

May 13, 1969

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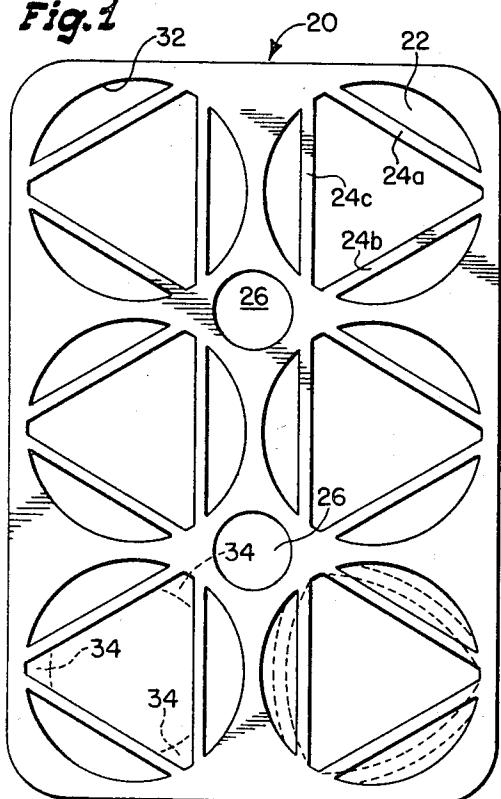
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CONTAINER CARRIER AND PACKAGE

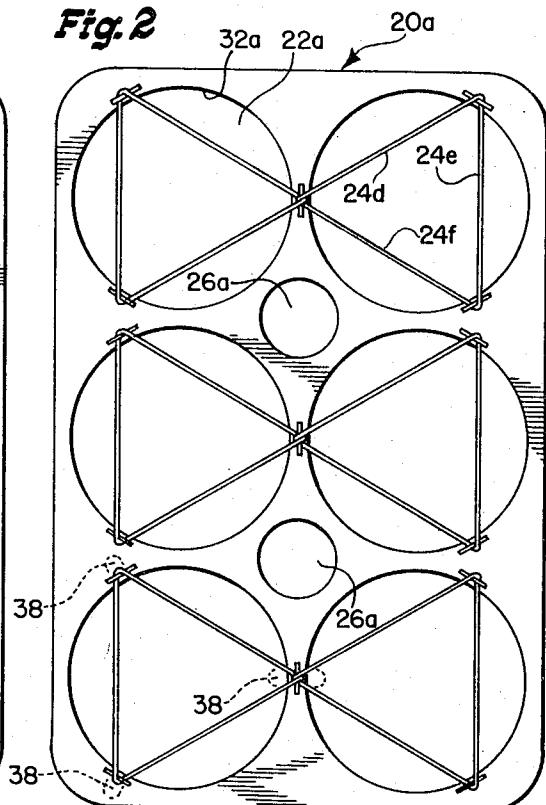
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Sheet 1 of 2

