

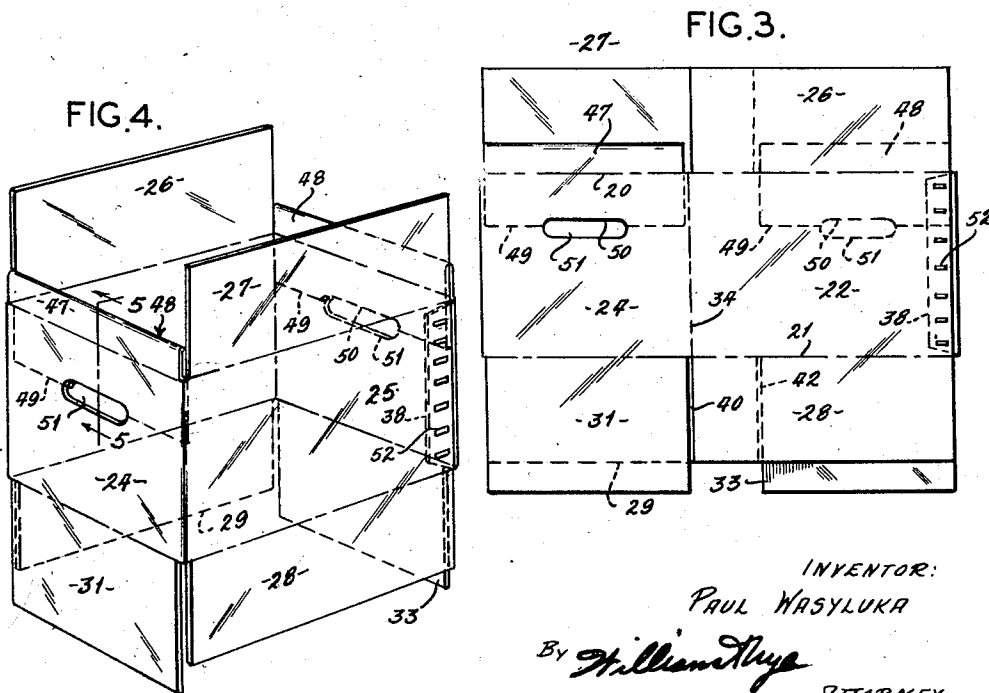
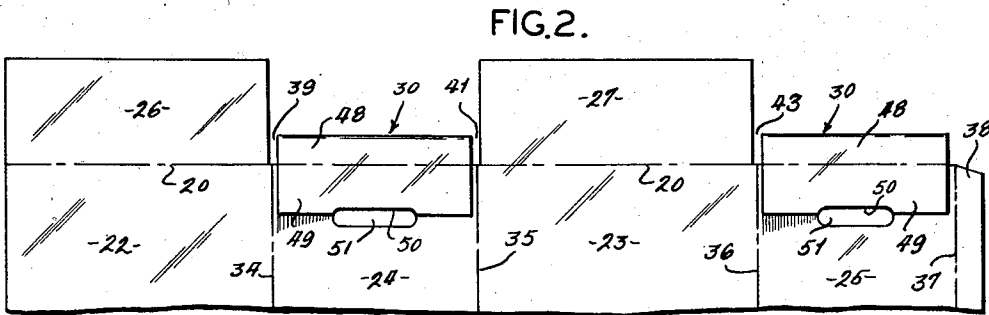
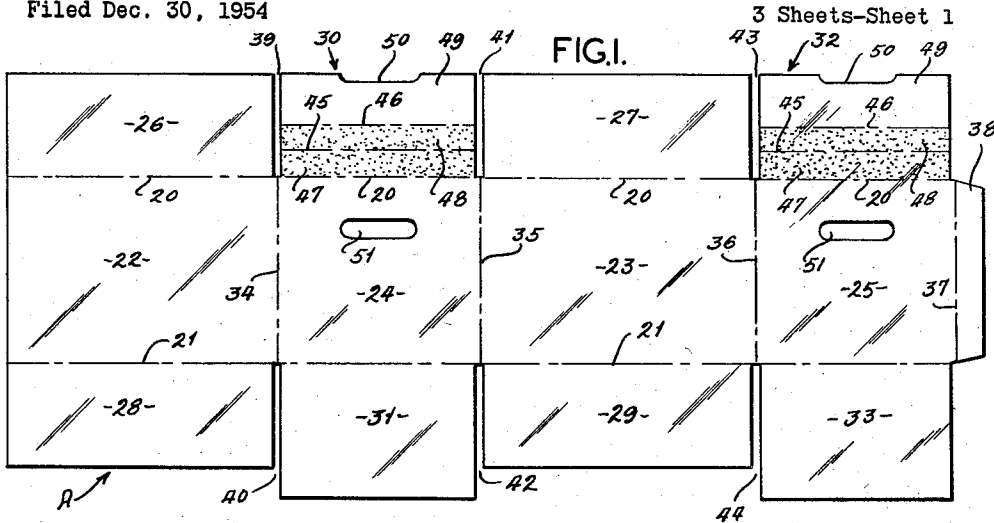
Dec. 23, 1958

