

Sept. 2, 1958

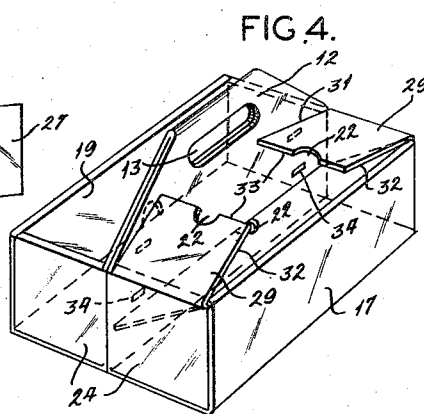
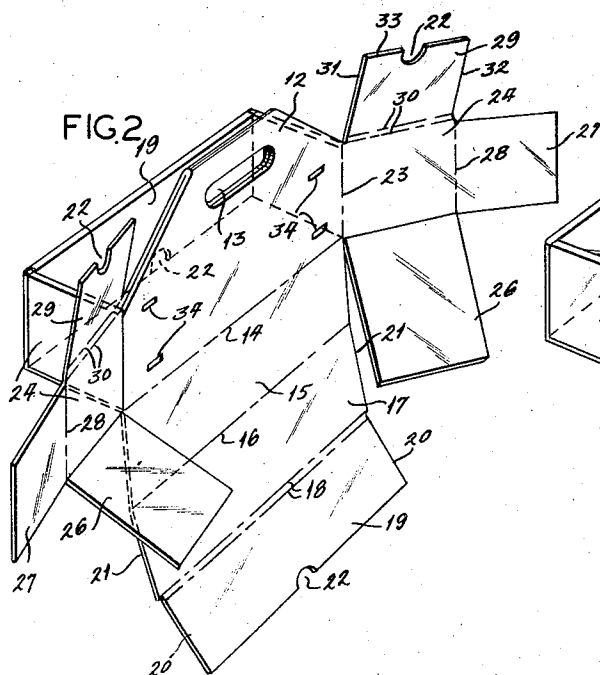
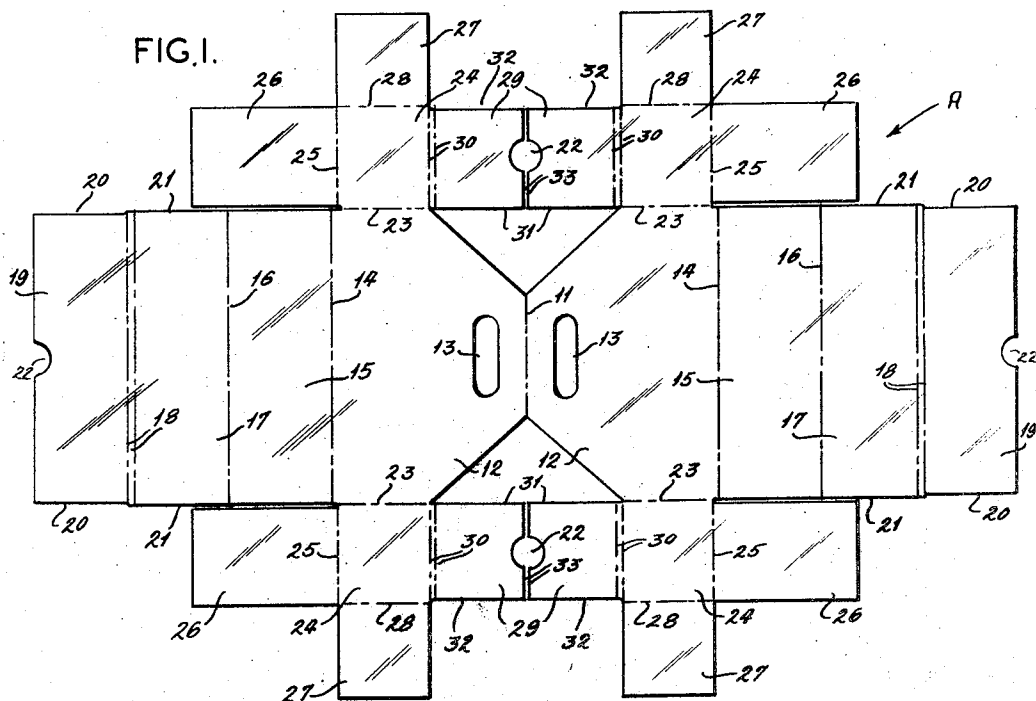
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2,850,223