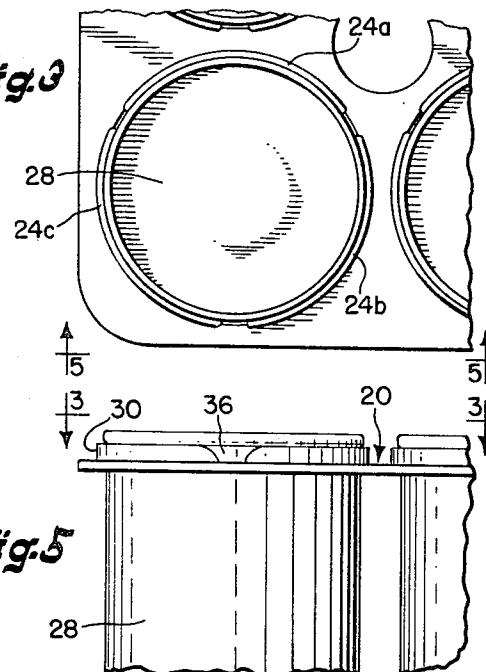
**Fig. 1**



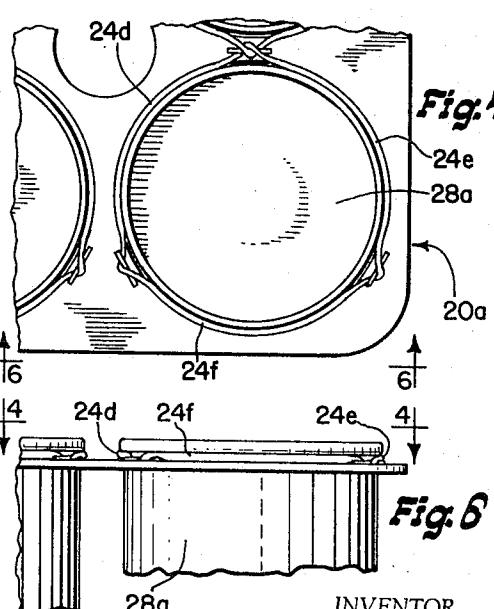
**Fig. 2**



**Fig. 3**



**Fig. 4**



**Fig. 5**

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Fig. 7

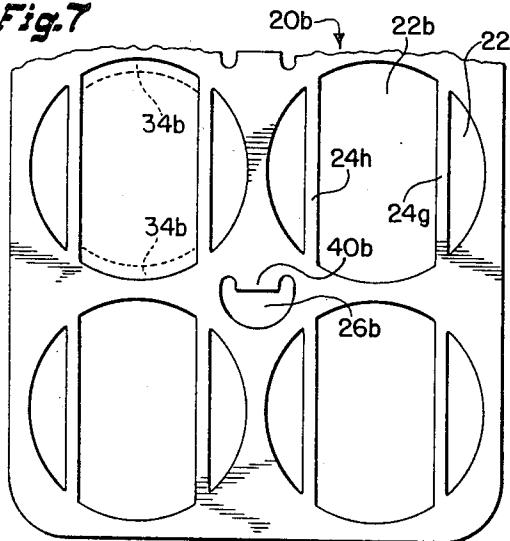


Fig. 8

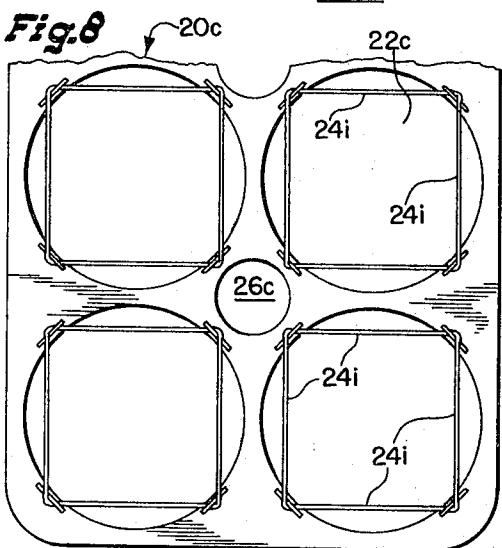


Fig. 9

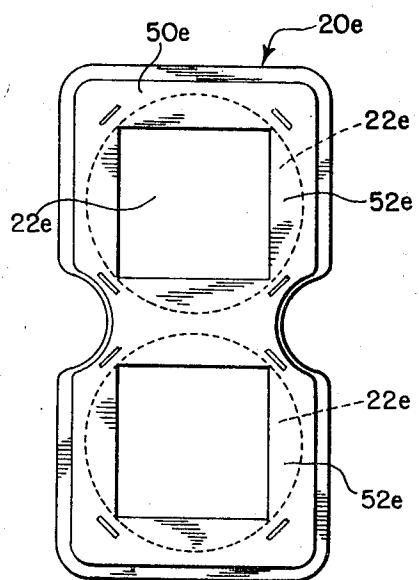
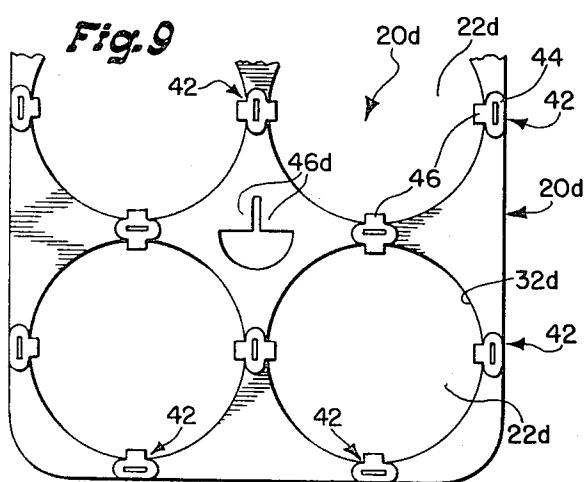


