June 7, 1960 M. FLICKER 2,939,576

FOLDED ONE-PIECE CARTON

Filed April 5, 1957 2 Sheets-Sheet 1

Fig. 1.

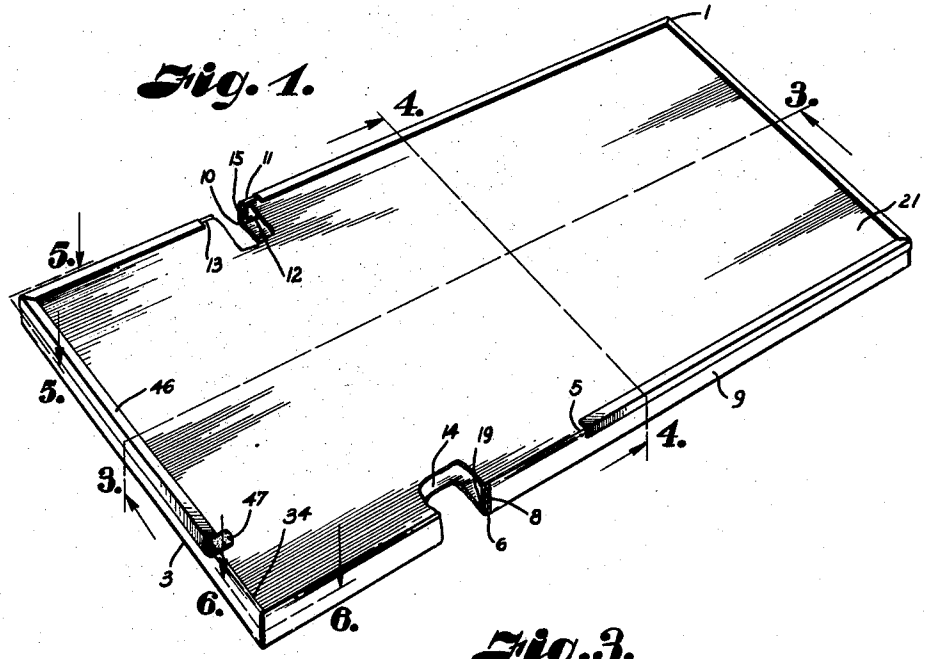


Fig. 3.

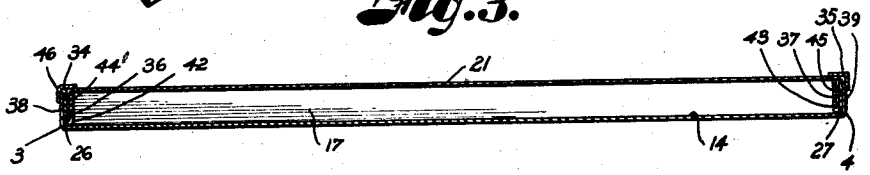


Fig. 2.

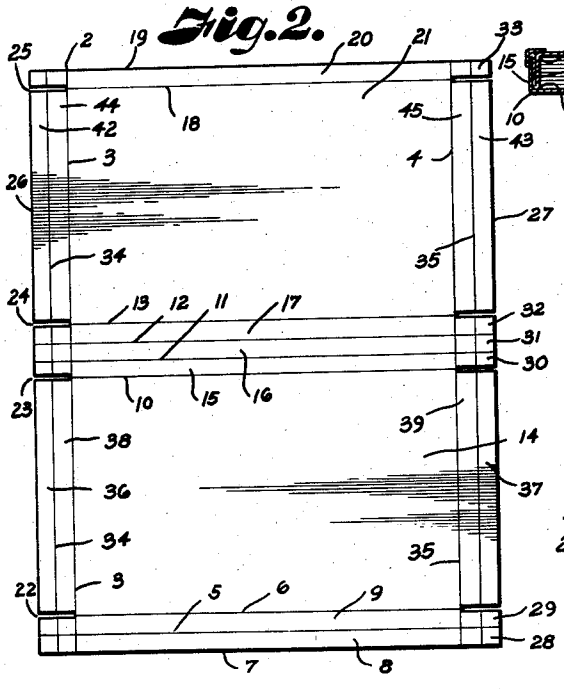


Fig. 4.

