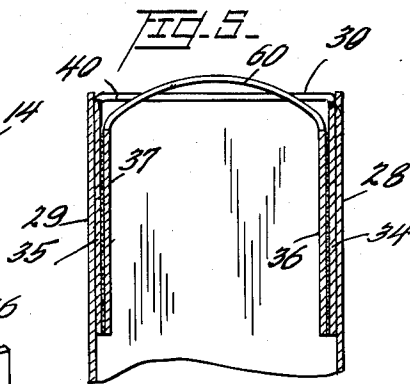
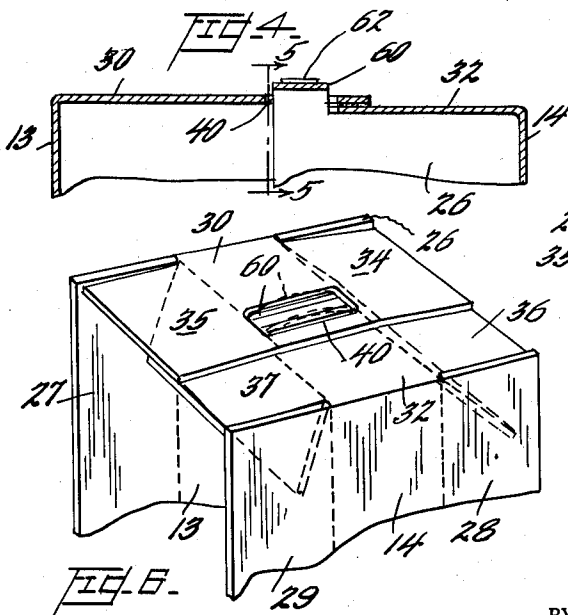
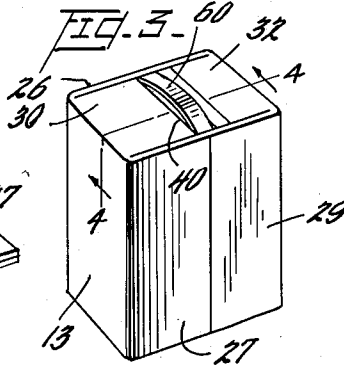
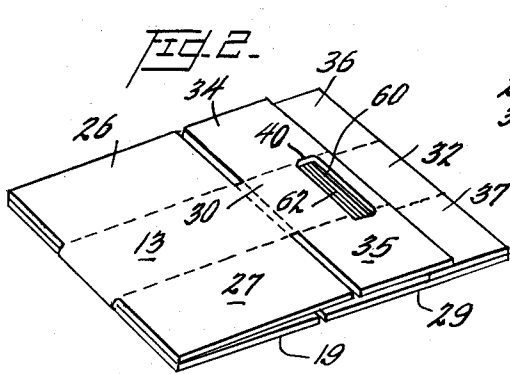
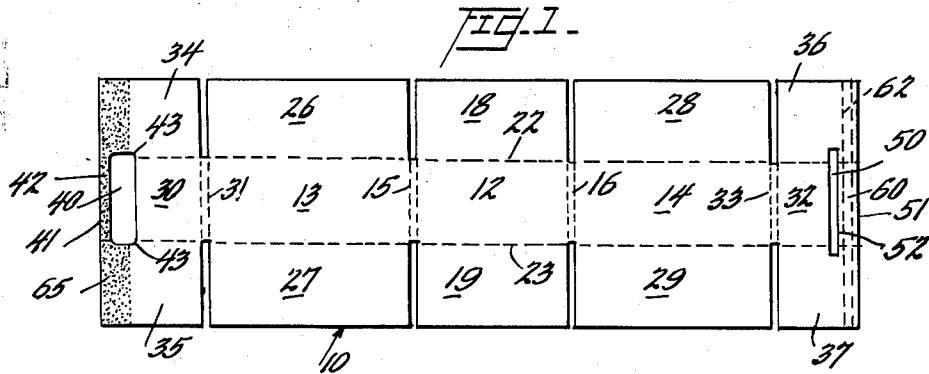


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CARTON WITH CARRIER HANDLE

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3,076,591

**CARTON WITH CARRIER HANDLE**

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6 Claims. (Cl. 229—52)

This invention relates to cartons, and particularly to a paperboard carton of the type provided with a handle for enabling the carton to be carried.