CARRIER FOR ARTICLES

Filed Jan. 10, 1955

2 Sheets-Sheet 1



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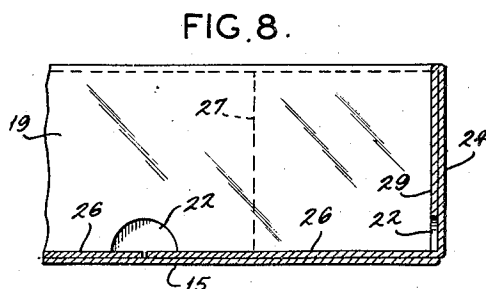
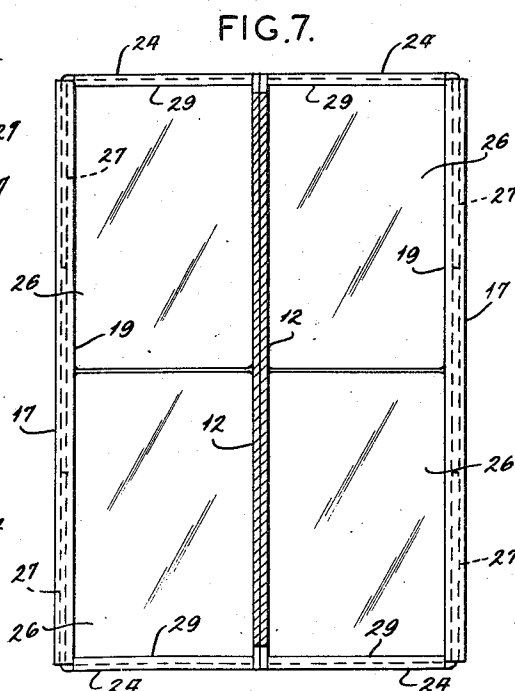
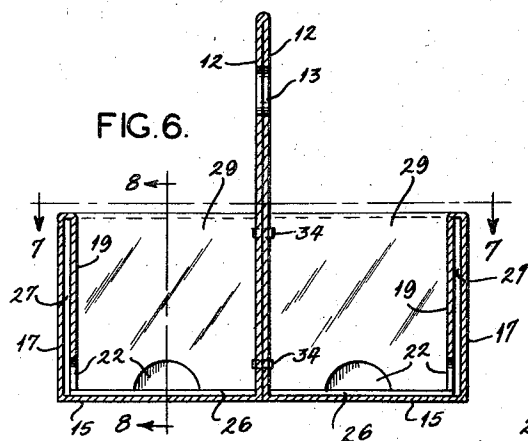
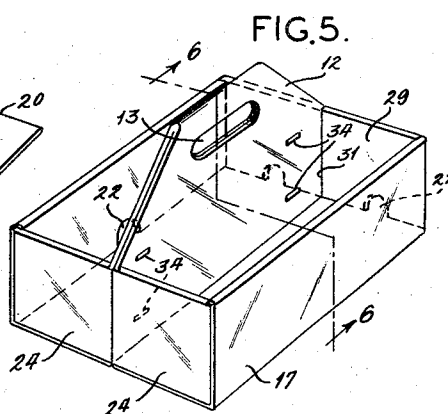
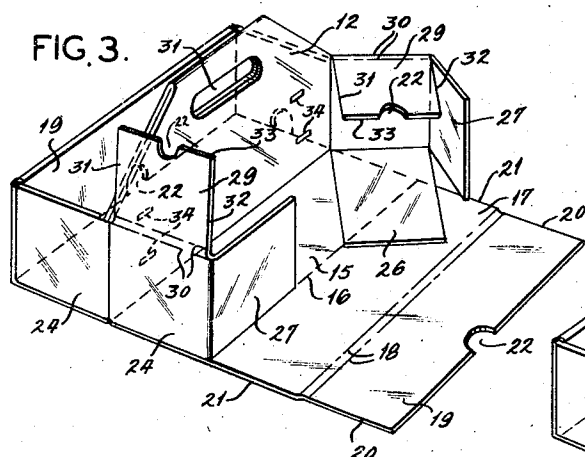
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CARRIER FOR ARTICLES

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2 Sheets-Sheet 2



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2,850,223

## CARRIER FOR ARTICLES

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Application January 10, 1955, Serial No. 480,876

1 Claim. (Cl. 229—27)

The invention appertains to a heavy-duty, handled carrier constructed of bendable material, such as solid fibreboard, corrugated fibreboard or any other suitable material.

There are a great many heavy-duty carriers in use today which possess sufficient strength and rigidity to be re-used many times. These is a need, however, for a heavy-duty, re-useable carrier which may be partially pre-assembled by the manufacturer so that the user may readily erect the carrier without requiring the use of additional tools or fastening means. It is, therefore, an object of this invention to provide a unitary, re-usable carrying device of the type described which may be partially pre-assembled by the manufacturer by stitching or otherwise securing adjacent portions into flatwise, contacting relation with each other so that the carrier may be shipped in flatwise, knocked-down condition to the user.

