This invention relates to a combined transportation and display container and refers more particularly to a container of this type which is suitable for the transportation and display of breakable articles, such as glass bottles.

Beverages, such as carbonated or cola-containing beverages, which are sold in bottles are now repacked several times before they reach the ultimate consumer. The usual procedure for the manufacturer is to arrange the bottles after they have been filled and sealed in boxes or cartons containing a predetermined number of such bottles. These cases are stacked manually upon a delivery truck which brings them to a warehouse or other storage area. They have to be removed by laborers from the truck and brought to the warehouse. Thereafter they are again loaded by manual labor upon trucks which deliver them to the various stores. They are unloaded at these stores and are usually carried in the arms of the unloading personnel into the stores where the sales people have the task of placing them advantageously at various display locations where they will attract the attention of prospective purchasers.

It is apparent that this entire procedure consumes a great deal of time and is quite costly, both in wages paid to labor and in the amount of merchandise which is broken or damaged during transportation, loading and unloading.

An object of the present invention is to eliminate these drawbacks of prevailing practices through the provision of a container which is so constructed that it can be conveniently filled with merchandise by the manufacturer, that it can be readily moved into a truck and from a truck, without it being necessary to unload and reload the merchandise, and that it can be conveniently placed in stores as a display article used to display the merchandise to prospective customers and to dispense the individual cases or bottles to purchasers.

Another object is the provision of a single container which is packed with merchandise by the manufacturer, and wherein the merchandise is preserved until it is dispensed to the ultimate consumer, the container being so constructed that it is readily adapted for loading, unloading and transportation purposes and that it can be conveniently used for display purposes.

Other objects of the present invention will become apparent in the course of the following specification.

The objects of the present invention may be realized through the provision of a container made of spaced heavy wire bars or rods so that the interior of the container can be readily inspected by the purchasers. The container is preferably rectangular in shape and is of such size that it can conveniently receive cases carrying the merchandise, such as bottles carbonated beverages, for which the container is intended. The container has a closed elongated sides which are formed by comparatively widely spaced horizontal bars, a single diagonal bar being adequate to prevent the spilling of merchandise from each side. On the other hand, the rear wall of the container is composed of closely intermeshing horizontal, vertical and diagonal bars, since the rear wall is usually exposed to shocks and impacts during transportation, particularly whilst upon the truck. Furthermore, since the container can be rolled only in an inclined position, the rear wall is made strong enough to sustain the weight or the impact of the merchandise. The top of the container is open while its front wall is removable, being suspended by hooks upon the side walls, so as to facilitate the loading of the merchandise into the container and the dispensing of the merchandise from the container. The bottom of the container contains closely spaced longitudinal bars strengthened by a few transverse bars, and preferably consists of a double frame so as to provide adequate protection for the merchandise. An important feature of the container of the present invention consists in the arrangement of a pair of wheels mounted upon suitably shaped axles directly below the heavy rear wall, while two flat supports are located at the opposite side of the container below the removable front wall.

It was found that this arrangement makes particularly convenient the loading of the containers upon forklift trucks and their removal from the trucks.

The invention will appear more clearly from the following detailed description when taken in connection with the accompanying drawings showing, by way of example, a preferred embodiment of the inventive idea.

In the drawings
FIGURE 1 is a perspective view of a container constructed in accordance with the principles of the present invention.
FIGURE 2 is a rear view.
FIGURE 3 is a side view on a larger scale.
FIGURE 4 is a front view.

The combined transportation and display container shown in the drawings includes two side walls 10 and 11, a rear wall 12, a bottom 13 and a removable front wall 14. The container is formed in its entirety of comparatively thick round rods made of steel or any other suitable metal or plastic, and joined to each other by welding or soldering. Since all the rods belonging to each wall are firmly connected to each other at their points of intersection, such connection will not be described at length hereinafter.

The side wall 10 includes an outer frame member 15 which has the shape of an inverted U and the lower ends of which are fixed by being bent around bolts 16 and 17, respectively. Transverse horizontally extending rods 18, 19, 20, 21 and 22 also form a part of the side wall 10 and are firmly connected to the frame member 15. The upper rod 18 is located comparatively close to the top of the frame member 15 and has an outer hook 23 used to hold the removable front wall 14. The rods 19, 20 and 21 are located at uniform larger distances from each other and from the rods 18 and 22. The rods 20 and 22 are also provided with hooks 24 and 25 for holding the removable front wall 14. An outer diagonally extending rod 25 is firmly connected to the transverse rods 18, 19, 20, 21 and 22.

The side wall 11 is similarly constructed and has an outer frame member 26, horizontal rods 27, 28, 29, 30 and 31 and an outer diagonal rod 32, which is in alignment with corresponding parts of the wall 10. The lower ends of the frame member 26 engage bolts 33 and 34. The rods 27, 29 and 31 are provided with hooks 33, 34a and 35 for the removable front wall 14. Furthermore, side walls 10 and 11 have vertical rods 15b, 15a and 26a, 26b, respectively, which extend close to the inner legs of the outer frame members near the rear wall 12.