Paperboard cartons for canned goods and other articles have, in recent years, been provided with carrying handles of various forms.

Carrying handles heretofore proposed in cartons of this type have for the most part been either in the form of strap members requiring extra stock to be utilized as part of the blank from which the carton is made, or in the form of a separately formed strap member secured by various means to the carton.

It has also been heretofore proposed to provide cartons with a carrying handle formed from the glued overlapping portions of the paperboard blank which constitute the top wall of the carton, by providing weakened lines of separation along those portions, thereby enabling a narrow section of those portions to be pulled upwardly above the top of the carton, to serve as the carrying handle.

The carrying handles of paperboard cartons of the character above-mentioned entail the use of extra stock, or additional steps of manufacture, or the use of paperboard of substantial strength, or a combination of these.

In the prior application, Ser. No. 54,771, filed September 8, 1960, by one of the present applicants, there is disclosed and claimed a form of paperboard carton provided with a self-contained carrying handle which overcomes the above-mentioned objections attending the forms of carrying handles theretofore proposed.

The present invention constitutes an improvement upon the invention set forth in my above-identified application, and the present application is a continuation-in-part of said prior application.

It has been found, in actual use of cartons constructed with a carrying handle according to the invention set forth in said prior application, that in the erected carton, after the same has been filled with its contents, such as canned goods, the carrying handle lies so flat as to make it difficult for many people to pick up the carton readily by its carrying handle, or indeed to recognize the presence of the carrying handle on the carton.

The principal object of the present invention is to provide a carton having a built-in or self-contained single thickness carrying handle, constructed so as to enable the handle member automatically to assume, when the folded tubular carton is being erected from the collapsed form in which it is received by the packer of the goods, an upwardly bowed position so that it may readily be grasped by the fingers when the filled, closed and sealed carton is to be picked up and carried. This upward bowing of the handle member is sufficient to render it readily visible and recognizable for its intended purpose, as well as to enable a customer or other person readily to pick up and carry the filled carton.

Another object of the invention is to provide a carton

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of the character referred to, so constructed that it may be folded into flat tubular form at the place of manufacture for shipment in that flat form to the point of use, without presenting any annoying extensions or unglued overlapping margins which may catch on or otherwise interfere with the operation of the machinery used by the packer for conveying, and erecting the folded cartons into their set-up form for filling.

The foregoing and other objects and advantages of the invention will be more clearly set forth in the following specification, reference being made to the accompanying drawings.

In the drawings:

FIG. 1 is a plan view of a carton blank embodying the invention, prior to the folding of the blank into the form in which it may be shipped by the manufacturer;

FIG. 2 is a view in perspective, showing the blank of FIG. 1 after it has been folded and glued into tubular form for shipment;

FIG. 3 is a perspective view of the carton as it appears when set up, filled and closed;

FIG. 4 is a view in cross-section, taken vertically along line 4—4 of FIG. 3;

FIG. 5 is a view, partly in elevation and partly in cross-section, taken along line 5—5 of FIG. 4; and

FIG. 6 is a view depicting the manner in which the handle member is caused to assume its operative position.

Referring to the drawings, FIG. 1 illustrates, diagrammatically, a blank for forming a carton provided with a carrying handle in accordance with the invention.

The blank, indicated generally by numeral 10, is of rectangular outline and comprises a bottom wall panel 12 and a pair of side wall panels 13 and 14, hinged thereto along parallel fold or score lines 15 and 16, respectively. Inwardly foldable flaps 18 and 19 are connected with the bottom wall panel 12 along transverse hinge or score lines 22 and 23, parallel to one another. Likewise, inwardly foldable flaps 26 and 27 are connected to the side wall panel 13 along the hinge lines 22 and 23, respectively, and inwardly foldable flaps 28 and 29 are connected to side wall panel 14 along the hinge lines 22 and 23, respectively.

Terminal panels 30 and 32 of the blank 10 are connected, respectively, by hinge or score lines 31 and 33 to the side wall panels 13 and 14. Inwardly foldable flaps 34 and 35 are connected to panel 30 along the score lines 22 and 23, respectively. Likewise, inwardly foldable flaps 36 and 37 are connected to the panel 32 along the score lines 22 and 23, respectively.

