May 8, 1951 G. M. ACTON 2,552,361

BOTTLE HOLDER AND CARRIER

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Fig. 1.

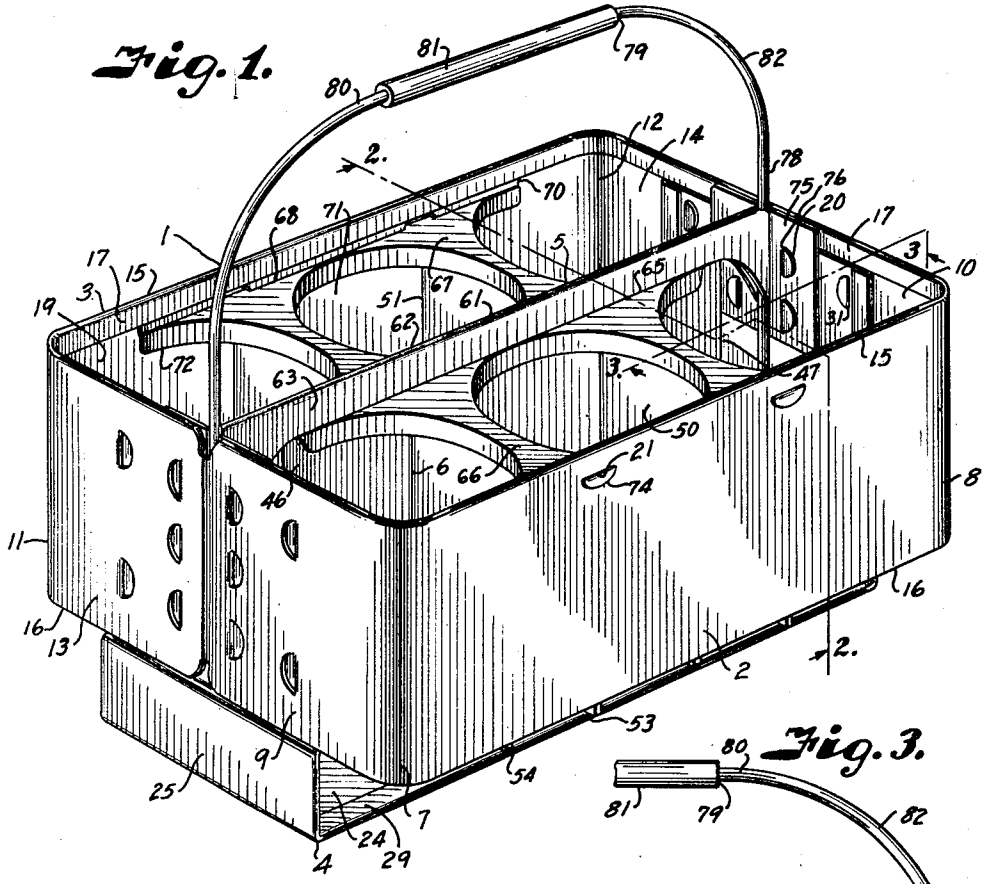


Fig. 3.

