Dec. 8, 1959 J. SKULAVIK 2,916,185

COLLAPSIBLE BEVERAGE CARRIER

Filed July 23, 1958 3 Sheets-Sheet 1

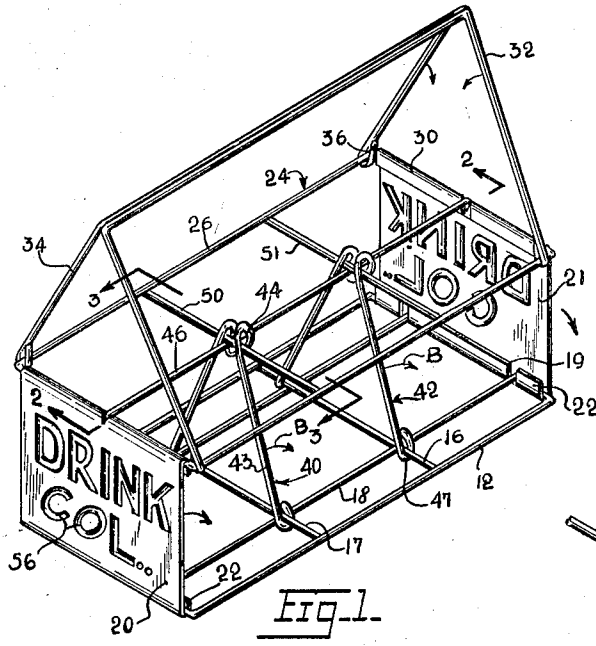


Fig. 1.

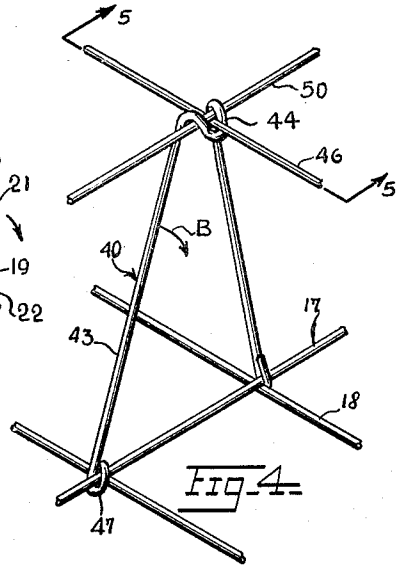


Fig. 4.

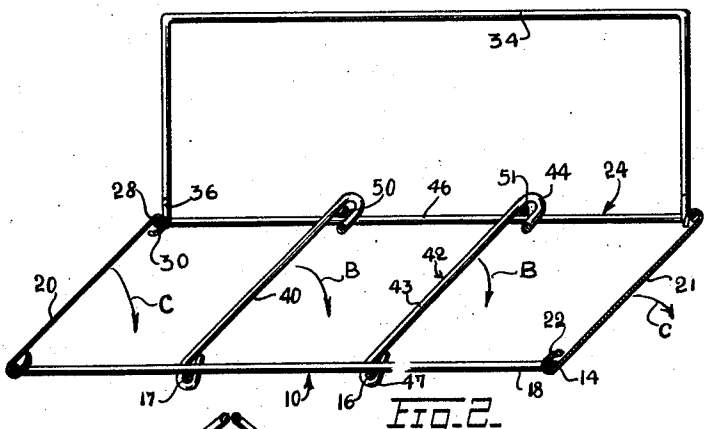


Fig. 2.

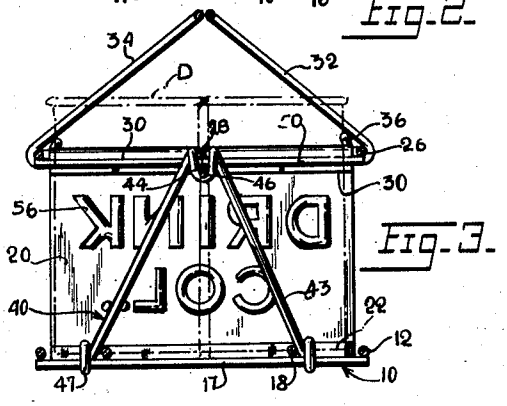


Fig. 3.

