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## CARRIER FOR FLANGED ARTICLES

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12 Claims

### ABSTRACT OF THE DISCLOSURE

A carrier for gripping an article having a flange comprises a tubular structure having top, intermediate, bottom and side walls. At least one pair of opposed tab structures is struck from the top and intermediate walls to define article receiving apertures, a third aperture being formed in the bottom wall in aligned relationship with the apertures in the top and intermediate walls. The tab structures struck from the intermediate wall cooperate with the tab structures struck from the top wall to form article gripping and supporting means for engaging the article underneath its flange, the flange constituting the cap of a bottle or the chime of a can or the like.

This invention is an improvement over U.S. Pat. 3,387,879 issued June 11, 1968 on application Ser. No. 636,471 and is directed primarily to strengthening the carrier of the above-mentioned patent by incorporating an intermediate panel together with article supporting tab structures struck therefrom which supplement the gripping and supporting action of tabs formed in the top panel according to the above patent. In addition, by this invention, the side walls of the carrier are appropriately reinforced and therefore strengthened and a side panel is arranged so as to depend from one of the side walls and to engage the shoulders of the packaged items.

According to this invention an elongated tubular structure having top, intermediate, bottom and side walls is provided with aligned apertures to receive and grip an end flange of an item to be packaged. Opposed support tab structures are struck from the top wall and similar support tab structures are struck from the intermediate wall, the tab structures struck from each of these walls being folded upwardly to define a gripping means which is disposed about the entire periphery of the packaged item. Of course the openings defined by the tab structures are in aligned relationship as is a third aperture formed in the bottom panel. Reinforcing panels are disposed in flat face contacting relationship with the side walls and a side panel for advertising or display purposes depends from the lower edge of one side wall and engages the items to be packaged.

For a better understanding of the invention reference may be had to the following detailed description taken in conjunction with the accompanying drawing in which FIG. 1 is a plan view of a blank constructed according to the invention; FIG. 2 is a perspective view of a set-up carrier formed from the blank depicted in FIG. 1 and which shows the cooperation between an article packaged in the carrier and the cooperating portions of the carrier; FIG. 3 is an enlarged fragmentary cross-sectional view taken along the line designated 3—3 in FIG. 2; and in which FIG. 4 is an enlarged cross-sectional view taken along the line designated 4—4 in FIG. 2.

In the drawings, the top panel of the carrier is generally designated by the numeral 1 and extends between side edges 2 and 3. A medial fold line 4 is formed within the top panel 1. Side wall 5 is foldably joined to top panel 1 along fold line 3 and side wall extension 6 is foldably joined to the bottom edge of side wall 5 along fold line 7.

Foldably joined along fold line 2 to the top panel 1

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is side wall 8. Bottom panel 9 is foldably joined to the bottom edge 10 of side wall 8 and a reinforcing panel 11 is foldably joined along fold line 12 to a side edge of bottom panel 9. Intermediate panel 13 is foldably joined along fold line 14 to the upper edge of reinforcing panel 11 and reinforcing panel 15 is foldably joined along fold line 16 to a side edge of intermediate panel 13.

As is apparent from FIG. 2 the blank is formed into an elongated tubular structure wherein the various panels are arranged so that reinforcing panels 11 and 15 are secured in flat face contacting relation to side walls 5 and 8 respectively. Of course this arrangement enhances the strength and serviceability of the carrier particularly for use in conjunction with relatively heavy articles which are packaged in the carrier such as bottles B, the bottles being provided with caps designated C.

For the purpose of gripping the bottles B underneath the peripheral edges of their caps C, tab structure is provided according to this invention. These tab structures are struck from top panel 1 and from intermediate panel 13 and are configured and disposed so as to form in these panels aligned apertures for receiving the necks of the packaged bottles. For example in top wall 1 a pair of support tabs 17 and 18 are foldably joined along fold lines 19 and 20 to top wall 1 and these support tabs are interconnected with each other along fold line 21. Support tabs 17 and 18 are hereinafter sometimes referred to as a support tab structure. The tabs 17 and 18 are disposed in opposed alignment with tabs 25 and 26 and in general alignment with the length of top wall 1. In like fashion the support tabs 25 and 26 are foldably joined to top wall 1 along fold lines 27 and 28 respectively and are interconnected along fold line 29. The edges 30 and 31 of tabs 25 and 26 are disposed opposite to the edges 22 and 23 of tabs 17 and 18. These opposed edges constitute gripping means for engaging the bottle underneath its cap and define aperture 24.

Also formed in top wall 1 is another pair of tab structures which comprise elements having the same designating numerals as are used to designate the structures associated with aperture 24 and such elements define the aperture designated generally by the numeral 32.

It is obvious that these tab structures when folded upwardly constitute bottle gripping means.

In order to strengthen the tab structures struck from top wall 1 and to generally enhance the strength and gripping action of the carrier, intermediate panel 13 is added according to this invention and article gripping tab structures 33 and 34 are struck from intermediate wall 13. These tab structures are foldably joined to reinforcing panels 15 and 11 along the fold lines 16 and 14 as is obvious from FIG. 1.