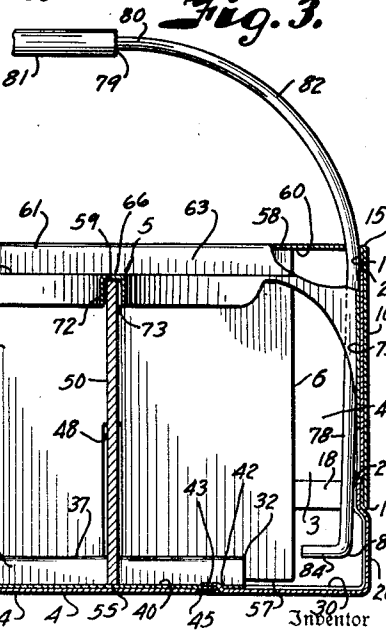
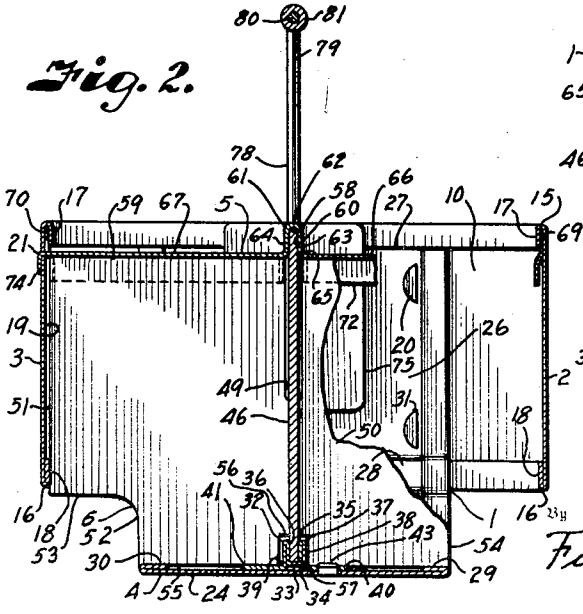


Fig. 2.



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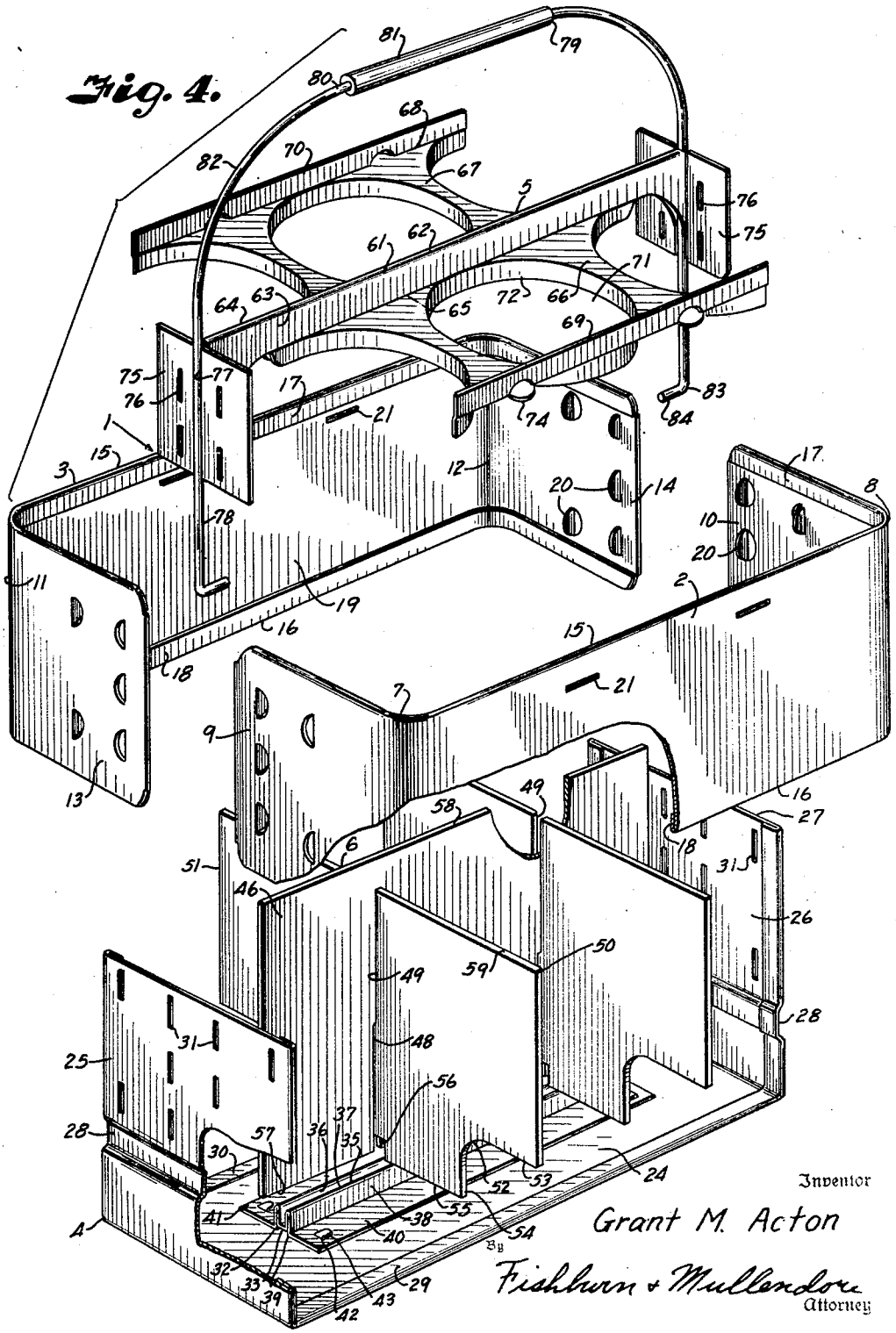
Attorneys

