Dec. 1, 1953 J. W. HENDRICKSON, JR 2,661,142

SHIPPING CONTAINER WITH CARRYING HANDLE

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Fig. 1

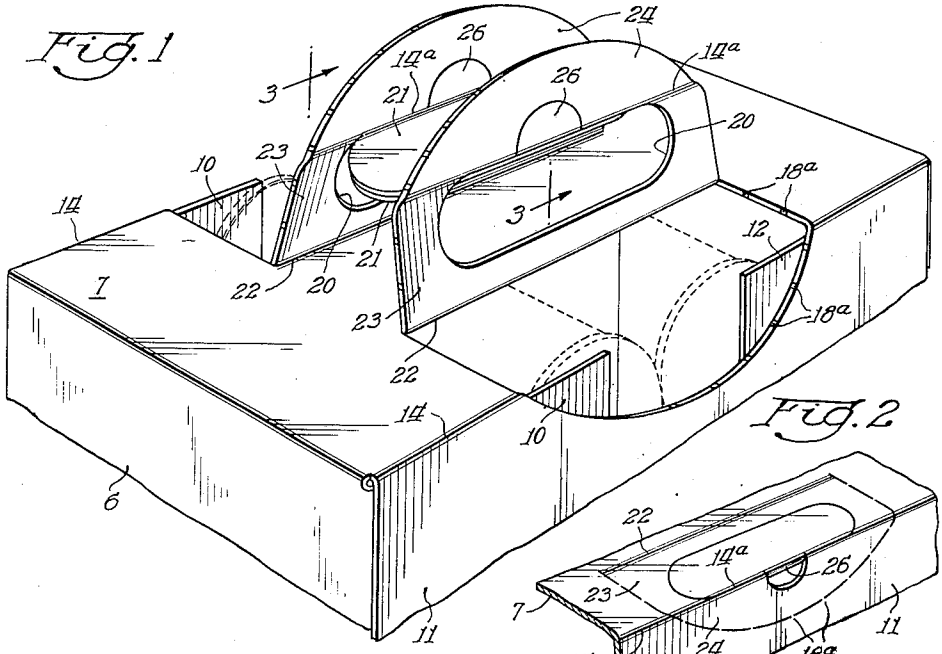


Fig. 2

Fig. 4

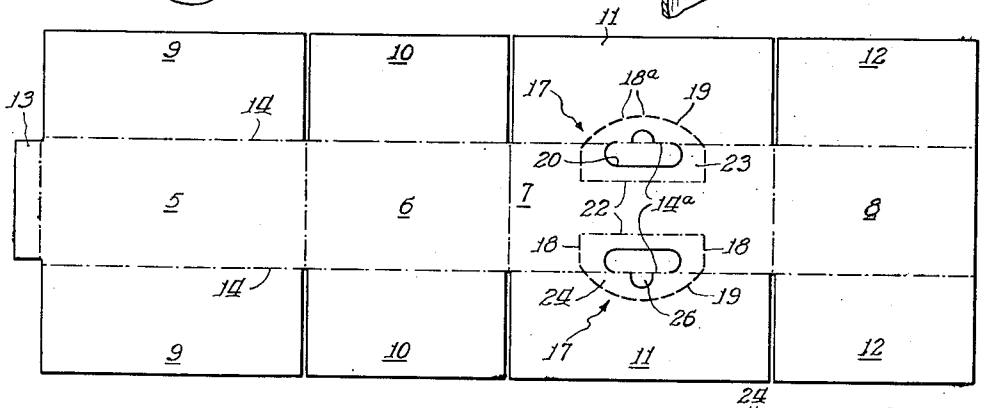


Fig. 5

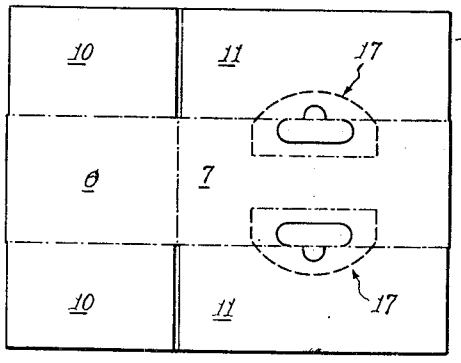
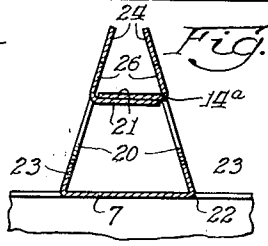


