May 3, 1960 T. B. O'CONNELL 2,935,222

PACKAGING STRUCTURE

Filed May 21, 1956 2 Sheets-Sheet 1

Fig. 1

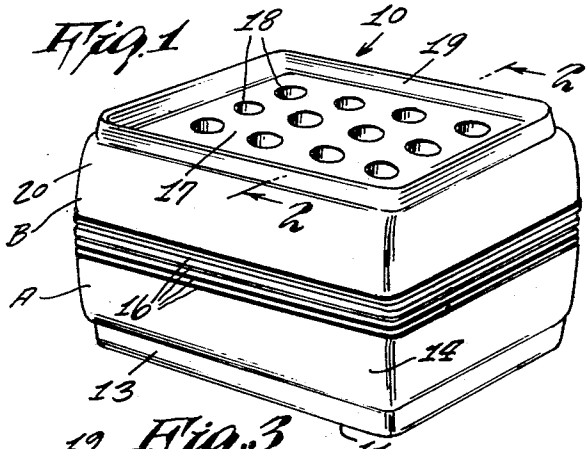


Fig. 2

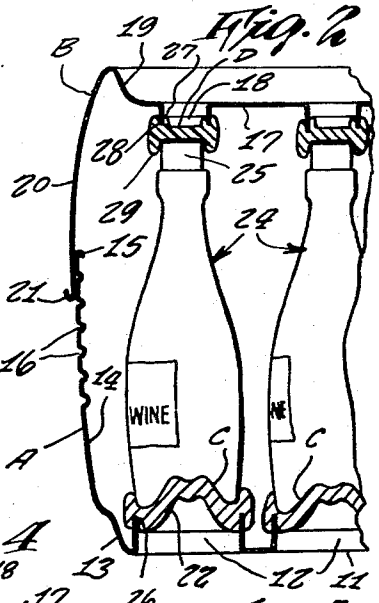


Fig. 3

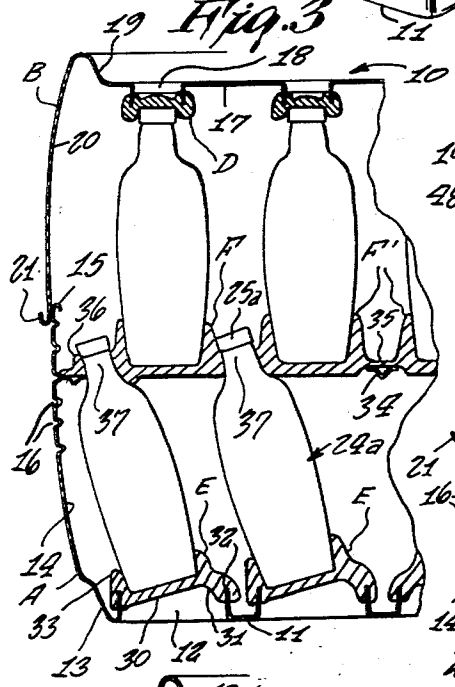


Fig. 4

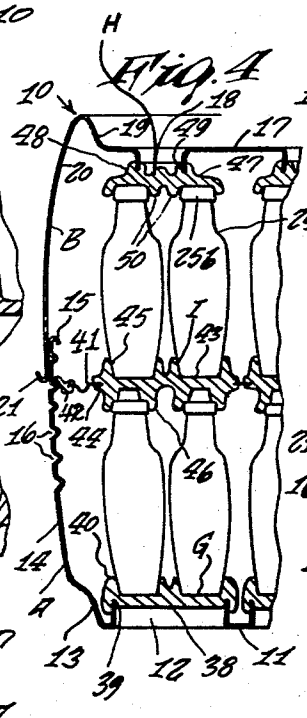


Fig. 5

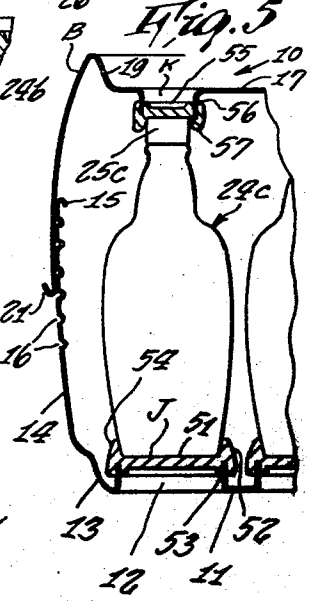
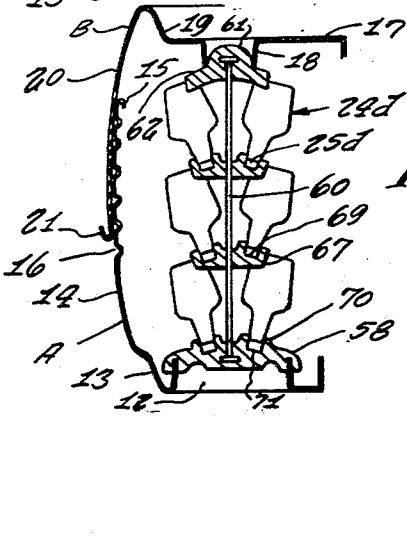