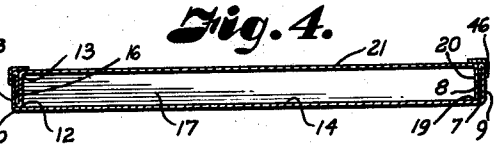


Fig. 5.

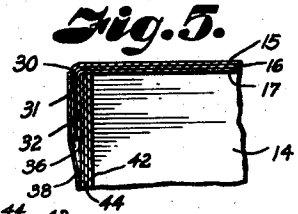
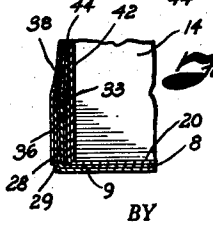


Fig. 6.



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June 7, 1960 M. FLICKER 2,939,576

FOLDED ONE-PIECE CARTON

Filed April 5, 1957 2 Sheets-Sheet 2

Fig. 7.

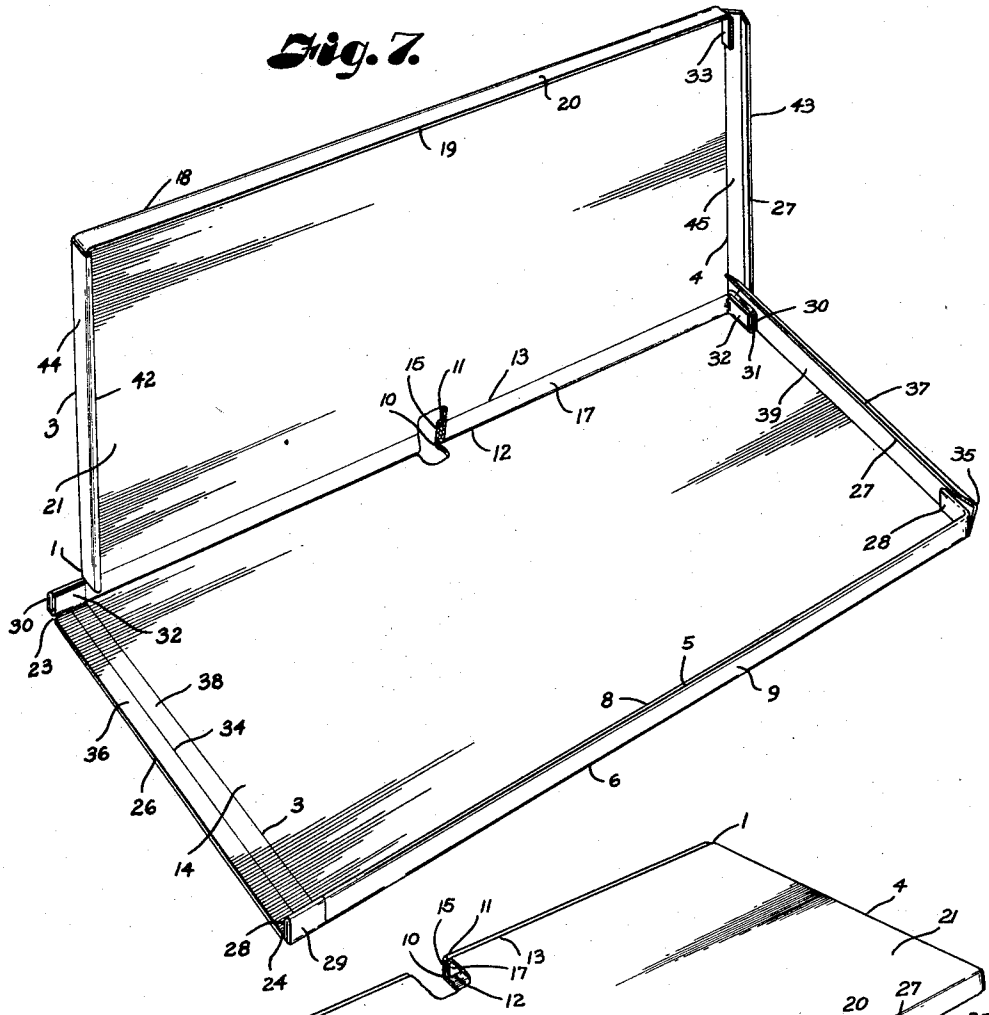
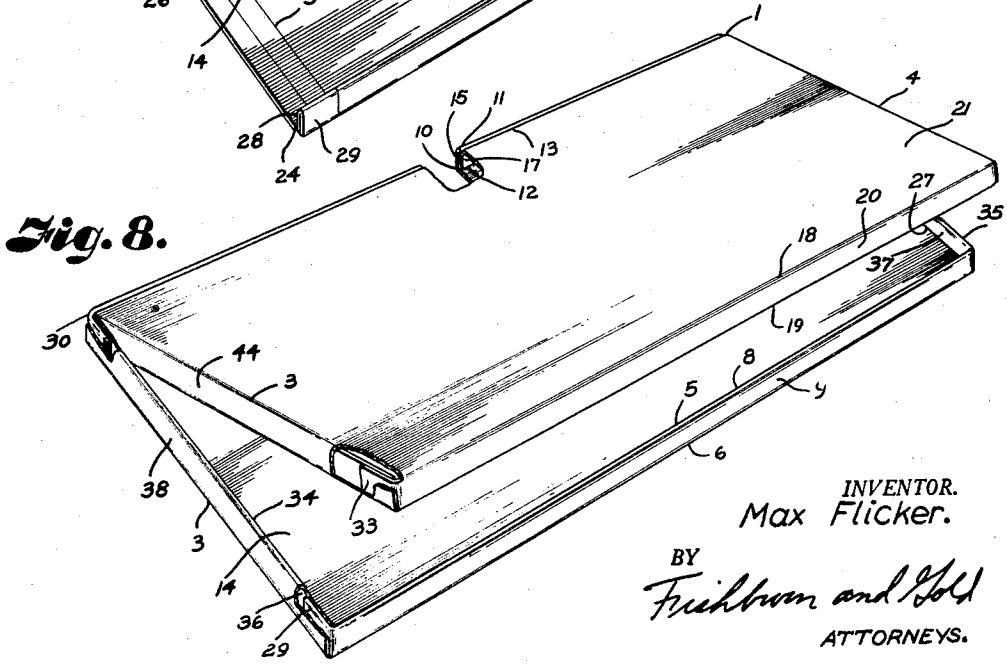