P. WASYLUKA

2,865,553

REINFORCING AND COVER SUPPORTING DEVICE FOR A CONTAINER

Filed Dec. 30, 1954



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FIG. 5.

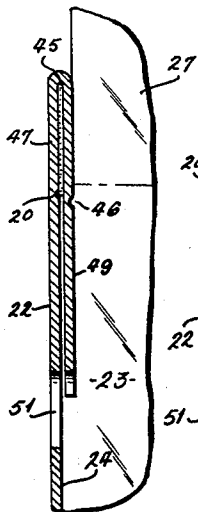


FIG. 7.

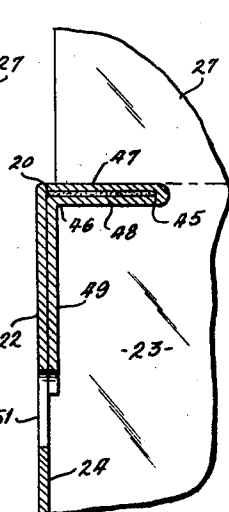


FIG. 6.

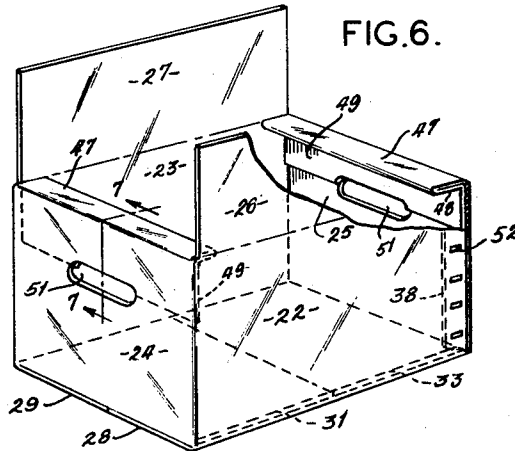


FIG. 8.

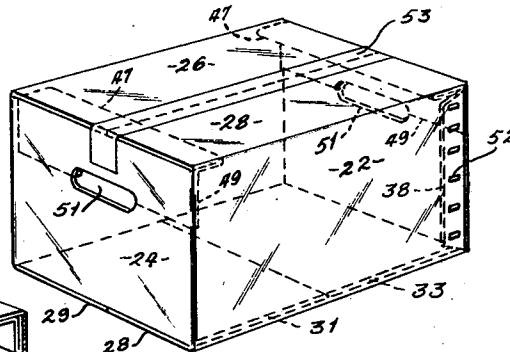


FIG. 4.