Fig. 10

Fig. 12

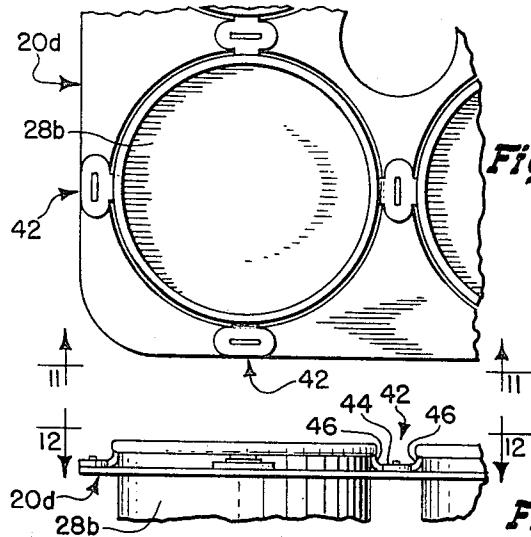


Fig. 11

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## CONTAINER CARRIER AND PACKAGE

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8 Claims

### ABSTRACT OF THE DISCLOSURE

A carrier device for articles consisting of a flap of perforated material having apertures of a predetermined size, which apertures are associated with a plurality of resilient webs or straps associated with the flap and traversing the aperture opening so that upon association of an article into mounted position within the aperture the web portions grippingly engage the article and prevent its retraction back through the aperture through which the article was first passed.

### Background of the invention

*Field of the invention.*—The present invention relates to the multipackaging of products, principally in metal and glass cans, the final packaged product being referred to as a multipack. Several carrier devices of the type which grippingly engage the product in the vicinity of their tops are presently being marketed and are referred to in the market place as the Hi-Cone® carrier and the Clean Top® multipack. The instant invention seeks to improve the type of carrier which presents a perforated flap, but depends upon the measurement of the substantially uninterrupted margin of apertures formed therein to grippingly engage the product. Provision in the instant invention is made to provide readily expandable gripping portions to engage the can which has gripping formed abutment surface of sufficient lateral extend to prevent the can with the associated gripping portion from returning back through the aperture in which the canned product is mounted. It is noteworthy to realize that the instant invention is readily adapted to equipment now in the field and the application of the carrier device can be accomplished with facility by users of products presently being successfully commercialized.

*Description of the prior art.*—There are a number of prior art references which show various types of multipackaging devices related to this invention; however, none of them have provided an engaging element to grippingly engage an article associated with the carrier using a small degree of force which when finally mounted on the product prevents inadvertent removal of the product relative to the carrier body with which the engaging elements coact. Typical examples of prior art devices which the instant invention constitutes an improvement over are: U.S. Patent 2,487,109, U.S. Patent 2,874,835, U.S. Patent 3,199,908, each of which shows forms of carrier devices for use with a multiplicity of container products.

Also to be noted is the art cited in the above identified patents. In addition, applicant notes two patents which contemplate the use of web elements for container or containers to space a product from the side wall thereof. These patents are U.S. Patent 1,479,244 which is utilized in the egg carton business, and British Patent 386,182 (1933) which relates to a powder box device.

### Summary of the invention

The instant invention has as its object to provide a new form of carrier device which is engineered to facilitate insertion of a can into one of the pockets or aper-

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tures of the carrier, and additionally, engineered to facilitate its removal.

It is a further object of the invention to provide such a carrier device which is, in itself inexpensive, simple, and economical to produce as well as to assemble with canned products without the necessity of excessive modifications of equipment now in the field.

It is a further object of this invention to provide a carrier device for retaining a plurality of canned products together as a unit, which device requires relatively small forces to accomplish assembly of the canned product, as well as for removing the canned product for ultimate use, but which requires extraordinary force for accidental separation.