Fig. 8.



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2,939,576

FOLDED ONE-PIECE CARTON

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1 Claim. (Cl. 206—46)

This invention relates to cartons, and more particularly to a novel one-piece folded carton for shipment of furniture and the like.

The principal objects of the present invention are to provide a carton folded from a single piece of carton stock such as double-faced corrugated paperboard to form a structure that is compact and of high stacking strength; to provide such a carton that is folded from a blank shaped for a minimum waste of carton stock from which it is cut; to provide a one-piece carton for shipping of furniture and the like wherein the blank is folded to form a carton having ends of four thicknesses and sides of three thicknesses of the carton stock; to provide such a carton structure with extensions on the side walls cooperating with the end walls to retain same in erected condition and form additional thicknesses and stiffness at the carton corners; to provide such a carton structure wherein the multiple thickness side and end walls give the necessary stacking strength while the top and bottom walls or panels are of single thickness of the carton stock; to provide such a carton structure wherein certain side walls are connected and folded in accordion fashion; to provide such a carton that is easily secured in closed condition by suitable fastening such as adhesive tape applied to the sections; to provide such a carton that is economical to manufacture, easily erected to form a strong structure for protecting articles contained therein during shipping and storage.

In accomplishing these and other objects of the present invention, I have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawings, wherein:

Fig. 1 is a perspective view of a folded carton embodying the features of the present invention with portions broken away to illustrate the structure thereof.

Fig. 2 is a plan view of the blank of foldable material from which the box is constructed.