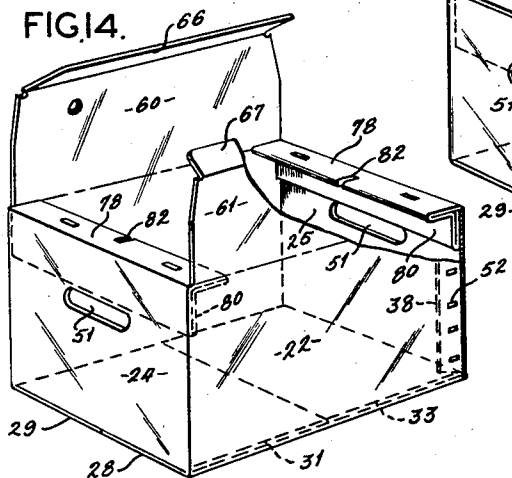


FIG. 15.

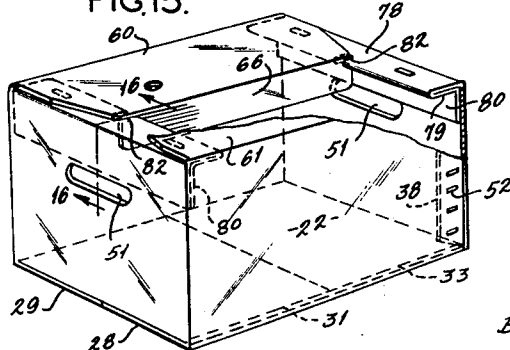
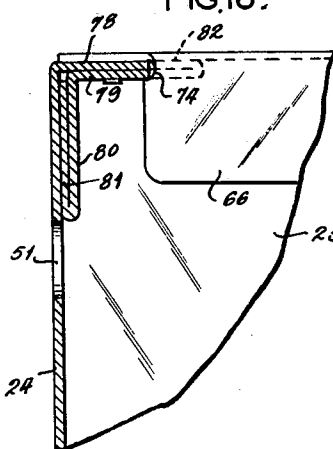


FIG. 16.



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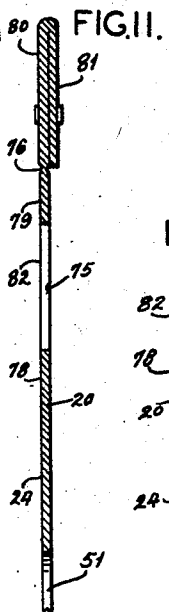
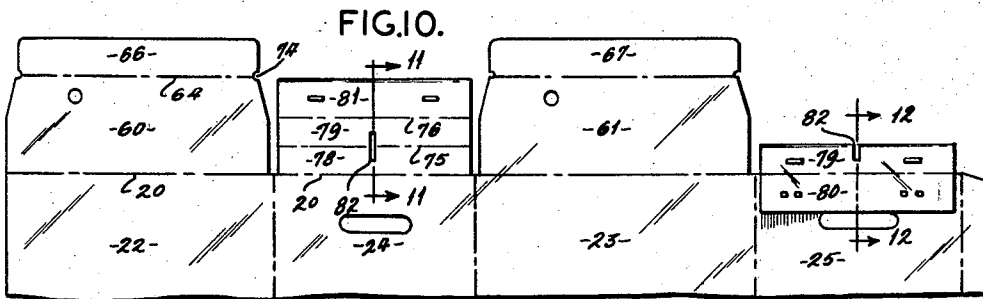
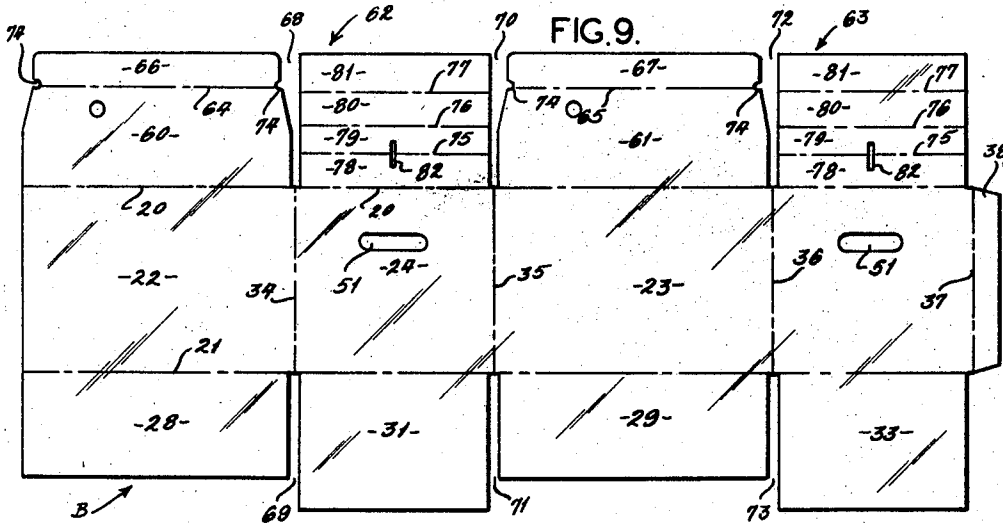
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2,865,553