Yet another object of the invention is to provide a carrier device for retaining various shapes and configurations of product as a unit wherein each device is capable of only restrained movement relative to an adjacent device mounted in the same carrier.

Furthermore, it is an object of this invention to provide a carrier device which by virtue of its physical characteristics aggressively grips and embraces in intimate contact the wall of the product mounted therein.

Still another object of this invention, is to provide a carrier device for products which can be made using a flap of cardboard, plastic or other materials which can be perforated to make product receiving apertures and in conjunction therewith using either an integral or an elastic deformable element to provide the embracing and engaging forces which will be alluded to in greater detail in the specifications of this application and be apparent from a study of the drawings.

Other and further objects and advantages of the present invention will be apparent from the following description when studied in connection with accompanying drawings.

### Brief description of the drawings

FIG. 1 is a plan view of one embodiment of my invention showing a single flap of material presenting preformed apertures with integral engaging elements traversing the apertures of the carrier and capable of providing the engaging function of the carrier.

FIG. 2 is a carrier device having preformed apertures with separate elements affixed to the carrier device which traverse the aperture opening and present resilient engaging means.

FIG. 3 and FIG. 4 are plan views portraying the carrier device shown in FIGS. 1 and 2 respectively in association with can devices revealing the manner in which feed devices are held by the container device.

FIG. 5 is a side view taken along the line 5—5 in FIG. 3 showing the nature of engagement of the resilient engaging means of the canned product.

FIG. 6 is similar to FIG. 5, but taken along the line 6—6 showing a side view of the engagement of the type of carrier shown in FIG. 2.

FIG. 7 shows another embodiment of the form of carrier device to the device shown in FIG. 1.

FIG. 8 shows another embodiment of the form of carrier device shown in FIG. 2.

FIG. 9 shows a still another form of the invention wherein a carrier body is provided with locking elements which project into the aperture opening and provide means to engage a canned product upon insertion for mounting.

FIG. 10 is a device of the type shown in FIG. 9 portraying it in mounted and engaged relation to a canned product which has been inserted into the aperture of the carrier.

FIG. 11 is a side view of the carrier device taken along

the line 11—11 showing the carrier in FIG. 9 in mounted position on a canned product.

FIG. 12 shows variations of the carrier shown in FIGS. 1 and 2 of the drawings which are within the scope of the invention which I have disclosed.

*Description of the preferred embodiments*

Referring now in greater particularity to the drawings, FIG. 1 portrays a carrier, receptacle, or retainer, in accordance with the principles of this invention comprising a flat sheet of plastic material hereinafter identified by the numeral 20. The sheet is provided with a plurality of spaced apertures 22, preferably an even number such as 2, 4, 6, or 8. The apertures 22 are provided with a peripheral measurement having a predetermined peripheral configuration and measurement of the canned product with which the device is to be assembled. The carrier device is made of plastic material which is relatively resilient, flexible, and elastic, and which will not readily tear. Polyethylene is a preferred example of a suitable material, but other functionally similar materials are satisfactory. The retainer or carrier 20 preferably is stamped from an elongated strip of material in a suitable punch press, leaving integral strap or web portions 24(a), 24(b), and 24(c) which traverse the aperture opening 22. There may also be formed during the stamping operation, a plurality of additional apertures 26 which serve as handle means for the user's fingers in the carrier after being assembled with adequate protection to facilitate its carrying. In this regard other forms of handle means, some of which are elements to be assembled to the carrier, can be provided which perhaps are best seen in already existing articles such as U.S. Patent No. 3,016,136 and U.S. Patent No. 2,997,169.

