

Aug. 18, 1936.

A. E. LADEWIG ET AL

2,051,091

BOTTLE CARRIER POCKET

Original Filed March 30, 1927

Fig. 1.

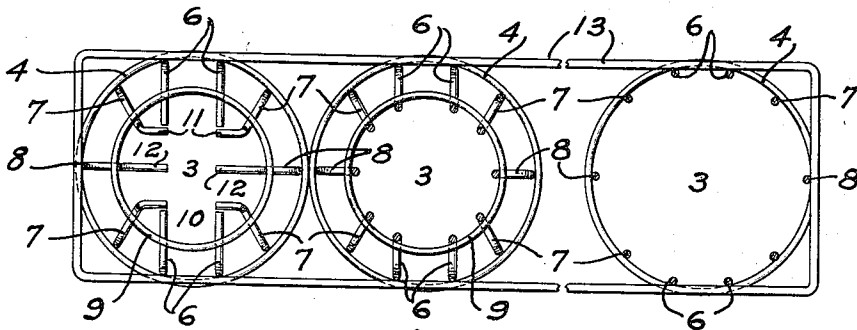
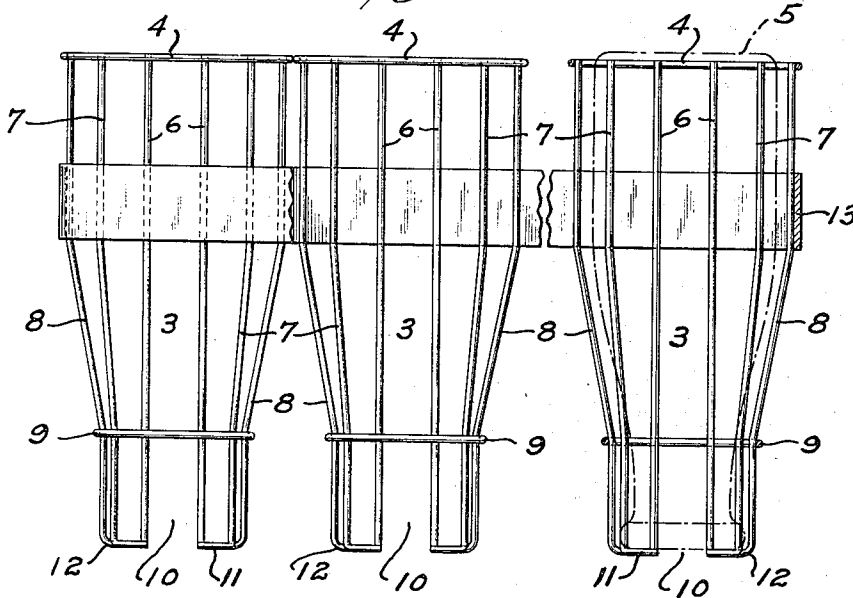


Fig. 2.

INVENTORS
A. E. Ladewig
BY G. F. Soelch
Morsell, Lieber & Morsell
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,051,091

BOTTLE CARRIER POCKET

Archle E. Ladewig and George F. Soelch,
Waukesha, Wis.

Original application March 30, 1927, Serial No.
179,424. Divided and this application Novem-
ber 28, 1934, Serial No. 755,106

8 Claims. (Cl. 198—131)

The present invention relates in general to improvements in the construction of bottle carrier pockets especially applicable to bottle washing machines.

Generally defined, an object of the invention is to provide an improved bottle carrier pocket especially adapted to convey successive bottles through a bottle washing machine in proper relationship to the washing, loading and unloading mechanisms, and the present application is a division of our copending application Serial No. 179,424, filed March 30, 1927, and relating to improvements in bottle washing machines.