As will be readily understood, when the blank thus formed is folded along transverse score lines 15 and 33 (or 16 and 31) so that the terminal panel 30 partially overlaps the terminal panel 32, and the overlapping portions are glued to one another, the blank will be in the collapsed or flat tubular form in which it is shipped by the manufacturer to the user.

The tubular form of the blank may be erected into its carton form with glued flaps 34, 36 and 35, 37, as well as flaps 18, 19 and 26, 27 (or 28, 29) folded inwardly in accordance with the conventional practice. The carton may then be filled, and the other set of flaps 28, 29 (or 26, 27) folded and glued to close and seal the carton.

In order to provide the carton with a carrying handle in accordance with the invention, the end panel 30, which partially overlaps the opposite end panel 32 in the folded

or set-up condition of the carton to constitute the top wall thereof, is provided near its outer edge with an elongated, relatively wide slot 40, extending transversely of the panel 30 substantially the full width of the latter and with its longitudinal axis extending preferably parallel to the terminal edge 41 of the blank. The transverse dimension of slot 40 may conveniently be about one and one-half inches, the outermost edge 42 of the slot being disposed inwardly of terminal edge 41 a distance which conveniently may be about one-half inch. The edges of the slot 40 at each of its opposite ends are preferably of slightly curved outline as indicated at 43, and these ends of the slot are disposed substantially along or slightly outward of the fold lines 22 and 23.

End panel 32, which is partially overlapped by panel 30 in the flat folded form of the carton, is formed with a relatively narrow, elongated slot 50 extending transversely of the panel 32 substantially the full width of the latter and with its longitudinal axis extending preferably parallel to the terminal edge 51 of the blank. The transverse dimension of slot 50 may conveniently be about one-quarter inch, and its outermost longitudinal edge 52 is disposed inwardly of terminal edge 51 a distance which conveniently may be about one inch, but which in any event is somewhat less than the transverse dimension of the slot 40 formed in end panel 30. The length of slot 50 is preferably such as to extend the full width of the panel 32 and for a short distance into the flaps 36 and 37 at its opposite ends. As will be more clearly set forth below, the portion of panel 32 which is bounded by edges 51 and 52 and fold lines 22 and 23 constitutes the carrying handle 60 of the carton constructed according to the invention.

In order to impart increased strength to the handle 60 constructed as above described, a relatively narrow reinforcing tape 62 is applied to one of its surfaces. This reinforcement is preferably provided by so-called rayon tape, consisting of adhered adjoining strands or rovings of rayon. This tape may be applied to the outer surface of the blank from which the carton is formed, and may extend fully across the width of panel 32 and flaps 36, 37. If desired, however, the reinforcing tape may be applied to the inner surface of the carton blank.

When the carton blank formed as shown in FIG. 1 is folded into the flat tubular form illustrated in FIG. 2 for shipment to the user, the partially overlapping end panels 30 and 32 may be glued along their confronting surfaces, as by means of a film of glue, indicated by the stippling 65 in FIG. 1, applied to the portion of the inner surface of panel 30 and its flaps 34, 35 which will overlap panel 32 and its flaps 36, 37.

The thus folded and glued tubular form of the carton may be erected into set-up position in the conventional manner. It is an important feature of the handle construction of the present invention that in the operation of erecting the carton, upon opening the carton from its flat folded form and folding inwardly the partially overlapped and glued pair of flaps 34, 36 and the similar opposite pair of flaps 35, 37, the handle member 60 automatically flexes upwardly so as to bow or arch up through the slot 40, as depicted in FIG. 6.

With the conventional grades of paperboard, such as corrugated board, used in the manufacture of shipping cartons, and with suitable dimensioning of the handle member 60 and opening 40, such as above stated, the flexing and upward bowing of the handle member in the manner described will be sufficient to cause it to assume a position such as illustrated in FIGS. 4 and 5, so as thereby to enable it to be readily grasped by the fingers of a person, for picking up and carrying the carton and its contents.

Moreover, by reason of the construction described, wherein the handle member constitutes a portion of the overlapped panel 32 in the folded and glued, flat tubular form of the carton, and wherein the overlapping panel 30 is glued to panel 32 throughout the area of their con-

fronting surfaces, there are present no annoying extensions or unglued overlapping margins which can catch on parts or otherwise interfere with the working of machinery conventionally used by packers for conveying and erecting the cartons for filling and closing.

