No. 768,486. PATENTED AUG. 23, 1904.

J. SCHREIBER, JR.

BOTTLE SOAKING MACHINE.

APPLICATION FILED OCT. 15, 1903.

NO MODEL.

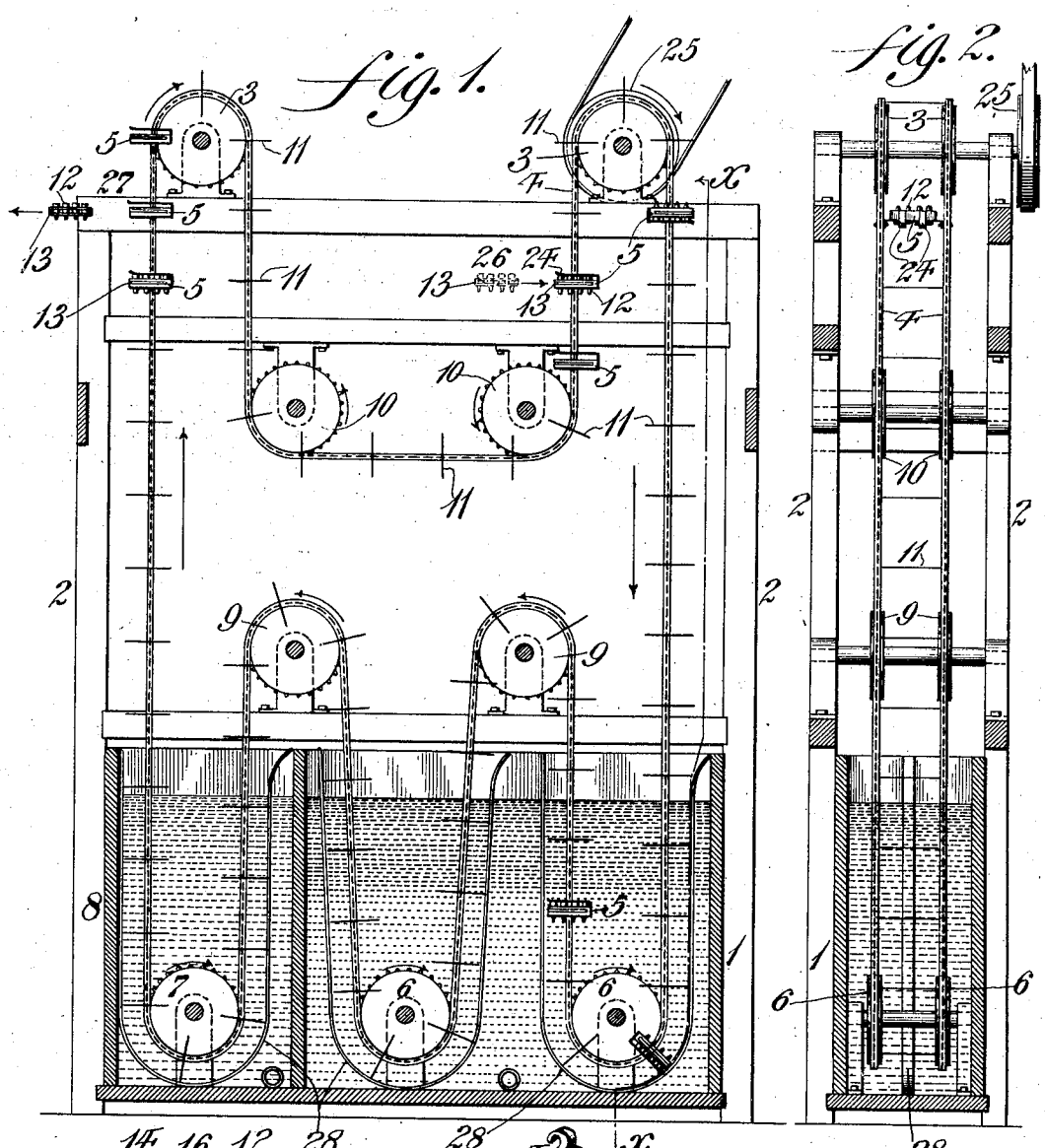


Fig. 1.

Fig. 2.

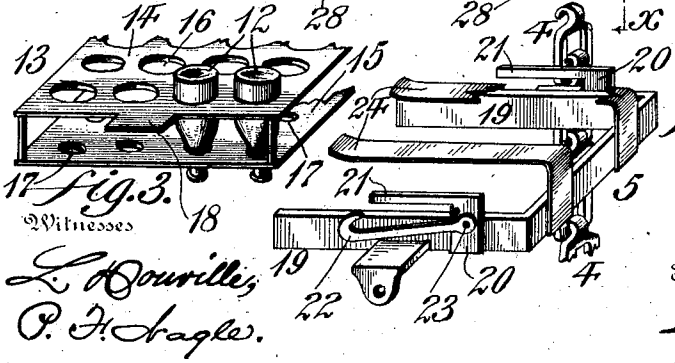


Fig. 3.

Fig. 4.

Witnesses

L. d'Orville,

P. F. Fragler.

Inventor

Jacob Schreiber, Jr.

By Wiedersheim & Laubach

Attorneys

No. 768,486. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

JACOB SCHREIBER, JR., OF PHILADELPHIA, PENNSYLVANIA.