Fig. 3 is a longitudinal sectional view through the carton on the line 3—3, Fig. 1.

Fig. 4 is a transverse sectional view through the carton on the line 4—4, Fig. 1.

Fig. 5 is a partial sectional view through a corner of the carton taken on the line 5—5, Fig. 1.

Fig. 6 is a similar sectional view taken through another corner of the carton on the line 6—6, Fig. 1.

Fig. 7 is a perspective view of the carton in partially folded condition.

Fig. 8 is a perspective view of the carton with the top section positioned for movement to close the carton.

Referring more in detail to the drawings:

1 designates a carton formed from a blank 2 preferably cut from a single piece of suitable carton stock such as double-faced corrugated paperboard. The blank 2 is provided with spaced score lines 3 and 4 extending entirely across the blank. The blank has a plurality of spaced score lines extending perpendicularly to the score lines 3 and 4, two of such score lines 5 and 6 being arranged adjacent the side edge 7 of the blank to define

a bottom inner side wall 8 adjacent the edge 7 and a bottom outer side wall 9 between the score lines 5 and 6. Score lines 10, 11, 12 and 13 are arranged intermediate the sides of the blank whereby the score lines 3, 4, 6 and 10 define a bottom wall or panel 14 and the portion between the score lines 10 and 11 forms an outer side wall 15. The portion between the score lines 11 and 12 forms an intermediate side wall 16 and the portion between the score lines 12 and 13 forms an inner side wall 17. A score line 18 is arranged adjacent the side edge 19 to define a top side wall 20 therebetween, the score lines 3, 4, 13, and 18 cooperating to define a top wall or panel 21. The blank is further provided with slits 22, 23, 24 and 25 extending inwardly from end edges 26 and 27 of the blank to the score lines 3 and 4 respectively in alignment with the score lines 6, 10, 13 and 18 respectively to form extensions 28 and 29 on the ends of the walls 8 and 9 and extensions 30, 31 and 32 on the ends of the walls 15, 16 and 17 respectively and extensions 33 on the ends of the top side wall 20. Score lines 34 and 35 are arranged between the score line 3 and edge 26 and the score line 4 and the edge 27 respectively, said score lines 34 and 35 extending entirely across the blank whereby at the ends of the bottom panel 14 there is formed bottom inner end walls 36 and 37 and bottom outer end walls 38 and 39. The score lines 34 and 35 in the portion thereof adjacent the top wall panel 21 provide top inner end walls 42 and 43 and top outer end walls 44 and 45. The score lines 3, 4 and 12 are reverse scores relative to the remaining score lines and for convenience of manufacture it is preferred that the score lines 34 and 35 be formed in one operation whereby said scores extend across the extensions 28, 29, 30, 31, 32 and 33. Also, for facilitating proper folding of the carton, it is preferred that the outer side wall 15 and outer end walls 38, 39, 44 and 45 be of substantially the same heighth and that the other side and end walls be slightly less in heighth.

The initial folding of the blank is on the score lines 10, 11, 12 and 13 to bring the complementary side walls 15, 16 and 17 flat against each other in accordion fashion. Then the blank is folded on the score line 18 to position the top side wall 20 at right angles to the top wall panel 21 and the extensions 33 turned inwardly in edge engagement with the inner face of the top wall panel 21 substantially along the score lines 3 and 4. The top end walls are then folded on the score lines 3 and 4 to a position perpendicular to the top wall panel 21 and the top inner end walls 42 and 43 are turned inwardly on the score lines 34 and 35 over the extensions 33 to form the top section substantially as illustrated in Fig. 7. The bottom side wall 9 is then folded on the score line 6 and the bottom inner side wall 8 is folded inwardly on the score line 5 to lie flat against the inner surface of the bottom outer side wall 9. The extensions 28 and 29 are then turned inwardly into substantially edge engagement with the bottom wall panel 14 substantially along the score lines 3 and 4, and the folded extensions 30, 31 and 32 are turned inwardly to overlie the bottom wall panel 14 in edge engagement therewith substantially along the score lines 3 and 4. The bottom end walls 38 and 39 are then turned on the score lines 3 and 4 to engage the respective extensions and the bottom inner end walls 36 and 37 are turned inwardly on the score lines 34 and 35 respectively and over said extensions as illustrated in Figs. 7 and 8 to cooperate with the extensions to hold the bottom section of the carton in erected condition. If desired, the end walls and extensions may be secured in erected position by suitable fastening devices such as staples and the like. The article to be shipped is then placed in the carton on the bottom wall and the top section folded on the score line 13

