

Aug. 23, 1966

K. ENGEL

3,268,148

FLANGED FOLDING BOX

Filed Jan. 10, 1966

2 Sheets-Sheet 1

FIG. 1

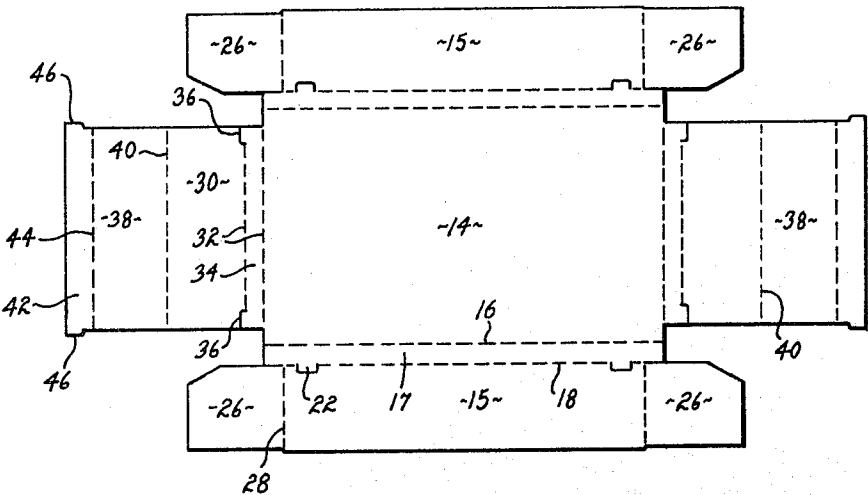
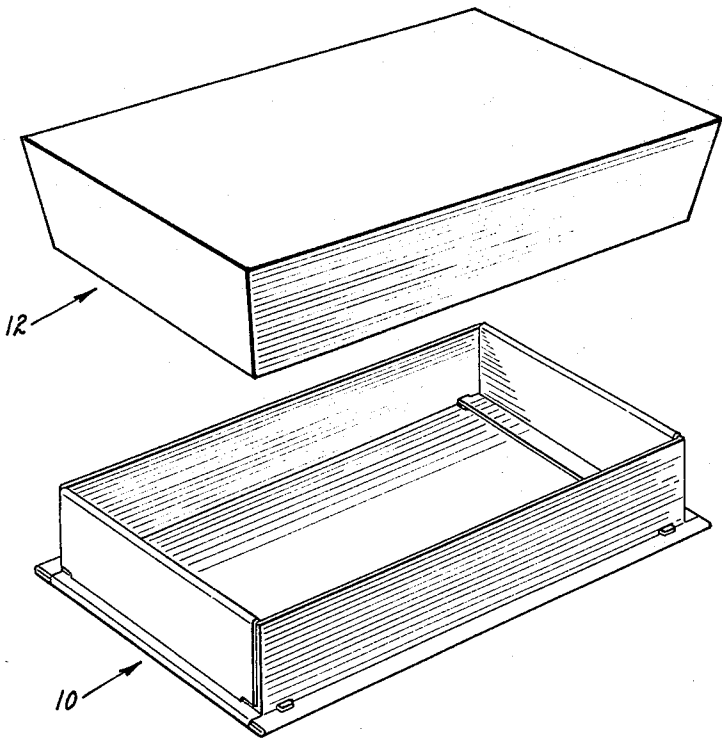


