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T. W. FOSTER

2,832,504

CAN CARTON WITH HANDLE

Filed May 27, 1955

2 Sheets-Sheet 1

Fig. 1

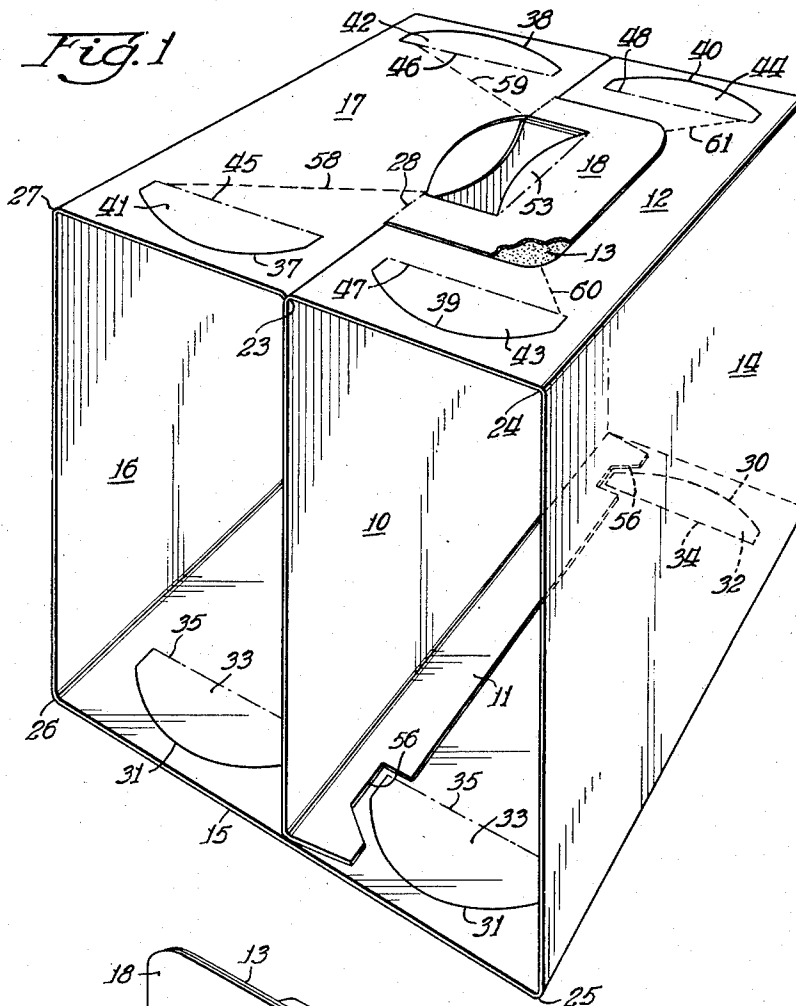
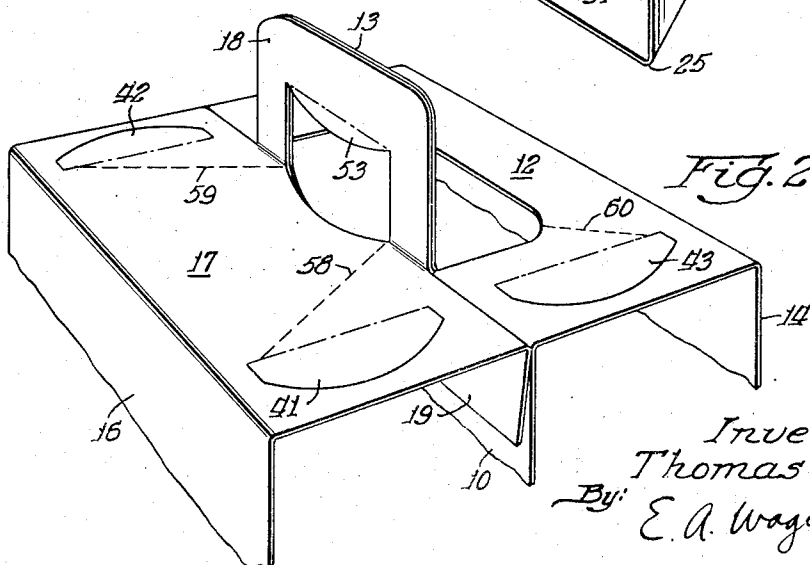


Fig. 2



Inventor:
Thomas W. Foster
By: E. A. Wagonmiller
Att.