to move the side and end walls of said top section interiorly of the side and end walls of the bottom section. The sections are then secured in closed position by suitable fastening as, for example, applying a strip of tape 46 having an adhesive coating 47 on one face thereof to the joint between the top and bottom sections as illustrated in Figs. 1, 3 and 4. This provides a carton having triple thicknesses at the sides and quadruple thickness at the ends, and further provides an additional three thicknesses of the carton stock in the ends adjacent the corners of the carton to form a very strong high-stacking strength carton. If desired, the extensions on the side walls may be doubled to add further rigidity and stacking strength at the corners of the carton to protect the contents of the carton against damage during shipment and storage.

It is to be understood that while I have illustrated and described one form of my invention, it is not to be limited to the specific form or arrangement of parts herein described and shown except insofar as such limitations are included in the claim.

What I claim and desire to secure by Letters Patent is:

A carton formed from a single rectangular sheet of paperboard folded about an article contained therein comprising, two foldably connected sections, one section including a bottom wall, the other section including a top wall, a side wall connecting the adjacent side edges of the top and bottom walls along the length thereof and being scored on a plurality of spaced score lines to divide said side wall into three coextensive side wall panels folded flat against each other as inner, intermediate and outer side wall panels in superimposed relation to form said side wall of three thicknesses, a folding side member integral with and connected along a hinge score to the other side edge of the bottom wall, said folding side member being scored parallel to the hinge score to divide same into two coextensive bottom inner and outer side panels, said bottom inner panel being folded inwardly to lie inwardly of and against said bottom outer panel in superimposed relation to form a bottom side wall of two thicknesses, folding bottom end walls integral with and connected along hinge scores to opposed end edges of said bottom wall and being substantially coextensive therewith, said bottom end walls each being rectangular and divided by score lines parallel to the respective hinge scores into coextensive bottom inner and outer end panels, said bottom inner end panels being folded inwardly to be inwardly of and against said bottom outer end panel in superimposed relation to form each of said bottom end walls of two thicknesses, rectangular extensions on the ends of each of the inner, intermediate and outer side wall panels of said side wall

and each of said bottom inner and outer side panels of said bottom side wall and connected thereto along hinge scores, said extensions each having a length corresponding to the combined height of the inner and outer end panels of said bottom end walls and being turned inwardly and lying between said bottom inner and outer panels of said bottom end walls, said bottom side and end walls having a height substantially corresponding to the height of an article contained in the carton, a rectangular top side wall connected along a hinge score to the other side edge of the top wall, folding top end walls integral with and connected along hinge scores to the opposed end edges of said top wall and being substantially coextensive therewith, said top end walls each being divided by score lines parallel to the respective hinge scores into coextensive top inner and outer end panels, said top inner end panels being folded inwardly to be inwardly of and against said top outer end panel in superimposed relation to form each of said top end walls of two thicknesses, rectangular extensions on the ends of said top side wall and connected thereto along hinge scores, said extensions on said top side wall each having a length corresponding to the length of the extensions on the panels of said bottom side wall and the combined height of the inner and outer panels of said top end walls, said extensions on the top side wall being turned inwardly and lying between the inner and outer panels of said top end walls, said panels of the bottom side and end walls and panels of the top side and end walls and the extensions on the top and bottom side walls being free of securing means to retain same in folded relation, said top side and end walls being positioned between and engaged with the bottom side and end walls and the edges of an article contained in the carton whereby said inner panels of said top end walls and extensions on the top side wall are held in folded position when in carton closing position, and external means securing the top and bottom sections together in closed position to enclose an article therein.

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