Aug. 12, 1952 G. A. OLSON 2,606,703

BOTTLE CARRIER

Filed Dec. 20, 1948

Fig. 1

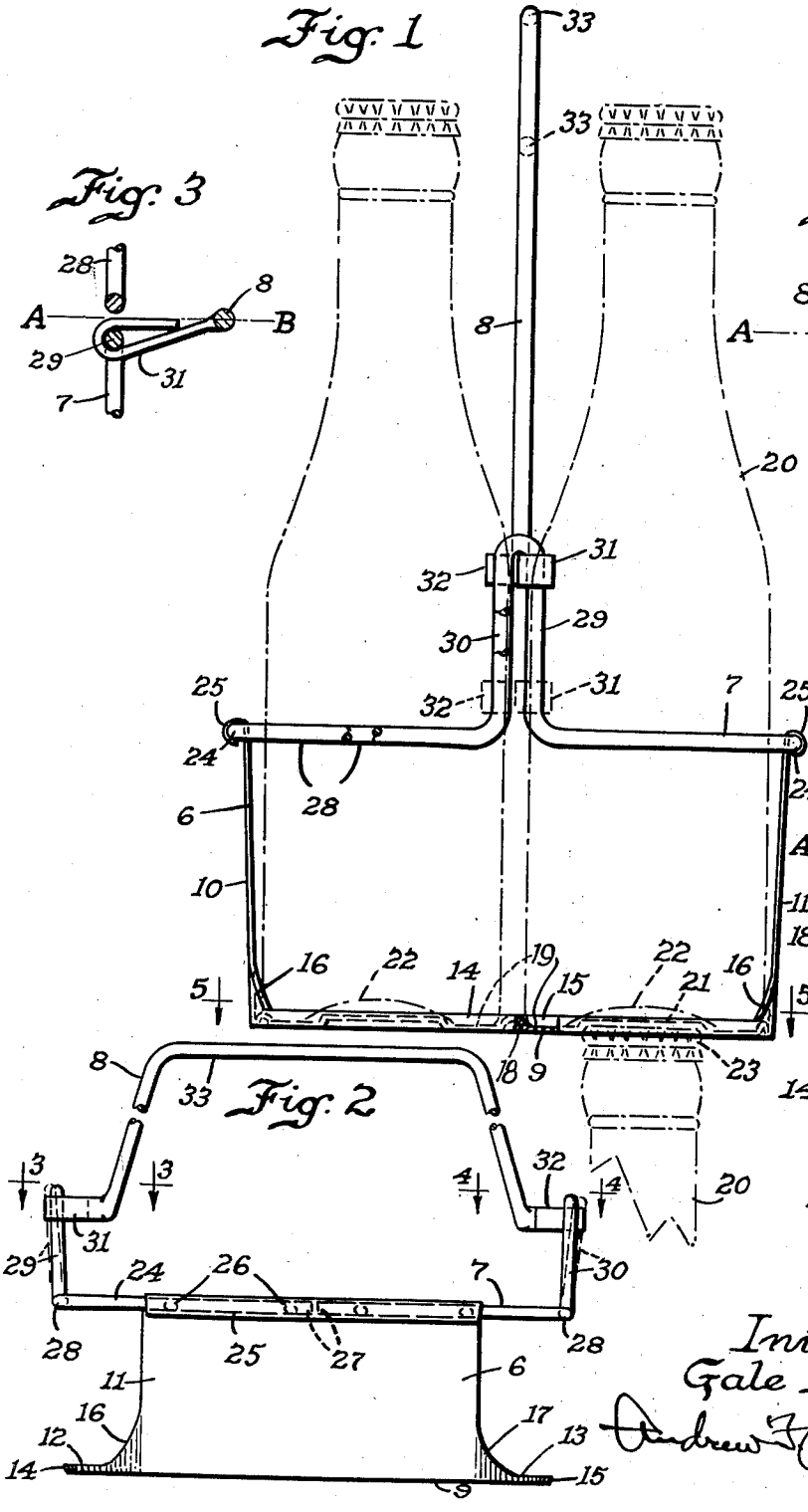


Fig. 3

Fig. 4

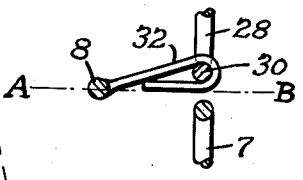


Fig. 5

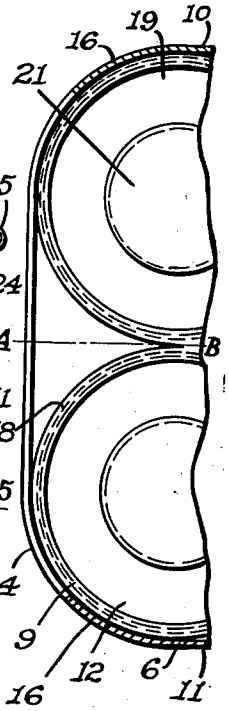


Fig. 2

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BOTTLE CARRIER

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9 Claims. (Cl. 224—48)

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This invention relates to bottle carriers of the kind commonly used for carrying soft drink bottles.

