March 18, 1947. T. W. MULLEN 2,417,775

BOTTLE LIFTER AND CARRIER

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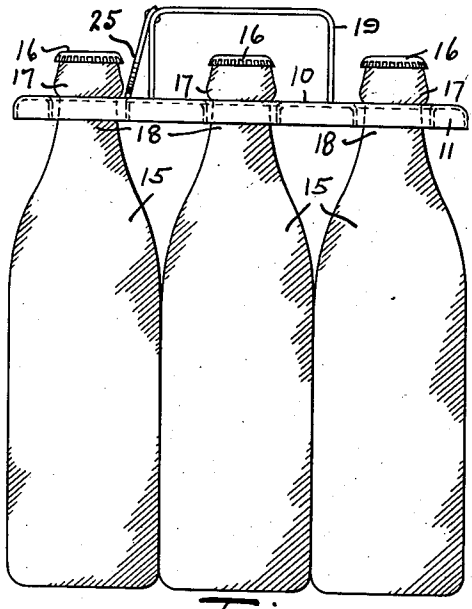


Fig. 1

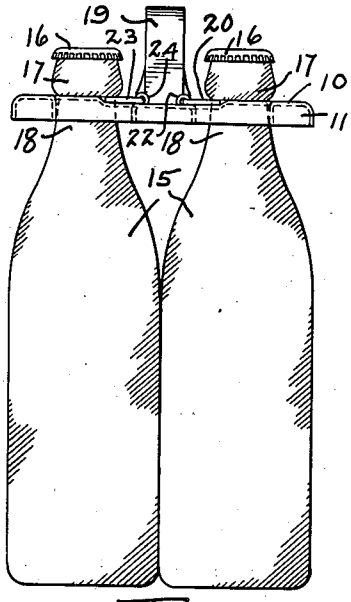


Fig. 2.

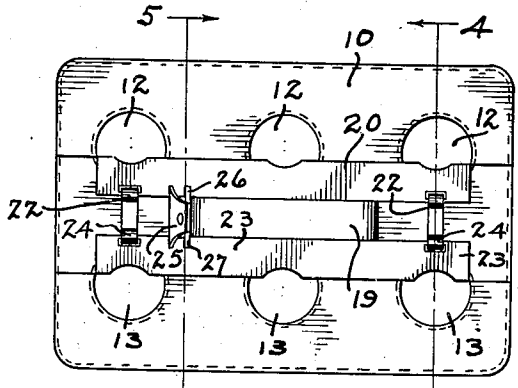


Fig. 3.

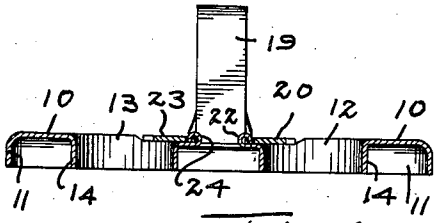


Fig. 4.

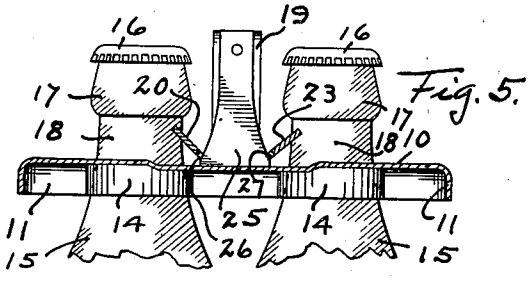


Fig. 5.

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BOTTLE LIFTER AND CARRIER

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1 Claim. (Cl. 294—87)

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This invention relates to means for carrying a group of bottles by grasping them about their necks, and has for a primary object the forming of such carrying means out of a durable material as opposed to the heretofore commonly used fiber or cardboard, whereby the carrier may have an exceedingly long life and will stand considerable abuse and yet remain in a workable condition.

A further primary object of the invention is to embody the carrier in a unique form which will lend itself to quantity production, permitting the carrier to be made and distributed at an exceedingly relatively low cost.

These and other important objects of the invention including ease and certainty of operation and security against accidental release of one or more of the bottles will become apparent to those versed in the art in the following description of one particular form of the invention as illustrated in the accompanying drawing, in which

Fig. 1 is a view in side elevation of a structure embodying the invention and carrying a number of bottles;

Fig. 2, a view in end elevation;

Fig. 3, a top plan view;

Fig. 4, a view in transverse vertical section on the line 4—4 in Fig. 3; and

Fig. 5, a view in transverse vertical section on the line 5—5 in Fig. 3 with the latch member shifted to a release position.

Like characters of reference indicate like parts throughout the several views in the drawing. A body member or plate 10 is formed out of any suitable material which will insure a sufficient degree of stiffness to prevent bending thereof under bottle loads. This material may be any suitable metal where the plate 10 is to be pressed or stamped, or it may be any of the various plastics setting to rigid form. As illustrated, the plate 10 is formed of metal and has a stiffened downturned peripheral encircling flange 11 thereabout. A plurality of holes 12, herein shown as three in number, are formed in longitudinal alignment to one side of the center line of the plate 10, and a like number of holes 13 are formed in the plate 10 on the other side of the center line. In each instance, a downturned flange 14 is provided around the holes or openings 12 and 13 through the plate 10, not only to stiffen the plate but also to provide a somewhat extended contacting surface exceeding the thickness of the plate 10 itself. These openings 12 and 13 have a diameter which will permit the mouth ends of bottles 15 to pass therethrough, the diam-

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eters only slightly exceeding that of the caps 16 and the enlarged portion 17 below the cap 16 in each instance and the lesser diameter portion 18 of the bottle neck.

