Jan. 11, 1944. H. C. ROBINSON ET AL 2,338,969

EMPTY BOTTLE RACK

Filed Jan. 24, 1941 2 Sheets-Sheet 1

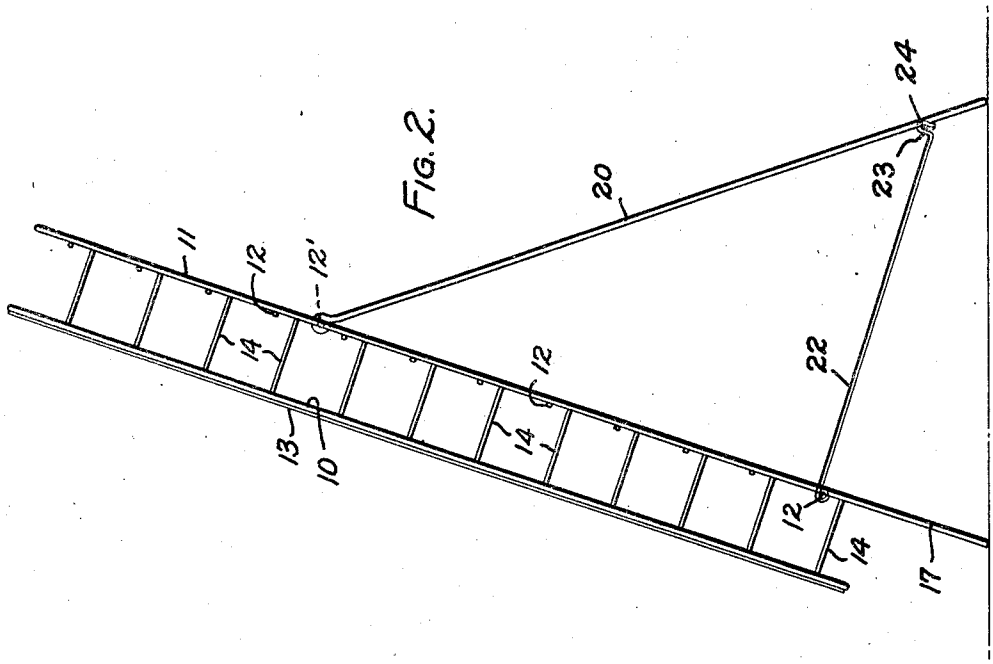


FIG. 2.

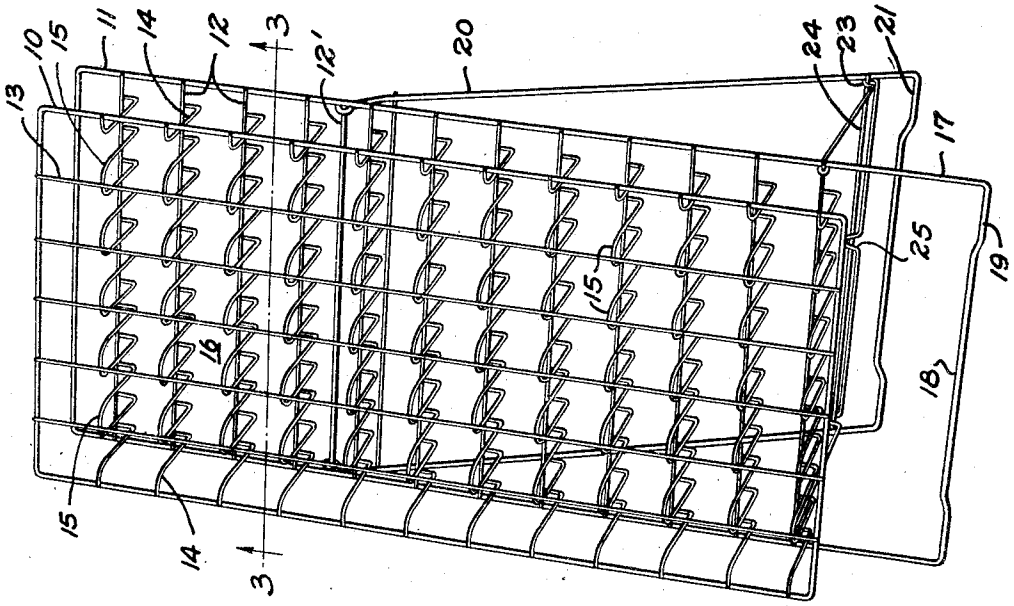


FIG. 1.