Fig. 3



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SHIPPING CONTAINER WITH CARRYING HANDLE

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1 Claim. (Cl. 229—37)

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This invention relates to shipping containers and more particularly to a construction of collapsible shipping container which provides carrying means formed as integral parts of the container walls, such parts remaining intact within the contours of the walls during the manufacture of the flat collapsed containers as well as during storage and shipment of the loaded containers, and capable of being conditioned for use to provide a convenient hand carrying device by raising the parts from within the contour of the walls and by a simple manipulation of such parts.

The preferred form of the invention comprises a paperboard container with a carrying panel which is cut from the central adjoining areas of two integrally connected wall portions of the container. The invention is well adapted to be applied to shipping containers or cartons of paperboard of the type comprising four side walls secured in tubular form with each side wall having top and bottom flaps forming top and bottom wall portions. Two identical carrying panels are preferably provided, each of which is formed with a hand hold opening cut from a side wall and having an edge portion of the carrying panel aligned with the line of juncture between two adjoining wall portions.

The objects of the invention are to provide a strong and sturdy carrying device for a filled paperboard shipping container which will enable the filled container to be carried comfortably by hand and which, until it is needed, will remain intact within the contours of the container structure and will be available for instant utilization by very simple hand manipulations conditioning the carrying parts for use.

In the drawings, illustrating a preferred form of the invention:

Fig. 1 is a fragmentary perspective view illustrating a portion of a shipping container with the carrying elements each lifted out of a side wall and adjoining wall and ready for use;

Fig. 2 is a fragmentary detail view illustrating one handle portion as it appears before being conditioned for use;

Fig. 3 is a fragmentary sectional view taken on lines 3—3 of Fig. 1;

Fig. 4 is a plan view of the container blank; and

Fig. 5 is a view of the container after it has been secured in flat tubular form ready for shipment to a user.

The construction of the present invention may be applied to containers of various specific forms but in the present instance it is illustrated and

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will be described as applied to a so-called regular slotted type of container. This type comprises four side walls secured in tubular form and a top and bottom wall formed from cooperating wall portions or flaps extending from the opposite free edges of the side walls. One of the side walls, preferably a long wall, if the walls differ in length, is selected to be conditioned to provide the carrying handle construction. The handle construction is preferably formed in two substantially identical elements disposed midway of the length of a side wall. Each element is formed by providing lines of severance preferably in the form of partially cut or weakened lines or slits in the side wall extending transversely of the line of fold between the side wall and its attached wall portion or flap, and providing a similar line of severance in the form of a cross cut, or weakened line, preferably arcuate in shape, so as to extend between the ends of the first lines of severance and into the adjoining wall portion. This enables an integral section to be released from the two adjoining wall portions which can be swung to assume an outstanding position with relation to the side wall. Each carrying panel is formed with an opening to serve as a hand hold, one edge of the opening is preferably in line with the line of fold between the side wall and adjoining wall portion and the opening is preferably formed within the side wall.