Fig. 6



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Fig. 7

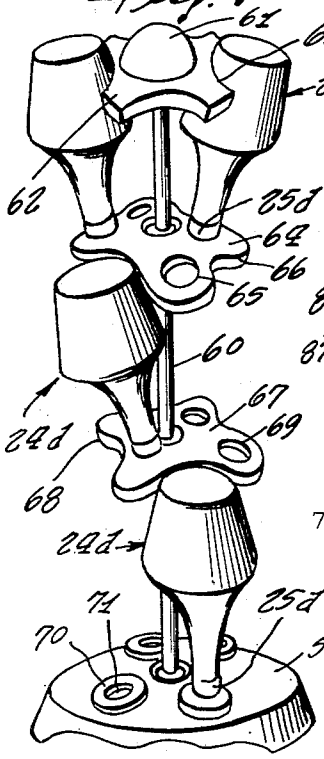


Fig. 8

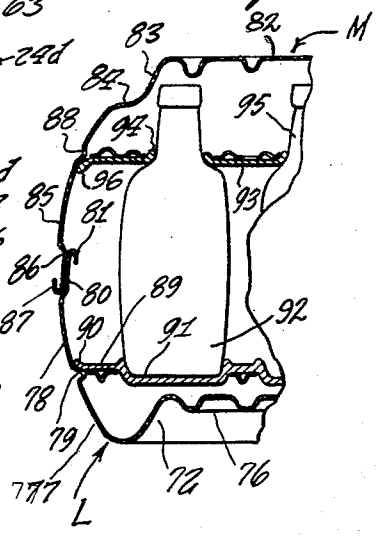


Fig. 9

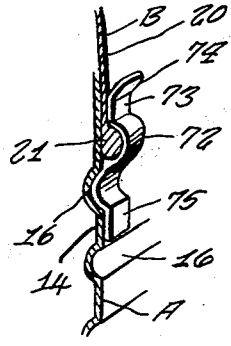
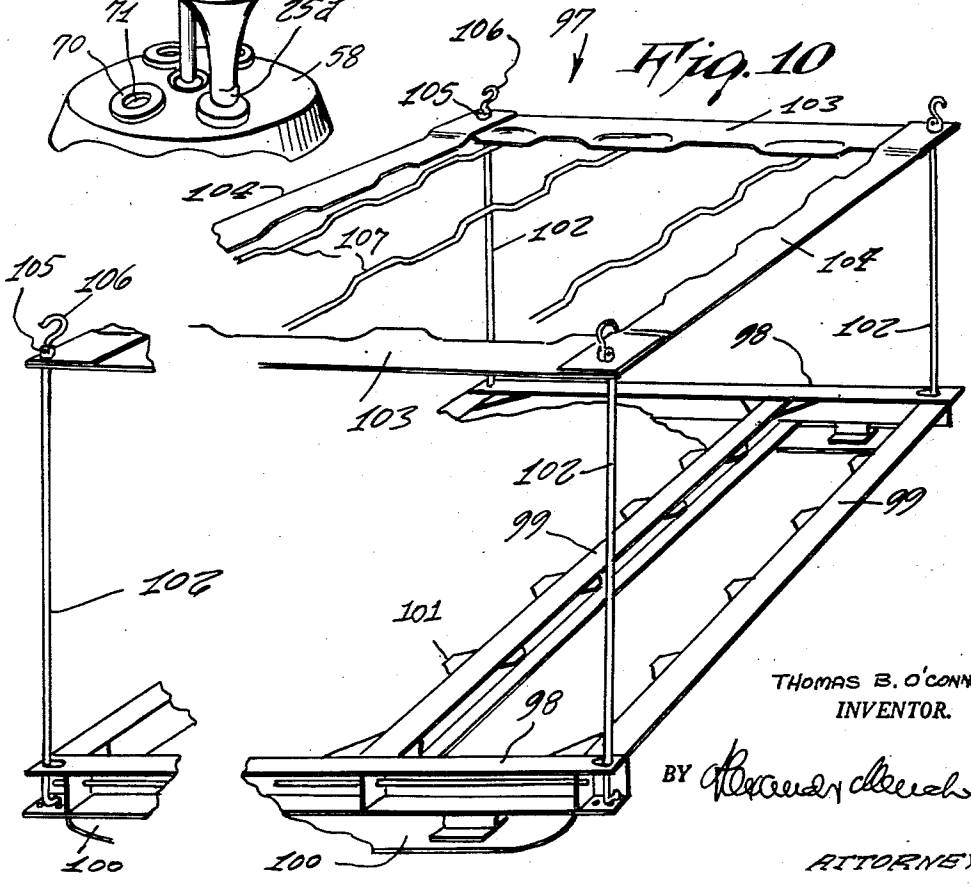


Fig. 10



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2,935,222

PACKAGING STRUCTURE

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Application May 21, 1956, Serial No. 586,280

3 Claims. (Cl. 220—21)

This invention relates to bottle mounts or packages.

It is an object of the present invention to provide a bottle mount or package which is light in weight and which will position therewithin a plurality of bottles in rigid, freely spaced relationship to each other to permit a large number to be handled without inconvenience and breakage.

It is another object of the present invention to provide a bottle mount of the above type which is particularly designed for liquor bottles and which, by a plurality of inserts, is adapted to package liquor bottles of any desired size.

It is still another object of the present invention to provide means for stacking a plurality of bottle mounts of the above type in fixed relationship to each other to permit the handling of large quantities and which means may be easily and readily disassembled to provide convenient access to the bottle mounts.

Other objects are to provide a bottle mount bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and effective in use.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of preferred embodiment of the present invention;

Fig. 2 is a vertical sectional view thereof taken along the line 2—2 of Fig. 1 and illustrating the invention in use with quart bottles or four-fifths of a quart bottle;