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Fig. 4.



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UNITED STATES PATENT OFFICE

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BOTTLE HOLDER AND CARRIER

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7 Claims. (Cl. 224—48)

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This invention relates to bottle holders and carriers and more particularly to a device for holding and carrying bottles used for beverages such as soft drinks and the like, the principal objects of the invention being to provide a bottle holder and carrier adapted for use with automatic loaders and bottle washers and for transporting bottles of beverage as when carrying them from retail stores.

There have been various types of bottle carriers made of paper, fiberboard, wire and sheet metal for carrying bottled bevarage from retail stores to the customers' home. Such carriers are used for taking empty bottles back to the store where the empties are removed and full bottles from cases or coolers placed in the carrier for the purchaser to again carry home. The empties are placed in wooden cases and returned to the bottling plant where they are processed in automatic bottle washing and loading machines which remove the empties from the case and place filled bottles therein.

Further objects of the present invention are, therefore, to provide a carrier of such size and shape that a plurality of same fit in the usual wooden case which is minus the conventional separators whereby the bottles need only be removed from the carrier at the bottling plant and in the home for use; to provide a carrier of suitable material forming a rigid structure capable of continued use in automatic machines and for all transportation, storage and cooling of the bottled beverage; to provide a bottle carrier in which several bottles may be carried at one time; to provide a bottle carrier adapted for quick and easy placing and removing of bottles, said bottles being held in semi-rigid position avoiding breakage when handled by automatic equipment, and supporting said bottles in such a manner as to eliminate bottle slippage when a case containing four carriers is picked up by a bottle as is commonly done by case handlers in the industry; to provide a carrier and bail therefor which permits telescoping of said bail allowing the filled carriers to be stacked; and to provide a carrier consisting of relatively few pieces that may be quickly and easily manufactured and assembled into a compact, sturdy and efficient device for carrying and holding beverage bottles during transportation and use with automatic machines in bottling plants.

In accomplishing these and other objects of the present invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawings, wherein:

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Fig. 1 is a perspective view of the improved bottle carrier.

Fig. 2 is a transverse sectional view through the carrier taken on the line 2—2, Fig. 1.

Fig. 3 is a partial longitudinal sectional view taken on the line 3—3, Fig. 1.

Fig. 4 is a disassembled perspective view of the improved bottle carrier.

Referring more in detail to the drawings:

1 designates a bottle carrier and holder generally consisting of side members 2 and 3, a bottom member 4, a top spacer 5, and a divider 6. The side member 2 is bent as at 7 and 8 to form end portions 9 and 10 of the carrier. The side member 3 is bent as at 11 and 12 to form end portions 13 and 14, the ends 9—13 and 10—14 cooperating to form the ends of the carrier as later described. The upper and lower edges of the side members are turned inwardly as at 15 and 16 respectively to form upper and lower flanges 17 and 18, folded against the inner surface 19 of the side members, the flanges 17 and 18 extending the full length of the side portion and end portions of each side member forming rounded upper and lower edges, providing a finished appearance, eliminating sharp edges and stiffening said side members to provide suitable rigidity therein. Each of the end portions 9—10 and 13—14 is provided with inwardly struck tangs 20 and the side portions are provided with slots 21 spaced slightly below the lower edge of the flanges 17 for assembling the structure as later described.