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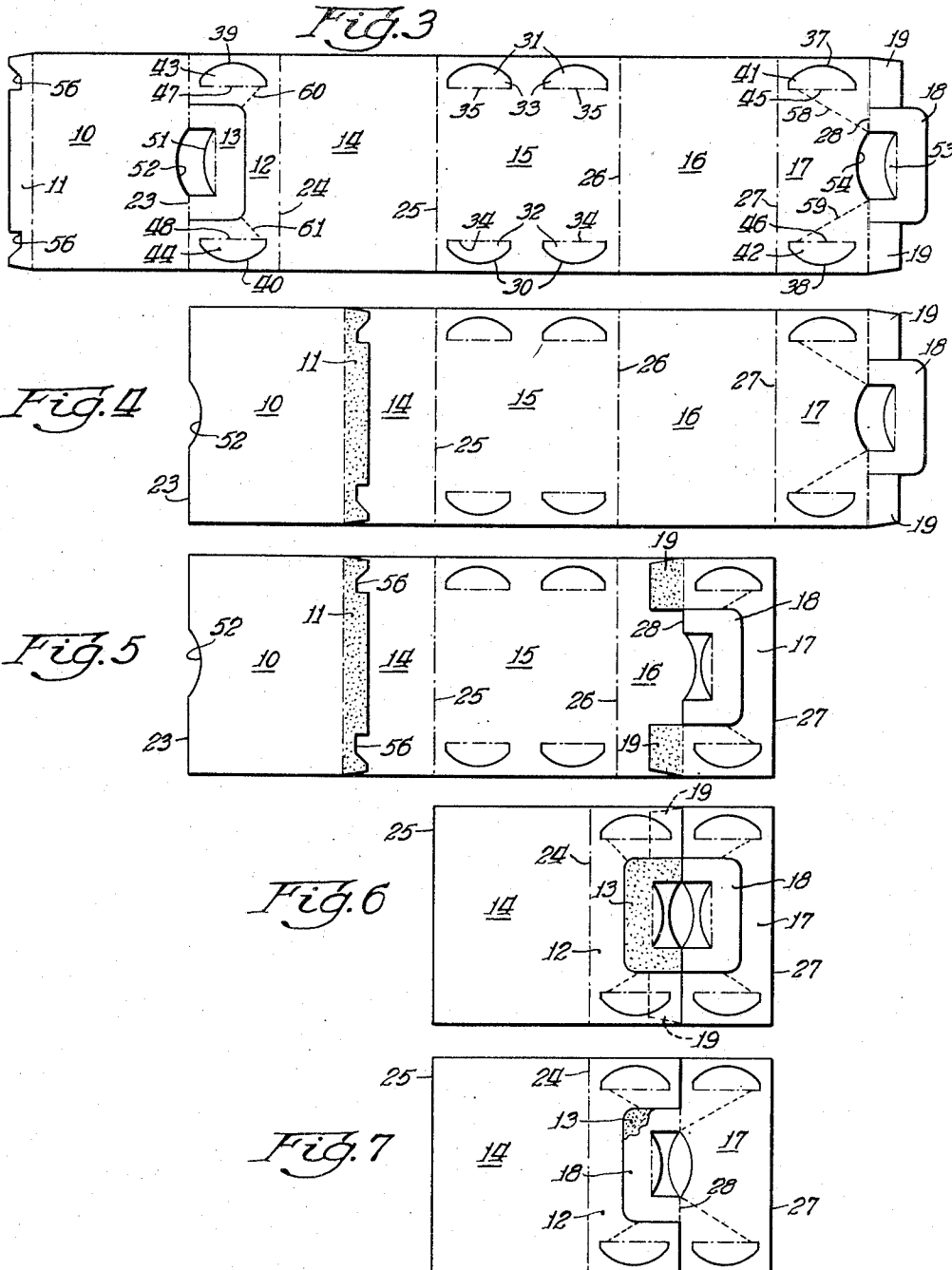
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Inventor:
Thomas W. Foster
By: E. A. Wagonseller