As has been noted, and as will be seen with particular reference to FIGS. 2 and 3, the diameter or configuration of the aperture 22 closely approximate the diameter or measurement of the canned product 28 to be associated with the carrier. The carrier 20 remains substantially flat as it has been placed down over the tops of the cans 28, preferably by machinery, not shown herein, while the straps or engaging means 24(a), 24(b), and 24(c) are moved outwardly and into an upright position as at 30 to provide an upright collar in intimate and embracing contact with the side wall of the container, and additionally, is positioned in overlying relationship to the peripheral margin 32 of the carrier aperture 22. The thickness of the material from which the straps 24(a), (b), and (c) are provided must be of sufficient measurement so that when in engaged position with the side wall of the canned product 28, it will extend laterally outwardly a sufficient distance to overlie the margin 32 of the carrier aperture thereby to resist the web portions and associated can product being pulled through the aperture by reason of the weight of product which it supports. This overlap function, together with nature of engagement of the web portions 24(a), (b), and (c), are key features of this invention. Thus the deflected strap portions 24(a), (b), and (c) in engagement with the can side wall resists withdrawal of the can inadvertently relative to the carrier. The length of the strap elements 24(a), (b), and (c) and their position relative to the margin of the aperture 22 determine the axial force to which the can can be subjected relative to the carrier body 20, while the thickness of the carrier material and its chemical formulation determine the qualities of the carrier. The aforementioned elements can all be modified to afford any particular rigidity or other characteristic that might be desirable from the standpoint of the manufacturer and user. When made in accordance with this invention it is practically impossible thru inadvertant acts to remove a can by axial forces impressed on the cans relative to the carrier 20, while at the time the forces

necessary to accomplish assembly of the carrier to the cans need not be very great.

In view of the foregoing, it will be appreciated that the cans and retainer are not readily separated inadvertently. However, when it is desired to remove a can from the carrier very little force need be exerted as the can may be removed by tilting it relative to the carrier, the can body 28 by reason of its length providing a sufficient lever arm to thereby apply sufficient force to the strap portion which will ultimately be tilted and drawn down so that at least a portion of it is positioned below the plane of the carrier and ultimately will be stretched and disturbed so that removal of the container from the carrier is accomplished. Likewise I have found that the can is readily removed by lifting the can upwardly in a direction away from the overlying web portion 24(a), (b), and (C), relative to the carrier body 20 permitting the bottom of the can to be drawn through the engaging web portions with a relatively small force. The manner in which the webs 24(a), (b), and (c) embrace the carrier is clearly visible in FIG. 3 of the drawings. When three webs are provided the webs engage the substantial portion of the entire periphery of the can—the only portion not being engaged being in the vicinity of the juncture of two web portions with a margin of the aperture of the carrier 20. It will be appreciated that this can be eliminated by providing a short interconnecting web portion shown by dashed lines in FIG. 1 at the bottom left hand aperture where the web is designated by the numeral 34. The same phenomena as explained above can be seen in FIG. 5 where in the absence of provision for web 34 a short area of nonengagement is designated by the numeral 36.

With particular reference to FIGS. 2, 4 and 6, a second embodiment of the invention may be viewed. In this particular version of the invention I have shown a carrier 20(a) preferably made of stiff material such as paper-board and the like with apertures 22(a) being provided of predetermined size and configuration for the object to be mounted therein. Instead of integral webs 24 I have provided the carrier with elements 24(d), 24(e), and 24(f) which, as shown, is an elastic member, such as a rubber band, suitably stabbed or secured to the carrier at three or more points in the vicinity of the margin 32(a) of the aperture. These elements must be of suitable size in cross section so that upon insertion of a can element 28(a) or the like as viewed in FIG. 4 and FIG. 6, the can is embraced by the elements 24(d), 24(e), and 24(f) with the cross sectional configuration of the element totally overlying the clearance area between the wall of the aperture of the carrier and the side wall configuration of the container with an additional portion thereof resting atop the carrier surface 20(a). Various means of securing these elastic elements to the carrier can be utilized in addition to staples, another means for attachment of the element includes providing tabs struck up from the card-board body as is clearly shown in dashed line in FIG. 2 at the lower left hand corner of the carrier where elements 38 have been shown in dashed line. These tabs when slightly bent up out of the place of the carrier body 20(a) could be used to hook a rubber band over them to rapidly position them in mounted position in the near vicinity of the margins of the apertures on the carrier body 20(a).

In FIG. 7 I have shown still another embodiment of the invention which is similar in many respects to the carrier device 20 shown in FIG. 1. In this configuration only a pair of web portions are shown transversing the aperture opening, the web portions being identified by the numerals 24(g) and 24(h). These web portions would function in much the same fashion as the web portions 24(a), 24(b), and 24(c) in FIG. 1, giving embracing action for a substantial portion of periphery of the container with the accompanying interference fit as a result of

the thickness of the material being so selected to be greater in thickness dimension than the clearance of space between the object to be mounted in the aperture 22(b) and the margin of same. Suitable handle means would be provided—I have shown these as punched apertures 26(b) having push down flaps 40(b) to provide a folded margin to eliminate sharp edges that would normally come in contact with the fingers of the user. Such a form of handle means is particularly useful where the product to be carried by the carrier is of substantial weight and the carrier body is made of relatively thin material.

