

[54] **MULTIPLE CONTAINER CARRIER**

[75] Inventor: **M. Julius Klygis**, Evergreen Park, Ill.

[73] Assignee: **Illinois Tool Works Inc.**, Chicago, Ill.

[22] Filed: **June 2, 1971**

[21] Appl. No.: **149,312**

[52] U.S. Cl. **294/87.2**, 206/65 C, 206/65 CT, 224/45 P

[51] Int. Cl. **B65d 71/00**

[58] Field of Search 206/65 C, 65 S, 65 CT; 220/104; 224/45 P; 229/52 A; 294/87, 87.2, 87.22, 87.24, 87.26, 87.28

[56] **References Cited**

UNITED STATES PATENTS

2,405,914 8/1946 Van Rosen 229/52 A
3,454,156 7/1969 Chatten 229/52 A X

3,612,266 10/1971 Graser 294/87.2 X
3,297,220 1/1967 Leeberg 294/87 R X
3,251,622 5/1966 Miller 294/87 R X
2,709,618 5/9155 Melville 294/87.28
2,709,619 5/1955 Melville 294/87.28

Primary Examiner—Richard E. Aegerter

Assistant Examiner—W. Scott Carson

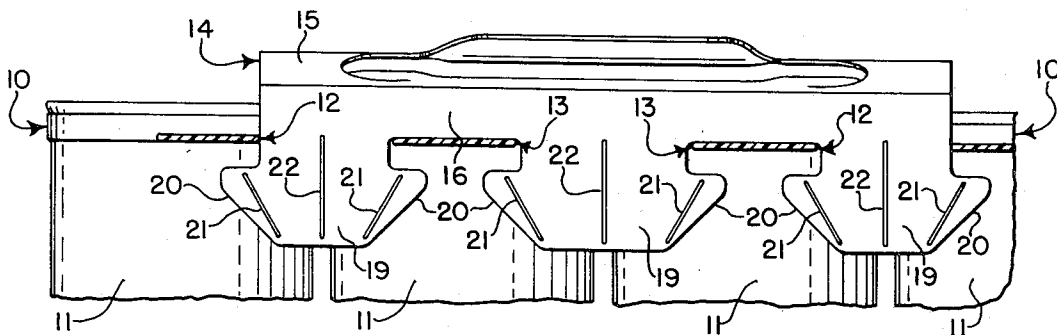
Attorney—Robert W. Beart, Jack R. Halvorsen, Thomas W. Buckman and Edward L. Benno