REINFORCING AND COVER SUPPORTING DEVICE FOR A CONTAINER

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Application December 30, 1954, Serial No. 478,597

1 Claim. (Cl. 229—37)

The invention relates to a novel device formed of folded transverse sections of a flap integral with the end wall panel of hinged cover containers, comprising a transverse reinforcement to the upper margin of the end panel and a ledge extending inwardly in right angular relation to the end wall of the container for supporting the cover in its closed position.

More specifically, the reinforcement and supporting ledge is formed by a flap integral with the upper edge of the end panel of the container, extending upwardly in its initial position in co-planar relation to the end panel, thence reversely inwardly and downwardly flatwise against the inner face of the upper portion of the end panel. In this initial position of the device, the side and end walls of the container may be connected together in tubular form by a glue or stitch flap or other suitable means and the container readily knocked down flatwise for shipment to the user. When the container is opened up into rectangular form from its collapsed shipping state preparatory to loading with bottled beverages or the like, the interior thereof is entirely free of obstructing elements to loading, since the lower part of the reinforcing flap in its described initial position is in juxtaposed relation with the inner face of the upper portion of the end wall, while the upper portion of the device is in approximately co-planar relation to the end panel.

Upon completion of the loading of the container, the portion of the reinforcing device positioned above the upper edge of the end panel is folded inwardly in right angular relation to the end panel along a horizontal hinge line defining the upper edge of the end panel. The inwardly directed horizontal ledge thus formed provides a support to the hinged cover in its closed position, while the portion of the device in juxtaposed relation to the inner face of the upper portion of the end panel provides a strong reinforcement to the part of the container most vulnerable to failure when the loaded case is carried by one handholed opening, as is common practice with containers of the class described.

When hinged half cover panels are employed for closing the container, flanges may be provided on the outer longitudinal edges thereof and the flanges folded inwardly in approximately right angular relation to the cover panel. For such cover constructions, the supporting ledges may be provided with slots extending inwardly from the mid width of their folded edge for receiving the side margins of the cover flanges and releasably locking the covers in the closed position.

The device is especially desirable for use with containers for shipping bottled beverages of all kinds such as, for example, 24 12-ounce bottles of beer. Such containers are subject to severe handling and abuse. It is common practice to grasp and lift the loaded carriers by one handhole, thus imposing an excessive strain on the upper portion of the end panel and frequently resulting in failure. Containers of this class are widely employed, and attempts are constantly being made to simplify the assembly as far as possible, enhance the appearance and

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provide a sturdy, economical design capable of multi-trip service.

In a modified form of the device, the end panel marginal flap is provided with an extension at its outer edge which is reversely folded upwardly along a score adjacent to the upper boundary of the handhole and positioned between the inner face of the end panel and the downward fold of the reinforcing flap. The free edge of the flap extension, when folded as described, terminates adjacent to the underface of the innermost folded section of the flap. This modified form of the device is folded inwardly at the upper edge of the end panel upon completion of the loading of the container to form a horizontal supporting ledge for the split covers of the container, substantially as hereinbefore described. Also in its final folded position, the device provides a reinforcement of two-ply thickness across the upper portion of the end panel.