A carrying handle 19 is provided and has downturned legs attached to the plate 10 in any suitable manner, one such attachment being by welding. This handle 19 is positioned centrally of the longitudinal center line of the plate 10 to extend upwardly therefrom. On the one side of the handle 19 is mounted a bar 20 to extend partly across the holes 12 and to be hinged from its side toward the handle 19 in any suitable manner such as by tongues 22 of metal cut from the plate 10 and rolled around through slots in the bar 20 to form in effect hinges, one such hinge being at each end of the handle 19. These hinges are so formed as to permit the bar 20 to lift and drop freely without frictional restraint. In the same manner a bar 23 is positioned to have its inner longitudinal edge normally abut the downturned legs of the handle 19 the same as the bar 20 does on the other side of the handle 19. The bar 23 extends outwardly over the holes 13 and is hinged to the plate 10 toward each end by overturned tongues 24, two in number in the present showing, turned upwardly from the plate 10 and around through slots in the bar.

Preferably the top side of the plate 10 is recessed longitudinally thereof a transverse width sufficient to permit the bars 20 and 23 to lie normally therein, Fig. 4, so that the top faces of those bars come substantially within the plane of the balance of the top side of the plate 10. Also, these bars 20 ad 23 are preferably notched centrally of the holes 12 and 13 in each instance as indicated in Fig. 3. To retain the bars 20 and 23 in their normal down positions, some suitable latch device is employed. One workable form is illustrated in the drawing to consist of a spring tongue 25 secured by an upper end to the handle 19 and extending diagonally downwardly and outwardly therefrom at an end of the handle to have a foot of the tongue sufficiently wide to extend by portions over both bars 20 and 23, Fig. 3. As long as the tongue 25 is in that position, the lower end thereof being in substantial contact with the top faces of those bars, the bars 20 and 23 will be restrained against upward swinging. To permit upward swinging of those bars, the tongue 25 is pressed by its lower end toward the downturned end of the handle 19 sufficiently to bring its lower end into registery with the slots 26 and 27 provided respectively in the bars 20 and 23, whereupon the two bars may be swung

upwardly since the tongue 25 is thereby effectively removed from the paths of the two bars. When the bars are allowed to drop downwardly to rest on the plate 10, the tongue 25 may be released so that it may return to its normal position as indicated in Figs. 1 and 3.

The structure thus described is used by placing thereover a group of bottles, such for example as six aligned three in a row, whereby the holes 12 and 13 are brought into registry over the two rows and then the carrier is allowed to drop downwardly over the top ends of those bottles with the tongue 25 placed toward the handle 19 so that the bars 22 and 23 may swing upwardly as indicated in Fig. 5 to give sufficient effective openings to allow the carrier to travel on down on to the necks of the bottles sufficiently to carry the outer free longitudinal edges of the bars 20 and 23 below the bottle enlarged ends 17. Thereupon, the handle 19 may be pulled upwardly, and in so doing the edges of the bars 20 and 23 will slide along the necks of the bottles 15 until they strike the bottles under the portion 17 forcing the bottles relatively outwardly within the limits of the holes 12 and 13, one row from the other and finally allowing the bars 20 and 23 to drop down to their normal positions flush with the top face of the plate 10, the notches in the two bars permitting this action. In these positions of the bars and the plate 10, the bars 20 and 23 bear against the bottles under the enlarged bottle end 17 on the inner sides and those same bottles have their outer portions raised over the peripheral portions about the holes 12 and 13 in each instance so that the bottles may then be picked up and carried about at will without any danger of their falling from the plate 10. Now should the bottles be set down and the handle 19 released, the bottles cannot become disengaged from the carrier plate 10 since the tongue 25 would be released to hold the bars 20 and 23 in their normal positions. To release the bottles, the tongue 25 is pressed in as above indicated whereby one or more bottles on one side may be taken from the plate 10 or all of them as may be desired, by lifting the bar on the side selected.

While I have herein shown and described my invention in the one particular form, it is obvious that structural changes may be employed without departing from the spirit of the invention, and I

therefore do not desire to be limited to that precise form beyond the limitations as may be imposed by the following claim.

I claim:

For carrying bottles each having an annular shoulder adjacent the mouth ends, a member having a plurality of bottle receiving openings therethrough of diameters exceeding those of said shoulders, said openings being centrally aligned on a line across said member; a bar hinged to said member on an axis substantially parallel to said line to have an edge portion lap over said holes a distance sufficient to reduce the effective openings of said holes to diameters less than said shoulder diameters and exceeding the diameters of the bottles immediately below said shoulders, said bar being biased to said hole overlapping position; said member having a second series of holes therethrough aligned on a common line parallel to said first common line; a second bar hinged to said member to overlap said second holes in the same manner as said first bar overlaps the first mentioned holes; and handle means fixed to said member and extending between said two bars to form an abutment for the inner opposing edges of said bar; and a spring attached by an upper end to said handle and extending downwardly by a lower end over portions of said two bars along their inner opposing edges, said bar inner edges having entering slot spaced from the normal position of said spring end, whereby said spring may be deflected to said slot positions to have said spring end enter thereon upon lifting of the bars.

THOMAS W. MULLEN.

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