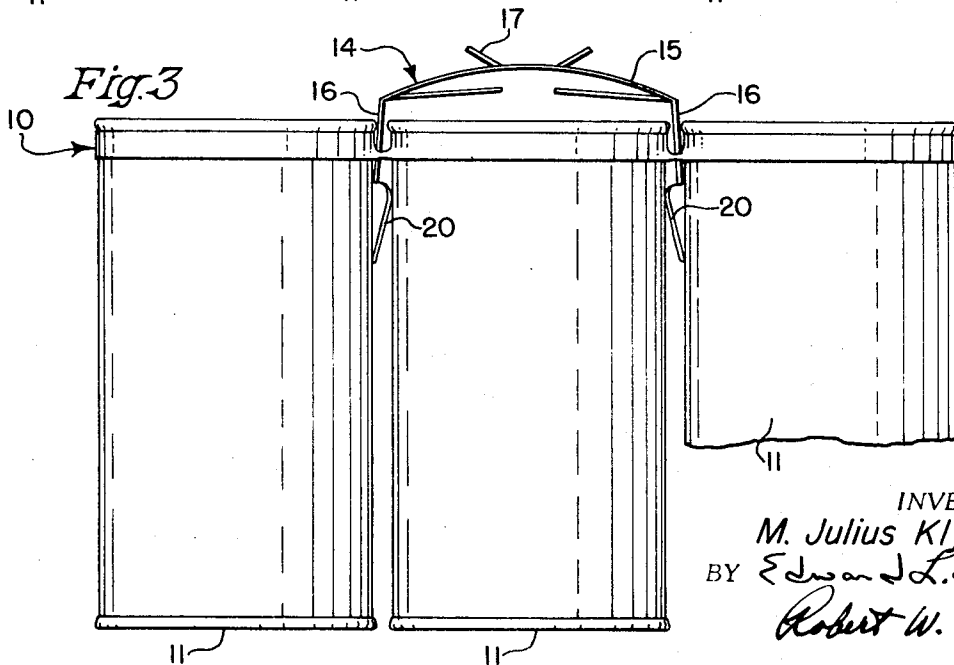
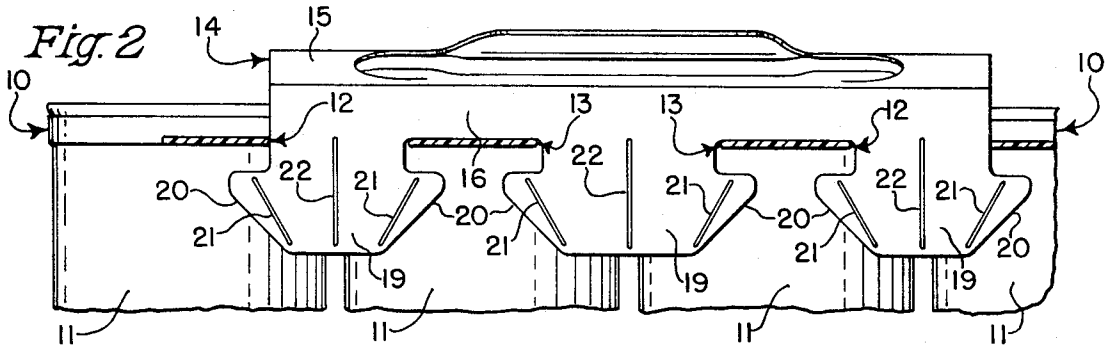
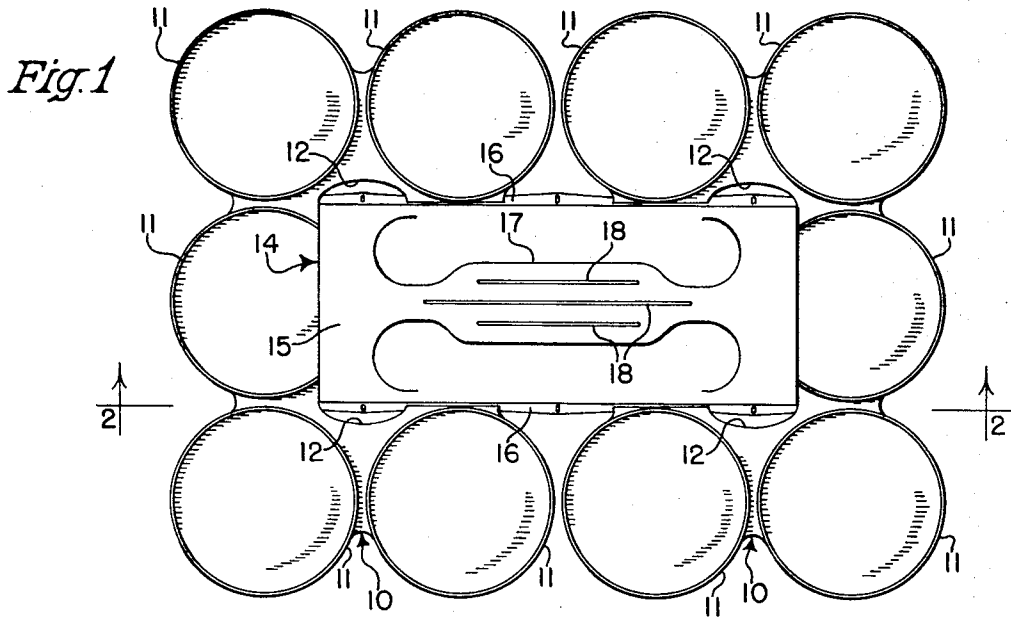
[57]

ABSTRACT

A carrier device for use with multiple container carriers for effectively interlocking and transporting of a plurality of multiple container carriers when the multiple container carriers are mounted on the containers.