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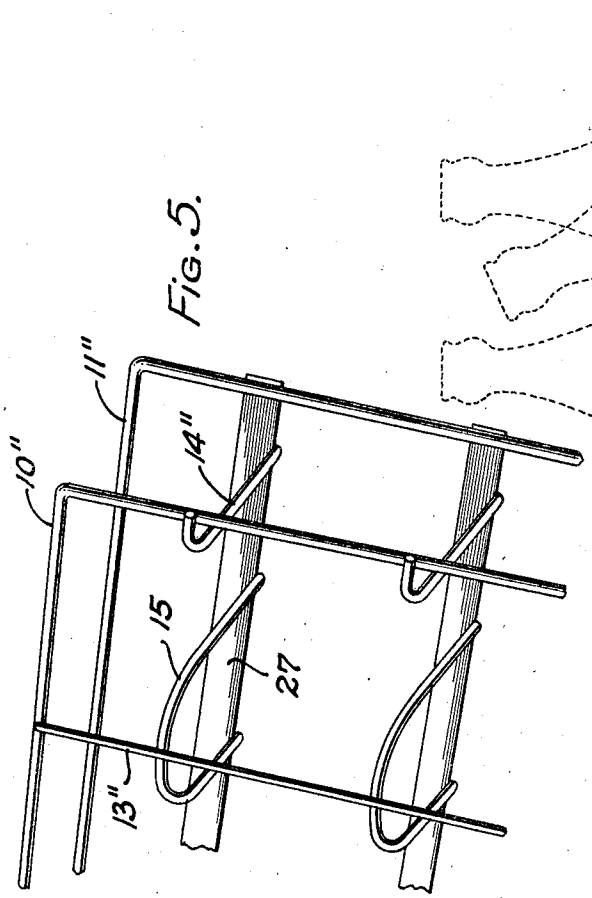


Fig. 5.

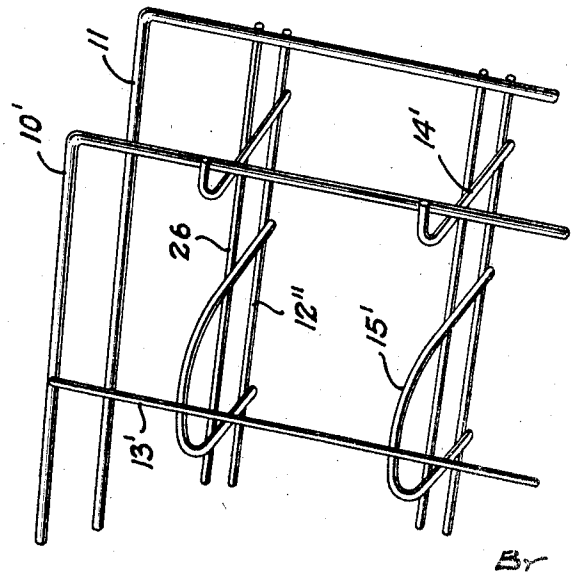


Fig. 4.