The bottom member 4 is bent as at 22 and 23 forming a horizontal bottom portion 24 and upwardly extending end portions 25 and 26, the height of said end portions being such that the upper edges 27 thereof are adapted to engage the lower edge of the flanges 17, and the total height from the bottom to the upper edge of the side members is substantially the same as the inside height of the side walls of a conventional wooden case. Each of the end members 25 and 26 is provided with inwardly struck portions 28 of substantially the same width as the width of the flange 18 whereby the end members are adapted to lie against the inner face of the end portions 9—10 and 13—14 of the side members. The longitudinal side edges of the bottom member 4 are turned inwardly to form flanges 29 and 30 tightly folded against the inner faces of the respective portions for stiffening and strengthening the bottom member and eliminating any exposed sharp edges, as well as enhancing the appearance of the finished product. The upper end portions of the bottom member are provided

with a plurality of slots 31 adapted to register with the tangs 20 on the side members for assembling the respective parts of the carrier as later described.

The divider-spacer 32 is preferably arranged along the longitudinal center of the bottom portion 24, said spacer preferably terminating short of the end portions 25 and 26. The divider-spacer preferably consists of a longitudinal central web 33, the sides of which are turned inwardly as at 34 forming legs 35 and 36, the upper edges of which are turned outwardly as at 37 and folded tightly against the legs 35 and 36. The outer legs 36 are longer than the inner legs 35 and 36, the lower ends of said outer legs being bent as at 39 to form laterally extending flanges 40 and 41, said flanges preferably extending approximately one-third of the distance toward the side edges of the bottom portion 24. The divider-spacer is suitably secured to the bottom portion 24. This assembly may be accomplished by any suitable manner, for example, the flanges 40 and 41 are provided with slots 42 adapted to align with tangs 43 struck upwardly from the bottom 24, said tangs extending through the slots and being flattened against the flanges 40 and 41, this flattening process preferably bending a portion of the flanges into the opening 45 formed in the bottom portion upon the cutting and bending of the tangs therefrom. This assembly forms interlocking portions which prevent any movement of the respective parts.

The spacing of the inner legs 35 and 36 of the divider-spacer are preferably substantially the same width as the thickness of the longitudinal divider member 46 formed of fiberboard, plastic, metal or other suitable material. The longitudinal member of the divider is shorter in length than the distance between the ends of the carrier to provide spaces 47 at the ends of the divider member 46 to accommodate ends of the bail as later described. The lower portion of said longitudinal member is provided with spaced vertical slots 48 extending substantially half the height of said divider member and cooperating with slots 49 in the upper portion of transverse divider members 50, whereby the respective slots 48 and 49 of the longitudinal and transverse members may be interengaged as illustrated in Fig. 4, whereby the spacing between the respective divider members and the sides and end portions of the carrier will accommodate one bottle in each space. The ends 51 of the transverse members engage the side portions of the side members and are notched as at 52 whereby the lower edges 53 of the ends 51 extend slightly below the side members 2, and the sides 54 of the bottom edge 55 substantially align with the side edges of the bottom portion 24. The center portions of the transverse members are notched as at 56 to pass over the legs 38 of the divider-spacer whereby the bottom edges 55 of the transverse members will rest on the flanges 40, 41, 29 and 30, the lower edge 57 of the longitudinal member being tightly received between the inner legs 35 and 36 and resting on the web portion 33 of the divider-spacer 32. The upper edge 58 of the longitudinal member 46 extends above the upper edge 59 of the transverse members, the upper edge of the longitudinal member being received in a groove 60 formed in the longitudinal rib 61 of the top spacer 5.