Tab structures 33 and 34 are similar to tab structures formed from tabs 17 and 18. Tab structure 33 is formed with a pair of diagonal slits designated by the numerals 35 and 36 and with a transverse slit 37. Similarly tab 34 is provided with a pair of diagonal slits 38 and 39 and with a transverse slit 40. The two portions of tab structure 33 which are disposed on opposite sides of transverse slit 37 may be regarded as tabs although principally these tabs are not fully separated by the flexing slit 37 at least for a portion of their length. In similar fashion the portions of tab structure 34 on opposite sides of slit 40 may be regarded as individual tabs. Tab structures 33 and 34 form a pair of apertures generally designated by the numerals 41 and 42.

The bottom panel 9 is provided with a third set of bottle receiving apertures generally designated by the numerals 43 and 44.

With the blank of FIG. 1 assembled as depicted in FIG. 2 the tab structures 33 and 34, being longer than the tab structures associated with the top panel, extend

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into and through the openings into the apertures 24 and 32 and their upper edges 45 and 46 are disposed in approximately the same plane as the edges 22 and 23 of tabs 17 and 18 and 30 and 31 of tabs 25 and 26. Thus as is obvious from FIG. 2, gripping means is provided according to the invention which extend about the entire periphery of the apertures formed in top panel 1. Furthermore, it is obvious from FIG. 2 that the edges of tab structures 33 and 34 are disposed inside the tabs 17, 18, 25 and 26 in overlapping relationship. Of course the diagonal flexing slits 35 and 36 formed in tab structure 33 and the diagonal flexing slits 38 and 39 formed in tab structure 34 materially facilitate the formation of the arcuate configuration of these tab structures as is depicted for example in FIG. 2.

Reinforcement of the carrier along its sides is also provided according to this invention by virtue of the fact that the reinforcing panels 11 and 15 are secured in flat face contacting relationship to the side walls 5 and 8 respectively.

From the description above it is apparent that the carrier of this invention is sturdy and durable and that it affords a secure and positive bottle gripping action which is particularly well suited for large heavy bottles or other flanged items to be packaged.

While the arrangement described above and shown in the drawings is the preferred embodiment, it is apparent that the bottom wall could be eliminated if desired, and the carrier could comprise a top wall having tab structure and a lower wall spaced therebelow in which tab structure is formed in alignment with the top wall tab structure.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A carrier for an elongated flanged article comprising an elongated tubular structure having foldably joined top, bottom, intermediate and side walls, a pair of opposed support tab structures struck from said intermediate and top walls and respectively forming aligned apertures therein, a third aperture formed in said bottom wall and aligned with the apertures in said top and intermediate walls, said pair of support tab structures being angularly displaced from each other about the common axis of their associated apertures and having their side edges disposed with respect to each other so as to form when folded upwardly a substantially continuous article support means adjacent the aperture in said top wall.

2. A carrier according to claim 1 wherein said support tab structures are of such lengths and orientation that the end edges of all said structures are disposed in approximately the same horizontal plane when folded upwardly and into their article engaging and supporting positions.

3. A carrier according to claim 1 wherein the support tab structures in said top wall each comprises a pair of tabs aligned with each other in oppositely disposed relation and wherein each tab structure is disposed in general alignment with said top wall and wherein the support tab structures in said intermediate wall are disposed in angularly displaced relation relative to the tab structures in said top wall.

4. A carrier according to claim 1 wherein each tab structure comprises a pair of support tabs having juxtaposed side edges.

5. A carrier according to claim 1 wherein the fold lines between the top wall and the support tabs of each tab structure struck from said top wall are disposed in

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divergent relation to each other in the direction of the associated aperture.

6. A carrier according to claim 1 wherein at least one flexing slit is formed in each support tab struck from said intermediate wall to facilitate snug envelopment of the associated article.

7. A carrier according to claim 6 wherein said flexing slits are arranged in diagonal relationship to their associated support tabs.

8. A carrier according to claim 1 wherein a reinforcing panel is secured to each of said side walls in flat face contacting relation and in the regions thereof between said intermediate and said bottom walls.

9. A carrier according to claim 8 wherein each of said support structures struck from said intermediate wall is foldably joined to a different one of said reinforcing panels.

10. A carrier according to claim 1 wherein an extension panel is foldably joined to the bottom edge of at least one of said side walls and normally disposed at an angle to the plane of said one side wall the magnitude of which is dependent upon the configuration of the associated article.

11. A generally rectangular blank for an article carrier comprising a first side wall, a top wall foldably joined to said first side wall along an edge thereof, at least one pair of opposed support tab structures struck from said top wall and foldably joined thereto to define at least one article receiving aperture, a second side wall foldably joined to said top wall along an edge thereof remote from said first side wall; a bottom wall foldably joined to said second side wall along an edge thereof remote from said top wall, at least one article receiving aperture formed in said bottom wall, a first reinforcing panel foldably joined to said bottom wall along an edge thereof remote from said second side wall, an intermediate wall foldably joined to said first reinforcing panel along an edge thereof remote from said bottom wall, a second reinforcing panel foldably joined to said intermediate wall along an edge thereof remote from said first reinforcing panel, and at least one pair of opposed support tab structures struck from said intermediate wall and foldably joined respectively to the edges of said first and second reinforcing panels which are foldably joined to said intermediate wall.

12. A carrier for an elongated flanged article comprising an elongated tubular structure having a top wall, a lower wall spaced therebelow, a pair of opposed support tab structures struck from said top and lower walls and respectively forming aligned apertures therein said pair of support tab structures being angularly displaced from each other about the common axis of their associated apertures and having their side edges disposed with respect to each other so as to form when folded upwardly a substantially continuous article support means adjacent the aperture in said top wall.

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