March 18, 1952 R. W. STEVENSON 2,589,452

BOTTLE CARRIER

Filed Oct. 19, 1948 2 SHEETS—SHEET 1

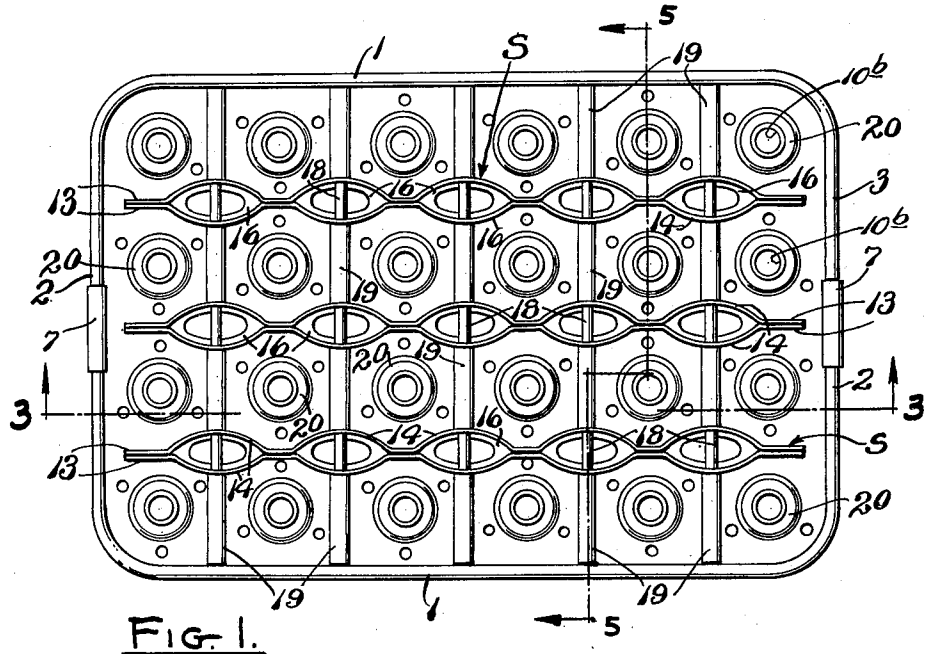


FIG. 1.

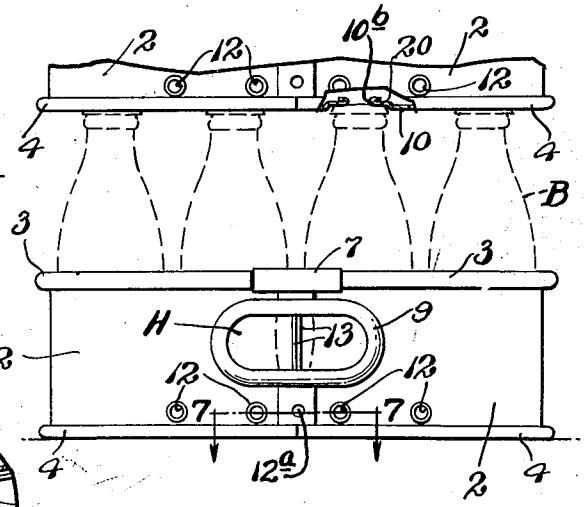
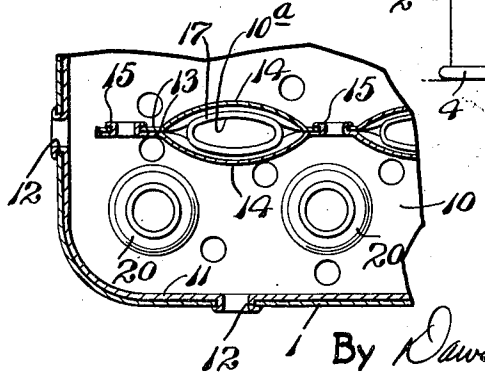


FIG. 2.

FIG. 4.



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FIG. 3.

