

(No Model.)

E. A. WADSWORTH.
BOTTLE WASHER.

No. 498,371.

Patented May 30, 1893.

Fig. 1.

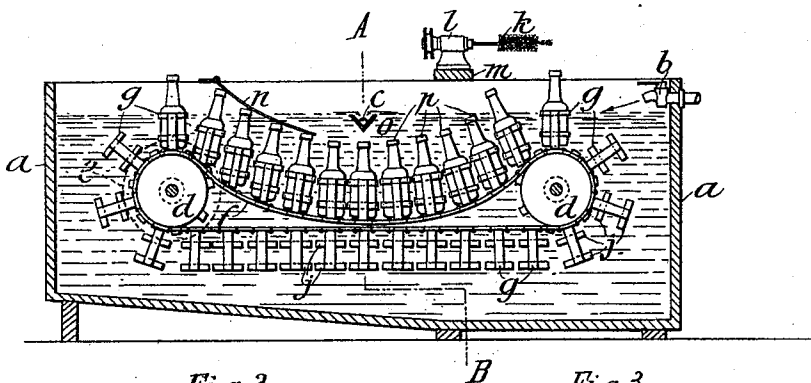


Fig. 2.

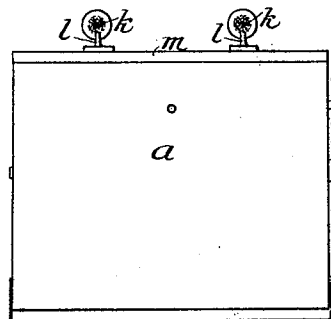


Fig. 3.

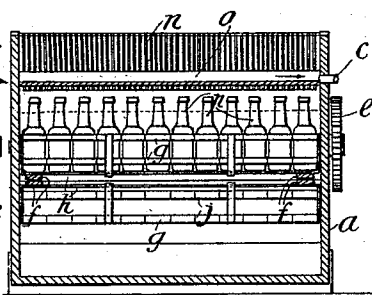


Fig. 4.

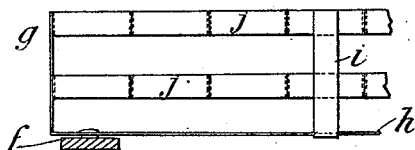
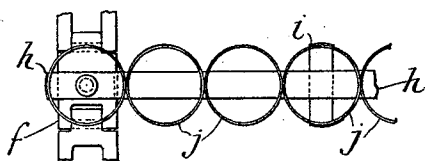


Fig. 5.



Witnesses,
R. S. Shepard
Chas. Rhodes

Inventor:
Ernest Arthur Wadsworth
John J. Halsted & Son
Attorneys

UNITED STATES PATENT OFFICE.

ERNEST ARTHUR WADSWORTH, OF CAMBRIDGE, ENGLAND.

BOTTLE-WASHER.

SPECIFICATION forming part of Letters Patent No. 498,371, dated May 30, 1893.

Application filed October 22, 1892. Serial No. 449,671. (No model.) Patented in England April 30, 1891, No. 7,502.

To all whom it may concern:

Be it known that I, ERNEST ARTHUR WADSWORTH, a subject of the Queen of Great Britain, residing at Cambridge, England, have
5 invented new and useful Improvements in Machines for Washing Bottles, (for which I have obtained a patent in Great Britain, No. 7,502, dated April 30, 1891,) of which the following is a specification.

10 My invention relates to improvements in machines for washing bottles.

In carrying out my invention I provide a suitable tank having in it wheels or rollers around which a slack endless platform or band
15 is arranged to travel.

In practice I prefer to form my platform of sprocket chains, running in connection with suitable sprocket wheels or with teeth on rollers, and connected by a series of trays, each
20 of which is designed to carry several bottles. Or the sprocket chains may be connected by wires, slats of wood or the like upon which the bottles to be washed are placed. The wheels or the rollers carrying the traveling
25 platform are driven by suitable gearing. Rotary brushes are arranged for brushing the bottles as each tray-full or series of bottles is presented at the required position.