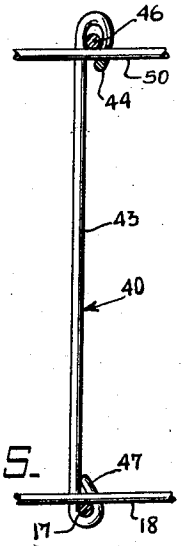


Fig. 5.

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COLLAPSIBLE BEVERAGE CARRIER

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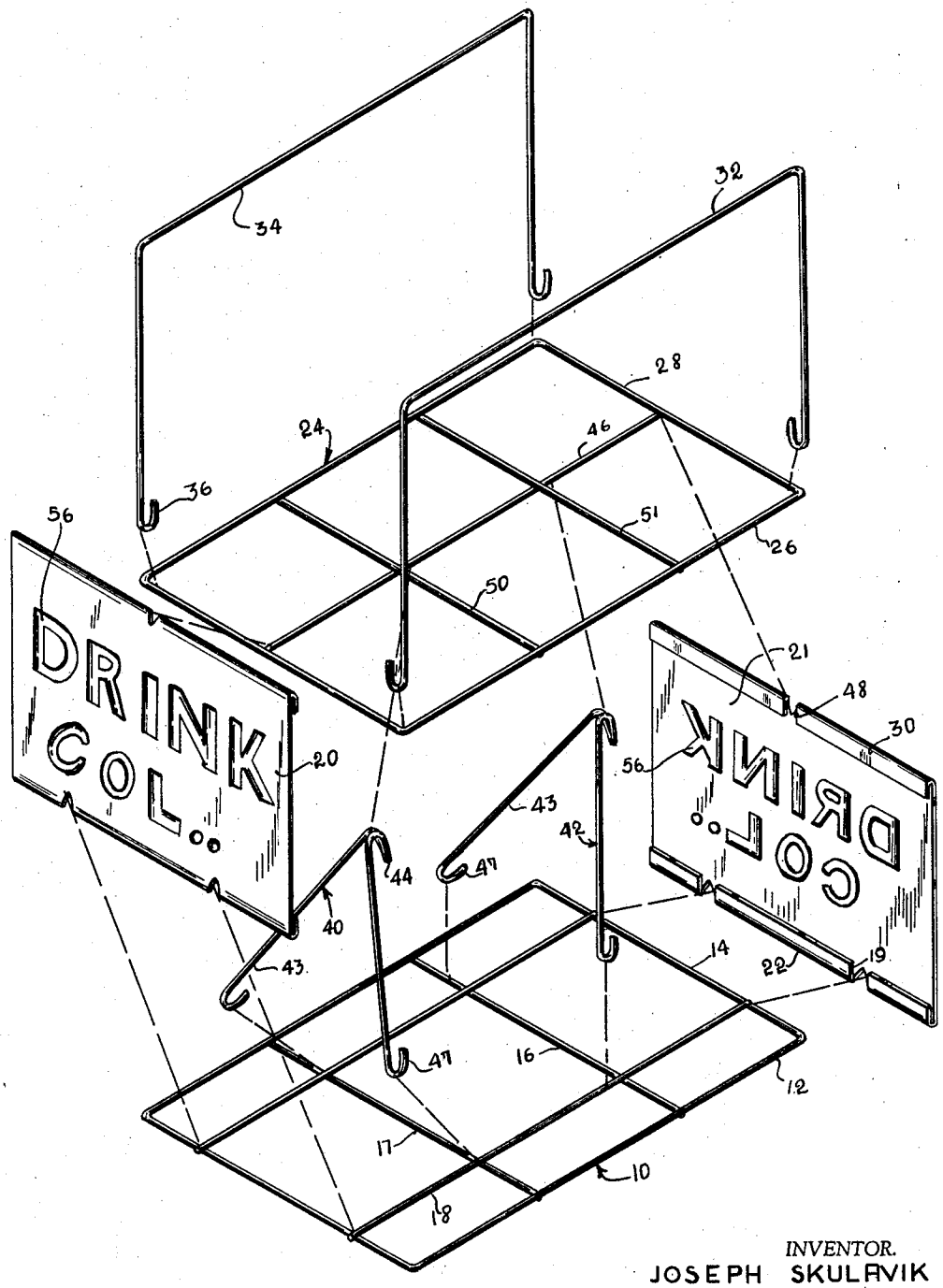


FIG. 6.