Furthermore, while the carton with the handle construction herein described may be shipped flat in its folded tubular form, the handle member is constructed so as to be readily recognized as a handle for use in picking up and carrying the carton and its contents.

Although the invention has herein been described and illustrated as having the handle construction formed as part of the panels which make up one of the pair of relatively short walls of a rectangular carton, it will be apparent to those skilled in the art that this handle construction may, if desired, be formed as part of the panels which make up one of the pair of long walls of such a carton.

What we claim is:

1. A paperboard carton, comprising a bottom wall, a pair of opposed side walls hinged at opposite sides of said bottom wall, inwardly folded end flaps hinged to opposite ends of said bottom wall and to opposite ends of said side walls, an end panel hinged to each of said side walls at the end thereof opposite said bottom wall, said end panels being partially overlapped and forming the top wall of the carton, inwardly folded flaps hinged at opposite ends of each of said end panels, the overlapping one of said end panels having a relatively wide elongated opening, said opening extending transversely of said overlapping end panel, the overlapped one of said end panels being formed with a relatively elongated narrow opening extending transversely of said overlapped panel and defining one longitudinal edge of a handle member whose opposite longitudinal edge is defined by the outer terminal edge of said overlapped panel, the transverse dimension of said handle member being less than the width of said first-named opening, said overlapped end panel being glued to said overlapping panel throughout the area of their confronting surfaces.

2. A paperboard carton as defined in claim 1, wherein said carrying handle is provided with a reinforcing tape material glued to one of the surfaces thereof.

3. A paperboard carton as defined in claim 1, wherein said openings extend the full width of the respective panels in which they are formed.

4. A paperboard carton comprising a bottom wall, a top wall and a pair of side walls, each of said walls having inwardly folding flaps, said top wall being composed of a pair of panels hinged to one end of said pair of side walls, one of said panels partially overlapping the other thereof, said overlapping panel having an elongated, relatively wide opening formed therein, the overlapped panel having an opening therein to define a marginal portion along its outer end, said marginal portion being of a width less than that of said first-named opening, whereby when said flaps of said top wall are folded inwardly, said marginal portion will be caused to flex and bow upwardly through said first-named opening and form a handle for grasping by the fingers to lift and carry said carton.

5. A flat, tubular-folded paperboard carton blank, comprising a bottom wall panel, a side wall panel hinged to said bottom wall at each of its opposite sides, inwardly foldable flaps hinged to opposite ends of said bottom wall panel, inwardly foldable flaps hinged to opposite ends of each of said side wall panels, an end panel hinged to each of said side wall panels at the end thereof opposite said bottom wall panel, said panels being folded along said hinges into flat, tubular form, with one of said end panels partially overlapping the other of said end panels, an inwardly foldable flap hinged at each opposite end of each of said end panels, the overlapped one of said end panels having a relatively elongated, narrow slot formed therein to define a marginal portion at its outer end, the overlapping one of said end panels being formed with an elongated opening of a width greater than that of said

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marginal portion of said overlapped end panel, said marginal portion being adapted to bow up through said last-named opening when the flaps on said end panels are folded inwardly.

6. A flat, tubular-folded paperboard carton blank as defined in claim 5 and having a relatively narrow tape of reinforcing material affixed to one of the surfaces of said marginal portion of said overlapped panel.

**6**

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 3,076,591

February 5, 1963

Jay H. Nute et al

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

In the grant, lines 2 and 3, for "assignors to The Patent and Licensing Corporation, of New York, N. Y., a corporation of Massachusetts," read -- assignors, by mesne assignments, to The Flintkote Company, a corporation of Massachusetts, --; line 12, for "The Patent and Licensing Corporation, its successors" read -- The Flintkote Company, its successors --; in the heading to the printed specification lines 3 to 5, for "assignors to The Patent Licensing Corporation, New York, N. Y., a corporation of Massachusetts" read -- assignors, by mesne assignments, to The Flintkote Company, a corporation of Massachusetts --.

Signed and sealed this 1st day of October 1963.

(SEAL)

Attest:

ERNEST W. SWIDER

Attesting Officer

DAVID L. LADD

Commissioner of Patents