FIG. 2

INVENTOR
KARL ENGEL
BY: *Hetherstonhaugh & Co.*
ATTORNEYS

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FIG. 3

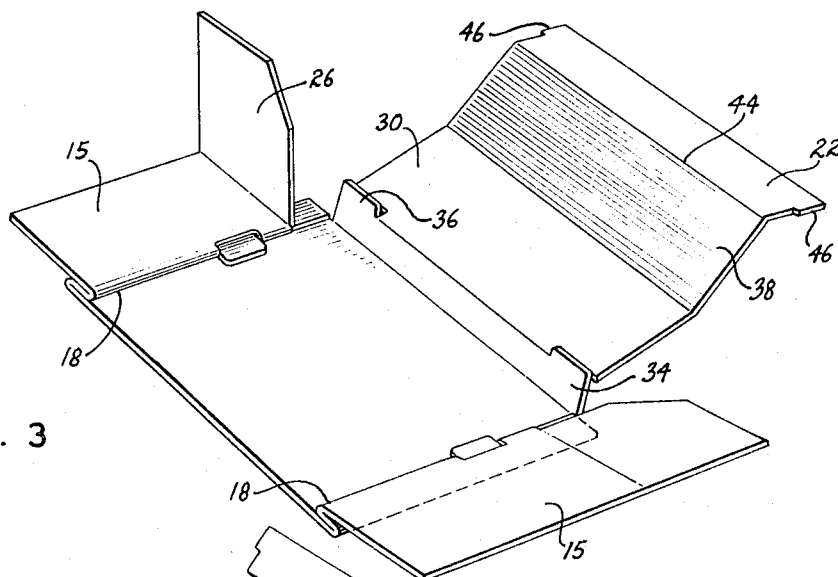


FIG. 4

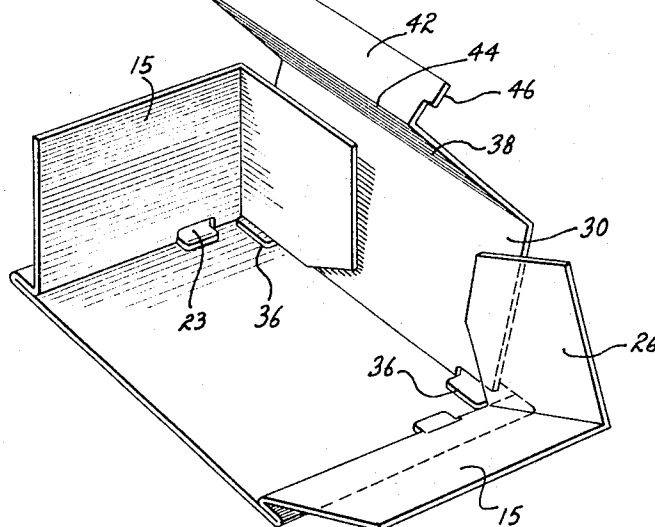
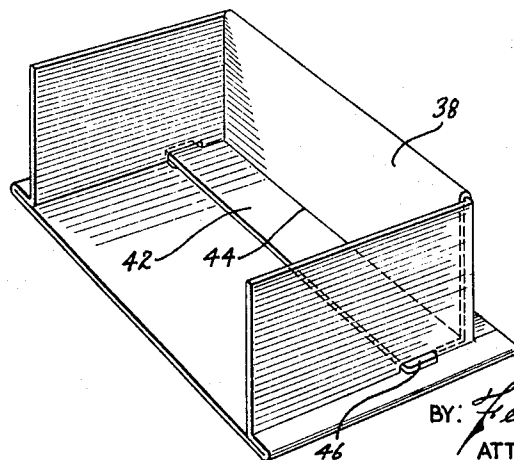


FIG. 5



INVENTOR
KARL ENGEL

BY: *Hetherington & Co.*
ATTORNEYS

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3,268,148

FLANGED FOLDING BOX

Karl Engel, Toronto, Ontario, Canada, assignor to Somerville Industries Limited, London, Ontario, Canada

Filed Jan. 10, 1966, Ser. No. 519,683

7 Claims. (Cl. 229—34)

This invention relates to a carton or box design suitable for the production of a "flanged" box.

By "box" herein I refer to a structure comprising bottom and side walls and any appurtenances thereto but I do not include within the term "box" or "carton" the lid or cover of the box since, although a lid or cover will usually be used, such lid or cover forms no part of the present invention.

By "flanged" box is meant a box wherein the bottom projects for a short distance outwardly of the side walls to form a projecting flange. Such boxes are considered to have an aesthetically pleasant appearance and also to give an appearance of strength and are often used in combination with a cover to contain chocolates and the like.

At present, flanged boxes are constructed by providing an intermediate panel between each side wall and a rectangular bottom and the width of the intermediate panel is substantially the width of the flange desired. Thus, the flanged portion of the box is constructed by folding the intermediate panels in a reverse turn manner and gluing them to the adjacent portion of the bottom and having the side panels extend upwardly from the inward end of the intermediate panels to which they are attached. Means are provided for holding the side panels in erect position and connecting the side panels one to the other.