In FIG. 8 a modified embodiment of the carrier shown in FIG. 2 is designated by the numeral 20(c). In this particular version a different configuration of resilient engaging element 24(i) is shown to illustrate the fact that various configurations of engaging elements may be employed. It is noteworthy that the greater number of segments or elements overlying the aperture that are affixed in the vicinity of the margin of the carrier, the greater the extent of circumferential engagement of the wall surface object to be secured will be.

In FIGS. 9, 10 and 11, I have shown a third embodiment of the invention consisting of a carrier body 20(d) of similar configuration to carrier 22(a) in FIG. 2, but having instead of chordal segments of an engaging member presented, this embodiment presents a series of tab-like elements 42 which can be placed strategically about the peripheral margin of the aperture 22(d), each comprising a body element 44 to be secured by adhesive or stapling to the body 20(d) of the carrier with an integral finger-like element 46 projecting into the aperture and presenting flexible engaging elements which can be distorted or flexed upwardly as the can product is inserted therein, after insertion of the fingers serving a similar purpose from a broad standpoint that resilient elements 22(a) thru 22(i) perform in the previously described embodiments. It should be noted specifically that this particular form of the invention works most effectively with objects having a bead or other enlargement on its side wall so that it can underly the bead and perform a locking function. I have noted that with light weight objects the periphery bead on the container or other object is unnecessary if these fingers are of sufficient rigidity to grippingly impinge upon or engage the object. It is possible to coat these fingers with material which will cause the finger-like engaging elements to adhere to the wall of the mounted element and resist axial movement of the product mounted therein if this is found desirable. It should be pointed out as has been mentioned in the description of other embodiments that the thickness of these portions are preferably of sufficient thickness to exceed the dimension of the void between the object mounted in the aperture 22(d) and the margin 32(d) of the aperture 22(d). This gives the desired interference which in turn assures the user that the tab is incapable of being doubled back upon itself and pulled down through the aperture. Handle means, either separate or integral, are contemplated to be used with this device. I have shown an integral handle means 26(d) stamped to provide a semicircular opening with the other half of the circle bi-sected into two quarter segments of a circle identified by the numeral 46(d) which upon insertion of a user's fingers will be deformed downwardly to provide 180° of folded edge to give a smooth surface of at least double the thickness of the sheet material to increase the apparent thickness of the material exposed to the user's fingers.

Lastly, in FIG. 12 I have shown still another embodiment of the carrier which is identified as 20(e). This form of the invention consists of a carrier body having a piece of film 50(e) superimposed on the top surface of the carrier body 20(e) with portions of the film overlying the aperture 22(e), said overlapping portion being designated as 52(e). It is consistent with my invention that these overlapping portions be of different configuration than the configuration of aperture 22(e), so that upon

insertion of a can product into the aperture 22(e) the over-lapping portion 52(e) will be spread laterally outwardly and axially upwardly and upon passage of the can through the opening it will be trapped against removal by inadvertence or gravity in the same mechanical fashion as that contemplated by the other carrier heretofore described.

The carrier herein disclosed is simple to associate with containers such as metallic and glass cans, or other objects suitable for multipackaging, to facilitate their handling. The package thus formed provides a stable unit which enhances the sale of multipackaged products, facilitates the storage of such products, does not obscure the side wall of the container from the purchasing public, does not obscure the side wall of the container from the purchasing public, does not impair the ability to chill the product where such is advantageous, and affords assurance to the user handling it that products carried thereby will not be dropped from the carrier inadvertently.