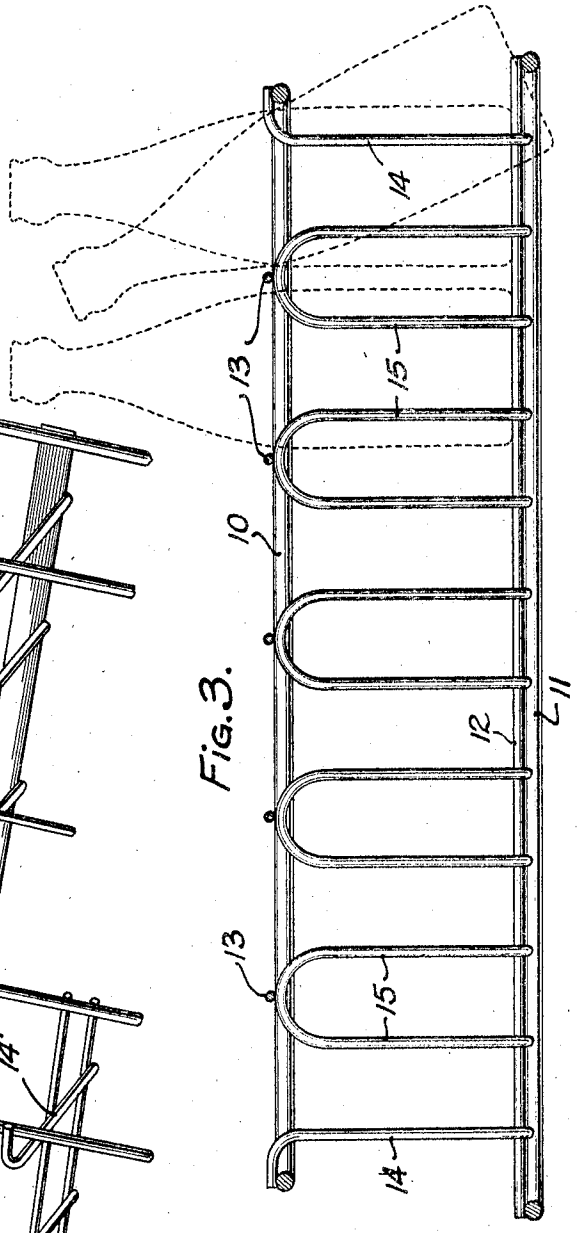


Fig. 3.

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EMPTY-BOTTLE RACK

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Application January 24, 1941, Serial No. 375,836

8 Claims. (Cl. 211—74)

This invention relates to bottle racks or cases adapted to receive and temporarily retain bottles and analogous containers or devices, and is of particular advantage as a case or rack for receiving empty bottles for subsequent return to the distributor or manufacturer of the beverage contained in the bottles.

Racks or cases of the type with which this invention is concerned as heretofore designed and used commercially have been unduly heavy, cumbersome and awkward to handle, unyielding and liable to cause breakage of bottles and inconvenient in the operation of placing the bottles in the case; and it is an object of the present invention to provide an empty bottle rack which will effectively overcome these objections.

More specifically the invention contemplates a rack for empty bottles and the like which may be made of wire or rod stock at a relatively low cost, and which is light in weight and easy to handle, occupies a minimum of space, is resilient and therefore cushions the bottles against breakage, and may be disposed in a manner rendering it unusually convenient to place bottles therein.

The foregoing and other objects and advantages will be apparent in view of the following description taken in conjunction with the drawings, wherein:

Fig. 1 is a view in perspective elevation of a rack constructed in accordance with the features of the invention;

Fig. 2 is a view in side elevation of Fig. 1;

Fig. 3 is a section taken on the line 3—3, Fig. 1;

Figs. 4 and 5 are enlarged fragmentary perspective views of modifications in structure.

Referring to the drawings in detail, the rack comprises front and rear frames 10 and 11 made up of wire or rod stock bent in suitable shape, preferably rectangular as herein shown, and joined at the meeting ends as by welding. The rear frame is provided with reinforcing wires or rods 12 and the front frame with like members 13, the wires 12 extending transversely and the wires 13 longitudinally of their respective frames for a purpose which will presently become apparent.

These frames are spaced a suitable distance apart and held in spaced relation by means of wire socket members or bottle holders 14 and 15. The wire members 14 are used along the outer margin of the rack and each has an upper hook-shaped portion secured as by welding to the frame member 10 and its opposite or lower end turned at an angle and secured to one of the cross members 12; while the members 15 each consist of a piece of wire bent in substantially U shape with the upper or closed end of the U secured as by welding to one of the longitudinal wire members 13 and the opposite end or legs of the U bent at an angle and secured as by welding to the cross wires 12 of the frame member 11.

The wire cross rods or members 12 in conjunction with the angular legs of the bottle socket wires 14 and 15 form a support for the bottom of the bottle when the latter is inserted in any one of the sockets 16 while the U-shaped body portions and upper ends of the wire 14 and 15 provide a socket or retainer for the bottle. The result is a resilient or cushioned socket which will receive a bottle without danger of breakage, irrespective of how forcibly the bottle may be thrown into the rack.

