with a flap 27 foldably connected thereto along a fold line 28. The flaps 27 are insertable between the inner and outer wall elements 17 and 18 of the opposed end walls 12, and are held in position by the locking of the inner wall element 17 of the end walls 12 to the bottom panel 11.

Lifting structure is provided in the end walls 12 in the form of cutout hand holds 29, which move into register with each other when the tray 10 is assembled as seen in FIG. 1.

The tray according to the present invention is characterized by the fact that the flute direction G of the paperboard, from which the same is constructed, extends in directions in the double thickness end and side walls 12 and 13 in directions at right angles to each other. The directions of the flute structure are best seen in FIG. 1, and it is evident that by reason of the direction thereof the stacking strength of the loaded trays one on top the other is greatly augmented.

I claim:

1. A double wall tray formed from a unitary cut and scored blank of corrugated paperboard or the like, said blank being oriented on a sheet of paperboard for cutting and scoring thereof with the score lines of said blank being disposed at an acute angle to the flutes of said corrugated paperboard, and comprising:

a. a rectangular bottom panel;

b. opposed end and side walls foldably connected to opposed ends and sides of said bottom panel, including:

i. inner and outer wall elements each extending the entire height and length of said walls in abutting face-to-face relation foldably connected to each other, and folded into facing relationship;

ii. means for locking said inner wall elements to said bottom panel;

c. flap means foldably connected to the ends of an opposed pair of said inner wall elements;

i. said flap means being inserted between the inner and outer wall elements of the other opposed pair of inner and outer wall elements;

ii. said flap means being held in position between said other inner and outer wall elements by locking of said other inner wall elements to said bottom panel;

d. said tray being characterized in that the flutes of each of said inner wall elements are inclined and extend at right angles to the flutes of their abutting outer wall elements to provide strength of said side and end walls for stacking of loaded trays one on top of another.

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