I am aware that numerous designs and constructions have been proposed for bottle carriers of the kind mentioned. However, it is the principal object of my invention to provide a bottle carrier of simpler and more economical construction so designed as to take maximum advantage of what little sheet metal is employed, with a view to obtaining maximum rigidity and safer carriage of the bottles, and at the same time enable easier and safer stacking of filled carriers in floor displays, and also the nesting of the carriers for compact shipment in quantities from the place of manufacture.

The carrier of my invention is made up of only three parts, namely, a one-piece sheet metal container body, a one-piece wire frame, and a one-piece wire handle, and these three parts are combined in a novel manner to afford many advantages not obtained heretofore with much more complicated and more expensive constructions. For example, the one-piece sheet metal container body is formed between dies to provide a rectangular bottom with upwardly projecting flanges on the ends, each in the form of a U, to provide reinforcement not only in a direction cross-wise of the bottom but also in a direction lengthwise thereof, the ends of the flanges merging with the lower end portions of upwardly projecting side walls that are integral with the bottom, these lower end portions extending inwardly out of the planes of the side walls far enough to serve as reinforcing struts for the greater rigidity of the side walls. The embossing of circular ribs in the bottom to provide recesses adapted to receive the lower ends of the bottles also adds to the rigidity of the bottom, and by embossing the central portions of these depressions to fit in the recessed lower ends of the bottles, I provide recesses on the under side of the bottom to receive the capped upper ends of other bottles for safer stacking of filled carriers in floor displays.

The wire frame, which is fastened to the container by curling the upper ends of the side walls around the side portions of the frame, so that the end portions of the wire can be held together by spot welding of the curled sheet metal thereto, has upwardly projecting inverted U-shaped loops at the middle of the end cross-portions of said frame, on which are slidable, up and down, the looped ends of the inverted U-shaped wire handle bail, this sliding connection enabling lowering of the handle to a plane below the tops of

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the bottles as required in the stacking of filled carriers in displays. The end portions of the wire handle bail, in which the loops are formed, are flattened in a vertical plane, so as to provide wide bearings to work on the looped portions of the wire frame and support the handle in a vertical plane out of contact with the necks of the bottles in the carrier, so that it can be grasped easily when the carrier is to be picked up. The looped lower ends of the wire handle bail are also bent in opposite directions out of the longitudinal plane of the handle just enough to enable sliding one of the handle loops on one side of the upwardly propecting loop on the one end of the wire frame and sliding the other handle loop on the other side of the upwardly projecting loop on the other end of the wire frame, while locating the handle as a whole in the plane of the longitudinal center-line of the carrier.

The invention is illustrated in the accompanying drawing, in which—

Fig. 1 is an end view, slightly under full size, of my improved bottle carrier, showing the handle bail in full lines in the raised carrying position and in dotted lines in the lowered out of the way position, and indicating also in dotted lines how the embossed bottom of the container facilitates stacking of filled carriers;

Fig. 2 is a side view of the carrier, on a reduced scale;

Figs. 3 and 4 are horizontal sections on the correspondingly numbered lines of Fig. 2, but showing the parts full size, and

Fig. 5 is a horizontal section on the line 5—5 of Fig. 1 looking at one end portion of the container.

The same reference numerals are applied to corresponding parts in these five views.

Referring to the drawing, the reference numeral 6 designates the one-piece sheet metal container or carrier body, 7 the one-piece wire frame, and 8 the one-piece wire handle bail. The container 6, due to its novel construction, can be made of lighter gauge sheet metal than would otherwise be feasible, with a resultant appreciable saving in cost of production, low cost being essential for an item of this kind, due to the close competition existing between manufacturers of bottle carriers and the fact that such small deposits are asked of customers upon the purchase of a carrier-full of soft drinks. The container 6 is formed between dies to provide a generally rectangular bottom 9 and side walls 10 and 11. The bottom 9, in accordance with my invention, is appreciably longer than the side

