Sept. 22, 1953 W. C. GEORGE 2,652,970

FOLDED-BLANK CARTON

Filed Oct. 1, 1948 2 Sheets-Sheet 1

FIG. 1.

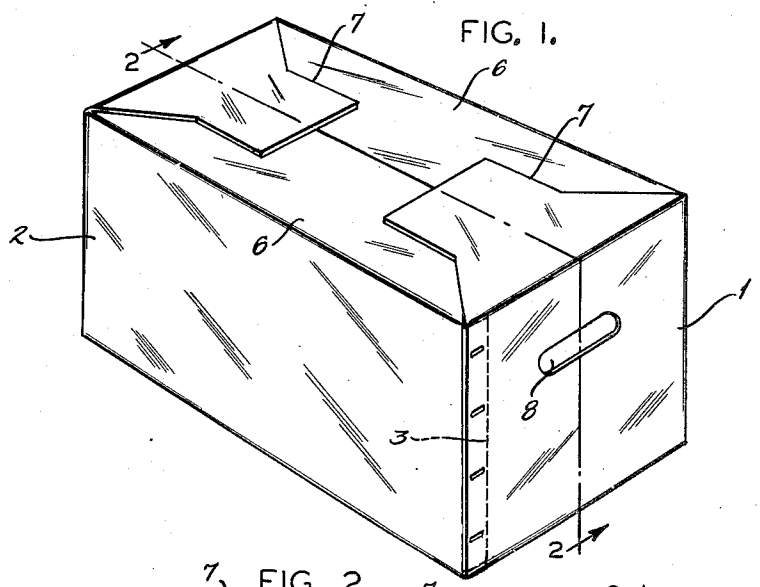


FIG. 2.

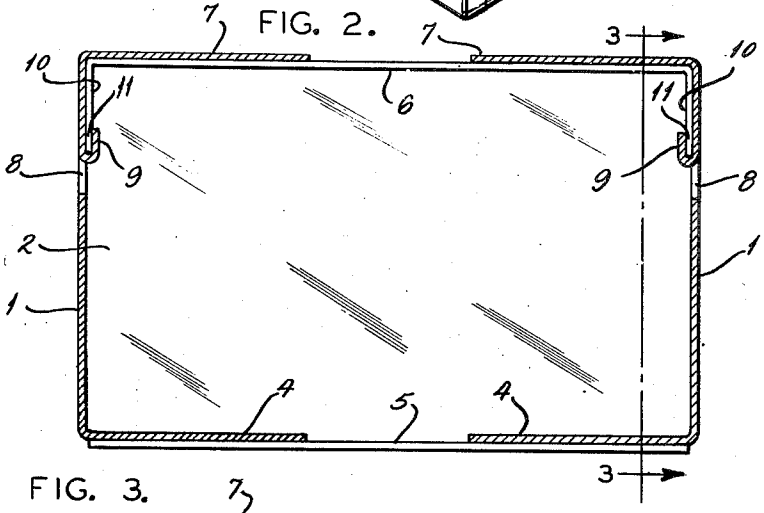
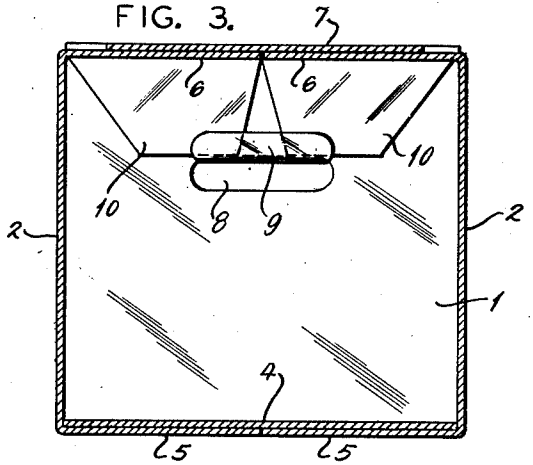


FIG. 3.



INVENTOR:

Walter C. George,

By Carr & Carr & Gravely,

HIS ATTORNEYS.