A primary object of the invention is to provide a container with hinged half covers adapted for shipment of bottled beverages and the like with a simple, highly effective dual purpose device for reinforcing the upper portion of the end wall and providing an inwardly extending ledge for supporting the half covers of the container in their closed position.

Another object is to provide a knocked-down, one-piece container with connected together, opposed side and end walls and half cover panels and handholes in the end walls with a flap integral with the upper edge of the end wall folded to provide a two-ply portion extending upwardly in co-planar relation to the end wall and a portion extending downwardly in flatwise reinforcing relation across the inner face of the upper portion of the end wall.

A still further object is to provide a collapsible container for shipping bottled beverages and the like having connected together side and end walls with a preformed device integral with the end walls having a lower portion which reinforces the upper portion of the end walls and an upper portion which forms a supporting ledge for the hinged covers by folding inwardly at the level of the upper edge of the end panels after the container is loaded.

Another object is to provide a split cover for a shipping container with a reinforcing flap integral with the upper edge of the end panels extending upwardly in co-planar relation to the end panel, thence reversely inwardly and downwardly to about the upper edge of a handhole in the upper portion of the end panel and finally reversely upwardly against the inner face of the end panel to approximately the upper edge thereof, forming a two-ply reinforcement to the upper portion of the end panel and a two-ply cover supporting ledge.

Other objects and advantages of the invention will be apparent to those skilled in the art upon a clear and complete understanding of the construction and operation of the device.

The invention also consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed. In the accompanying drawings which form a part of this specification and wherein like numerals and symbols refer to like parts wherever they occur:

Fig. 1 is a plan view of a preferred form of blank from which the container shown in Fig. 8 is formed;

Fig. 2 is a plan view of the blank with the reinforcing flaps of the end panels folded into an initial stage of fabrication;

Fig. 3 is a plan view of the container partially erected with the sealing flap secured to the outer edge of the remote side panel, knocked-down ready for shipment;

Fig. 4 is a perspective view of the container of Fig. 3 opened into rectangular shape with the bottom closure

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flaps and top cover panels extending outwardly in the plane of the wall from which they depend;

Fig. 5 is a vertical sectional view of the container of Fig. 4 taken in the direction of the arrows 5—5;

Fig. 6 is a perspective view of the container fully assembled prior to closing the covers;

Fig. 7 is a vertical-cross sectional view of the container shown in Fig. 6 taken in the direction of the arrows 7—7;

Fig. 8 is a perspective view of the container with the cover panels taped in closed position;

Fig. 9 is a plan view of a modified blank for forming the container of the invention;

Fig. 10 is a plan view of the modified blank showing one of the end reinforcing flaps partially folded and the other completely folded to its initial position;

Fig. 11 is a vertical, sectional view of the reinforcing flap taken in the direction of the arrows 11—11 of Fig. 10;

Fig. 12 is a vertical, sectional view of the reinforcing flap taken in the direction of the arrows 12—12 of Fig. 10;

Fig. 13 is a plan view of the partially assembled container in collapsed form ready for shipment;

Fig. 14 is a perspective view of the modified container with a portion of a cover and an adjacent wall broken away to show the fully assembled reinforcing device prior to closing the split covers;

Fig. 15 is a perspective view of the modified container with a portion of the top and side broken away to show the cover locking mechanism; and

Fig. 16 is a vertical, sectional view of the container shown in Fig. 15 taken in the direction of the arrows 16—16.