Prior to the present invention, it had been common commercial practice to transport successive bottles, and especially wide necked milk bottles and the like, through the washers, with the aid of relatively rigid pockets which engaged the heads of the inverted bottles so as to properly position the bottle openings with respect to the bottle washing mechanisms. These prior carrier pockets, besides being costly, caused considerable bottle breakage, due to their rigidity. It was also proposed to eliminate this excessive breakage of bottles by utilizing wire carrier pockets which engaged the bottles at the shoulders remote from the open ends, but these pockets, while relieving the shock and consequent breakage during inversion of the pockets and bottles, were even more objectionable than the prior rigid carriers, because they failed to maintain the bottle openings in uniform position with respect to the washing and ejecting mechanisms due to the variation in shape of the bottles and consequent disposition of the shoulders at different distances from the heads.

It is therefore a more specific object of the present invention to provide an improved bottle carrier pocket formed of wire or other highly resilient material, which obviates all of the defects of the prior devices of this general type, and which besides eliminating excessive bottle breakage, insures proper positioning of various sizes and styles of bottles with respect to the washing and ejecting mechanisms.

These and other objects and advantages of the invention will be apparent from the following detailed description.

A clear conception of an embodiment of the invention and of the construction of the improved bottle carrier pockets, may be had by referring to the drawing accompanying and forming a part of this specification in which like reference characters designate the same or similar parts in the several views:

Fig. 1 is a fragmentary side elevation of a bottle carrier pocket assemblage, the pocket at the extreme left being embraced by the supporting frame, the frame having been broken away from in front of the medial pocket, and the pocket at the extreme right being shown in section with an inverted milk bottle shown therein, in dot-and-dash lines; and

Fig. 2 is a part sectional bottom view of the assemblage of Fig. 1, showing a full bottom view of the left pocket, a transverse section through the medial pocket taken directly beneath the lower retainer ring, and a transverse section through the right pocket taken at the greatest diameter of the pocket.

Referring to the drawing, each of the improved bottle carrier pockets 3, is formed of elongated resilient material such as wire, and comprises an end ring 4 of a diameter sufficient to receive the largest bottles 5 which are to be carried, and a plurality of relatively straight members or wires 6, 7, 8 secured to and extending away from the ring 4, the ends of the wires 6, 7, 8 remote from the ring 4 cooperating with each other to form a bifurcated bottom. The wires 6, 7, 8 are bent slightly as shown, in order to somewhat follow the external contour of the bottles 5, and are embraced near their free ends adjacent the bottle necks, by a smaller retaining ring 9. The ends of the four wires 6 which project beyond the ring 9 directly adjacent to the bifurcation of the pocket 3, are straight, being adapted to resiliently engage the sides of the bottle head during insertion of an inverted bottle 5 or during inversion of the pocket with the bottle therein. The corresponding extreme ends 11 of the four wires 7 are bent inwardly toward the ends of the adjacent wires 6, as shown, and the corresponding extreme ends 12 of the two wires 8 are also bent inwardly between the ends 11 of the wires 7, so as to provide the bottom supports with which the heads of the bottles 5 are directly engageable, thus providing stops for limiting the downward displacement of the bottles. The several wires and rings constituting each pocket 3, are firmly interconnected at the points of contact, by soldering or welding, so as to produce durable structures.

A number of the individual carrier pockets 3 may be secured side by side to a common elongated carrier frame 13 as shown, and these frames 13 may be transported through the bottle washer in series as clearly shown and described in the parent application, Serial No. 179,424, filed March 30, 1927. The frame 13 may be formed of band

iron, and the pockets 3 may be welded or otherwise rigidly secured to the frame. The number of pockets 3 in each group, depends entirely upon the capacity of the washer, and may range from one to twenty-four, and even more.

When the improved bottle carrier pockets 3 are in use, the bottles 5 which may be of various shapes and sizes from half pint to quart capacity, are supported in inverted condition upon the wire ends 11, 12, and the washing nozzles and ejector arms are movable through the bifurcations 10 into cooperative relationship with the bottles. During insertion of the successive bottles 5 into the pockets 3 through the rings 4, and during subsequent inversion of the pockets 3 with the bottles 5 therein, the free ends of the wires 6 coact with the bottle heads to cushion the fall, and these wire ends also serve to centralize the open ends of the bottles within the pockets 3. After the descending bottles 5 come to rest against the inwardly extending projections 11, 12, these projections by virtue of their resiliency, effectively relieve the bottles from shock and thus eliminate possibility of breakage such as results from dropping the bottles against more rigid stopping surfaces.