Fig. 3 is a fragmentary vertical sectional view similar to Fig. 2 but illustrating the invention in use with pint bottles;

Fig. 4 is a view similar to Fig. 3 but illustrating the invention in use with half-pint bottles;

Fig. 5 is a view similar to Fig. 3 but illustrating the invention in use with standard fifth bottles;

Fig. 6 is a view similar to Fig. 3 but illustrating the invention in use with miniatures;

Fig. 7 is a perspective view shown alone of the tree for mounting the miniature bottles within the package;

Fig. 8 is a longitudinal sectional view of a modified form of package;

Fig. 9 is a perspective view of a clip adapted to be used with the present invention and shown in operative use; and

Fig. 10 is a perspective view of a rack design for holding a plurality of packages or bottle mounts in fixed relationship to each other to permit the handling of large quantities as a unit.

Referring now more in detail to the drawing and more particularly to Figs. 1 and 2, 10 indicates generally a bottle mount or package embodying the features of the present invention and including a container A and a cover therefor B. The container A and cover B are each formed of a unitary material, for example aluminum or other light malleable metal or alloys thereof, plastics or other substances having similar characteristics.

As shown in Fig. 2, the container A includes the substantially rectangular bottom wall 11 provided with a plurality of upwardly stamped cylindrical members 12, the cylindrical members 12 being hollow and open at the top and bottom and preferably 12 in number.