6 Claims, 3 Drawing Figures





INVENTOR.
M. Julius Klygis
 BY *Edward J. L. Burns*
Robert W. Beart
 His Att'ys

MULTIPLE CONTAINER CARRIER

SUMMARY OF THE INVENTION

This invention relates to a carrier device for use with multiple container carriers such as shown in U.S. Pat. No. 2,874,835 and is further an improvement over my co-pending application, Ser. No. 118,000, Filed on Feb. 23, 1971 now U.S. Pat. No. 3,700,276. Container carriers of U.S. Pat. No. 2,874,835 are extensively used for the multiple packaging of containers, usually metal beverage containers, which are generally commercially sold in multiples of six. The present invention cooperates with a number of such multiple container carriers to form a single package of the number of containers carried in the multiple container carriers. With two such carriers each carrying six cans or containers, a convenient interlocked and unitary package of twelve containers would be provided with the device of the present invention. The present invention contemplates the cooperation of the carrier device with the finger holes or holds and longitudinal side edges of the individual multiple container carriers. The present invention is an improvement over my noted co-pending application in the construction and arrangement of the carrier device so that when it is associated with a pair of multiple container carriers, such as noted above, the subject carrier is locked onto the multiple container carriers to an extent that removal of the subject carrier from the multiple container carriers is virtually impossible without tearing or otherwise destroying the multiple container carriers. The present invention is a further improvement over my noted co-pending application in the formation and normal configuration of the integral handle means of the device for convenient transporting of the resulting unitary pack. The handle means provides a convenient hand-grasping arrangement, and yet groups of unitary packages may be easily stacked with substantially no stacking interference from the device.

It is the principal object of the present invention to provide a simple carrier device for multiple container carriers which is quickly and easily applied, provides a convenient carrying arrangement for multiple container carrier packs, and effectively locks multiple container carriers together.

More specifically, it is the object of the present invention to provide a carrier device for a plurality of multiple container carriers such as shown, by way of example, in U.S. Pat. No. 2,874,835.

These and other objects and advantages of the present invention are obtained by the provision of a carrier device formed from a sheet of resilient semi-rigid plastic, or like material, in which certain depending tabs are provided for interlocking cooperation with certain portions of known multiple container carriers. When two multiple container carriers with the containers therein are arranged in a longitudinal side-by-side relationship, the carrier device of the present invention is positioned over and transversely of the multiple container carriers. The carrier device is then projected downwardly to snap the certain tabs on the carrier device into locking engagement with the pair of multiple container carriers. The individual containers are easily removed from the multiple container carriers by pulling and deflecting the individual containers downwardly and outwardly of the multiple container carriers.

The carrier device of the present invention may not be pulled or separated from the multiple container carriers without substantially tearing or destroying the multiple container carriers. When mounted on a pair of multiple container carriers with the containers therein, and by virtue of the hereinafter described construction, the handle is positioned sufficiently above the remainder of the carrier device to permit a person's fingers to easily encircle the underside of the handle. However, the carrier device will substantially completely fold against the upper surface of the provided unitary pack when such unitary packs are vertically stacked.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of a carrier constructed according to the present invention and applied to a pair of multiple container carriers;

FIG. 2 is an enlarged cross-sectional view of the structure shown in FIG. 1 and taken substantially along the line 2-2 of FIG. 1; and

FIG. 3 is an enlarged end elevational view of the structure shown in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The carrier device of the subject invention is intended to be associated with two multiple container carriers of a type shown in U.S. Pat. No. 2,874,835. The two multiple container carriers are shown at 10 in the drawing, and generally each carrier 10 comprises a flat unsupported sheet of plastic material provided with a plurality of spaced-apart apertures, generally six in number. The apertures are somewhat smaller than the diameter of the cans with which the carrier is to be assembled, and the plastic material generally is a resilient, deformable material, such for example, as polyethylene. The carriers 10 are applied over the tops of a group of containers such as cans 11 so that the carriers 10 are positioned immediately below the top bead or chime of the cans 11. When applied to the cans 11, the material of the carriers 10 about the apertures assumes a substantially flat band-like configuration as may be seen in FIGS. 2 and 3. Finger holes or holds 12 are provided in the carriers 10 longitudinally centrally thereof and between each group of four apertures. The edge portions of the carriers 10 about the finger holes 12 and at the interconnecting web portions form relatively stable horizontal extending edges. These edges may clearly be seen as the cross-sectional areas shown in FIG. 2 wherein the finger holes 12 are identified and the edge portions of the opposed interconnecting web portions are identified at 13.