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COLLAPSIBLE BEVERAGE CARRIER

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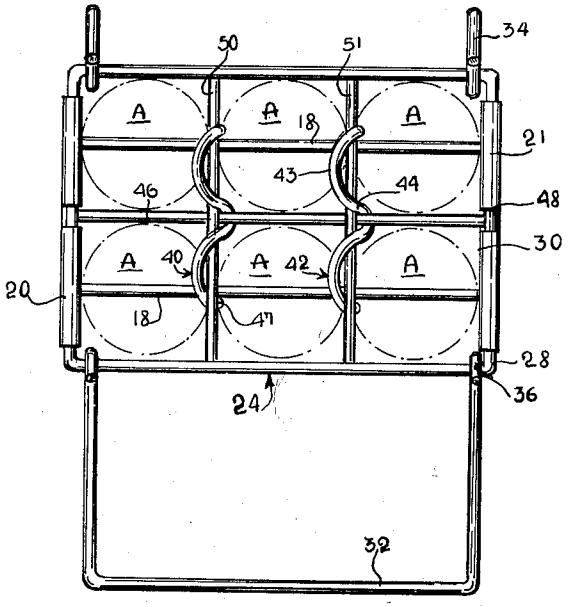


Fig. 7

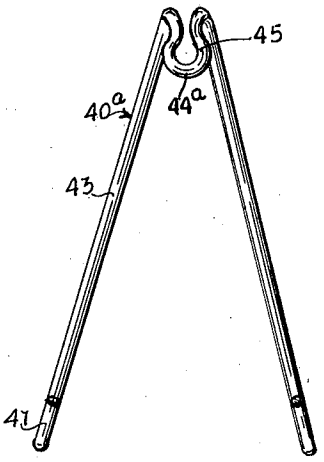


Fig. 9

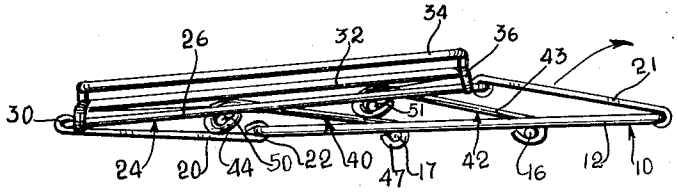


Fig. 8

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COLLAPSIBLE BEVERAGE CARRIER

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Application July 23, 1958, Serial No. 750,360

4 Claims. (Cl. 220—110)

This invention relates generally to carriers or portable racks and particularly to an improved collapsible basket or carrier for carrying a plurality of cans or bottles.

Various forms of carriers are currently used for transporting liquid and beverage containers such as cans or bottles of beer and soft drinks. Some of these carriers are collapsible. In order to adapt the structure for collapsibility it is conventional to form the carriers entirely of wire. As a result they lack sufficient rigidity to withstand bending forces so that the several wire components become warped in use. As a result the containers are no longer carried safely and collapsing of the carriers to occupy a small space becomes difficult or impossible.

According to the invention there is provided a collapsible carrier for beverage containers in which end walls of the carrier are formed of sheet metal plates which join upper and lower frame portions of the structure. Rectangular U-shaped handles are attached to one of the frame portions. V-shaped links or braces pivotally join the upper and lower frame portions so that the carrier can be expanded to receive suitable containers. The links render the structure stable in the expanded position so that it will not collapse in the absence of containers. The pivotable links permit the carrier to be collapsed in one direction only to occupy a very small narrow space.

It is therefore a principal object of this invention to provide a compartmented rack or carrier for transporting cans and bottles, the carrier being so constructed that it may be collapsed to a relatively flat condition.

Another object is to provide a wire carrier which includes upper and lower rectangular frames joined pivotally by sheet metal end walls and by links which permit the carrier to be expanded in one direction and collapsed in another direction, with wire handles pivotally attached to the upper frame and collapsible thereon.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of the carrier in expanded condition.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1 but showing the carrier in partially collapsed condition.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1.

Fig. 4 is a perspective view of one of the pivotable links shown joining portions of the upper and lower frames.

Fig. 5 is a sectional view on an enlarged scale taken on line 5—5 of Fig. 4.