The removable front wall 14 has an outer frame member 36 having the shape of an inverted U and transverse horizontal rods 37, 38, 39, 40 and 41. When the front wall 14 is located in its closing position, the two vertical portions of the frame member 36 are in alignment with the vertical portions of the frame members 15 and 36, respectively. The rod 37 is practically on the same level as the rods 18 and 27, the rod 38 is similarly on the level of the rods 19 and 28, the rod
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39 is on the level of the rods 20 and 29, the rod 40 is on the level of the rods 21 and 30 and the rod 41 is on the level of the rods 22 and 31. The rod 37 is engaged by hooks 23 and 33, the rod 39 is engaged by hooks 24 and 34, while the rod 41 is engaged by hooks 35a and 35b.

The vertical legs of the frame member 36 may be provided with aligned eyelets 42 and 43 located between the rods 40 and 41. These eyelets may be used to hold cords or rods so as to improve the connection of the front wall 14, to better hold the merchandise within the container and to facilitate transportation.

The rear wall 12 is composed of a plurality of interconnected horizontal and vertical rods. The horizontal rods include a top horizontal rod 44, a bottom horizontal rod 45 and intermediate rods 46, 47, 48, 49, 50, 51, 52, 53 and 54. The vertical rods include outer rods 55 and 56 and intermediate rods 57, 58, 59, 60, 61 and 62. The arrangement of the horizontal and vertical rods is approximately that of a mesh or gitter, namely, the top rod 44, the intermediate horizontal rods 46, 48, 49, 50, 52 and 54 and the bottom rod 45 are located outside of the container and in alignment with each other. On the other hand, the intermediate horizontal rods 47, 49, 51 and 53 are located inside the container and are also in alignment with each other. Thus the vertical rods 55 to 62 are in alignment with each other, the horizontal rods 47, 49, 51 and 53 are located on the inner side of the vertical rods, while the horizontal rods 46, 48, 50, 52 and 54 are located on the outer side of the vertical rods.

The intermediate horizontal rod 46 is provided with upwardly extending hooks 63 and 64 which engage the rods 18 and 27, respectively. The hook 63 is located between the rod 15a and the adjacent upper vertical leg of the frame member 15. The hook 64 is similarly located between the rod 26a and the adjacent inner vertical leg of the frame member 26. The rod 48 has similar hooks 65 and 66 engaging the rods 19 and 28 and located between rods 15a and 15b, and the rods 26a and 26b, respectively. The rod 50 has similar hooks 67 and 68 engaging the rods 20 and 24. The rod 52 has similar hooks 69 and 70 engaging the rods 21 and 30. The rod 54 has similar hooks 71 and 72 engaging the rods 22 and 31.

Two outer transverse rods 73 and 74 are firmly connected to the outer surfaces of the outer rods 46, 48, 50, 52 and 54; and they have diagonal parts extending from the corners toward the center which are thus arranged in a design approximating the letter "X." These rods serve the purpose of protecting the rear wall 12 against possible damage during transportation.

A U-shaped outwardly extending rod 75 is firmly connected with the outer vertical rods 55 and 56 and may serve as a bumper or as a handle to facilitate moving the container.

The bottom 13 of the container includes a rectangular frame 76 having rounded corners. A transverse rear portion 76a of the member 76 extends somewhat beyond the rear wall 12 so as to provide a foot rest which makes it convenient for the user to raise the front of the container off the ground. A second U-shaped frame 77 is located under the frame member 76 in such a manner that it extends across the front and along the sides of the container. The frame member 77 extends horizontally while the frame member 76 is inclined downwardly in the rearward direction towards the rear wall 12, i.e., towards the ends of the legs of the U-shaped member 77. This arrangement helps to avoid the danger that the merchandise might slide out of the container when the frame member 76 is removed. A transverse rod 78 is located between the frame member 76 and 77 directly below the rear wall 12 and is firmly connected with both frame members. Another transverse rod 79 extends parallel and in close proximity to the rod 78 and is firmly connected to the under surfaces of the frame member 77.

The flooring of the bottom 13 is formed essentially by two surfaces which are inclined relatively to each other (following the relative inclinations of the frame members 76 and 77) and each of which is constituted longitudinal and transverse rods of varying thicknesses. The rectangular frame member 76 has two comparatively heavy transverse rods 80 and 81 which are attached to the bottom surfaces of the frame member 76.

In the example illustrated, it is connected in the same manner as the longitudinal rods 82 to 94 which have ends attached to the front portion of the rectangular frame member 76. The rods 82 to 94 are firmly connected to the transverse rods 80 and 81 and their rear ends extend between the bottom rod 45 of the rear wall 12 and the transverse rod 78 and are firmly connected to the rods 45 and 46.