Referring more particularly to the drawings, a paperboard container is illustrated having side walls 5, 6, 7 and 8 each of which has flaps or wall portions extending from their free edges at each side indicated at 9, 10, 11 and 12 to form additional top and bottom walls. The flaps or wall portions are defined from their attached side walls by fold lines or crease lines 14, 14 impressed the entire length of the blank. An attaching flap 13 is provided on the end of side wall 5 whereby the wall 5 may be connected to wall 8 by means of staples. If desired, the flap 13 may be dispensed with and the edges of walls 5 and 8 may be connected by means of gummed tape in a manner which is well known. As thus formed, the container can be manufactured in flat tubular condition, as illustrated in Fig. 5, and so delivered to the user.

One group of wall portions, herein indicated as wall 7 which in the carrying position becomes an upper wall, and attached flaps 11, 11, is formed with the carrying means constructed according to the present invention. For this purpose two carrying panels or handle elements, generally indicated at 17, 17, are defined by providing lines

of severance in the form of weakened lines in edge portions of wall 7, such weakened lines extending into the adjoining flaps or wall portions 11, 11. Each carrying panel 17 is preferably located midway between the ends of wall 7 so that the container will be in balance when carried by the carrying panels. As the carrying panels are identical a description of one will suffice.

The panel 17 is preferably formed with two cuts or weakened lines 18, 18, extending transversely to the fold line 14, and with an arcuate, longitudinally extending cut or weakened line 19 connecting the two transverse lines. A hand hold opening 20 is formed in the carrying panel and is preferably of a size to admit all four fingers of a person's hand. The material from the opening 20, herein indicated as a flap element 21, is preferably partially severed from the opening 20 so as to be left hinged to the handle panel along the upper edge of the opening. In the present instance, this flap is illustrated as being hinged to the carrying panel along line 14a which coincides with fold line 14.

While the cuts defining the carrying panel may be complete if desired, it is preferred that these cuts shall be formed so as to leave very small connecting portions 18a, 18a along the edges of the carrying panel to keep it from becoming accidentally displaced until it is desired to condition the carrying panel for use.

The carrying panel may thus be readily released to move with respect to the wall 7 and the flap or wall portion 11. The inner edge of the carrying panel remains connected to the wall 7 so as to allow the panel to swing on hinge line 22.

In the preferred form of the invention the portion 14a of fold line 14 divides the carrying panel into what may be termed a base portion 23 and an outer portion 24. The outer portion 24 is of a width suitable to be grasped readily by the hand and at the same time to provide sufficient carrying strength to support a filled container.

For the purpose of facilitating the release of each carrying panel a small push-in tab 26 is formed in the outer portion 24. This tab is preferably of semi-circular form and is hinged along fold line 14a, which is coincident with the fold line between the container walls. By pressing inwardly on this tab 26 it will be displaced inwardly, as indicated in Fig. 2, so that a person's finger can be inserted into the opening thus provided and force can be exerted on the handle panel to cause it to swing outwardly from the walls of the container.

The container illustrated herein is of a size adapted to hold twelve cans. In filling the container one set of wall portions or flaps 9, 10, 11 and 12, will be brought together in a usual manner to form a bottom, after which the cans will be inserted with their ends resting upon such bottom. The other set of flaps will then be brought into closure forming position and preferably sealed with adhesive or tape in a usual manner.

When it is desired to use the carrying construction it is to be understood that the container at such time will be filled with the desired contents, such as canned beverage, and the two groups of wall portions or flaps 9, 10, 11 and 12 will be folded over to form the top and bottom walls of the container. The container will then be turned so that the wall 7 is uppermost. The carrying panels will be displaced from their original position by pressing inwardly upon the push-in tab 26, inserting a finger and lifting upwardly upon the parts. This will tend to swing the handle panel about the hinge line 22. When the parts of the carrying panel are free, each portion 24 will preferably be moved so as to be in substantially the same plane as portion 23. Each of the push-in tabs 26 will then preferably be moved back in the plane of the outer portion 24. The swinging movement of each carrying panel is continued until the two panels are disposed at an angle toward each other over the central part of wall 7. The distance between the hinge lines 22, 22 is preferably such that the upper edges of the portions 24, 24 will be relatively close together and will be disposed at an acute angle to each other.