Fig. 6 is an exploded perspective view of the several parts of the carrier in unassembled array.

Fig. 7 is a top plan view of the carrier with handles open outwardly.

Fig. 8 is a side view of the carrier in collapsed condition.

Fig. 9 is an elevational view of a form of link usable in the carrier.

Referring to the drawings, there is shown a carrier including a lower rectangular frame 10 having two side bars 12 and end bars 14. A pair of spaced bars 16 and 17 are disposed transversely across and underneath the frame and are welded to side bars 12. Another pair of spaced bars 18 are disposed longitudinally across and above the frame and are welded to end bars 14. Two flat end plates 20 and 21 made of sheet metal having upwardly turned lower edges 22 engaged on end bars 14 so that the plates are pivotable at opposite ends of the frame 10. Edges 22 are cut out at 19 to provide passages for the ends of bars 18.

An upper rectangular frame 24 is provided for the carrier. This frame has side bars 26 disposed parallel to and vertically above side bars 12. End bars 28 of frame 24 are disposed vertically above and parallel to end bars 14. The upper edges 30 of plates 20 and 21 are turned down and pivotally engaged on end bars 28. Two rectangular U-shaped handles 32 and 34 have looped ends 36 engaged near the corners of the upper frame at the ends of side bars 26.

A pair of links 40 and 42 are provided to join the upper and lower frames. These links are substantially V-shaped with each apex turned down to form a loop 44. This loop engages under a central longitudinally disposed bar 46 secured at its opposite ends to end bars 28. The turned down edges 30 of the plates 20, 21 are cut out at 48 to permit passage of the ends of bar 46 to bars 28 where the ends of bar 26 are welded to the frame.

A pair of spaced crossbars 50 and 51 are disposed under frame 24 and are welded to side bars 26. Six substantially square frame openings A, as best shown in Fig. 7, are thus defined in frame 24 by means of the crossed bars 46, 50 and 51 and the side and end bars of the frame.

The ends of the arms 43 of each link 40 and 42 is formed into a loop 47 engaged around bar 16 or 17 just outside of longitudinal bar 18. The links are thus pivotally joined to the lower frame and are so mounted that they can only pivot clockwise as indicated by arrows B in Figs. 1, 2 and 4, to collapse the carrier. When the carrier is fully expanded bar 46 is engaged by the bights of loops 44 so that the end walls or plates 20, 21 assume the vertical position shown in Figs. 1, 3 and 7 and are there retained by the engagement of the loops 44 at bar 46.

To collapse the carrier the walls 20, 21 together with links 40, 42 will be pivoted in one direction only as indicated by arrows B and C in Fig. 2 until the carrier assumes the fully collapsed condition shown in Fig. 8. Either handle 32 or 34 can be uppermost when the carrier is collapsed with the other handle lying just below the upper handle.

In Fig. 9, link 40^a is formed with a loop 44^a which has inwardly extending sides 45 at the bight so that these sides can be spread outward as they pass bar 46 when the carrier is being expanded, whereupon the loops 44^a will engage the bar with a detent action and hold the carrier more securely in the expanded condition.

Containers D, which may be cans, bottles or the like, may be disposed in the openings A of the upper frame 24 and they will be supported by the lower bars 18 on the lower frame. Bars 18 are located centrally beneath and between bars 26 and 46. Thus, each bar 18 provides a central diametral bottom support for each container D disposed in the carrier as best shown in Fig. 7.

The several bars are preferably made of a stiffly resilient metal which can be bent to desired shape. The

links and handles are shown in Figs. 3 and 6 with their terminal loops 47 and 36 open before they are engaged on the several frame bars to which they are to be joined as indicated by dotted lines.

Suitable advertising displays 56 can be formed by embossing the end plates 20 and 21. This embossing with its vertical and horizontal grooves will serve to strengthen the plates against bending in addition to serving as advertising display means.