The blank of a preferred form of the invention is shown at A in Fig. 1. Parallel longitudinal scores 20 and 21 define the upper and lower edges of side wall panels 22 and 23 and end wall panels 24 and 25. These scores also define the fold line of upper and lower side panel closure flaps, 26 and 27 and 28 and 29 respectively, and also the end panel upper reinforcing flaps 30 and 32 and bottom closure flaps 31 and 33. Parallel transverse scores 34, 35 and 36 define the connected side edges of panels 22, 23, 24, and 25. Transverse score 37 defines the outer side edge of end panel 25 and the hinge line about which the sealing flap 38 is folded. Upper slots 39, 41 and 43, extending from the upper longitudinal edge of the blank A inwardly to the longitudinal score 20 in the plane of the transverse scores 34, 35 and 36 respectively, define the side edges of flaps 26, 27, 30 and 32. Slots 40, 42 and 44, likewise extending in the plane of transverse score 34, 35 and 36 from the lower longitudinal edges of the blank to the score 21, define the side edges of flaps 28, 29, 31 and 33 respectively.

The end panel reinforcing flaps 30 and 32 are scored transversely at 45 and 46, dividing each of the flaps into parallel sections 47, 48, and 49. A handhole 51 is preferably cut in the upper margin of the panels 24 and 25 and a cut-out 50 in section 49 to insure alignment of the outer edge of the section with the upper boundary of the handhole 51.

If desired, the sections 49 of the reinforcing flaps 30 and 32 may be lengthened to extend downwardly below the level of the handholes in the end panels 24 and 25 and handholes provided in the extended portions aligned with the handholes in the end panels.

The blank A may be conveniently assembled by first folding the reinforcing flaps 30 and 32 downwardly and inwardly about the transverse score 45 bringing the sections 47 and 48 of the flaps into flatwise relation. In this initial folded position of the reinforcing flaps, the outer sections 49 will be in flatwise relation with the inner face of the end panels 24 and 25 above the handholes 51, with the juxtaposed sections 47 and 48 positioned above the upper edge of and in co-planar relation to the end panels.

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A vertical, sectional view of the flaps 30 and 32, folded in the initial position described, is shown in Fig. 5. The blank is next folded about the transverse score 35 to position the side panel 22 in flatwise relation over the end panel 25 and the end 24 over the side panel 23. The sealing flap 38 may be attached to the free outer edge of side panel 22 by staples 52, glue, or any other suitable means. At this stage of the assembly the blank is in fully collapsed form for shipment.

At the loading plant or point of use, the folded blank shown in Fig. 3 is opened up into rectangular form as illustrated in Fig. 4. The bottom closure flaps 28, 29, 31 and 33 are folded inwardly and secured together to form a secure bottom panel for the container while the upper side panel closure flaps 26 and 27 remain extended upwardly in substantially co-planar relation to the end panels. It will be noted that at this point the interior of the container is entirely free from obstructing elements which would interfere with automatic loading of the containers with bottles or other articles. The folded reinforcing flaps 30 and 32 remain in the initial folded position hereinbefore described with the sections 47 and 48 in juxtaposed relation extending upwardly from the upper edge of the panels 24 and 25.

Upon completion of the loading of the container, the juxtaposed sections 47 and 48 of the reinforcing flaps 30 and 32 are folded inwardly about the score 20 into right angular relation to the end panels 24 and 25, forming a two-ply horizontal ledge on which the side panel top closure flaps 26 and 27 rest in their closed position. The described supporting ledges are best shown in Figs. 6 and 7. After the top closure flaps 26 and 27 have been folded inwardly and downwardly with their outer margins resting on the hereinbefore described horizontal ledges, they may be secured in this closed position by tape 53 or other suitable means. The loaded container is now ready for shipment.

The blank B of a modified form of the invention is shown in Fig. 9. This blank is identical with the blank A of Fig. 1 with the exception of the side panel upper closure flaps and the end panel reinforcing and cover supporting flaps. Both the side panel closure flaps and the end panel reinforcing flaps are somewhat longer than the corresponding flaps of the blank A of Fig. 1 to provide longitudinal flanges 66 and 67 on the outer free edges of the side panel flaps and an additional foldable section on the outer free edge of the end panel reinforcing flaps.