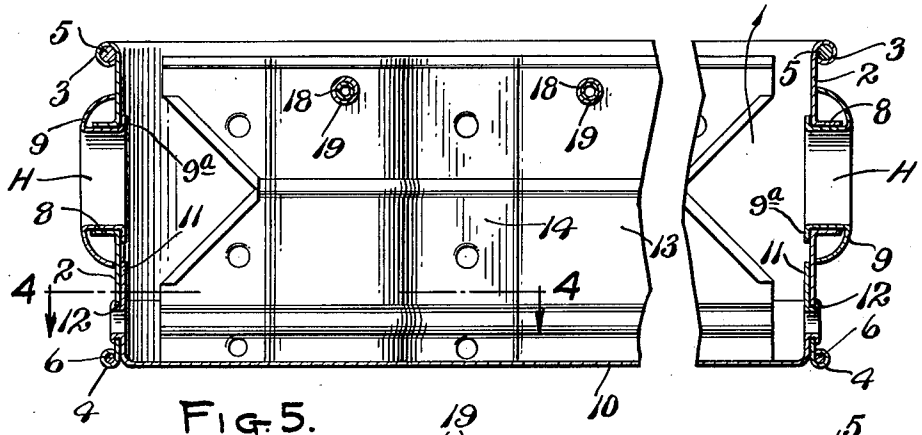


FIG. 5.

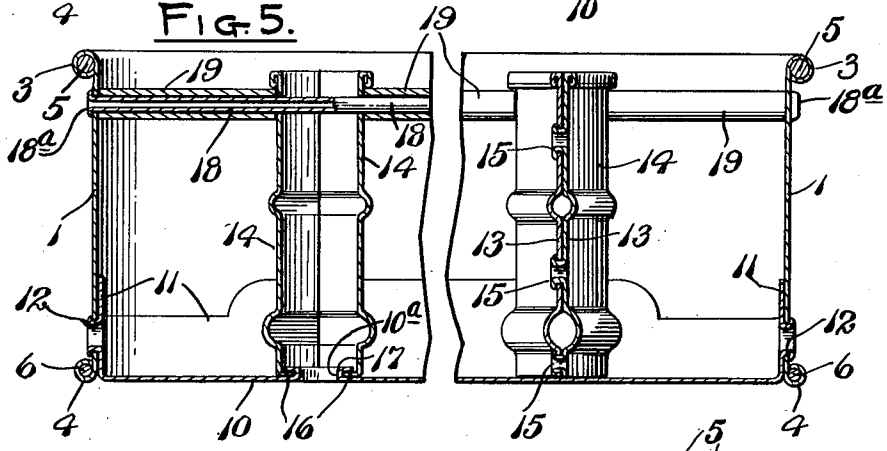


FIG. 6.

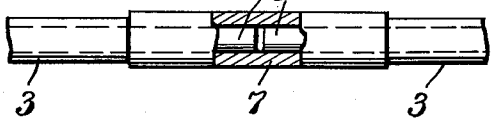
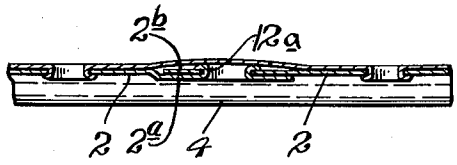


FIG. 7.



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BOTTLE CARRIER

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Application October 19, 1948, Serial No. 55,344

2 Claims. (Cl. 220—21)

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My invention relates to a bottle carrier adapted to retain a plurality of bottles for transportation or storage and a separator for use therein.

Bottle carriers form convenient devices in which to transport and store bottles such as soft drink bottles and the like. However, for this purpose the carrier must be sufficiently strong to withstand rough handling without damage, and at the same time must be capable of protecting the contained bottles from the shocks and blows incident to handling. Moreover, it is desirable that the carrier be of an attractive sanitary appearance and, in addition, be readily cleaned.

In accordance with the present invention, an improved bottle carrier having deflectable separators is provided. Each of these separators is defined by a pair of resilient sheet members mounted in face-to-face relation and having spaced dished-out portions adapted to bear against transverse unyielding members to define bottle receiving compartments having yielding sides.