Such construction has suffered from the disadvantage that while the first opposed pair of intermediate panels may be glued to the bottom by a gluer moving relative to the box, parallel to such panels, once this is done the second pair of opposed intermediate panels constitutes a more difficult and involved gluing problem since the gluing must be performed at right angles to the first pair of opposed intermediate panels which are now glued and the added expense and equipment involved render the box uneconomical to construct.

It is an object of this invention to provide a box or carton design particularly adapted to the production of a flanged box utilizing intermediate panels, as above described, but which flanged box may be constructed without the necessity of gluing the second set of opposed intermediate walls. In this way, the inconvenience and expense of a second gluing at right angles to the first gluing is avoided.

It is a further object of this invention to provide a box design wherein the design is adapted to provide a box or carton which may be shipped in knocked down form but wherein the design permits of erection of the box or carton into a flanged box of secure structure.

In drawings which illustrate a preferred embodiment of the invention,

FIGURE 1 shows a blank for making a box of the proposed design.

FIGURE 2 shows a perspective of the constructed box in combination with a cover; and

FIGURES 3 to 5 show various steps in the construction of the box from the blank.

In FIGURE 2 is shown an erected box or carton 10 in accord with the invention which would be used in combination with a cover 12. The cover is not discussed herein since, although it will be used with the box or carton, it forms no part of the present invention and would be designed in an ornamental manner and functionally would be designed to be received inside or, as shown, outside the side panels of the box or carton.

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For brevity hereinafter, I use the word "box" to include the term "carton."

The blank for forming the box 10 is shown in FIGURE 1 and it will be seen that the blank comprises a bottom 14 of generally rectangular shape with opposed side panels 15 designed to extend upwardly from the bottom in any erected position of the box.

The side panels 15 are preferably connected to one pair of opposed edges of the bottom (defined by score lines 16) by first intermediate panels 17 which run generally parallel to the opposed score lines 18, the intermediate panels 17 being delineated from the side panels 15 and the bottom by score lines 16 and 18 respectively.

Adjacent the opposite ends of each intermediate panel 17, a pair of rectangular tabs 22, defined by "cut" edges, project from the panel across what would otherwise be the location of the score lines 18 into the material otherwise forming part of the opposed side panels 15. As will be seen (in FIGURE 4), when the side panels 15 are folded at right angles to the intermediate panel 17, slots 23 are formed in the side panels corresponding to the location, in the blank, of the projecting tabs.

The opposed intermediate panels 17 are preferably glued to the bottom 14 after an upward and inward reverse turn of each opposed intermediate panel and the bottom 14 so that the side panels 15 are ready to be erected into upwardly extending direction from the bottom when desired. At each end of the opposed side panels 15, the length thereof is extended to provide flaps 26 located and dimensioned to be placed in contact with the adjacent one of the other opposed pair of side panels and with an edge of the flaps adjacent and parallel to the bottom 14. The flaps 26 are preferably delineated from the first opposed side panels by score lines 28. The second pair of opposed side walls 30 are connected to the corresponding opposed edges of the bottom (delineated by score lines 32) by intermediate panels 34 of the thickness of the flange desired in the dimension directed between walls 30. Adjacent each end of the second set of intermediate panels 34, tabs 36 are delineated by "cuts" extending into what would otherwise be the material of side wall 30 across the projection of the score lines 32 separating each second opposed side wall 30 from its corresponding intermediate panel 34. On the side of each of the second pair of side walls 30, remote from the intermediate panel 34, is a folding panel 38 preferably of the same dimensions as the second opposed side walls 30 and delineated therefrom by a score line 40 parallel to the score line 32. On the outer edge (as delineated by score lines 44) of the folding panel 38 relative to score lines 32 is located in turn, an edge panel 42 with tabs 46 directed outwardly in the direction parallel to the delineating score lines 44 to a location outwardly of the score lines 18 for the first opposed side walls 15 when the first intermediate panels 17 are glued in position. The last mentioned tabs 46 are located the same distance from score line 44 as the slots 23 are from score lines 28.