From the foregoing description, it will be apparent that the present invention provides an improved bottle carrier structure which is simple and durable in construction, and which has proven highly effective in actual commercial use. The pockets 3 are effectively cooperable with bottles of various sizes and shapes, and besides eliminating excessive breakage, these improved carrier pockets always insure proper location of the successive bottles with respect to the washing and ejecting mechanisms.

It should be understood that it is not desired to limit the invention to the exact details of construction herein shown and described, for various modifications within the scope of the claims may occur to persons skilled in the art.

It is claimed and desired to secure by Letters Patent:

1. A bottle carrier pocket comprising, a ring forming a bottle admission and discharge opening, and a plurality of elongated resilient members spaced about and extending away from said ring, some of said members having the ends thereof remote from said ring directed inwardly to form a bottom adapted to engage the extreme ends of the heads of the bottles and others having the corresponding ends thereof engageable only with the sides of the bottle heads so as to center the bottles.

2. A bottle carrier pocket comprising, a ring forming a bottle admission and discharge opening, and a plurality of wires extending away from said ring, some of said wires having the ends thereof remote from said ring bent inwardly to form a bottom adapted to engage the ends of the heads of the bottles and others having the corresponding ends thereof engageable with the sides of the bottle heads so as to center the bottles.

3. A bottle carrier pocket comprising, a ring forming a bottle admission and discharge open-

ing, a second ring of smaller diameter disposed parallel to said first-mentioned ring, and a plurality of elongated resilient members extending away from and secured to said rings, the ends of some of said members remote from said rings being directed inwardly to form a bottom adapted to engage the extreme lower ends of the heads of the bottles and the corresponding ends of others being engageable only with the sides of said bottle heads so as to center the bottles.

4. A bottle carrier pocket comprising, a ring forming a bottle admission and discharge opening, a second ring of smaller diameter disposed parallel to said first-mentioned ring, and a plurality of wires extending away from and secured to said rings, the ends of some of said wires remote from said rings being bent inwardly to form a bottom adapted to engage the lower ends of the heads of the bottles, and the corresponding ends of the other of said wires being engageable with the sides of the bottle heads so as to center the bottles within the pockets.

5. A bottle carrier pocket comprising, a ring forming a bottle admission and discharge opening, and a plurality of wires having their corresponding ends secured to said ring, said wires extending away from said ring and having medial portions remote from the ring approaching the central axis of the latter, inward projections at the free ends of some of said wires forming a bottom adapted to engage the ends of the heads of the bottles, and inward projections at the corresponding ends of the other of said wires for engaging the heads of the bottles to center the same within the pockets.

6. A bottle carrier pocket comprising, a ring, and a plurality of elongated members extending away from said ring, the free ends of some of said members extending inwardly to form a bottom engageable with the extreme end of the head of a bottle confined within the pocket and the corresponding ends of others being engageable only with the sides of the bottle head to center the same.

7. A bottle carrier pocket comprising, a plurality of spaced rings, and a series of elongated members connecting said rings and extending away from the same, the free ends of some of said members extending inwardly to form a bottom engageable with the extreme end of the head of a bottle confined within the pocket and the corresponding ends of others being engageable only with the sides of the bottle head to center the same.

8. A bottle carrier pocket comprising, a ring, and a plurality of wires extending away from said ring to provide a bifurcated bottom having a free slot extending thereacross, the ends of some of said wires being directed inwardly toward said slot to form ledges engageable with the extreme ends of the heads of bottles confined within the pocket and the corresponding ends of other wires being parallel to said slot and engageable only with the sides of said bottle heads.

ARCHIE E. LADEWIG.
GEORGE F. SOELCH.