It is, therefore, a general object of the present invention to provide an improved bottle carrier capable of withstanding the shocks and blows incident to use without damaging the bottles contained therein.

Further, it is an object of the present invention to provide an improved bottle carrier in which the compartment in defining elements are snugly held in position but are nevertheless capable of deflecting movements under the impact of the bottles.

Another object of the present invention is to provide an improved separator construction for use in a bottle carrier.

A bottle carrier having features of construction similar to that of the present application is described in my copending application entitled "Bottle Carrier" filed October 11, 1948, S. N. 53,773 and assigned to the same assignee as the present invention.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention, itself, however, both as to its organization and method of operation, together with further objects and advantages thereof may best be understood by reference to the following description taken in connection with the accompanying drawings in which:

Figure 1 is a top plan view showing a bottle carrier constructed in accordance with the principles of the present invention;

Figure 2 is a fragmentary side elevational view of a pair of carriers like that of Figure 1 in stacked relationship;

Figure 3 is a fragmentary cross-sectional view through the axis 3—3, Figure 1;

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Figure 4 is a fragmentary cross-sectional view through the axis 4—4, Figure 3;

Figure 5 is a cross-sectional view through the axis 5—5, Figure 1;

Figure 6 is a greatly enlarged fragmentary broken view showing the upper edge portion of the wall of the carrier adjacent the handles; and

Figure 7 is a fragmentary enlarged sectional view through the axis 7—7, Figure 2.

Referring now to Figure 1, the carrier of the present invention includes a bottom 10 of sheet aluminum alloy or the like and surrounded by a wall defined by sides 1 and ends 2. A plurality of separators indicated generally at S extend longitudinally of the carrier to define a plurality of bottle-receiving rows. Struts 18 surrounded by spaced sleeves 19 extend transversely of the separators to define a plurality of bottle-receiving compartments, each adapted to receive one bottle.

The separators S are each formed from a pair of resilient sheet members 13, such as thin aluminum alloy sheets. These are mounted in face-to-face relationship and are affixed to each other by spaced holes formed in one sheet which receives the crimped over edge portions 15, Figures 4 and 5, of the other sheet. The sheets 13 are further formed with spaced complementary dished-out portions 14 in the regions intermediate the adjacent bottle-receiving compartments. These dished-out portions of each separator are transversely aligned with the dished-out portions of the others as shown in Figure 1. As will be described in further detail hereafter, these dished-out portions provide resilient support for the separators and permit the same to move under the impact of blows associated with shocks to which the carrier is subjected.

Each separator S is provided with an opening or aperture in each region 14 to receive a transversely orientated strut 18. These struts extend between the sides 1 of the carrier and are anchored to the opposite sides by the crimped or headed end portions 18a, Figure 5, which define heads engageable against the opposite sides 1 to prevent shifting movement of each strut relative to the carrier. When the struts shift in one direction one set of heads 18a engages the corresponding side wall 1 and when the struts shift in the opposite direction the other set of heads 18a engages the other side wall 1. The struts 18 are preferably of hollow construction as indicated at Figure 5 to provide maximum rigidity for minimum weight. Intermediate between each pair of adjacent separators and between each end separator and the adjacent side wall 1, the struts 18 receive sleeves 19. Each of these sleeves bottoms against the adjacent separators or against the adjacent wall and thereby

snugly sustains each separator in position. The sleeves are of aluminum alloy or like material and define unyielding members against which the separators bear.

The bottom 10 of the carrier is formed with oval openings 10*a*, Figures 3 and 5, immediately below each of the dished-out portions 14 of the separators. Moreover, complementary oval openings are defined by the turned in foot portions 16, Figure 5, formed on each member of the separators in the dished-out regions 14. The bottom 10 is crimped over the edges 16 as shown at 17, Figure 5, and thereby anchoring the bottom of each separator against shifting and tilting movements relative to the bottom 10.