The carrier device of the present invention is shown at 14 in the drawing, and is preferably formed from a sheet of semi-rigid plastic material of substantially uniform thickness. In one embodiment of the invention, the plastic material is one which is capable of sustaining molecular orientation. Examples of such a material are polymers, such as polyethylene, and other plastic materials such as polypropylene and polyvinyl chloride. When such a material is sufficiently indented, at normal ambient temperatures, with a tool having edges rounded sufficiently to avoid cutting the material, the molecules of the material in and about the indentation are substantially oriented to increase the

strength of the material in and about the indentation and to permit relatively easy folding of the material on the longitudinal axis of the indentation.

The carrier device 14 of the present invention is further formed to have an elongated central member 15 and two integral side members 16. The central member 15 and the side members 16 have a length sufficient to span the finger holes 12 of a pair of multiple container carriers 10 when the carriers 10 are placed in a longitudinal side-by-side position such as shown in FIG. 1. The side members 16 generally depend from the central member 15 as may be seen in the drawing. If the carrier device 14 is formed from a material that is not capable of sustaining molecular orientation, the integral connection between the side members 16 and the central member 15 may be formed by scoring or otherwise forming the corners. If the material of the carrier device 14 is one which is capable of sustaining molecular orientation, the integral connection between the side members 16 and the central member 15 is preferably formed by line indentations with the indentations being formed at normal ambient temperatures to an extent providing substantial orientation of the molecules of the material in and about the indentations.

The central member 15 is provided with two longitudinally extending slits having generally semi-circular end portions to define an integral handle 17. The slits are so formed that the longitudinal central portion of the handle 17 is substantially wider than the integral end portions of the handle 17 to define a convenient hand-gripping portion. The semi-circular end portions of the slits in the central member 15 are curved outwardly from the longitudinal central axis of the central member 15 toward the longitudinal side marginal edges and terminate short of the integral interconnection between the central member 15 and the side members 16 as may be seen in FIG. 1. The material of the central member 15 remaining on each side of the handle 17 serves to add to the rigidity and stability of the central member 15.

If the material of the carrier device 14 is one which will not sustain molecular orientation, a plurality of lines 18 are formed in the handle 17 by scoring or other forming to produce an upwardly bowed configuration of the hand-gripping portion of the handle 17. This configuration of the central portion of the handle 17 may clearly be seen in the end view shown in FIG. 3 and permits easy encircling of the hand-gripping portion of the handle 17 by a person's fingers. If the material of the carrier device 14 is one which will sustain molecular orientation, the lines 18 are preferably formed as longitudinally extending transversely spaced-apart line indentations with the line indentations being formed to an extent sufficient to substantially orient the molecules of the material in and about the line indentations 18. The line indentations 18 are made with an indenting tool applied on the upper surface of the handle 17 with the underside of the handle 17 against a suitable platen to provide the bowed shape seen in FIGS. 2 and 3. The central member 15 further is slightly bowed with the side portions direction downwardly as may be seen in FIGS. 2 and 3. The resulting raised position of the longitudinal central portion of the central member 15 further enhances the raised position of the handle

17 to further provide for easy encircling of the hand-gripping portion of the handle 17 by a person's fingers when the carrier device 14 is applied to the multiple container carriers 10 carrying the cans 11. By virtue of the resiliency of the material of the carrier device 14 and the resiliency of the multiple container carriers 10, any substantial loading placed on the top of the unitary package of the carrier device 14 and the multiple container carriers 10 will permit the central member 15 and the handle 17 to substantially flatten against the upper surface of the cans 11. This arrangement permits convenient stacking of unitary packages of the subject invention and multiple container carriers 10 with the included cans 11.