The bottom wall 11 around its periphery is integrally formed with the upwardly and outwardly extending lip 13 which is in turn integrally formed at its upper edge with the upwardly and outwardly curved side wall 14. The upper edge of the side wall 14 is bent inwardly and downwardly as at 15 and the side wall below the lip 15 is formed with a plurality of vertically spaced continuous inwardly stamped grooves 16 extending around the four sides of the container.

The cover member B includes a substantially rectangularly top wall 17 formed with a plurality of downwardly stamped, hollow cylindrical members 18 of less diameter than the members 12, and aligned vertically with the latter in concentric relationship. The top wall 17 around its periphery is integrally formed with the upwardly and outwardly curved lip 19 which is in turn integrally formed at its upper outer edge with the downwardly and outwardly curved side wall 20 which is adapted to be frictionally fitted downwardly onto the side wall 14. The lower edge of the side wall 20 is curved outwardly, and upwardly, as at 21, to facilitate the interengagement of the container and cover members A and B, as will be obvious.

A plurality of separable inserts C are provided and include the hollow, frusto-conical central portion 22 formed around its periphery with the upwardly extending peripheral wall 23, the upper surface of the frusto-conical portion 22 being adapted to support thereon the bottom of the quart or four-fifth quart liquor bottle 24 with the bottom thereof retained by the lip 23, as shown in Fig. 2. The bottles 24 will contain wines and include the usual cork 25 which terminates below the cylindrical portions 18. Each of the frusto-conical portions 22 around its periphery is provided with the circular groove 26 which receives upwardly therewithin the upper end of the cylindrical portions 12 whereby to retain the inserts C in fixed engagement with the portions 12.

A plurality of separable inserts D are provided of disc shape and are integrally formed around their periphery with the upwardly extending peripheral wall 27 provided with the circular groove 28 which receives downwardly therewithin the lower end of the cylindrical portions 18 whereby to retain the inserts D in engagement therewith. The undersurface of the discs D are integrally formed with the peripheral depending skirt 29 which embraces therewithin the cork 25 whereby the inserts C and D will cooperate with each other to fixedly retain the bottles 24 within the package in vertically spaced relationship to each other to facilitate the convenient handling of the twelve bottles and to prevent their breakage. The inserts C and D may be formed of soft vinyl plastic or other inert substances having characteristics of rubber. To remove the bottles it is only necessary to remove the cover B from the container A. With such removal, inserts D frictionally engaged to corks 25 will be carried by cover B since the engagement of inserts D to groove 28 is frictionally greater than to corks 25, thus permitting the easy and ready removal of the bottles 24.

Referring now particularly to Fig. 3, there is shown a modified use of the invention for packaging 24 pint bottles 24*a* having the caps 25*a*. In this form, the inserts C of the first form are replaced by the inserts E having an inclined central wall 30 integrally formed around its periphery with the depending portion 31 hav-

ing the circular groove 32 which receives upwardly therewithin the open upper end of the cylindrical portions 12 whereby to fixedly position the inserts E on the upper ends thereof. The upper surface of the inclined central wall 30 is integrally formed with the hollow cylindrical portion 33 which is adapted to receive therewithin the lower end of the bottles 24*a*.

A tray 34 is removably supported at its periphery on the inwardly bent grooves 16 and serves to support thereon the cup-shaped inserts F. As shown in Fig. 3, the tray 34 is provided with suitable openings which receive downwardly therethrough the innermost pair of inserts F', the latter being connected by the portion 35. The outermost inserts F are supported on the tray and are formed at their outer ends with the inclined cylindrical portions 36 which receive upwardly therewithin in resilient engagement the necks 37 of the bottles 24*a* therebelow, the tray 34 being provided with openings aligned with the cylindrical portions 36. The tray 34 is also provided with openings which receive the necks 37 upwardly therethrough intermediate the inner inserts F' and outer inserts F to resiliently engage the latter. Thus, by the substitution of the inserts E and F and tray 34 for the inserts C, the container A and cover B are adapted for pint bottles.