The U-shaped frame member 77, in addition to the rear transverse rod 79, carries upon its under surfaces a front transverse rod 95 and two intermediate transverse rods 96 and 97. In the example illustrated there are three L-shaped rods 95a, 96a and 97a which form a connection between the two above-described supporting surfaces; each of these rods has a vertical portion fixed to the inner surfaces of the frame members 76 and 77 adjacent the front of the container. Furthermore, each of the rods 95a, 96a and 97a has a longitudinal horizontal portion firmly connected with the upper surfaces of the transverse rods 95, 96 and 97. The rear ends of the rods 95a, 96a and 97a are between the rods 78 and 79 and are firmly connected thereto.

It is apparent that the actual container bottom supporting the merchandise is constituted by the parallel aligned rods 82 to 94, while the underlying structure serves the purpose of protecting the supporting surface from shocks and other damage during transportation.

The container has two wheels 98 and 99 which are located under the rear wall 12 and two front supports 100 and 101. The wheels 98 and 99 are rotatably mounted upon an axle 102 which is held in plates 103 and 104. The plate 103 is attached to a U-shaped support 105 one end of which is firmly connected to the frame members 76 and 77. Furthermore, a U-shaped pin 106 extends around the bolt 17 and is connected to one end of the support 105 as well as to the frame members 76 and 77. The other end of the U-shaped support 105 is bent outwardly and is also connected to the frame members 76 and 77. The plate 104 is connected to the same support 107 the ends of which are attached to the frame members 76 and 77. One end of the support 127 is connected to a pin 108 similar to the pin 106. The wheels are protected by a bent bar 109 the ends of which are connected to the supports 105 and 107.

Each of the supports 100 and 101 has a horizontal portion which is located upon the ground, a vertical front portion and a diagonally extending rear portion. The upper end of the vertical front portion of the support 100 is firmly connected with the frame members 76 and 77 and is embraced by a U-shaped pin 110 which extends around the bolt 16. The rear portion of the support 100 is also firmly connected to the frame members 76 and 77. The support 101 is connected with the frame members 76 and 77 in the same manner and is engaged by a pin 111. The horizontal ground-engaging portions of the front supports 100 and 101 extend on the level of the bottoms of the wheels 98 and 99, so that all of the walls of the container extend truly vertically when the container rests on the wheels 98 and 99 and the supports 100 and 101.

The use of the described container is apparent from the above description.

The container can be conveniently loaded with any desired merchandise, such as boxes or cases of boxes containing carbonated beverages, coke-containing beverages and the like at the location of their manufacture or packing. The container is implanted firmly upon the ground during loading through the provision of
horizontal supports 100 and 101. The loading takes place through the front of the container after the removal of the front door 14 and the merchandise can be piled up to its very top. Then the front door 14 is hooked on and the container is ready to be moved into a truck or car off the truck, into and out of warehouses and into a store. During transportation the foot rest 76a and the handle 75 may be used to raise the supports 100 and 101 off the ground so that the container may be rolled upon the wheels 98 and 99. The merchandise is adequately protected during such transportation by the described construction of the container, including the inclined bottom frame 76, the diagonal rods 25, 32, 73 and 74, the gitter or mesh-shape of the rear wall 12, the use of hooks for interconnecting the walls and the use of bolts for connecting some of the vertical rods of the side walls to the bottom. In a store, the container will adequately serve to display its merchandise to prospective customers.

It is apparent that the example described above has been given solely by way of illustration and not by way of limitation and that it is subject to may variations and modifications within the scope of the present invention. All such variations and modifications are to be included within the scope of the present invention.

What is claimed is:

A combined transportation and display container comprising a bottom, two side walls, each of said side walls comprising a frame member having the shape of an inverted U, spaced horizontal rods connected to said frame member, and a diagonal rod connected to said horizontal rods; a rear wall; said bottom comprising an upper substantially rectangular frame inclined downwardly in the direction of said rear wall, a lower substantially U-shaped horizontal frame having a transverse portion extending substantially across the front of said container, said upper frame having a transverse portion extending beyond said rear wall, transverse rods carried by the two frames, one of said transverse rods interconnecting the two frames, a plurality of longitudinal rods carried by said upper frame, and a plurality of L-shaped rods having vertical portions connected with the two frames adjacent the front of the container and longitudinal portions connected with the transverse rods carried by the lower frame; means connecting the lower ends of said frame members to said upper frame, said rear wall comprising spaced vertical rods, spaced horizontal rods connected to said vertical rods and transverse rods connected to some of the last-mentioned rods; means connecting the vertical rods of the rear wall to said bottom, means connecting the horizontal rods of the rear wall to said side walls, and a removable front wall comprising a frame member and spaced horizontal rods connected with the last-mentioned frame member, at least some of the horizontal rods of said side walls having hook-shaped ends adapted to engage the horizontal rods of said front wall.

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