BOTTLE-SOAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 768,486, dated August 23, 1904.

Application filed October 15, 1903. Serial No. 177,213. (No model.)

To all whom it may concern:

Be it known that I, JACOB SCHREIBER, JR., a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Bottle-Soaking Machines, of which the following is a specification.

My invention relates to bottle-soaking machines.

It comprises means by which racks containing bottles may be successively immersed and inverted in sterilizing or cleaning and rinsing solutions.

It also consists of means for placing the bottles in the carrying device, providing for their ready insertion therein and removal therefrom.

It further consists of novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a vertical section of my device. Fig. 2 represents a section through the line *x x*, Fig. 1. Fig. 3 is a fragmentary view of a rack. Fig. 4 represents in perspective a portion of the carrying device.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a tank, the upwardly-extending walls of which form supports for a pair of sprocket-wheels 3, over which pass chains 4, between which extend a plurality of carriers 5. It will be noted that other sprocket-wheels, 6 and 7, are mounted, respectively, at the bottom of the tank 1 and of a supplemental tank 8 and that other idler-pulleys 9 and 10 are used to support the chain and for other purposes hereinafter described. The lines 11, Figs. 1 and 2, represent conventionally additional carriers 5. The bottles 12 are placed in racks 13, consisting of plates 14 and 15, spaced apart and pierced with holes 16 and 17, adapted to receive, respectively, the body and neck of the bottles 12. The plate 14 has laterally-projecting ears 18, adapted to rest on the side bars 19 of the carrier 5. Above the bars 19 are brackets 20, having arms 21, between which and the arm 19 the ears 18 are placed.

A hook 22, pivoted at 23 adjacent the bracket 20, serves a purpose to be hereinafter explained. Keepers 24, shown as flat bars in a plane above the bars 19 of the carrier 5, are adapted to rest on the bottoms of the bottles 12 and to retain them in position in the rack 13. A driving-pulley 25, attached to the shaft of one pair of the sprocket-wheels 3, serves to actuate the chain 4 in the direction of the arrows, Fig. 1.

The operation is as follows: The device being started and running in the direction shown, racks 13, loaded with bottles 12, are placed in the respective carriers 5, preferably between the pulleys 10 and 3 at the right of Fig. 1, as indicated by the numeral 26. These carriers will pass downward at the right of Fig. 1 and be immersed in the liquid in tank 1 with their mouths upward, so they will be filled with the liquid. In passing under the pulley 6 at the right of Fig. 1 the racks are inverted, so that as the bottles are carried upward and above the surface of the liquid the liquid escapes therefrom. As shown, the bottles are given a second plunge in the cleaning-liquid, and it is evident that this plunge and inversion may be repeated as desired. A third plunge and inversion in the supplemental tank 8, which contains a clear or rinsing liquid, serves to wash the bottles free from any cleaning compound which might otherwise adhere to them. The bottles are then carried upward by the chain 4, as shown at the left of Fig. 1, and may be removed at the point marked 27. It will be noted that when the carrier 5 is inverted by passing around the idler 6 at the right of Fig. 1 the rack 13 is held therein by the guide-bands 28 and that the hook 22 will then trip, so as to engage the ear 18 and protect the racks 13 from slipping off the bar 19 when the carrier passes over the pulley 9 at the right of the drawing. To disengage the racks at the point marked 27, it will therefore be necessary first to slip them slightly toward the right of the device, as shown in the drawings, so as to disengage the ear 18 from the hook 22. It is of course understood that this operation is continuous and that any or all of the carriers indicated diagrammatically by lines 11 may be filled and emptied, the chain being run at a convenient speed for this purpose.

It is evident that various changes may be

made by those skilled in the art which may come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bottle-soaking machine comprising an endless chain, a bottle-carrying rack, and a carrier on said chain, comprising suitably-supported side bars, means for engaging said rack and a keeper above said bars adapted to retain the bottles in said rack.

2. A bottle-soaking machine comprising an endless chain, a bottle-carrying rack, and a carrier on said chain, comprising side bars adapted to support said rack, means for engaging said rack in said carrier and a keeper adapted to contact with the bottoms of a plurality of the bottles in said rack.

3. In a bottle-soaking machine, an endless chain, carriers on said chain, a movable hook on each of said carriers and a rack consisting of a plurality of plates spaced apart and provided with a plurality of apertures adapted, respectively, to hold the body and neck portions of the bottle, and means on said rack for engagement with said hook when said rack is in position on said carriers.

4. A bottle-soaking machine comprising a tank, an endless chain having a loop in said tank and a loop above said tank whereby a plurality of upwardly-moving portions of said chain above said tank is provided, the chain between said portions being maintained out of immersion in the liquid in said tank.

5. A bottle-soaking machine comprising an endless chain, a bottle-carrying rack having plates spaced apart and apertured to receive a plurality of bottles, and carriers on said chain having side bars adapted to engage with said plates to support said rack and guides adapted to retain said bottles in said rack.

6. A carrier for a bottle-soaking machine comprising side bars, arms above and substantially parallel with said side bars and hooks pivoted adjacent said arms, in combination with a bottle-carrying rack having lateral extensions adapted to rest upon said side bars beneath said arms and to be engaged by said hooks.

JACOB SCHREIBER, JR.

Witnesses:
JOHN A. WIEDERSHEIM,
C. D. MCVAY.