The invention is claimed as follows:

- 20 1. A beverage or the like unit comprising a plurality of containers having curvilinear cross sections of predetermined configuration and measurement, and a flap of substantially unsupported flexible material having a plurality of curvilinear apertures therein of predetermined peripheral configuration and measurement capable of accepting without appreciable distortion the complementary shaped containers to be mounted therein, independent gripping means independent of each other and associated with each of said apertures of said flap traversing through at least one complete cord the aperture which with which it is associated and adapted when moved outwardly as an incident to the telescopic association of a beverage container into each of said apertures to lie in intimate and embracing contact with the side wall of each of the containers and simultaneously overlie the peripheral margin of each of the said apertures, said containers depending from said flap of material in side by side abutting relation whereby reinforcing one another as the unit is carried and handle means associated with said carrier.
- 25 2. A carrier device for a plurality of complementary containers each of which has an outer periphery of predetermined configuration and measurement, comprising a flap of sheet material provided with a plurality of apertures each of which has a predetermined peripheral configuration and measurement capable of accepting without appreciable distortion the complementary shaped container adapted to be mounted therein, independent gripping means independent of each other and associated with each of said apertures of said flap and traversing through at least one complete cord the aperture with which it is associated within their boundaries which are adapted upon insertion of the complementary containers into said apertures to be moved laterally outwardly and axially upwardly to a position wherein they lie in intimate and embracing contact with the side walls of the containers and simultaneously overlie the peripheral margin of the carrier aperture to retain the containers in mounted position relative to said carrier, and handle means provided for said carrier.
- 30 3. A carrier device of the type described in claim 2 wherein the apertured flap of material is made of a plastic sheet material and the gripping means associated with said flap and traversing the apertures are integral with said flap of material.
- 35 4. A carrier device of the type described in claim 2 wherein the apertured flap of material is made from a paperboard stock and said gripping means associated with the flap which traverse the apertures is made of a resilient material which is fixedly secured to said flap of material.
- 40 5. A carrier device of the type described in claim 2 wherein the handle means provided in the carrier body consists of a plurality of spaced apertures to facilitate insertion of user's fingers therein to make the carrier and
- 45 6. A carrier device of the type described in claim 2 wherein the handle means provided in the carrier body consists of a plurality of spaced apertures to facilitate insertion of user's fingers therein to make the carrier and
- 50 7. A carrier device of the type described in claim 2 wherein the handle means provided in the carrier body consists of a plurality of spaced apertures to facilitate insertion of user's fingers therein to make the carrier and
- 55 8. A carrier device of the type described in claim 2 wherein the handle means provided in the carrier body consists of a plurality of spaced apertures to facilitate insertion of user's fingers therein to make the carrier and
- 60 9. A carrier device of the type described in claim 2 wherein the handle means provided in the carrier body consists of a plurality of spaced apertures to facilitate insertion of user's fingers therein to make the carrier and
- 65 10. The package thus formed provides a stable unit which enhances the sale of multipackaged products, facilitates the storage of such products, does not obscure the side wall of the container from the purchasing public, does not obscure the side wall of the container from the purchasing public, does not impair the ability to chill the product where such is advantageous, and affords assurance to the user handling it that products carried thereby will not be dropped from the carrier inadvertently.
- 70 11. The package thus formed provides a stable unit which enhances the sale of multipackaged products, facilitates the storage of such products, does not obscure the side wall of the container from the purchasing public, does not obscure the side wall of the container from the purchasing public, does not impair the ability to chill the product where such is advantageous, and affords assurance to the user handling it that products carried thereby will not be dropped from the carrier inadvertently.

its associated complementary container devices portable.

6. A carrier device of the type described in claim 2 wherein the gripping means associated with the flap and traversing the flap apertures consist of at least two elements spaced from each other and traversing different marginal regions of each of the apertures so that when moved laterally outwardly and axially upwardly as a container is inserted to position said elements will engage at least 180° of the can periphery to assure positive engagement of the product with respect to the carrier.

7. A carrier device of the type described in claim 2 wherein the container products have a peripheral bead in the vicinity of their top margin which provides an enlargement with which the gripping means associated with said flap and traversing the apertures may coact to assure positive engagement of the containers and thus prevent inadvertent removal of said containers from the carrier device.

8. A carrier device of the type described in claim 2 wherein the handle means consist of a plurality of ap-

ertures provided in the flap of sheet material and wherein marginal elements of these apertures are left to integrally project into the aperture opening so that as the user inserts his fingers therein, said margin projection portion providing a double fold of material to enhance the apparent thickness of the material and thus assure user comfort.

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