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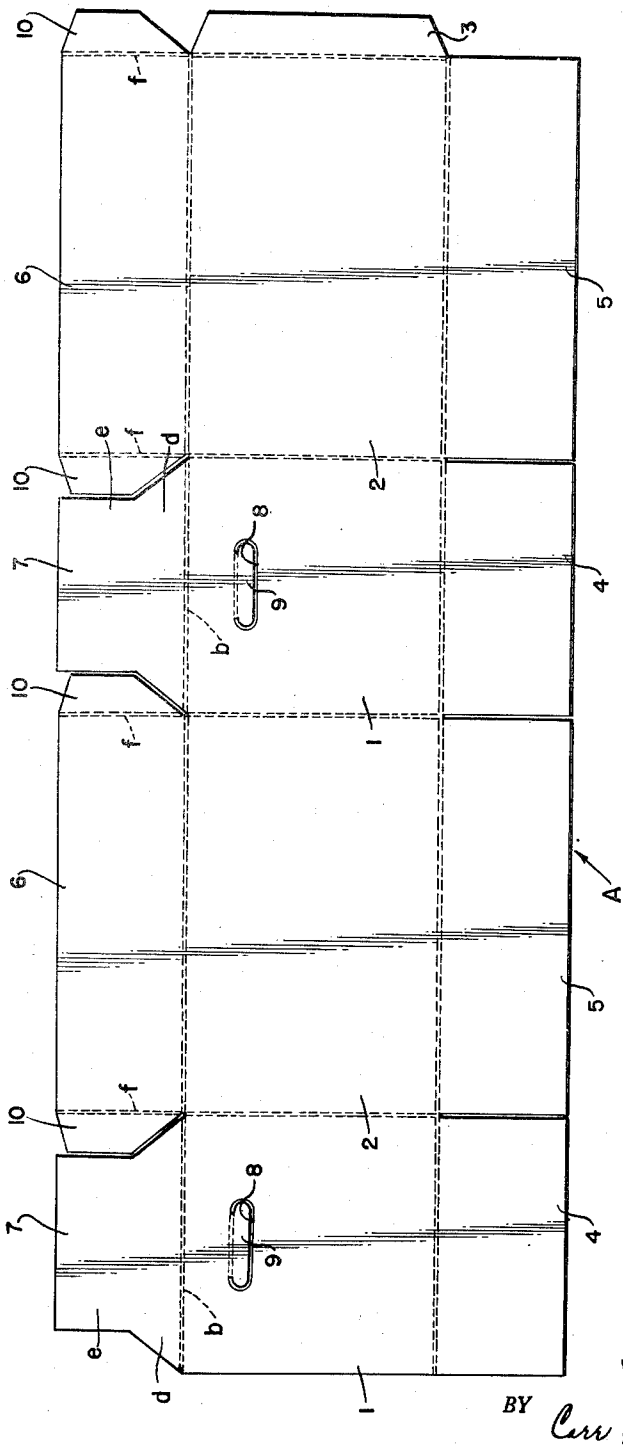


FIG. 4

INVENTOR.
Walter C. George

BY Carr & Carr & Gravely

ATTORNEYS

Patented Sept. 22, 1953

2,652,970

UNITED STATES PATENT OFFICE

2,652,970

FOLDED-BLANK CARTON

Walter C. George, St. Louis, Mo., assignor to Gaylord Container Corporation, St. Louis, Mo., a corporation of Maryland

Application October 1, 1948, Serial No. 52,325

2 Claims. (Cl. 229—37)

1

This invention relates to one-piece, folded-blank cartons of the type having side wall flaps, each covering half of the top of the carton, and end walls having hand holes therethrough with flaps struck therefrom that are bent upwardly along the inner sides of said end walls to strengthen the carton above the hand holes and to provide the latter with smooth, rounded upper edges.

The present invention has for its principal objects to provide a simple and inexpensive carton of the above type having end walls with sealing flaps that are folded down upon and firmly secured to the closed half cover flaps over the meeting edges thereof during shipment and having depending flanges at the ends of the cover flaps adapted, in the closed position of said cover flaps, to seat in upwardly opening troughs formed by the upturned hand hole flaps to thereby strengthen and stiffen the end portions of the carton above said hand holes. The invention consists in the one-piece, folded-blank carton and in the parts and arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a perspective view of a folded-blank bottle shipping carton embodying my invention,

Fig. 2 is a central vertical, longitudinal sectional view on the line 2—2 in Fig. 1;

Fig. 3 is a vertical transverse sectional view on the line 3—3 in Fig. 2, and

Fig. 4 is a plan view of the blank from which the carton is formed.

In the accompanying drawing, my invention is shown embodied in a bottle shipping carton made from a single cut and scored blank of bendable material, such as fiber or corrugated board, the blank being shown in Fig. 4 and generally designated A. The blank is folded to form end walls 1 and side walls 2 and a corner fastening flap 3 located at one end of one of said side walls and stapled or otherwise secured flatwise to the end portion of the end wall adjacent thereto. The end walls 1 have inwardly extending lower marginal flaps 4 that terminate short of one another, and the side walls 2 have lower marginal closure flaps 5 that are bent inwardly towards each other in edgewise abutting relation along the longitudinal center line of the carton and are adhesively or otherwise permanently secured to the undersides of said wall flaps and form therewith the bottom of the carton.

