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BOTTLE CARRIER POCKET

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179,424. Divided and this application November
28, 1934, Serial No. 785,106

8 Claims. (Cl. 198—131)

The present invention relates in general to
improvements in the construction of bottle carri-
er pockets especially applicable to bottle wash-
ing 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 rela-
tionship 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 im-
provements in bottle washing machines.

Prior to the present invention, it had been com-
mon 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 en-
gaged the bottles at the shoulders remote from
the open ends, but these pockets, while relieving
the shock and consequent breakage during inver-
sion of the pockets and bottles, were even more
objectionable than the prior rigid carriers, be-
cause 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 bot-
tle carrier pocket formed of wire or other highly
resilient material, which obviates all of the de-
fects 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 de-
tailed 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 char-
acters designate the same or similar parts in the
several views:

Fig. 1 is a fragmentary side elevation of a bot-
tle carrier pocket assembly, 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
assembly of Fig. 1, showing a full bottom view
top 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
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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
10 of the pocket 3, are straight, being adapted
to resiliently engage the sides of the bottle head
during insertion of an inverted bottle 8 or during
inversion of the pocket with the bottle therein.

The corresponding extreme ends 11 of the four
wires 1 are bent inwardly toward the ends of the
adjacent wires 6, as shown, and the correspon-
ding extreme ends 12 of the two wires 8 are also
bent inwardly between the ends 11 of the wires
40 7, so as to provide the bottom supports with
which the heads of the bottles 5 are directly en-
gageable, thus providing stops for limiting the
downward displacement of the bottles. The sev-
eral wires and rings constituting each pocket 3,
are firmly interconnected at the points of con-
tact, 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 elon-
gated 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

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iron, and the pockets 3 may be welded or other-
wise 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 bifurca-
tions 18 to a cooperative relationship with the
bottles. During insertion of the successive bot-
tles 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 coat with the bottle heads to cushion the
fall, and these wire ends also serve to cen-
tralize 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 resis-
tance, 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 ap-
parent 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 cooperative with bot-
tles of various sizes and shapes, and besides
eliminating excessive breakage, these improved
carrier pockets always insures alignment 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 con-
struction herein shown and described, for vari-
cious 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 open-
ing, a second ring of smaller diameter disposed
parallel to said first-mentioned ring, and a plu-
rality of elongated resilient members extend-
ing 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 adapt-
ed 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.
2. 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 plu-
rality of wires extending away from and secured
to said rings, the ends of some of said wires re-
 mote 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.
3. A bottle carrier pocket comprising, a ring
forming a bottle admission and discharge open-
ning, a second ring of smaller diameter disposed
parallel to said first-mentioned ring, and a plu-
rality of elongated members extending away from
and secured to said rings, the ends of some of said rings
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 rings being engageable
with the sides of the bottle heads so as to center
the bottles.
4. 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 plu-
rality of wires extending away from and secured
to said rings, the ends of some of said wires re-
 mote 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.
5. A bottle carrier pocket comprising, a ring
forming a bottle admission and discharge open-
ing, and a plurality of wires having their corre-
sponding 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 cor-
responding ends of the other of said wires for
engaging the ends 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 cor-
responding ends of others being engageable only
with the sides of the bottle head to center the
same.
7. A bottle carrier pocket comprising, a plu-
rality 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 cor-
responding 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 others wires
being parallel to said slot and engageable only
with the sides of said bottle heads.

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