The top spacer is cut from a single piece of sheet metal or the like and formed by suitable dies. The top spacer is bent as at 62 on the longitudinal center of said spacer, forming downwardly turned spaced legs 63 and 64, said legs being slightly longer than the width of the flanges 17 on the side members. The spacer is then turned outwardly at the lower edge of the legs as at 65 to form laterally extending horizontal members 66 and 67 which extend to the side portions of the side members, the outer edges of said spacer being turned upwardly as at 68 to form upwardly extending flanges 69 and 70, said flanges being adapted to be inserted between the flanges 17 and the inner face 19 of the side portions of the side members and engage the inner surface of the bend 15 thereof.

In a carrier adapted to contain bottles the flanges 69 and 70 are preferably substantially two-thirds the length of the carrier whereby the horizontal portions 66 and 67 are cut and formed to provide apertures 71 for receiving bottles, the edges of said apertures being turned downwardly to form flanges 72 to provide additional surface contact between the top spacer and the bottles received in the carrier. The flanges 72 of the respective apertures are preferably spaced as at 73 to receive the upper portion of the transverse divider members 50 whereby the upper edge 59 of said divider engages the lower face of the horizontal portions of the top spacer. Tangs 74 are preferably cut from the flanges 69 and 70 and project outwardly from the horizontal portions 66 and 67 in alignment with the slots 21 for assembling the parts as later described. The longitudinal rib 61 extends substantially the length of the spacing between the end portions of the carrier and is provided with outwardly directed flanges 75 on each leg 63 and 64 of said rib, said flanges having suitable slots 76 adapted to be aligned with selected tangs 20 for facilitating the assembly as later described. The flanges 75, being on each leg 63 and 64, provide a space 77 between the inner edges of the flanges 75 for slidably receiving vertical members 78 of a bail 79.

The bail is preferably formed of suitable wire or the like having a bar member 80 provided with a tubular handle member 81 slidably mounted on the bar member, the ends of the bar member being curved downwardly as at 82 to form the vertical members 78 of said bail, the lower ends of the vertical members being bent inwardly as at 83 to form lugs 84 adapted to support the weight of the carrier and bottles when being carried by the bail. The spacings between the lugs 84 and the handle member 81 are such that when the bail is moved downwardly to the lower extremities of its movement wherein the lugs are adjacent the bottom of the carrier, the handle will be below the upper end or cap of the bottles, and when the bail is moved upwardly until the lugs engage the bend in the rib 61 between the legs 63 and 64, there will be sufficient clearance between the handle and the tops of the bottles to permit the insertion of the hand of a person whereby the carrier may be transported without danger of striking the hand or fingers on the tops of the bottles.

In assembling a carrier of parts constructed as described, the slots 48 and 49 of the longitudinal and transverse divider members are aligned and the respective members moved together to assemble the divider as shown in Fig. 4. The lower edge 57 of the longitudinal divider is then placed in the spacing between the legs 35 and 36 of the lower divider-spacer, the ends of the longitudinal divider member being equally spaced from the end portions 25 and 26 of the bottom member.

The bail 79 is then placed on the top spacer 5 in such a manner that the vertical members 78 rest in the spacing 77 between the flanges 75 and the top spacer placed on the divider 6 in such a manner that the upper edge 58 of the longitudinal divider member enters the spacing 60 between the legs 63 and 64 of the longitudinal rib 61 and the upper edges 59 of the transverse divider members enter the spacing 73 and engage the lower face of the horizontal portions 66 and 67 of the top spacer. The side members 2 and 3 are then applied in such a manner that the tangs 74 extend through the slots 21 and the tangs 20 extend through the slots 31 in the end portions 25 and 26 and the aligning slots 76 in the flanges 75. The tangs are then tightly folded over and pressed whereby the portion of the metal adjacent the slots over which the ends of the tangs lie is pressed into the opening formed in cutting the tangs from the respective parts of the device. This forms a completed carrier as illustrated in Fig. 1 adapted to carry a plurality of bottles of beverage, the particular carrier illustrated being adapted for six bottles. The dimensions of the respective parts of the carrier are such that the bottles substantially engage the flanges 72 in the top spacer and the flanges 17 in the side and end portions of the side members. The lower portions of the bottles are protected against contact with adjacent bottles by the divider members and a portion of the bottom of each bottle will rest on the flanges 29—30 and 40—41 of the bottom portion 24 and divider-spacer 32.