2

The side walls 2 have upper marginal cover flaps 6 that fold inwardly at right angles to said wall with their free longitudinal edges in edgewise abutting relation, each cover flap covering half of the top of the carton. The end walls have upper marginal sealing flaps 7 that are hingedly connected thereto and folded downwardly upon the closed cover flaps 6 and adhesively or otherwise permanently secured flatwise thereto over the abutting edges thereof, the hinge connections of the sealing flaps 7 with the end walls 1 being designated *b*. As shown in Fig. 1 of the drawings each of the sealing flaps 7 comprises a base portion *d* tapering symmetrically from the hinge connection *b*, and a terminal coplanar substantially rectangular portion *e* of less width than the base portion *d*. The end walls 1 also have horizontally elongated hand holes 8 extending therethrough near the upper ends thereof midway of the sides thereof. The hand holes 8 have flaps 9 along the upper edges thereof that are bent inwardly therethrough and extend upwardly along the inner faces of the end walls in spaced relation thereto, the hand hole flaps being formed by the portions struck from the end walls to form said hand holes. The hinged half cover flaps 6 have depending tuck tabs or flanges 10 at the ends thereof hingedly connected thereto, adapted, in the closed position of said cover flaps, to enter and seat in the upwardly opening grooves or troughs 11 formed by the upturned hand hole flaps 9. The hinge connection *f* of each of the end flanges 10 with its respective cover flap 6 is as shown in the drawing of the same length as the combined lengths of the sealing flap portions *d* and *e*, and each of said end flanges has a width substantially equal to one-half the difference between the width of the rectangular sealing flap portion *e* and the length of the flap hinge connection *b*.

The hereinbefore described one-piece folded carton has several important advantages. It is simple and inexpensive and light in weight and may be quickly and easily erected. The upper marginal sealing flaps 7 of the end walls 1 are firmly secured flatwise to the tops of the closed half cover flaps 6 and serve to securely hold them in closed position and afford vertical support therefor, said sealing flaps closing the end portions of the joint between the edges of the cover flaps and the joint between the cover flanges and the inner face of the upper margin of the end walls 1. The particular construction provides for forming end cover flanges of side portions severed from the sealing flaps. When the

cover flaps 6 are closed, the depending tuck tabs or flanges 10 at the ends thereof enter the upwardly opening troughs or grooves 11 formed by the upturned hand hole flaps 9, and are securely held in said grooves by the sealed securing flaps 7 during shipment; and said hand hole flaps are adapted to assist said sealing flaps in supporting said cover flaps.

When the carton is handled or lifted by the hand holes 8, the depending tuck flips or flanges 10 of the two cover flaps 6 are clamped by the hands between the end walls 2 and the upwardly bent interior hand hole flaps 9, thereby providing three ply end wall portions above the hand holes 8 for stiffening and strengthening the carton and for supporting the weight thereof. The hand hole flaps 9 also provide smooth rounded edges for the fingers along the upper edges of the hand holes and also serve as wear strips and prevent tearing of the upper portions of the hand holes due to lifting strains thereon. The carton may be opened by tearing the sealing flaps 7 from the cover flaps 6.

Obviously, the hand hole flaps 9 may be given any one of several initial positions. They may be preformed as shown into a trough member in which the cover flanges or tabs 10 fit rather snugly, they may be bent upwardly into somewhat V-shape, in which case they will be pressed tightly against the cover flanges when grasped to lift the carton, or they may be left somewhat depending in the first instance, in which case, also, the natural movement of the fingers and hands during the lifting operation serves to lift the flaps upwardly into engagement with the cover flanges.

What I claim is:

1. A one-piece folded-blank carton comprising end walls and side walls having upper marginal half cover flaps the free edges of which flaps are in substantial horizontal abutment, said half cover flaps having hingedly connected, inwardly depending end flanges adapted, when said cover flaps are closed, to extend into said carton alongside the inner faces of said end walls, each of said end walls having hingedly connected thereto an upper marginal sealing flap, said sealing flap comprising a base portion tapering symmetrically from the hinged connection and a terminal coplanar substantially rectangular portion of less width than the said base portion, each of said end flanges having a hinge connection with its respective cover flap of the same length as the combined lengths of the sealing flap portions, each of said flanges having a width substantially equal to one-half the difference between the width of the rectangular flap portion and the length of the flap hinge connection, and said sealing flaps overlapping said cover flaps and secured flatwise exteriorly thereto so as to close the end portions of the joint between the edges of the covers and the joint between the cover flanges and the inner face of the upper margin of said end walls, whereby certain of the end cover flanges may be formed of side portions severed from the sealing flaps.

2. The carton as defined in and by claim 1 wherein each of said end walls has a horizontally elongated hand hole therethrough and a foldable tab integral with the end wall and defining the upper edge of the hand hole, each of said tabs extending upwardly on the inner opposed faces of the end walls and overlapping adjacent portions of the depending end cover flanges.

WALTER C. GEORGE.

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