When the carrying panels have been brought into carrying position the flap portions 21, 21 in the hand holes are bent upwardly into horizontal position as indicated in Fig. 1 and preferably disposed so that one lies flat above the other with the free edge of each flap contacting the opposite carrying panel, thus making a sturdy gripping element, allowing the container to be carried without discomfort as the portions 21, 21 will provide a relatively broad bearing surface for engagement by the fingers of the person carrying the container.

It is to be noted that the carrying panel parts can be cut at the same time that other cutting operations are performed on the container, such as the formation of the slots between the flaps. Due to the formation of the parts by the use of weakened lines the carrying panel construction remains within the wall portions until it is desired to condition the container to be carried by hand. The fold line defining the edge of the container serves also to form the hinge to facilitate swinging of the hand hold flap elements 21 from within the hand hold openings and provides for ready swinging of the push-in tab 26.

A carrying construction is thus provided which is ready for instant use whenever desired and, if not needed, it does not in any way impair the use of the container. The construction lends itself admirably to a container adapted for carrying twelve cans with the cans placed four lengthwise and three across. In this type of container, the end wall and side wall flaps are each the width of one and one-half can diameters. This permits the long flaps to meet along the center line of the container. The end wall flaps will be separated from each other by a distance equal to one can diameter. Thus there will be an area equal to one can diameter at the central portions of the long flaps 11, 11 which is not adhered to the underlying flaps 10 and 12 in the event adhesive is employed to secured these closure flaps together.

By reference to Fig. 1, it will be seen that the push-in tab 26, being located centrally of the edge of the container, is in such position that, when pushed in, no interference will be encountered, by reason of the cans packed within the container because the tab will swing into the space left between the two adjacent centrally placed cans. By inserting a finger or an appropriate tool, whichever desired, a person desiring to carry the filled container may merely lift up on the carrying panel and thereafter bring the parts into proper carrying position.

While the present description sets forth a preferred embodiment of the invention, certain 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 claim rather than to the foregoing description to indicate the scope of the invention.

I claim:

In a hand carried type of carton composed of a single piece of blank material such as paperboard so cut and scored that when folded it includes a flat continuous one piece upper wall and connected adjacent wall portions extending downwardly at each of the opposite side edges of the upper wall, each of said adjacent wall portions being joined at its upper edge to a side edge of said upper wall along a scored line dividing the upper wall from the adjacent wall portions, a handle construction comprising, a pair of similar displaceable handle forming elements each formed from both the upper wall and an adjacent wall portion and each joined to said upper wall along a handle forming scored line substantially parallel to the said side edges of such wall and in spaced relation to the other handle forming score line, each of said handle forming elements including a first portion formed from the upper wall and a second portion formed from one of said adjacent wall portions and divided by a scored line initially continuous with the scored line between the upper wall and the adjacent side wall portion, each of said first portions having a displaceable handle spacing flap formed wholly

within its bounds, each of said flaps being hinged to its said handle forming element along and by a part of the scored line between the said portions of such handle element, each of said handle spacing flaps being displaceable from its connected handle element toward the other handle element and into lapping relationship with the other flap with the free edge of the upper of said lapped flaps in abutting relationship with the said other handle element, the two handle elements being folded upwardly about the scored lines connecting them with the upper wall, and being spaced apart at the bottom by the portion of the upper wall lying between the hinge lines of the two handle elements, and being spaced apart above the level of the upper wall by said lapping flaps.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
662,560	Floyd	Nov. 27, 1900
1,905,992	Bogren	Apr. 25, 1933
1,974,792	Berney	Sept. 25, 1934
2,085,104	Levinson	June 29, 1937
2,289,859	Arthur	July 14, 1942
2,382,844	Arneson	Aug. 14, 1945
2,400,443	Stopper	May 14, 1946
2,522,950	Keith	Sept. 19, 1950