The carrier can be fabricated very inexpensively from readily available wire and sheet metal by common metal working mass production machinery.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A collapsible carrier for beverage containers, comprising a first rectangular frame having straight sides and ends, a pair of spaced crossbars disposed transversely across the frame between said sides, a pair of spaced parallel longitudinal bars secured to said ends of the frame and crossing said crossbars, a second rectangular frame having straight sides and ends, another pair of spaced crossbars disposed transversely across the second frame between the sides thereof, a central bar secured to the ends of the second frame, said second frame being divided into a plurality of substantially square openings by the other crossbars and central bar, a pair of rectangular sheet metal plates having inwardly turned opposite ends respectively engaged on the ends of the frames and pivotal thereon, a pair of rectangular U-shaped handles having their free ends formed into loops engaged on opposite ends of the sides of the second frame, and a pair of generally V-shaped links, said links having arms with free ends formed as loops and engaged pivotally on the crossbars of the first frame, said links having apices turned downwardly and forming loops, the apical ends of the arms extending over central portions of said other crossbars respectively with the bights of the apical loops engaged under said central bar so that the frames and plates are collapsible by pivoting in only one direction and are expansible by pivoting in an opposite direction.

2. A collapsible carrier for beverage containers, comprising a first rectangular frame having straight sides and ends, a pair of spaced crossbars disposed transversely across the frame between said sides, a pair of spaced parallel longitudinal bars secured to said ends of the frame and crossing said crossbars, a second rectangular frame having straight sides and ends, another pair of spaced crossbars disposed transversely across the second frame between the sides thereof, a central bar secured to the ends of the second frame, said second frame being divided into a plurality of substantially square openings by the other crossbars and central bar, a pair of rectangular sheet metal plates having inwardly turned opposite ends respectively engaged on the ends of the frames and pivotal thereon, a pair of rectangular U-shaped handles having their free ends formed into loops engaged on opposite ends of the sides of the second frame, and a pair of generally V-shaped links, said links having arms with free ends formed as loops and engaged pivotally on the crossbars of the first frame, said links having apices turned downwardly and forming loops, the apical ends of the arms extending over central portions of said other crossbars respectively with the bights of the apical loops engaged under said central bar so

that the frames and plates are collapsible by pivoting in only one direction and are expansible by pivoting in an opposite direction, said longitudinal bars being disposed centrally beneath and between said central bar and the sides of the second frame to provide bottom supports for said containers.

3. A collapsible carrier for beverage containers, comprising a first rectangular frame having straight sides and ends, a pair of spaced crossbars disposed transversely across the frame between said sides, a pair of spaced parallel longitudinal bars secured to said ends of the frame and crossing said crossbars, a second rectangular frame having straight sides and ends, another pair of spaced crossbars disposed transversely across the second frame between the sides thereof, a central bar secured to the ends of the second frame, said second frame being divided into a plurality of substantially square openings by the other crossbars and central bar, a pair of rectangular sheet metal plates having inwardly turned opposite ends respectively engaged on the ends of the frames and pivotal thereon, a pair of rectangular U-shaped handles having their free ends formed into loops engaged on opposite ends of the sides of the second frame, and a pair of generally V-shaped links, said links having arms with free ends formed as loops and engaged pivotally on the crossbars of the first frame, said links having apices turned downwardly and forming loops, the apical ends of the arms extending over central portions of said other crossbars respectively with the bights of the apical loops engaged under said central bar so that the frames and plates are collapsible by pivoting in only one direction and are expansible by pivoting in an opposite direction, said longitudinal bars being disposed centrally beneath and between said central bar and the sides of the second frame to provide bottom supports for said containers, said plates being embossed to strengthen them against bending and provide advertising display means on said plates.

4. A collapsible carrier for beverage containers, comprising a pair of rectangular wire frames, a pair of rectangular sheet metal walls having inwardly turned opposite ends pivotally joined to corresponding ends of the respective frames, longitudinal and crossbars joined to one of the frames dividing it into a plurality of rectangular openings for receiving said containers, other longitudinal and crossbars joined to the other of the frames, and wire links pivotally connecting the crossbars of the frames, the longitudinal bars of said other frame providing bottom supports for said containers, and a pair of wire handles having opposite ends pivotally attached to said one frame, whereby said frames, walls, and handles are collapsible to form a substantially flat structure and are expansible to form a rectangular box-like structure for carrying said containers, each of said links being generally V-shaped and having an apical loop engaged under a central longitudinal bar and over a crossbar of said one frame, each of said handles being substantially rectangular U-shaped, with the bight of each handle having a length substantially equal to the length of said one frame, each of said walls being strengthened against bending by embossing, said embossing providing advertising display means for the carrier.

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