In accord with the invention, a blank constructed as discussed is constructed first by gluing the first intermediate side panels 17 to the bottom 14, after folding them upwardly and inwardly into a reverse turn arrangement relative to the said bottom 14, as indicated in FIGURE 3. Here it should be noted that with this step completed, the carton may be shipped in knocked down form ready for easy erection at its destination in accord with the step to follow. Next, the second set of intermediate panels 34 is folded upwardly and inwardly to a reverse turn position relative to the bottom 14 to be parallel thereto, and the first opposed side panels 15 may then be folded into vertical position and flaps 26 folded inwardly and perpendicularly thereto so that the lower edges of the flaps 26 overlie the projecting tabs 36 then to tend to retain the second

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opposed side walls in upwardly extending position with the flaps 26 folded inwardly to extend toward each other across the bottom. As to the above steps, reference may be had first to the lower right hand side and then to the upper left hand side of FIGURE 4. Thus, with the first opposed side walls 15 erected and the second opposed side walls 30 standing generally upwardly and the flaps 26 folded into juxtaposition to the second opposed side walls 30, the folding panel 38 is folded in reverse turn inwardly over the upper edges of the flaps 26 bringing the edge panel 42 and score line 44 adjacent the bottom of the box, and at this stage, while slightly moving the first opposed side panels outwardly, the score line 44 is moved outwardly into contact with the flaps 26, while the transversely extending tabs 46 are inserted in the slots 23. There is thus provided, as shown in FIGURE 5, a flanged box wherein the four side walls are securely erected and connected to one another, wherein no gluing is required for the second set of opposed walls 30. Moreover, as will be seen, the design lends itself to shipping in knocked down form and quick erection at the destination. The box, as erected in FIGURE 5, will be used usually in combination with a lid such as that shown in FIGURE 2.

What I claim as my invention is:

1. A knock down paperboard box comprising a blank having a bottom with opposed side edges and opposed end edges, a side wall intermediate panel hinged to each side wall, a side wall hinged to each side wall intermediate panel, an end wall intermediate panel hinged to each end wall, an end wall hinged to each end wall intermediate panel, a flap hinged to each end of each side wall, tabs projecting from each of said end wall intermediate panels in the direction of said end walls, said side wall intermediate panels and said end wall intermediate panels being adapted to fold upwardly and inwardly to a reverse turn position relative to said bottom to form a marginal box flange, said side wall intermediate panels being glued in reverse turn position, said side walls and said end walls being adapted to fold to a vertical position with respect to said bottom adjacent their respective edges, said flaps being adapted to fold to assume a juxtaposed position with respect to their adjacent end wall, said flaps each having a first edge adapted to overlie one of said tabs when said flaps are in juxtaposed relation to said end walls and when said side wall intermediate panels are in said reverse turn position, a folding panel hinged to each of said end walls, said folding panels each being adapted to fold over said end flaps on said side walls and to assume a juxtaposed position with respect to their respective end walls when said box is in a set up position, said folding panels being adapt-

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ed to hold their respective flaps with their said first edge overlying one of said tabs as aforesaid whereby to maintain said end wall intermediate panels in reverse turn position relative to said bottom in use, and interlocking means carried by each of said folding panels adapted to lock the walls of said box in a set up position.

2. A knock down paperboard box as claimed in claim 1, in which said interlocking means comprises an edge panel hinged to each of said folding panels, said edge panel having tabs extending therefrom, said side walls being formed with slots adjacent their hinged connection to their respective side wall intermediate panels, said edge panels being adapted to fold to lie in juxtaposed relation to said bottom when said box is set up, said tabs extending from said edge panels then being adapted to enter said slots in said side walls.

3. A knock down paperboard box as claimed in claim 1, wherein said tabs projecting from each of said end intermediate panels are cut from paperboard otherwise forming part of said side walls.

4. A knock down paperboard box as claimed in claim 2, wherein said tabs projecting from each of said end intermediate panels are cut from paperboard otherwise forming part of said side walls.

5. A knock down paperboard box as claimed in claim 2, wherein said slots formed in said side walls are formed by cutting tabs projecting from said side wall intermediate panels into paperboard otherwise forming part of said side walls.

6. A knock down paperboard box as claimed in claim 3, wherein said slots formed in said side walls are formed by cutting tabs projecting from said side wall intermediate panels into paperboard otherwise forming part of said side walls.

7. A knock down paperboard box as claimed in claim 4, wherein said slots formed in said side walls are formed by cutting tabs projecting from said side wall intermediate panels into paperboard otherwise forming part of said side walls.

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50 GEORGE O. RALSTON, *Primary Examiner.*