By referring to Fig. 3, it will be noted that the rear or bottom frame 11 extends outwardly beyond the front or top frame 10. By making the relative overall dimensions of the front and rear frames in this manner, bottles of relatively small size are prevented from falling through the sides of the rack when placed in the outer compartments, note the dotted line position of one of the bottles at the right of Fig. 3. In actual practice, the lower or rear frame 11 has been made between ¾ to 1 inch wider and longer than the front of the upper frame. However, the relative dimensions may vary to suit conditions, as will be obvious. It will also be seen that the lower ends of the wire members 14 and 15 are welded to the under surface of the transverse reinforcing wires or rods 12, thereby utilizing the full depth of the sockets. Furthermore, since the cross wires or rods 12 are disposed off-center towards the lower portion of the rack, the center of gravity of the bottles will be thrown forwardly of the rack and thereby more nearly equalize or distribute the weight of the bottles over the entire rack when standing as in Fig. 1.

To provide an easel arrangement for positioning the rack to conveniently receive empty bottles and the like, the rear frame 11 is extended as at 17 to provide front legs and has the intermediate portion of the bottom cross member bent upwardly as at 18 to provide feet 19; the rear legs of the easel comprising a generally U-shaped rod member 20 having the upper free ends thereof hinged or pivoted on enlarged cross rod 12' and the lower closed end bent upwardly at an intermediate point forming feet 21. A latch member 22 is provided, and is preferably made of a single piece of wire with the free ends of the wire bent around the bottom cross member 12 and the rear

closed end bent in the form of hooks 23 one at each side of the rear member 20, which hooks engage over a cross rod 24 connecting the respective upright portions of the said member 20. The rear transverse portion of the latch 22 is preferably formed with a catch 25 adapted to be flexed over the front of the cross bar 24 and hold the latch hooks 23 in engaged position under tension.

The design of the respective parts is such as to facilitate manufacture from wire or rod stock, each part being in itself of relatively simple shape with all welds readily accessible. The rack is light yet strong, quiet and easy to handle and unusually convenient.

Figs. 4 and 5 illustrate modifications in structure with respect to the rack shown in Figs. 1, 2 and 3. In these modified arrangements, parts which correspond to like parts in Figs. 1, 2 and 3 are given similar reference numerals with the exception that a prime or double prime has been added. In Fig. 4 the wire socket members 14' and 15' have straight legs with the lower ends thereof welded to the reinforcing wires or rods 12''. Instead of bending the lower ends of the legs at an angle as in Figs. 1, 2 and 3, an additional cross rod 26 is provided to form a support for the bottom of the bottle.

In Fig. 5 the wire socket members 14'' and 15'' are similar to those shown in Fig. 4 but instead of having two rows of cross wires or rods, a single cross rod 27 of flat stock or flat strip wire is used to reinforce the rack and provide a support for the bottom of the bottle.

It will be understood that no attempt is made herein to enumerate all the advantageous features of the improved rack, and further, that certain limited changes in construction and design may be adopted without departing from the spirit and scope of the invention as defined by the appended claims.

We claim:

1. A rack for bottles and analogous shaped objects comprising main frames of wire or rod stock spaced apart a distance approximating the depth of the rack, one of said main frames being provided with spaced transverse wire rod reinforcing members and the other of said main frames being provided with spaced longitudinally extending wire rod reinforcing members, and a series of substantially U-shaped wires connected at opposite ends respectively to said longitudinal and transverse reinforcing members and holding the main frames in spaced relation, said U-shaped members in conjunction with said reinforcing members being spaced and arranged to provide resilient sockets for the bottles and stops to hold the bottles in the sockets.

2. A rack for bottles and analogous shaped objects comprising substantially rectangular main frames of wire or rod stock, wire rod reinforcing members extending longitudinally and transversely respectively of each main frame, and a series of wires bent in substantially U-shape form with the upper closed end of the U welded at an intermediate point to the longitudinal reinforcing rods of one frame and the lower ends or legs of the U bent at an angle and connected to the transverse reinforcing rods of the other frame, said U-shaped wires in conjunction with said reinforcing rods providing resilient sockets for the bottles and holding the main frames in definite spaced relation.