Referring now in particular to Fig. 4, the invention is shown in use with half pint bottles 24*b* having the closures 25*b*. In this case the inserts of the previous forms are replaced by the inserts G, H and I.

Each of the inserts G includes the disc 38 provided on the undersurface with the annular groove 39 which receives upwardly therewithin the open, upper end of the cylindrical portions 12. The upper surface of the disc 38 is integrally formed with the two cylindrical portions 40 which receive downwardly therewithin the lower ends of the bottles 24*b*. A tray 41 is removably positioned at the top of the container A, being provided around its periphery with the resilient covering 42 which rests on one of the inwardly pressed grooves 16. The tray 41 is also provided with the circular openings which receive therewithin the inserts I. Each of the inserts I includes the disc or plate 43 provided around its periphery with the groove 44 which receives therewithin the portion of the tray 41 surrounding the openings therein, as will be obvious. Each of the discs 43 is integrally formed with the two cup-shaped portions 45 on its upper surface which receive downwardly therewithin the lower ends of the bottles 24*b*. The undersurface of each of the plates 43 is integrally formed with the inverted cup-shaped members 46 which receive upwardly therewithin the closures 25*b* of the bottles.

Each of the inserts H includes the central wall 47 integrally formed on its upper surface with the concentric cylindrical portion 48 having a groove 49 which receives downwardly therewithin the lower open end of the cylindrical portions 18. The undersurface of each of the plates or discs 47 is integrally formed with the inverted cup-shaped members 50 (two in number) which receive upwardly therewithin the closures 25*b* of the upper section of bottles. Thus, the container A and cover B is adapted for forty-eight half pint bottles 24*b* by replacing the previous inserts with the inserts G, H and I.

Referring now particularly to Fig. 5, the package is shown adapted for standard fifths bottles 24*c* having the closures 25*c*, twelve bottles being accommodated. The container is adapted for such bottles by replacing the previous inserts with the inserts J and K.

Each of the inserts J includes the disc 51 integrally formed around its periphery with the depending skirt 52 having an annular groove 53 which receives upwardly therewithin in frictional engagement the open upper end of the cylindrical portions 12. The upper surface of the disc 51 is integrally formed with the cup-shaped portion 54 which snugly receives therewithin the lower end of the bottle 24*c*.

Each of the inserts K includes the circular disc 55 provided on its upper surface with the annular groove 56 which receives downwardly therewithin the lower open end of the cylindrical portions 18, the disc 55 on its lower surface around its periphery being integrally formed with cup-shaped portion (inverted) 57 which receives upwardly therewithin the closures 25*c* of the bottles.

Referring now particularly to Figs. 6 and 7, the package is shown in use with miniatures 24*d*. In this case the inserts of the previous forms are replaced by a tree having a circular base portion 58 formed on its undersurface with the annular groove 59 which receives therewithin the open upper end of the cylindrical portions 12, the base 58 being formed of the same material as the previous inserts. A vertical rod 60 is mounted in the center of the base 58 and fixedly mounts at its upper end the hemispherical portion 61, integrally formed around its lower periphery with the outwardly extending flange 62, the top 61 being formed of the same material as base 58. The flange 62 is provided with the four equi-angularly spaced arcuate cutouts 63 adapted to support therein the body portions of the inverted miniatures 24*d* with the lower ends or closures 25*d* supported on the plate 64 suitably secured to the rod 60 and concentric therewith. The plate 64 is provided with the equi-angularly spaced circular openings 65 which receive therewithin the closures 25*d*, as will be obvious. The plate 64 is also provided with the four equi-angularly spaced arcuate cutouts 66 for the same purpose as the plate 62.

A second plate 67 is suitably mounted below the plate 64 and is provided with the four equi-angularly spaced arcuate cutouts 68 as well as the angularly spaced circular openings 69. Finally, the upper surface of the base 58 is formed with the circular ridges 70 which surround the circular openings 71 adapted to receive the closures 25*d* of the lowermost bottles 24*d*. It will be noted that the circular openings 65, 69 and 71 at the bottoms thereof are inclined to the horizontal so as to support the lower ends of the closures 25*d* in the same manner, and that the edges of the arcuate portions 63, 66 and 68 are similarly inclined to support the sides of the bottles, substantially as illustrated. The tree will contain twelve miniatures when fully loaded occupying the same area as one fifth bottle.

