No. 756,591. PATENTED APR. 5, 1904.

A. F. CRAMER.

BOTTLE HOLDING AND CARRYING DEVICE.

APPLICATION FILED JUNE 27, 1903.

NO MODEL.

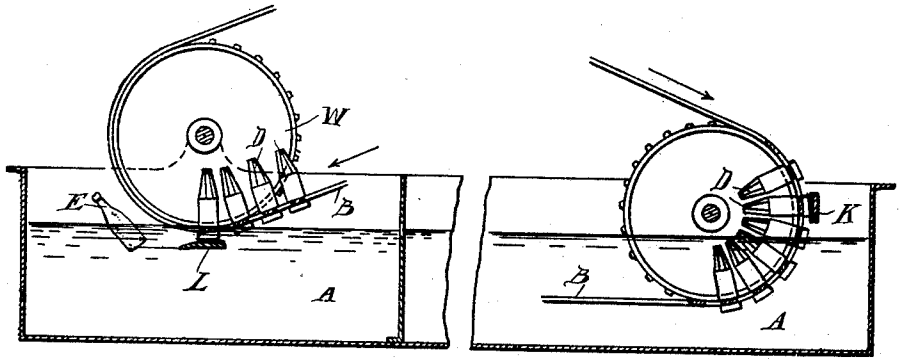


Fig. 1.

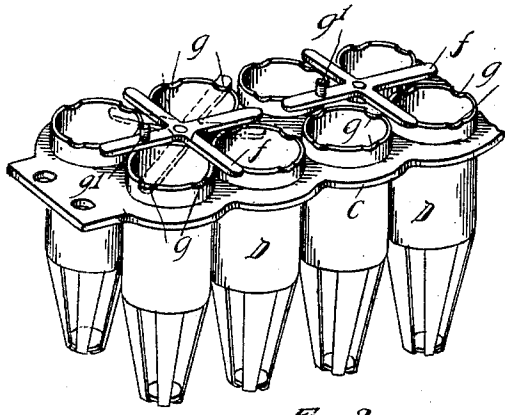


Fig. 2.

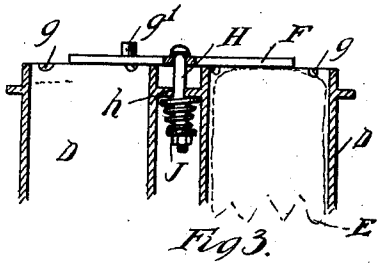


Fig. 3.

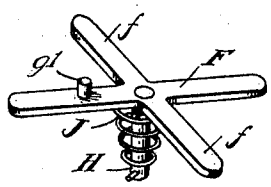


Fig. 6.

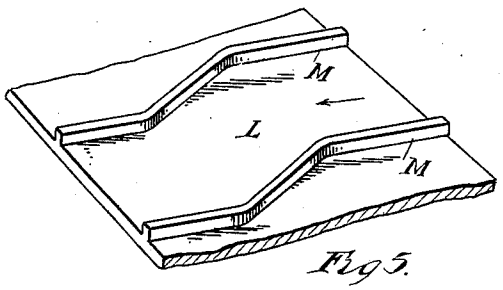


Fig. 5.

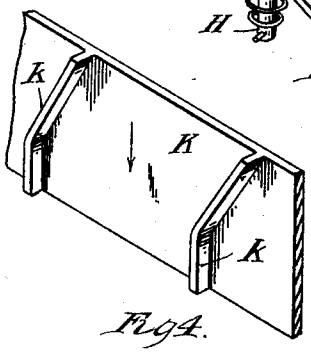


Fig. 4.

WITNESSES

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No. 756,591. Patented April 5, 1904.

UNITED STATES PATENT OFFICE.

ANTHONY F. CRAMER, OF DETROIT, MICHIGAN, ASSIGNOR TO FRITZ GOEBEL, OF DETROIT, MICHIGAN.

BOTTLE HOLDING AND CARRYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 756,591, dated April 5, 1904.

Application filed June 27, 1903. Serial No. 163,346. (No model.)

To all whom it may concern:

Be it known that I, ANTHONY F. CRAMER, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Bottle Holding and Carrying Devices; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to bottle washing or soaking machines of the general type disclosed in Letters Patent to me for a bottle-cleaning machine No. 737,355, dated August 25, 1903; and it consists in certain improvements in that part of the mechanism for retaining and discharging the bottles therefrom, which improvements are hereinafter described in the specification and pointed out in the claims.

In the drawings, Figure 1 illustrates two opposite ends of a bottle-soaking machine of the type referred to, the intermediate parts being omitted as immaterial to the invention. Fig. 2 is a perspective view of one of the bottle-holding plates or so much thereof as is necessary to illustrate the invention, showing the means for retaining the bottles. Fig. 3 is a cross-sectional view through a pair of adjacent bottle-holders, showing the means of attaching the holder of the bottles to the bottle-holders. Fig. 4 is a perspective view of the means for partially rotating the holder to the retaining position. Fig. 5 is a perspective view of the means for partially rotating the holders to the non-retaining position. Fig. 6 is a perspective view of one of the holders detached.