It is believed obvious that I have provided a bottle holder and carrier of rigid structure, capable of holding a plurality of bottles which may be easily removed and inserted in said carriers and avoiding breakage of said bottles when the carriers are used in automatic washing and loading machines. It is also believed obvious that the carrier permits stacking when filled with bottles and the telescoping handle structure provides efficient transportation of the carrier and bottles without danger of striking the hand on said bottles.

What I claim and desire to secure by Letters Patent is:

1. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, spaced side members having portions overlying said end members and forming a peripheral wall, the lower edge of which is spaced above the bottom, means for securing the end members to the overlying portions of the side members, spaced ribs arranged adjacent the longitudinal center of the bottom, a divider member having its lower edge engaged between the spaced ribs, top spacer means secured to the side and end members for supporting the upper end of the divider member, spaced transverse dividers engaging the longitudinal divider and top spacer means, said top spacer means cooperating with said dividers and side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, and a bail telescopically mounted between the top spacer and end members for supporting the bottle carrier.

2. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, inwardly folded flanges on the longitudinal edges of the bottom and end members, spaced side members, the spacing between the side members being greater than the width of the bottom, end portions on the side members overlying the end members, the inner edges of the end portions on one side member substantially abutting the inner edges of the end portions of the other side member, inwardly folded flanges on the upper and lower edges of the side members and end portions thereof, a longitudinal divider member having its lower edge supported on the bottom, transverse dividers spaced along the longitudinal divider, said dividers having cooperating slots to secure the dividers together, a top spacer member supporting the upper edges of the dividers, flanges on the ends of the top spacer member adapted to engage the end members on the bottom, means for securing the spaced flanges to said members and the end portions of the side members, said top spacer member cooperating with the side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, and a bail for supporting the bottle carrier.

3. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, inwardly folded flanges on the longitudinal edges of the bottom and end members, spaced side members the lower edges of which are spaced above the bottom, the spacing between the side members being greater than the width of the bottom, end portions on the side members overlying the end members, the inner edges of the end portions on one side member substantially abutting the inner edges of the end portions of the other side member, inwardly folded flanges on the upper and lower edges of the side members and end portions thereof, spaced ribs arranged adjacent the longitudinal center of the bottom, a longitudinal divider member having its lower edge engaged between the spaced ribs, transverse dividers spaced along the longitudinal divider, said dividers having cooperating slots to secure the dividers together, a top spacer member having a groove for seating on the longitudinal divider, flanges on the ends of the top spacer member adapted to engage the end members on the bottom, means for securing the spaced flanges to said members and the end portions of the side members, said top spacer member cooperating with the side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, and a bail for supporting the bottle carrier.

4. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, inwardly folded flanges on the longitudinal edges of the bottom and end members, spaced side members, the lower edges of which are spaced above the bottom, the spacing between the side members being greater than the width of the bottom, end portions on the side members overlying the end members, the inner edges of the end portions on one side member substantially abutting the inner edges of the end portions of the other side member, inwardly folded flanges on the upper and lower edges of the side members and end portions thereof, spaced ribs arranged adjacent the longitudinal center of the bottom, a longitudinal divider member having its lower edge engaged between the spaced ribs, transverse dividers spaced along the longitudinal divider, said dividers having cooperating slots to secure the dividers together, a top spacer member having a groove for seating on the longitudi-

nal divider, spaced flanges on the ends of the top spacer member adapted to engage the end members on the bottom, means for securing the spaced flanges to said members and the end portions of the side members, said top spacer member cooperating with the side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, a bail having vertical legs slidably mounted in the spacing between the flanges on the top spacer member, and lugs on the vertical legs of the bail adapted to engage in the groove of the top spacer member for supporting the bottle carrier.

5. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, inwardly folded flanges on the longitudinal edges of the bottom and end members, spaced side members, the spacing between the side members being greater than the width of the bottom, end portions on the side members overlying the end members, spaced ribs arranged adjacent the longitudinal center of the bottom, a longitudinal divider member having its lower edge engaged between the spaced ribs, transverse dividers spaced along the longitudinal divider, said dividers having cooperating slots to secure the dividers together, a top spacer member having a groove for seating on the longitudinal divider, spaced flanges on the ends of the top spacer member adapted to engage the end members on the bottom, means for securing the spaced flanges to said members and the end portions of the side members, said top spacer member cooperating with the side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, upwardly directed flanges at the sides of the top spacer member adapted to lie between the side members and the inwardly folded flanges on the upper edge thereof, means securing the top spacer member to the side members, and a bail having vertical legs slidably mounted in the spacing between the flanges on the top spacer member for supporting the bottle carrier.

6. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, inwardly folded flanges on the longitudinal edges of the bottom and end members, spaced side members the lower edges of which are spaced above the bottom, the spacing between the side members being greater than the width of the bottom, end portions on the side members overlying the end members, the inner edges of the end portions on one side member substantially abutting the inner edges of the end portions of the other side member, inwardly folded flanges on the upper and lower edges of the side members and end portions thereof, spaced ribs arranged adjacent the longitudinal center of the bottom, a longitudinal divider member having its lower edge engaged between the spaced ribs, transverse dividers spaced along the longitudinal divider, said dividers having cooperating slots to secure the dividers together, a top spacer member having a groove for seating on the longitudinal divider, spaced flanges on the ends of the top spacer member adapted to engage the end members on the bottom, means for securing the spaced flanges to said members and the

end portions of the side members, said top spacer member cooperating with the side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, upwardly directed flanges at the sides of the top spacer member adapted to lie between the side members and the inwardly folded flanges on the upper edge thereof, means securing the top spacer member to the side members, a bail having vertical legs slidably mounted in the spacing between the flanges on the top spacer member, and lugs on the vertical legs of the bail adapted to engage in the groove of the top spacer member for supporting the bottle carrier.

7. A bottle holder and carrier of the character described including, a bottom, end members on said bottom and extending upwardly therefrom, said end members having spaced slots therein, inwardly folded flanges on the longitudinal edges of the bottom and end members, spaced side members the lower edges of which are spaced above the bottom, the spacing between the side members being greater than the width of the bottom, end portions on the side members overlying the end members, the inner edges of the end portions on one side member substantially abutting the inner edges of the end portions of the other side members, inwardly folded flanges on the upper and lower edges of the side members and end portions thereof, spaced ribs arranged adjacent the longitudinal center of the bottom, a longitudinal divider member having its lower edge engaged between the spaced ribs, transverse dividers spaced along the longitudinal divider, said dividers having cooperating slots to secure the dividers together, a top spacer member having a groove for seating on the longitudinal divider, spaced flanges on the ends of the top spacer member adapted to engage the end members on the bottom, said flanges having spaced slots in alignment with the slots in the end members, spaced tangs on the end portions of the side members adapted to engage the slots in the end members and spaced flanges for securing the spaced flanges to said members and the end portions of the side members, said top spacer member cooperating with the side and end members for forming apertures to receive and substantially engage bottles adapted to rest on the bottom, upwardly directed flanges at the sides of the top spacer member adapted to lie between the side members and the inwardly folded flanges on the upper edge thereof, means securing the top spacer member to the side members, a bail having vertical legs slidably mounted in the spacing between the flanges on the top spacer member, and lugs on the vertical legs of the bail adapted to engage in the groove of the top spacer member for supporting the bottle carrier.

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