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CAN CARTON WITH HANDLE

Thomas W. Foster, Chicago, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Application May 27, 1955, Serial No. 511,580

2 Claims. (Cl. 220—115)

The present invention relates to cartons and more particularly to cartons for retention and transportation of cans of beverage and other commodities.

An object of the present invention is to provide a simple, sturdy and economical form of carton with carrying handle, adapted in its downfolded position to be closely adjacent to the plane of one of the carton walls, and which can be easily and quickly moved to carrying position.

Another object is to provide a carton of the type referred to which is formed with a reinforcing and separating member located centrally of the carton and combining with such separating member a handle structure which, during the carton manufacturing stage as well as loading and transportation stages, will remain closely adjacent to one of the walls of the carton, and which can easily be moved from its inoperative position to its operative handle-forming position by simple finger manipulation by the user.

Another object of the invention is to provide a two-compartment carton with center partition and a single panel bottom to which the center partition is secured by an attaching flap extending parallel with the bottom and on which at least some part of the contents is adapted to rest.

Still another object is to provide a two-compartment carton with center partition and a top wall formed of two interconnected panels one of which is integral with a handle member which is joined to a similar handle member on the center partition, and in which the top panel which carries the handle member is also provided with attaching flaps at the sides of the handle for attachment in a vertical plane to the upper portion of the center partition.

Further objects of the invention are generally to improve and strengthen can cartons of this character and, in cases in which the cartons are to be loaded by carton loading machines, to simplify and make more certain, easy and rapid the filling of such cartons by such machinery.

Additional and more specific objects of the invention will become apparent as the description proceeds.

In the drawings

Fig. 1 is a perspective view of a carton embodying the present invention showing the carton in open position ready to receive contents such as recessed end or chimed end cans, and showing the carton handle in lowered position;

Fig. 2 is a fragmentary perspective view taken from a different angle from Fig. 1, showing the handle in raised position and showing how the top panel carrying the handle is secured to the center partition;

Fig. 3 is a plan view of the preferred form of blank for forming the carton; and

Figs. 4 to 7 inclusive are plan views showing the successive steps in securing the parts of the carton, resulting in a completed carton in flat, collapsed, tubular form capable of being brought to expanded condition by applying pressure to the opposite folded edges of the carton.

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The carton of the present invention is particularly advantageous for use in the transportation of filled chimed cans. In its preferred form it comprises four hingedly connected walls in the shape of an open ended tube, there being a partition dividing the carton into two compartments. The top wall comprises two connected sections and a double thickness handle panel is provided at the juncture of the sections. One thickness of the handle panel is formed as an integral extension of one of the top sections and the other is integral with an edge of the partition panel and cut from the body of the other top panel section. The two handle panels are disposed in face to face relation and are adapted to lie closely adjacent the plane of the carton top.

Referring more particularly to the drawings, the carton is preferably, although not necessarily, formed of a single blank of folding paperboard suitably cut and creased to provide a partition panel 10, carrying an attaching flap 11 on its outer edge, a section 12 which forms half of a two-section top wall panel, a handle panel 13 integral with an edge of the partition panel and cut from within the contour of the top section 12, a side wall panel 14 attached to the top section, a bottom panel 15, a second side wall panel 16, a second half of the two-section top wall panel, indicated at 17, and a second handle panel 18, and attaching flaps 19, 19. A crease line 23 separates the legs of handle 13 and top wall section 12 from the partition wall 10. A crease line 24 separates handle section 12 from side wall 14. Crease lines 25 and 26 separate the adjoining edges of the side walls from bottom wall 15. A crease line 27 separates side wall 16 from the second top section 17. A crease line 28 separates the second top section from leg portions of the handle panel 18 and from the attaching flaps 19, 19.