walls, providing projecting end portions 12 and 13, the edge portions of which are flanged upwardly, as indicated at 14 and 15, for reinforcement and also improved appearance and to avoid exposing raw edges. This design results in an appreciable saving in sheet metal, there being very little scrap in the punching of the blanks from a sheet. The flanges 14 and 15, as clearly appears in Fig. 5, are U-shaped as viewed from above so that they give reinforcement not only crosswise of the bottom but also in a longitudinal direction. The side walls 10 and 11 are lengthened at their lower end portions to provide webs 16 and 17 smoothly joining the ends of the flanges 14 and 15 with the side walls, these web portions being curved in a vertical plane, as appears in Fig. 5, so as to form reinforcing struts to lend rigidity to the side walls, while at the same time, due to the curvature of their edges, as viewed from the side in Fig. 2, improving the appearance of the carrier by gracefully connecting the vertical ends of the side walls with the horizontal end portions of the bottom. Further rigidity in the bottom 9 is due to the embossing therein of circular ribs 18, which serve to define circular depressions 19 to receive the bottom portions of soft drink bottles 20, the carrier accommodating six of these bottles in two rows, three in each row. In the center of each depression is embossed a circular projection 21, which is accommodated in the hollow center 22 of the bottom of the bottle resting in the depression 19. The dished under-side of the embossed projection 21 provides a locating depression for the capped upper end 23 of the bottle in the next carrier below in a stack of filled carriers in a floor display. In that way my carrier provides for much greater safety in the stacking of filled carriers for displays.

The wire frame 7 is of generally rectangular form, like the bottom 9 of the container 6, so as to more or less loosely confine the six bottles standing on the bottom 9. The parallel side portions 24 of the wire frame have the upper ends of the side walls 10 and 11 of the container curled around the same, as at 25, and spot welded thereto, as indicated at 26, thereby preventing endwise displacement of the frame relative to the container and also holding the free ends 27 of the one-piece frame together, as shown in Fig. 2. The parallel cross-portions 28 forming the ends of the wire frame 7 have upwardly projecting inverted U-shaped loops 29 and 30 formed at their mid-portions, on which the horizontal looped ends 31 and 32 of the inverted U-shaped wire handle bail 8 are attached and free to slide up and down to the extent indicated by the dotted line lowered retracted position of the handle bail shown in Fig. 1. Lowering of the handle boil to the out of the way position enables stacking of filled carriers and yet the handle grips 33 are still high enough to be grasped easily. The wire of said handle bail 8 is flattened at the looped ends 31—32 in a vertical plane, as appears in Figs. 1 to 4, to increase the width of bearing surface engagement of the loops 31—32 on the loops 29—30 and, accordingly, hold the handle 8 in an upright position, or nearly so, so that the handle grip 33 will always be easily accessible and can be grasped readily when the carrier is to be picked up and carried. The handle bail, as appears in Fig. 1, is disposed generally in the vertical plane of the longitudinal center-line of the carrier, this plane being identified in Figs. 3, 4, and 5 by the center-line A—B. This central plane of the handle is important for a feeling of nice balance when carrying the filled carrier and this result is obtained despite the fact that the loop 31 is attached to one side of the loop 29 and loop 32 is attached to the other side of loop 30, the loops 31 and 32 being bent in opposite directions from the plane of handle 8 to the small extent most clearly shown in Figs. 3 and 4 to make this desirable disposition of the handle relative to the carrier possible.

The containers 6 have their side walls 10 and 11 disposed in upwardly diverging relation, as clearly shown in Fig. 1, to permit nesting of containers in a compact stack for shipment in large quantities from the place of manufacture, the handle bails 8 being shipped separate and assembled on the carriers by the purchaser upon arrival. It is obviously a simple matter for anyone to close the loops 31 and 32 with a pair of pliers to complete the connection of the handle bail 8 with the loops 29 and 30 on the wire frame 7. The wire frame 7 is large enough to permit passing the container 6 of another carrier through it easily in the nesting of containers for shipment. The loops 29 and 30, as shown in dotted lines in Fig. 2, are also disposed in upwardly diverging relation enough to permit the nesting of containers 6 with their frames 7 assembled thereon. The upward divergence of loops 29—30 is, incidentally, of advantage in the completely assembled carrier from the standpoint that the loops 31—32 of the handle bail fit more and more tightly on loops 29—30 the farther the handle is raised and loops 29—30 are flexed inwardly from their normal relaxed positions, indicated in dotted lines in Fig. 2, so that the handle when raised all the way will remain so until pushed down by hand, or by lowering another carrier thereon, as when stacking filled carriers in a floor display.