The side panel flaps 60 and 61 are scored longitudinally at 64 and 65 respectively, defining the closure flanges 66 and 67 extending from the outer longitudinal edges thereof. Slots 68, 70 and 72, extending from the upper edge of the blank inwardly to score 20 in alignment with transverse scores 34, 35 and 36 respectively, define the side edges of flaps 60, 61, 62 and 63. The outer portions of the flaps 60 and 61 are cut angularly inwardly to the horizontal scores 64 and 65 respectively for a purpose to be described later. Locking slots 74 are provided at the ends of the longitudinal scores 64 and 65.

The reinforcing flaps 62 and 63 are scored longitudinally at 75, 76 and 77, dividing the flap into parallel, foldable sections 78, 79, 80 and 81. Locking slots 82 are positioned midway the width of the flaps 62 and 63, extending across approximately equal adjacent portions of sections 78 and 79.

The modified blank may be assembled by first folding the sections 81 of the end panel reinforcing flaps 62 and 63 about the scores 77 into flatwise relation to section 80 and securing these sections together by glue or other suitable means. At this initial stage of the folding reinforcing end flaps 62 and 63, the secured together sections 78 and 79 will extend above the upper edge of the end wall in co-planar relation with the end walls as shown in Fig. 12, while the secured together sections 80 and 81 will be positioned flatwise against the inner face of the end panels above the handholes. The container is now ready

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for loading with bottles or similar articles. It should be noted that the folded reinforcing flaps 62 and 63, in the described initial position, present no obstructions to loading the container with bottled beverages or the like by automatic machines.

Upon completion of the loading of the container, the secured together flaps 78 and 79 are folded inwardly about score 20 into right angular relation with the end panels 24 and 25. In this final position, the reinforcing flaps 62 and 63 provide a two-ply inwardly extending ledge for supporting the cover panels 60 and 61 in the closed position, and a two-ply reinforcement positioned flatwise across the portion of the end panels above the upper boundary of the handholes.

The longitudinal flanges 66 and 67, attached to the cover flaps 60 and 61 respectively, are next folded inwardly in right angular relation to the cover flaps and inserted in the slots 82 provided in the folded sections 78 and 79 of the end panel reinforcements. The length of the flanges 66 and 67 are regulated so that their side edges will be in contacting relation with the inner base portions of the slots 82 as shown in Fig. 15 and the end portions of flaps 60 and 61 correspondingly tapered inwardly, with the locking slots 74 of the cover panels straddling the base portions of the slots 82. The loaded container is now ready for shipment.

It is to be understood that the embodiments herein described are illustrative and not restrictive, and it is also to be understood that the invention may be susceptible of embodiment in other modified forms, and that all such modifications which are similar or equivalent hereto come equally within the scope of the claim next appearing.

What I claim is:

A one-piece container for bottle goods and the like having connected together opposed pairs of side and end walls with closure means for the top and bottom of the container, the end walls having handholes in their upper portions, the opposed end walls each having at its extreme upper edge a flap defined therefrom by a fold line, the

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flap consisting of a plurality of transverse sections of slightly less width than the end wall and with fold lines defining the said sections, first and second transverse sections of substantially the same dimensions which form a ledge being folded inwardly on an end fold line and secured together in rigid parallel face contacting relationship with each other and extending vertically outwardly from each end panel, said first section being hinged along a fold line defining the upper edge of the end wall, and at least one finger engaging outer free section of each said flap slidably disposed against the inner face of each end wall, and in which pre-assembled form the container is collapsed for storage and shipment, when fully erected and only after the bottle goods or the like are in the container the ledge forming sections in their fixed contacting relationship extending inwardly with their folded ends facing each other in substantially the plane of the folds constituting the top edges of each of the end walls and at substantially right angular relationship thereto, and each outer free section extending downwardly and slidably engaging the adjacent inner portion of each end wall and with the end edge of each outer free section terminating in substantial alignment with an upper boundary of each handhole, whereby the outer free sections provide a reinforcement to said end wall portions above said handholes and also a support for the ledges, and marginal end portions of the top closure superimposed on and supported by the ledges.

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