Similar letters refer to similar parts.

In the drawings, A A represent two adjacent tanks; B B, the traveling bands or chains upon which the bottle-holding plates are carried. C represents a portion of the bottle-holding plate. D D are bottle-holders, which may be of any of the types heretofore shown and which consist practically of metal pockets shaped roughly like the bottle and with a narrowed end or neck which may or may not be closed and which prevents the bottle E from passing entirely through them, the bottles being shown, as in Fig. 3, in cross-section inclosed within one of the pockets.

The holders F are preferably in the form of a cross with equal arms, upon one of which is erected a pin g'. Each of these arms f f is long enough to pass over substantially the rectangle made by four bottle-holders, and it is pivoted to the bottle-holding plate at the intersection of four of the bottle-holders by the bolt H, passing through the bottle-holding plate at h. A spiral spring J (shown in Fig. 3) preferably engages the bolt with a washer and nut on the outer end thereof, jamming the spring in between the bolt-holding plate and the washer, whereby the cross F is held to the bottom of the bottle-holders with an elastic force and engages friction-depressions g. It is obvious from the foregoing construction that if the arms of the cross are arranged diagonally, as shown in Fig. 6, the hub of the cross engages in the detachable notches g upon the bearing and is drawn into those notches by the spring, whereby the rotation of the cross is limited and is prevented from taking place accidentally.

Fig. 4 represents a plate of metal K, which extends crosswise and is inserted, as shown in Fig. 1, in the left-hand position in juxtaposition to the bottle-holding carriers, so that as they travel by means common to such devices in the direction of the arrow and the bottles having been inserted substantially in the manner shown in the drawings the pin g', attached to one of the arms of the retaining devices, engages the inclined ridges k upon the plate K, and thus the cross is rotated one-eighth revolution, thereby bringing the arms in the position of the dotted lines as shown in Fig. 2. Obviously this would prevent the bottles from falling out of the pockets when they are inverted, as shown in Fig. 1. In order to rotate them back again to their original position, and thus uncover the bottoms of the pockets, I employ a cross-bar or plate L,

(shown in perspective in Fig. 5,) upon which are erected diagonal ridges M M. This plate is inserted substantially underneath the axis of the wheel W, carrying the opposite or discharging end of the bottle-holding band B, and is so arranged that when the pins g' g' of the crosses come in contact with these ridges the holding devices are rotated back one-eighth revolution to their original position, thereby uncovering the bottoms of the pockets, and as the chain carrier progresses, due to the revolution of the wheels, the bottles drop out of the holders by their weight into the rinsing fluid.

The mode of operation of this device is clearly understandable from the foregoing description of the mechanical structure.

What I claim is—

1. The combination of a bottle-holding carrier, a bottle-carrying pocket on said carrier, a rotatable bottle-retainer adapted to be swung across the mouth of said pocket, and means for actuating said retainer, substantially as described.

2. The combination of a bottle-holding carrier, a bottle-carrying pocket on said carrier, a rotatable bottle-retainer adapted to be swung across the mouth of said pocket, means for actuating said retainer across the mouth of said pocket, and means for returning said retainer to its original position, substantially as described.

3. In bottle-holding devices adapted to convey bottles, the combination of a foraminous band, metal pockets fixed upon said band, a retainer for holding the bottles in said pockets arranged to move across the open mouth of said receptacles by rotating upon an axis adjacent thereto and means for actuating said retainer, substantially as described.

4. In a bottle-washing device, the combination of a carrier, bottle-holding pockets arranged fixedly upon said carrier in sets of four each, bottle-retaining devices consisting of four arms arranged substantially at right angles to each other and arranged to swing upon a central pivot or hub, means connected therewith for engaging fixed portions of the mechanism whereby said crosses are swung into the operative position to cover the mouths of said receptacles and whereby they are swung out of the way to uncover the mouths of said receptacles, substantially as described.

5. In a bottle-washing device, the combination of a carrier, bottle-holding pockets arranged fixedly upon said carrier in sets of four each, bottle-retaining devices consisting of four arms arranged substantially at right angles to each other and arranged to swing upon a central pivot or hub, means connected therewith for engaging fixed portions of the mechanism whereby said crosses are swung into the operative position to cover the mouths of said receptacles and whereby they are swung out of the way to uncover the mouths of said receptacles, means to prevent the accidental swinging of said arms to cover or uncover said bottle-holding receptacles, except at predetermined points, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ANTHONY F. CRAMER.

Witnesses:
R. A. PARKER,
NETTIE V. BELLES.