Another object of this invention is to provide, in a reinforced, unitary container, which may be partially erected by the manufacturer, a carrier which has a longitudinal dividing-handle member and opposed side and end walls and bottom panels which have at least two thicknesses of material therein.

Still another object of this invention is to provide a carrier of the type described which may be manually assembled and erected without requiring the use of extrinsic fastening means, jigs or forms.

Still another object of this invention is to provide a container having end wall reinforcing flaps which engage against the side wall reinforcing flaps to prevent the carrier from being accidentally disassembled during use.

This invention also consists in the parts, arrangements and combination of parts hereinafter described and claimed. The accompanying drawings form a part of this specification and like numerals and symbols herein appearing refer to like parts wherever they occur.

Fig. 1 is a plan view of a blank embodying a preferred form of the invention;

Fig. 2 is a perspective view of the blank in Fig. 1 illustrated in a partially erected condition;

Fig. 3 is a perspective view of a partially erected blank shown in a further stage of erection;

Fig. 4 is a perspective view of a carrier embodying a preferred form of the invention wherein the erection is completed except for the end wall reinforcing flaps;

Fig. 5 is a perspective view of a completely erected container;

Fig. 6 is a vertical, sectional view taken through sections 6—6 of Fig. 5;

Fig. 7 is a horizontal, sectional view taken through lines 7—7 of Fig. 6; and

Fig. 8 is a vertical-longitudinal, sectional view taken through lines 8—8 of Fig. 6.

A blank A, illustrated in Fig. 1, is scored and cut to provide a carrier employing a preferred form of the invention when erected. The blank A is preferably symmetrical about a center top score 11 which defines a hinged connection for a pair of handle-partition panels 12, each

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provided with elongated handhold openings 13. The handle-partition panels 12 are provided with bottom corner scores 14 which define a hinged connection with bottom panels 15. In the embodiment illustrated, the bottom panels 15 are each equal to substantially one-half the bottom area of the container. Side corner scores 16 define hinge connections for side wall panels 17, while a pair of spaced, parallel sidetop scores 18 define a hinged connection to the side wall reinforcing flap 19. The end edges 20 of the side wall reinforcing flap 19 are preferably disposed slightly inwardly from the bottom and side wall panel end edges 21 for reasons which will be apparent later in the description of the invention. Finger openings 22 may be provided in the free side marginal edge of the side wall reinforcing flaps 19.

Each handle-partition panel 12 is provided at its end edge with end scores 23 which define hinged connections for end wall half panels 24. Each end wall half panel 24 is provided at its bottom edge with a bottom end score 25 which defines a hinge connection for a bottom panel reinforcing flap 26. In the embodiment of the invention illustrated, the bottom reinforcing flap 26 is approximately one-half the length and approximately equal in width to the bottom panel 15. A side wall panel reinforcing tab 27 is hingedly connected to the end wall half panel 24 along an end corner score 28. End wall reinforcing flaps 29 are hingedly connected to the end wall half panels along parallel spaced end wall top scores 30. If desired, the end wall reinforcing flaps 29 may be provided with finger openings 22 to facilitate the assembly and disassembly of the carrier.

In the embodiment of the carrier illustrated, the inner edge 31 is in substantial alignment with the adjacent end score 23, while the outer edge 32 is displaced slightly inwardly as best shown in Fig. 1. Each end wall reinforcing flap 29 is provided with a relatively straight bottom edge 33 which, as shown in the sectional view in Fig. 6, is in substantially edgewise abutting relation with the upper face of the adjacent bottom panel reinforcing flap 26.

In ordinary commercial practice, the blank A, as illustrated in Fig. 1, is formed by die cutting equipment. It is customary for the manufacturer of the box to fold the blank A about the top score 11 so that adjacent, complementary carrier parts are in flatwise registering relation with each other. In this position, the adjacent handle-partition panels are immovably secured together by means of metal stitches 34 (illustrated) or any other suitable means, such as glue or adhesive. The carrier is now ready to be shipped to the user in the flatwise, partially fabricated condition.

The user may readily assemble the carrier without special tools, glue, stitches or other extrinsic equipment. For purposes of illustration, a preferred sequence of erection is shown in Figs. 2 through 5. One of the sides of the tray portion is shown already erected.