While the separators S are snugly held in position, they are nevertheless capable of yielding movements in response to the impact of bottles when the carrier is struck from the side. This results from the resiliency of the dished-out portions 14 of each separator, which portions are snugly seated against the adjacent sleeves 19 and permit yielding movements of the separators by flexure of the walls of these dished-out portions.

The upper edge of the side walls 1 and the end walls 2 is reinforced by the steel rods 5, Figure 5, located therein. These rods are each of U-shaped form with their end portions received in the sleeves 7. As shown at Figure 6, the end portions of the rods 5 are in spaced relationship relative to each other, thus permitting the opposite sides 1 to deflect relative to each other without tending to collapse the reinforcing rods.

The bottom of the side walls 1 and end walls 2 receive a reinforcing rod 6 at their bottom portion and in these regions are bent over at 4, Figure 5, to receive this rod.

Hand openings H, Figure 3, are formed in the opposite ends 2 of the carrier. Each of these openings is defined by an oval shaped flanged portion 8 formed in the corresponding end 2 and which receives the sleeve 9. Each sleeve 9 is crimped over the end portion 9*a*, Figure 3, to be snugly held in position.

The wall defining sides 1 and ends 2 is formed of a single sheet of metal, such as aluminum alloy, which is held together at the portion aligned with one of the handles H as shown in Figure 2. As shown in the enlarged view of Figure 7, this sheet is overlapped to define overlapping portions 2*a* and 2*b*. An opening is formed in the portion 2*b*, Figure 7, and portion 2*a* crimped thereover at 12*a* to secure the wall in position.

The bottom 10 has an upwardly extending skirt portion 11 which extends above the level of the openings 12 formed in the sides and ends of the carrier. The sides and ends are cut out at these openings and receive the crimped over portions of the skirt 11 as shown in Figures 3, 4, and 5. These crimped over portions of the skirt 11 are snugly held in the openings and thereby sustain the bottom 10 in fixed position relative to the sides and ends of the carrier.

The bottom is further formed with a plurality of openings 10*b*, Figures 1 and 2, which are slightly smaller diameter than the caps of the bottles B, Figure 2. These rest on the rims of the caps of the bottles of the next lower case to support the same without marring or scratching.

Moreover, the annular portions 20 adjacent each opening 10*b* are embossed upwardly as shown at Figure 2 to define an annular surface which seats upon the caps of each of the bottles, thereby holding the successive carriers in a stack against shifting movements relative to each other.

While I have shown and described a specific embodiment of my invention, it will, of course, be understood that I do not wish to be limited thereto since many modifications and alternative constructions may be made without departing from the spirit and scope thereof. I therefore intend by the appended claims to cover all such modifications and alternative constructions as fall within the true spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a bottle carrier of the type having a bottom and a wall surrounding said bottom to provide a bottle-receiving basket, a plurality of separators extending in one direction in said carrier to provide a plurality of bottle-receiving rows, said separators being anchored to said bottom and in spaced relationship with said wall, said separators further having aligned strut-receiving openings adjacent their upper edges, struts anchored relative to the wall of said carrier and received in said openings, said struts being oriented substantially transversely of said separators to provide a plurality of bottle-receiving compartments, said separators having complementary resilient dished-out portions surrounding said openings, and sleeves disposed about said struts in the regions between said separators and between the end separators and said wall and snugly seated against the same, said sleeves bottoming against the dished-out portions of the separators.

2. In a bottle carrier of the type having a bottom and a wall surrounding said bottom to provide a bottle-receiving basket, a plurality of separators extending in one direction in said carrier to provide a plurality of bottle-receiving rows and anchored to said bottom, said separators having aligned strut-receiving openings adjacent their upper edges, struts in said carrier received in said openings and oriented substantially transversely of said separators to provide a plurality of bottle-receiving compartments, said separators having complementary resilient dished-out portions surrounding said openings, and sleeves disposed about said struts in the regions between said separators and snugly seated against the same, said sleeves bottoming against the dished-out portions of the separators.

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