Referring now particularly to Fig. 9, there is shown a binding clip adapted to retain the container A and cover B in operative engagement with each other. The binding clip includes the S-shaped portion 72, the upper portion of which is adapted to snap onto the lip 21 and the lower portion of which is adapted to fit within one of the grooves 16. The upper end of the S-shaped portion 72 is integrally formed with the vertical portion 73 which abuts the side of the cover B, the portion 73 at its upper end being integrally formed with the upwardly and outwardly extending portion 74 to facilitate its removal from the package. The lower end of the S-shaped portion 72 is integrally formed with the vertical portion 75 adapted to abut the side 14 of the container. Thus, the clip may be snapped into the groove 16 and beyond the lip 21 to firmly retain the cover in engagement with the container.

Referring now particularly to Fig. 8, there is shown a modified form of the present invention including the container L and the cover M adapted to be fitted downwardly thereon.

The container L includes the rectangular bottom wall 76 integrally formed around its periphery with the downwardly and outwardly extending skirt 77 which is in turn integrally formed at its outer end with the outwardly and upwardly curved side wall 78; intermediate the bottom wall and the upper edge, the side wall 78 is provided with the continuous inwardly pressed groove 79, and near

its upper edge is provided with the inwardly pressed annular groove **80** and terminates at its upper edge in the inwardly and downwardly bent lip **81**.

The cover M includes the rectangular top wall **82** integrally formed around its periphery with the downwardly and outwardly curved skirt **83** which is in turn integrally formed with the outwardly extending flange **84** which terminates in the outwardly and downwardly curved side wall **85**. The lower edge of the side wall **85** is formed with the inwardly pressed ridge **86** adapted to fit within the groove **80** of the container, the ridge portion **86** at its lower edge terminating in the upwardly and outwardly bent lip **87**. The side wall **85** intermediate the ridge **86** and flange **84** is formed with the inwardly pressed annular groove **88** defining an internal ridge on the inner surface of the wall.

A tray **89** is formed around its periphery with the upwardly bent edges **90** which are adapted to rest on the ridge **79** whereby to limit the downward displacement of the tray within the container, the tray **89** being formed with the downwardly stamped cup-shaped portions **91** adapted to support therewithin the lower ends of the bottles **92**.

A second tray **93** is provided with the openings **94** upwardly pressed therethrough which receives therethrough the necks **95** of the bottles **92**. The periphery of the tray **93** is downwardly bent, as at **96**, and is adapted to abut the ridge **88** when the cover is placed onto the container. Thus, a firm, tight engagement will exist and will prevent the bottles from rattling. To remove the bottles, it is only necessary to remove the cover M, whereupon the tray **93** may then be removed from the bottles, permitting the removal of the latter from the tray **89**.

Referring now particularly to Fig. 10, there is shown a rack indicated generally at **97** for securing a plurality of bottle mounts together and including the end frame members **98** connected by the longitudinal frame members **99**, substantially as illustrated. Skids **100** are secured to the undersurface of the end frame members **98**. Trapezoidal shaped tongues **101** are secured in longitudinally spaced relationship to the inner edges of the outer frame members **99** and to opposite sides of the inner frame members **99** and are adapted to support the bottle mounts thereon, the skirt portions **13** of the bottle mounts fitting downwardly intermediate the tongues **101**. Corner posts **102** extend upwardly from the corners of the frame and are connected at their upper ends by the upper frame members **103** and **104**. The upper portions of the corner posts **102** above the frame members **103**, **104** are provided with the bifurcated portions **105** which pivotally mount the hooks **106** to facilitate the movement of the rack as a unit and the bottle mounts therewithin. The longitudinal rods **107** connect the frame members **103** intermediate the frame members **104** and serve to retain the bottle mounts in proper position on the rack.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

What is claimed is:

1. A bottle mount comprising a container, a removable cover for said container, means for supporting the lower ends of a plurality of bottles in said container against lateral displacement in freely spaced relationship to each other and means carried by said cover for supporting the upper ends of the bottles against lateral movement, said container comprising a bottom wall having a plurality of upwardly pressed hollow cylindrical portions formed therein over its entire area, and a side wall enclosing said bottom wall and upwardly extending cylindrical portions, said cylindrical portions being open at the top and bottom, said container comprising a top wall having a plurality of downwardly formed hollow cylindrical portions of less diameter than said first hollow cylindrical portions and aligned vertically

therewith in concentric relationship, and a depending side wall formed around the periphery of said top wall adapted to fit onto the upper end of said container side wall in nesting relationship, said means for retaining the lower end of the bottles on said container bottom wall comprising a removable insert of hollow, substantially frusto-conical shape, having its smaller end disposed uppermost and adapted to fit within the recess at the bottom of said bottle, said frusto-conical insert around its periphery on the undersurface thereof having an annular groove adapted to receive upwardly therewithin the open upper end of said first cylindrical portions, said insert around its periphery on the upper surface thereof being formed with an annular lip adapted to surround the lower end of the bottle whereby to prevent the same from lateral displacement, said means for retaining the upper ends of the bottle against displacement comprising a second insert having an annular groove on its upper surface adapted to receive therewithin the lower ends of said second hollow cylindrical portions, said second insert on the undersurface thereof being formed with a depending skirt adapted to receive therewithin the upper ends of the wine bottles.

2. A bottle mount comprising a container, a removable cover for said container, means for supporting the lower ends of a plurality of bottles in said container against lateral displacement in freely spaced relationship to each other and means carried by said cover for supporting the upper ends of the bottles against lateral movement, said container comprising a bottom wall having a plurality of upwardly pressed hollow cylindrical portions formed therein over its entire area, and a side wall enclosing said bottom wall and upwardly extending cylindrical portions, said cylindrical portions being open at the top and bottom, said container comprising a top wall having a plurality of downwardly formed hollow cylindrical portions of less diameter than said first hollow cylindrical portions and aligned vertically therewith in concentric relationship, and a depending side wall formed around the periphery of said top wall adapted to fit into the upper end of said container side wall in nesting relationship, said means for securing the lower ends of the bottles on said container comprising first inserts formed on their undersurface with annular grooves receiving therewithin the open upper ends of said first hollow cylindrical portions, the upper surfaces of said inserts being cupped out and adapted to support therewithin the lower ends of the bottles, and second inserts, said second inserts having an annular groove on the upper surface thereof receiving downwardly therewithin the lower open end of said second hollow cylindrical portions, the undersurface of said second inserts being formed with inserted cup-shaped portions receiving therewithin the upper ends of the bottles.

3. A bottle mount comprising a container, a removable cover for said container, means for supporting the lower ends of a plurality of bottles in said container against lateral displacement in freely spaced relationship to each other, and means carried by said cover for supporting the upper ends of the bottles against movement, said container comprising a bottom wall having a plurality of upwardly pressed hollow cylindrical portions formed therein over its entire area, and a side wall enclosing said bottom wall and upwardly extending cylindrical portions, said cylindrical portions being open at the top and bottom, said container comprising a top wall having a plurality of downwardly formed hollow cylindrical portions of less diameter than said first hollow cylindrical portions and aligned vertically therewith in concentric relationship, and a depending side wall formed around the periphery of said top wall adapted to fit onto the upper end of said container side wall in nesting relationship, said bottom wall being integrally formed around its periphery with an outwardly and up-

wardly extending skirt, said skirt being in turn integrally formed with an upwardly extending and outwardly extending side wall, said top wall around its periphery being integrally formed with an upwardly and outwardly curved skirt, said cover top wall being integrally formed in said skirt upper edge and being adapted to fit downwardly onto said container side wall and being provided at its lower edge with an outwardly and upwardly bent lip, said container side wall at its upper edge being provided with an inwardly and downwardly bent second lip, said container side wall being formed with vertically spaced continuous inwardly pressed grooves.

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