The lower edge portions of each of the side members 16 are provided with a number of integral tabs 19. In the preferred embodiments, there are three tabs 19 depending from the lower edge of each side member 16 in a longitudinally spaced-apart relationship as can be seen in FIG. 2. The shank portions of the two end tabs 19 on each side member 16 have a width substantially equal to the diameter of the finger holes 12. The shank portion of the center tab 19 on each side member 16 has a width substantially equal to the spacing between the edge portions 13 of the adjacent multiple container carriers 10. Each tab 19 below the shank portion thereof is provided with a pair of outwardly extending ears 20. The side marginal edges of the ears 20 on the tabs 19 are formed to generally converge in a downward direction. The integral connection between the ears 20 and the remaining portions of the tabs 19 are generally defined by lines 21. If the material of the carrier device 14 is one which is not capable of sustaining molecular orientation, the lines 21 are formed as slits which terminate short of the upper and lower edges of the ears 20. If the material of the carrier device 14 is one which will sustain molecular orientation, the lines 21 are preferably formed as line indentations with the indentations being formed to an extent providing substantial orientation of the molecules of the material in and about the line indentations 21. In either embodiment, the slits or line indentations 21 provide for a substantial flexibility of the ears 20 so that the ears 20 may be folded about the axis of the lines 21 when the carrier device 14 is projected downwardly over a pair of multiple container carriers 10 aligned as shown in the drawing. When the ears 20 are moved below the plane of the multiple container carriers 10, the resiliency of the material of the carrier device 14 will permit the ears 20 to at least partially return toward the plane of the tabs 19 to lock the carrier device 14 to the multiple container carriers 10 and to further interlock the two multiple container carriers 10 and the carrier device 14 together as a unitary package.

The tabs 19 are further provided with vertical centrally disposed lines 22 which may be seen in FIG. 2. The lines 22 serve to further permit the tabs 19 to partially fold when the carrier device 14 is projected downwardly over the pair of multiple container carriers 10. In the instance of the material of the carrier device 14 being one which will not sustain molecular orientation, the lines 22 are formed as slits, and in the instance of the material being one which will sustain molecular orientation, the lines 22 are preferably formed as indentations to an extent sufficient to provide substantial

orientation of the molecules of the material in and about the lines 22.

When the carrier device 14 is mounted on a pair of multiple container carriers 10 including the cans 11, the resulting unitary package is a simple and convenient arrangement for retaining and transporting the cans 11. The described arrangement effectively locks the carrier device 14 to the multiple container carriers 10 against removal of the carrier device 14 from the multiple container carriers 10 when the multiple container carriers 10 are mounted on the cans 11. Any attempt to pull the carrier device 14 from the multiple container carriers 10 when the carriers 10 are mounted on the cans 11 can be accomplished only by substantially tearing or otherwise destroying the portions of the multiple container carriers 10 cooperating with the carrier device 14.

Having described the invention, it is to be understood that changes can be made in the described embodiments within the spirit and scope of the invention as defined by the appended claims.

I claim:

1. A carrier device formed from a sheet of plastic material in an inverted U-shape comprising a rectangular central member and integral side members depending from opposite longitudinal edges of said central member, a plurality of tabs integrally formed to depend from each of said side members, said tabs being formed to include integral ear members extending outwardly from said tabs generally in the planes of said tabs and said side members, the outward marginal edges of said ear members being formed to converge downwardly toward the center line of the associated tab, said ear members including line means formed to permit rela-

tively resilient folding of said ear members about the longitudinal axes of said line means, the longitudinal axes of said line means being positioned to converge downwardly toward the center line of the associated tab, a handle means integrally formed in said central member to extend longitudinally centrally thereof, and said handle means being formed to have a central hand-gripping portion of substantially greater width than the integral end portions thereof.

2. A carrier device as defined in claim 1, wherein said line means comprises slits formed through said ear members and terminating a spaced distance from the upper and lower marginal edges of said ear members.

3. A carrier device as defined in claim 1, wherein said carrier device is formed from a sheet of plastic material capable of sustaining molecular orientation.

4. A carrier device as defined in claim 3, wherein said line means comprises line indentations in said ear members to an extent providing substantial orientation of the molecules of said material in and about said line indentations.

5. A carrier device as defined in claim 3, wherein the integral connection of said side members to said central member comprises line indentations in said material to an extent providing substantial orientation of the molecules of said material in and about said lines.

6. A carrier device as defined in claim 3, wherein said central hand-gripping portion includes a plurality of longitudinally extending and transversely spaced-apart indentations, said indentations being formed to an extent to provide substantial orientation of the molecules of said material in and about said indentations.

* * * * *

35

40

45

50

55

60

65