To enable my invention to be fully understood I will describe how it can be carried into
30 practice by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a machine for washing bottles constructed according to my invention. Fig. 2 is a right hand
35 end elevation of the same; and, Fig. 3 is a transverse section on line A B of Fig. 1. Fig. 4 is an elevation; and, Fig. 5 is a plan of part of one of the trays for carrying the bottles.

40 *a* is the tank which is designed to contain water or other suitable washing fluid and is fitted with a supply cock *b* and an overflow pipe *c*.

d, d are the sprocket wheels which I mount in bearings in the tank *a*, the shaft of one of
45 the wheels carrying outside the tank a gear-wheel *e* connected with any suitable driving mechanism adapted to impart a slow movement to the sprocket wheels.

50 *f, f* are the sprocket chains which travel around the sprocket wheels *d, d*; and *g, g*, Fig. 1, are the series of trays which connect

the sprocket chains *f* and form the endless platform or band. Each of the trays is advantageously constructed (as shown in Figs. 55 4 and 5) of a longitudinal strip *h* and transverse strips *i* of hoop iron bent to form a supporting frame for a number of hoop iron rings *j* riveted or otherwise connected together and to the frame and serving to hold a row of bot- 60 tles, as clearly illustrated in Figs. 1 and 3.

k, k are the rotary brushes mounted in brackets *l, l* secured to a bar *m* placed across the tank *a*, the said rotary brushes being provided for brushing the bottles as each trayful 65 or series of bottles emerges from the water.

The tank is fitted with a guiding grid *n* whereby the empty bottles are forced under the surface of the water in order that they may become filled directly after they have 70 been placed in the tank. The tank is also provided with a skimming trough *o* whereby any grease or dirt, floating on the surface of the water, can be collected and carried away through the overflow pipe *c*, it being only necessary for this purpose to turn on the supply 75 tap *b*. It is therefore seldom necessary to empty the tank except to cleanse it.

An apparatus of this construction is worked by one or more persons placed at the left hand 80 end of the machine who place the bottles *p* in the trays *g, g*, and a sufficient number of persons at the right hand end of the machine to brush and rinse the bottles as they emerge from the tank *a* and, as the action of the ma- 85 chine is continuous, the work-people are practically compelled to keep on washing the bottles without interruption because, should they stop, the bottles would be carried round under the endless platform and would block the 90 machine and this fact would immediately become known to the overlooker. The bottles directly they are placed in the trays are carried down by the guiding-grid with their mouths upward beneath the surface of the 95 water and, as in their progress from one end of the tank *a* to the other they are immersed for a considerable time, they become sufficiently soaked to effectually remove any labels or dirt therefrom. 100

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A machine for washing bottles consisting essentially of a tank designed to contain the washing fluid and having in it wheels or rollers around which passes a slack endless
5 platform or band, having thereon a series of trays serving to carry the bottles severally in a vertical position and to immerse them as shown during their passage from one end to the other of the tank, substantially as herein-
10 before described, and illustrated in the accompanying drawings.

2. In a machine for washing bottles the combination with a tank for containing the washing fluid, of sprocket wheels mounted
15 therein, sprocket chains traveling around the said wheels, and a series of trays connecting the sprocket chains and carrying the trays *g*, *g*, severally composed of the longitudinal

strip *h*, transverse strips *i*, and rings *j*, these trays connecting the sprocket chains and
20 serving to hold each bottle separately, substantially as hereinbefore described and illustrated in the accompanying drawings.

3. In a bottle-washing machine, the combination of the endless chain for conveying the
25 bottles through the water, the trays having rings to maintain the empty bottles in their upright positions, and the grid serving to act upon the top of the bottles and to force them under the surface of the water that they may
30 become filled, all as set forth.

ERNEST ARTHUR WADSWORTH.

Witnesses:

H. G. WEEKLEY,
GEO. GARNHAM.