3. A rack for bottles and analogous shaped objects, comprising a pair of upper and lower main frame members of wire or rod stock spaced apart a distance approximating the depth of the rack, wire reinforcing rods extending longitudinally of the upper frame and similar reinforcing rods extending transversely of the lower or base frame, substantially U-shaped wire members providing in connection with said reinforcing members bottle sockets and stops for holding bottles in said sockets, said socket wires being connected at their upper closed ends to the reinforcing rod members of the upper frame and at their opposite ends to the reinforcing rod members of the lower frame and holding said frames in spaced relation, the lower main frame member being of greater overall dimensions than the upper frame member to prevent bottles of relatively small diameter from dropping through the outer sides of the outer sockets of the rack.

4. A rack for bottles and analogous shaped objects, comprising spaced main frames, one of said main frames constituting the upper or top frame and the other of said frames constituting the lower or base frame, reinforcing members extending longitudinally of the upper frame and similar reinforcing members extending transversely of the lower or base frame, a series of substantially U-shaped members each having the closed end of the U secured at an intermediate point to the longitudinal reinforcing members of the upper frame and the free ends or legs of the U secured to the transverse members of the base frame, said U-shaped members in conjunction with said reinforcing members providing resilient sockets for bottles, and additional transverse members paralleling the said transverse members of the base frame and providing supports on which the bottles rest.

5. A rack for bottles and analogous shaped objects, comprising a pair of main frames of wire or rod stock spaced apart a distance approximating the depth of the rack, one of said main frames constituting the upper or top frame and the other of said main frames constituting the lower or base frame, reinforcing members extending longitudinally of the upper frame and other reinforcing members extending transversely of the lower frame, a series of substantially U-shaped members each having the closed or upper end of the U secured at an intermediate point to the longitudinal reinforcing members of the upper frame and the free ends or legs of the U secured to the transversely extending reinforcing members of the lower base or base frame, said U-shaped members in conjunction with said reinforcing members providing resilient sockets for the bottles, the transversely extending reinforcing members of the lower frame being flattened or formed of flat strip material to provide an enlarged base for the bottles.

6. A rack for bottles and analogous shaped objects comprising a pair of substantially rectangular main frames of wire or rod stock spaced apart a distance approximating the depth of the rack, one of said main frames constituting the upper or top frame and the other of said main frames constituting the lower or base frame, wire reinforcing rods extending longitudinally of the upper frame and similar reinforcing rods extending transversely of the lower or base frame, a series of substantially U-shaped wires each having the closed end of the U welded at an intermediate point to the longitudinal reinforcing rods of the upper frame and the free ends or legs of the U bent at a substantially right angle and welded to the transverse rods of the base frame,

said U-shaped wires in conjunction with said reinforcing rods providing resilient sockets for bottles interiorly of the rack, the outer rows of socket wires consisting of half U shapes welded at their upper ends to the upper main frame, the base frame being extended downwardly beyond the upper frame to provide the front leg of an easel, a substantially U-shaped rod member having the free ends of the U pivoted to one of the cross rods of the base frame with the lower closed end of the U constituting the rear leg of the easel, and a releasable latch member connected to said legs to hold the easel in set-up position.

7. A rack for bottles and analogous-shaped objects, comprising spaced front and rear main outer frames, each of said frames being provided with spaced transverse rod means connected at their opposite ends to the frame and reinforcing the latter, said frames and transverse rod means lying in substantially parallel planes with the transverse rod means of one frame extending in substantially right angular relation to the transverse rod means of the other frame, and substantially U-shaped wire socket members connected at their closed ends to the transverse rod means of the front frame and having their opposite ends or legs connected to the transverse rod means of the rear frame and holding said frames in spaced relation, said socket members being spaced to provide in conjunction with the transverse rod means resilient bottle sockets and the transverse rod means of the rear frame and the legs of the socket members coacting to provide a supporting base for the bottles.

8. A rack for bottles and analogous-shaped objects, comprising substantially rectangular main outer frames spaced apart a distance approximating the depth of the rack, each of said frames being provided with spaced wire rod cross members connected at their opposite ends to the frame and reinforcing the latter, said frames and rod members lying in substantially parallel planes with the rod members of one frame extending in substantially right angular relation to the rod members of the other frame, and a series of substantially U-shaped wires having their closed ends welded at an intermediate point to the cross members of one frame and the opposite ends or legs of the U bent at an angle and welded to the cross rods of the other frame, said U-shaped wires being so spaced as to provide in conjunction with said cross rods resilient supporting sockets and stops for the bottles.

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