In Fig. 2 the carrying tray is shown with the end wall half panels 24 folded angularly outwardly with respect to the handle-partition panels 12. The bottom panel 15 is shown folded downwardly with respect to the handle-partition panel 12. In order to erect a side compartment of the container, the bottom panel reinforcing flaps are folded upwardly into right angular relation with their adjacent bottom end scores 25. The end wall half panels are then folded about the end scores 23 until they are in substantially right angular relation with the adjacent handle-partition panel 12. In this position, the previously folded bottom panel reinforcing flaps 26 are in substantially co-planar relation with each other with their free end edges in substantially abutting relation. The side wall panel reinforcing tabs 27 are next folded inwardly about the end corner scores 28 into right angular relation with the end wall half panels.

The adjacent bottom panel 15 is now folded upwardly about the bottom corner score 14 into flatwise, horizontal relation with the underface of the previously positioned bottom panel reinforcing flaps 26. The side wall panels 17 are swung vertically upwardly about the side corner scores 16 until their inner faces are in contacting relation with the previously positioned side panel reinforcing tabs 27. The longitudinal side wall of the container is completed by folding the side wall reinforcing flap 19 inwardly and downwardly about the side wall top scores 18 so that the side wall reinforcing flap 19 is in contacting relation with the inner faces of the side wall panel reinforcing tab 27. In this position, the free side edge of the side wall reinforcing flap 19 will be in substantially contacting, abutting relation with the upper face of the bottom panel reinforcing flaps 26. The fabrication of the carrying tray is completed by folding the end wall reinforcing flaps 29 inwardly about the end wall top scores 30 until they are in flatwise contacting relation with the inner face of the end wall half panels 24. In this position, the inner and outer edges 31 and 32 of the end wall reinforcing flaps 29 are in contacting, abutting relation respectively with the adjacent faces of the handle-partition panel 12 and the side wall reinforcing flap 19. In this manner, means are provided for keeping the flap 19 in upright position so that the container will not accidentally become disassembled during use. It is also preferred that the bottom edge 33 of the end wall reinforcing flap 29 be positioned in abutting, contacting relation with the upper face of the bottom panel reinforcing flap 26. In this manner, accidental movement of the end wall reinforcing flap 29 is obviated.

The container provided by this invention is sturdy and rigid without requiring the use of extrinsic fastening means to erect the tray portions of the carrying container. In samples of the device, it has been found that the abutting, contacting edges 31, 32 and 33 of the end wall reinforcing flaps 29 maintain the tray part in rigid, sturdy relationship. It is necessary to provide finger openings 22 to enable the carrier to be disassembled or knocked-down after erection. Finger openings 22 may also be added in the side wall reinforcing flap 19. The carrying tray provided by this invention has a 2-ply, longitudinal handle-partition member, and every other component, viz., the end walls, the side walls and the bottom walls are of at least 2-ply thickness throughout.

The embodiment described and illustrated is illustrative and not restrictive. It is to be understood that the invention may be employed in other modified forms which are similar or equivalent hereto and which come equally within the scope of the claim next appearing.

What I claim is:

A unitary carrying tray having a body section and a two-ply longitudinal partition member, the body section being comprised of horizontally disposed half bottom panels and laterally disposed end wall half panels respectively hingedly connected to the bottom and end margins of each partition member ply, each half bottom panel having a side wall forming flap hingedly connected thereto along its longitudinal side margin, each laterally disposed end wall half panel having a side wall reinforcing tab hingedly connected thereto along a vertical corner defining score and disposed longitudinally of the tray in flatwise contacting relation with the inner face of the upright side wall forming flap, and bottom reinforcing flaps foldably connected to the bottom edge of said end wall half panels and disposed horizontally inwardly in flatwise relation against the upper face of the half bottom panels, free inner end edges of each bottom reinforcing flap being disposed in parallel relation to the hinged connection of the end wall half panels and in aligned relationship with the opposite counterpart opposing bottom reinforcing flap, each side wall panel having a side wall reinforcing flap hingedly connected thereto along its top longitudinal margin and disposed downwardly in flatwise contacting relation to the side wall reinforcing tabs, free longitudinal side edges of the side wall reinforcing flaps being disposed in edgewise, abutting, frictional relation with the bottom reinforcing flaps to securely maintain the bottom reinforcing flaps in horizontal position, each laterally disposed end wall half panel being provided with an end wall reinforcing flap substantially coextensive in area therewith and foldably connected thereto along its top margin, each end wall reinforcing flap having a vertical side edge disposed in edgewise, frictional, abutting relation to adjacent marginal edge faces of the side wall reinforcing flap to frictionally lock said side wall reinforcing flap and said end wall reinforcing flaps securely in vertical position, and each end wall reinforcing flap having a free horizontal bottom edge disposed in edgewise, frictional, abutting relationship with the upper face of the bottom panel reinforcing flap.

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