The bottom panel 15 is formed with two pairs of curved cuts 30, 30 and 31, 31 providing can retaining tabs 32, 32 and 33, 33 foldable along crease lines 34, 34 and 35, 35 interiorly of the carton to a position close to the inner surface of the bottom so that the free edges of the tabs can engage the chimes of cans placed within the carton and retain the cans therein.

The two half sections 12 and 17 are likewise formed with similar curved cuts 37, 38, 39 and 40, forming retaining tabs 41 and 42 on section 17 and retaining tabs 43 and 44 on section 12. Crease lines 45, 46, 47 and 48 are formed in the top sections along which the respective retaining tabs may be folded interiorly of the carton to engage chimes of cans placed therewithin.

For a more detailed explanation of the manner of engaging and retaining cans in cartons of this type, reference is made to the patent to Thomas Foster, No. 2,523,985, issued September 26, 1950.

The handle panel 13 is preferably formed of U-shape with the portion between the legs of the handle cut away except for a foldable flap or tab 51 extending inwardly from the gripping portion of the handle and foldable out of the plane of the handle to provide a flat finger engaging surface for ease in carrying. An additional cut 52 is formed in the partition panel 23, adjacent to the handle to provide somewhat more room for fingers of the person carrying the filled carton and also to decrease the likelihood of tearing of the leg portions of the handle from the partition panel.

The handle panel 18 is formed of a size and shape comparable with the handle panel 13 and has a dependent tab or flap 53, similar to flap 51, extending from the lower edge of the gripping section of the handle. There is also a curved cut 54 formed in the panel 17 serving to decrease the likelihood of tearing of the legs of the handle from wall section 17.

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In the assembly of the carton it is preferred to employ suitable adhesive. While the gluing may be done by hand operation machine operation is preferred. A convenient manner of assembly is to provide a gluing and folding mechanism which takes the blank flat as illustrated in Fig. 3. While the blank is conveyed transversely to its length, adhesive is applied to the underside of the flap 11, to the underside of the handle panel 13 and to the underside of the flaps 19, 19, as viewed in Fig. 3.

As the blank continues its movement it is folded along crease line 23 so that the partition panel 10 and attaching flap 11 will lie flat against panels 12 and 14. The blank is also folded along crease line 27 so that panel 17 and flaps 19, 19 will lie flat upon panel 16. During the folding of these portions the handle panel 18 is folded out of the plane of panel 17 so that, when panel 17 comes to rest upon panel 16, handle panel 18 will be folded to lie flat upon panel 17. At this point the carton will appear as illustrated in Fig. 5.

The carton is then folded along crease line 25 so that panel 10 and attaching flap 11 will lie flat upon bottom panel 15 and side wall 16. The carton will then appear as illustrated in Fig. 6 with panels 14, 12 and 17 exposed on top and panels 15 and 16 on the bottom. The attaching flap 11 will come to rest with one edge along the median line of panel 15 and its glue surface will be in contact with this panel and will become adhered thereto. The edge portion of the partition panel 10 will be brought down upon the glue surfaces of flaps 19, 19.

Finally, handle panel 18 will be folded over upon handle panel 13 and the carton will be held under suitable pressure until the glue has become set. The flat, collapsed, tubular cartons are then ready to be delivered to the user to be opened and filled with cans or similar articles.

The attaching flap 11 is preferably of a width somewhat greater than the distance between the edge of bottom panel 15 and the adjacent ends of the can retaining tabs. In order to prevent interference in the folding of the tabs the attaching flap is suitably cut away at 56, 56.

While a two thickness handle is preferable it is not considered necessary in every case, particularly if the folding paperboard employed is of sufficient strength and caliber or if the contents are relatively light. It is therefore within the scope of the invention to dispense with one or the other of the handle panels illustrated.

In practice the cartons are loaded with cans by bringing them to expanded form, folding the can retaining tabs inwardly approximately against their attached walls, and then inserting cans through the open ends of the cartons so that they will be engaged by the retaining tabs.