It is believed the foregoing description conveys a good understanding of the objects and advantages of my invention. The appended claims have been drawn to cover all legitimate modifications and adaptations.

I claim:

1. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container, and having horizontal loops bent from the ends of the arms of the U slidably attached to arms of the U of said frame loops, so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position.

2. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side

portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container, and having horizontal loops bent outwardly from the ends of the arms of the U slidably attached to arms of the U of said frame loops, so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position, the side portions of said container extending in an upwardly diverging relation to permit nesting of one container in another without handles attached, and said wire frame being large enough in relation to the container also to permit such nesting, the loops on the end portions of said frame also extending in an upwardly diverging relation to permit nesting of one frame in another in the nesting of the containers and so that the loops on said handle bail have tighter connections with the loops on said frame in the raised carrying position of said handle bail.

3. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container, and having horizontal loops bent outwardly from the ends of the arms of the U slidably attached to arms of the U of said frame loops so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position, the loops on the end portions of said frame extending in an upwardly diverging relation so that the loops on said handle bail are wedged tightly on the loops on said frame in the raised carrying position of said handle bail.

4. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container, and having horizontal loops bent outwardly from the ends of the arms of the U slidably attached to arms of the U of said frame loops so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position, the loops on the end portions of said frame extending in an upwardly diverging relation so that the loops on said handle bail are wedged tightly on the loops

on said frame in the raised carrying position of said handle bail, the wire of the loops on the handle bail being flattened in a vertical plane for wider bearing engagement on the wire of the loops on said frame so as to hold said handle bail in an upright position.

5. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container, and having horizontal loops bent from the ends of the arms of the U slidably attached to arms of the U of said frame loops so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position, the wire of the loops on the handle bail being flattened in a vertical plane for wider bearing engagement on the wire of the loops on said frame so as to hold said handle bail in an upright position.

6. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container, and having horizontal loops bent outwardly from the ends of the arms of the U slidably attached to arms of the U of said frame loops so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position, the loop on one end of said handle bail embracing the wire of one side of the loop on the corresponding end of said frame, and the loop on the other end of said handle embracing the wire of the other side of the loop on that end of said frame for balanced support of the container.

7. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, a one-piece rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions, the end portions of said wire frame extending transversely of the open ends of the container and being formed to provide upwardly extending, elongated, inverted U-shaped loops at the middle thereof, and a one-piece inverted U-shaped handle bail disposed approximately in the vertical plane including the longitudinal center-line of the container and having horizontal loops bent outwardly from the ends of the arms of the U slidably at-

tached to arms of the U of said frame loops so as to permit limited movement of said handle up and down relative to said container to and from an elevated carrying position, the loop on one end of said handle bail embracing the wire of one side of the loop on the corresponding end of said frame, and the loop on the other end of said handle embracing the wire of the other side of the loop on that end of said frame for balanced support of the container, the loops on the ends of said handle bail being bent laterally in acute angle relationship to the vertical plane of the handle bail in opposite directions, so as to locate the major portion of said handle bail with its vertical plane coinciding approximately with the longitudinal center-line of the container for more evenly balanced carrying of the filled container.

8. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, the bottom portion being appreciably longer than the side portions so as to provide projecting end portions on the bottom, said projecting end portions having upwardly bent edge portions defining generally U-shaped reinforcing flanges for reinforcement of the bottom portion crosswise of its projecting end portions and also in a longitudinal direction, the side portions of said container having web portions integral therewith at both ends smoothly connecting the lower end portions thereof with the end portions of said U-shaped flanges to resist deflection of said end portions under load, said web portions extending inwardly out of the planes of said container side portions so as to resist deflection of said side portions relative to said bottom portion, a rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions and the end portions of said wire frame projecting from the container side portions substantially as far as the projecting end portions of the bottom, and a carrying handle connected to the end portions of said frame.

9. A bottle carrier comprising a one-piece sheet metal container providing a bottle supporting bottom portion of rectangular form and having opposed upwardly bent side portions, the ends of the container being open, the bottom portion being appreciably longer than the side portions so as to provide projecting end portions on the bottom, the side portions of said container having web portions integral therewith at both ends smoothly connecting the lower end portions thereof with the edge portions of said projecting end portions so as to resist deflection of said end portions under load, said web portions extending inwardly out of the planes of said container side portions so as to resist deflection of said side portions relative to said bottom portion, a rectangular wire frame for the top of said container, the opposed side portions of said frame being fastened to the upper ends of said container side portions and the end portions of said wire frame projecting from the container side portions substantially as far as the projecting end portions of the bottom, and a carrying handle connected to the end portions of said frame.

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