After filled cartons have been delivered to the retail store, the handle may be raised from its position adjacent panel 12 and the flaps 51 and 53 bent over to a position at approximately right angles to the handle panel thus providing a relatively flat surface bearing against the fingers of the person carrying the filled carton.

The carton top panel sections are preferably provided with lines of weakness to facilitate removal of the cans from within the carton. Panel 17, as illustrated, has two lines of separated cuts 58 and 59, extending from near the outer ends of the chime engaging tabs 41 and 42 to a point near the inner edges of the legs of the handle panel 18. Panel 12 has two lines of separated cuts 60 and 61 which extend from near the outer ends of tabs 43 and 44 to the adjacent cut away portions formed by cutting handle panel 13 from the panel 12.

The provision of the lines of weakness in the top panel enables the retaining tabs to be released in either one of two different manners. One of the tabs may be lifted at its hinge with the tab in its position bent around at approximately 180° and in engagement with a can chime. This lifting force will enable the tab and part of the top

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wall to be released and swung inwardly and upwardly toward the handle. The other manner of effecting release of the tabs is to grasp the portion of the top wall between the legs of the handle and pull upwardly and outwardly. This will cause tearing along both lines of weakness which will sever the central part of the top wall section from the handle to the top wall section line of hinge with the side wall. With this part of the wall released it is a simple matter to release the retaining tabs from the cans. For a similar disclosure of the provision of lines of weakness in the top wall panel of a can carton to permit ready release of the can retaining tabs, reference is made to the copending application of Thomas W. Foster, Serial Number 511,616, filed May 27, 1955, assigned to the same assignee.

In practice it is desirable to retain the handle panel in its flat or downturned position until the handle is ready to be used. For this purpose one or more small uncut portions 63, 63 will be left in the cut which separates handle panel 13 from the top panel half section 12. The panel will thus be retained in an out of the way position during the opening, loading and handling operations and may be brought to raised position by the user desiring to carry the filled carton by its handle.

While the present description sets forth a preferred embodiment of the invention, numerous changes may be made in the construction without departing from the spirit of the invention, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

1. A collapsible carton formed of foldable sheet material, said carton comprising a substantially rectangular one part bottom wall, two substantially rectangular side walls, a substantially rectangular top wall formed in two equal sections, a central partition integrally attached at its top to the inner edge of one of said top wall sections, each of the latter sections being provided adjacent each end thereof with a can retaining tab foldable to position adjacent the under face of said section and extending the major portion of the width thereof, said bottom wall being provided adjacent each end thereof with two can retaining tabs underlying and of approximately the same extent transversely of said carton as said top wall tabs and foldable to positions adjacent the upper face of said bottom wall, said central partition having at its bottom edge an attaching flap of approximately the same length as said partition and of substantial width seating on and secured to the upper face of said bottom wall at the medial area thereof and notched out to accommodate the inner end portions of the adjacent two bottom wall can retaining tabs, a first handle panel having leg portions integrally attached along fold lines to the upper edge of said partition and cut from said one top wall section, and a second handle panel similar to said first handle panel and integrally attached along fold lines to the inner edge of the other top wall section, said handle panels being secured together face to face.

2. A blank of foldable sheet material for the formation of a collapsible carton, said blank being of elongated rectangular shape and cut and scored to provide, in the order stated, an attaching flap, a partition panel, a first half top wall panel, a first handle panel cut from said first half top wall panel and integrally attached to the adjacent edge of said partition panel, a first side wall panel, a bottom wall panel, a second side wall panel, a second half top wall panel, a second handle panel integrally attached to the outer edge of said second half top wall panel, and attaching flaps at opposite sides of said second handle panel and integrally attached to the outer edge of said second half top wall

panel, said half top wall panels having adjacent the ends thereof retaining tabs attached thereto along transverse fold lines and said bottom wall panel having adjacent each end thereof two retaining tabs attached thereto along transverse fold lines of approximately the same extent as the fold lines of said tabs of said half top wall panels, said attaching flap having notches therein disposed to receive the inner portions of said bottom wall panel tabs when said blank is formed into a carton.

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