

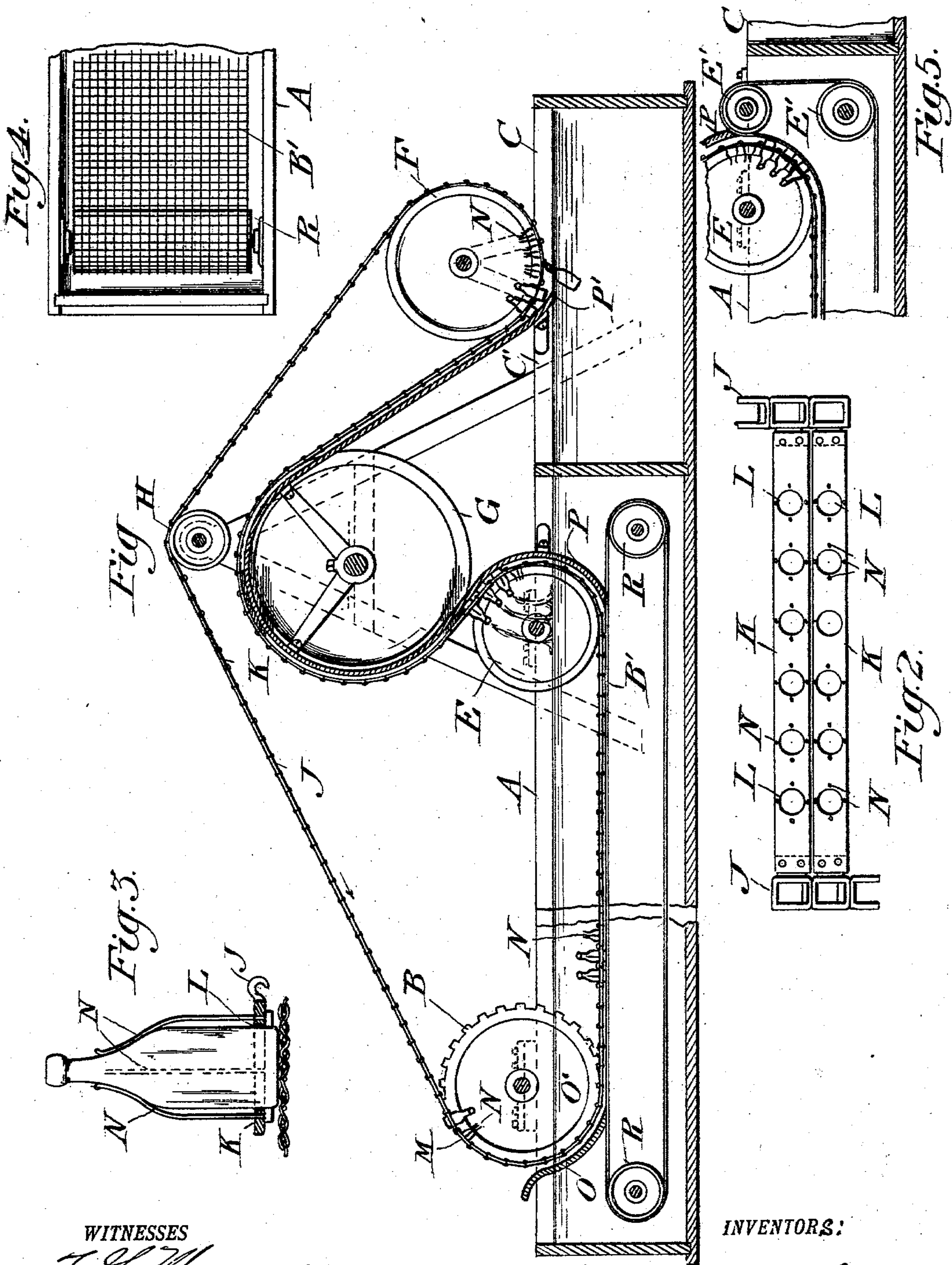
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PATENTED OCT. 6, 1903.

R. A. PARKER & F. GOEBEL.  
BOTTLE WASHING APPARATUS.

APPLICATION FILED DEC. 11, 1902.

NO MODEL.



WITNESSES

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# UNITED STATES PATENT OFFICE.

RALZEMOND A. PARKER AND FRITZ GOEBEL, OF DETROIT, MICHIGAN.

## BOTTLE-WASHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 740,990, dated October 6, 1903.

Application filed December 11, 1902. Serial No. 134,745. (No model.)

*To all whom it may concern:*

Be it known that we, RALZEMOND A. PARKER and FRITZ GOEBEL, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Bottle-Washing Apparatus; and we declare the following to be a full, clear, and exact description of the invention, 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.

Our invention relates to bottle-washers of the type described in an application heretofore filed by Fritz Goebel, August 9, 1900, Serial No. 26,329, and is an improvement upon the apparatus described and claimed in said application; and it consists in the various combinations herein described and claimed.

In the drawings, Figure 1 is a longitudinal sectional elevation of the device, showing the arrangement and construction of various parts. Fig. 2 is a plan view of a portion of the sprocket-chains and holding-plates attached thereto connecting the chains and carrying the pockets for the bottles. Fig. 3 is a sectional elevation across one of the holding-pockets of the band, showing a bottle in place therein, together with a sectional elevation of the supporting-band. Fig. 4 is a plan view of a portion of the supporting-band as located in the tank. Fig. 5 is a modification.

Similar letters refer to similar parts.

A is a tank containing lye-water or a sterilizing medium, within which the bottles are immersed and carried along on the endless band by their being supported therein by the pockets hereinafter described.

C is a fresh-water or rinsing tank into which the bottles are deposited from the carrying-band after being soaked in the sterilizing-tank. Erected upon the two tanks is a structure substantially as shown in said Goebel's application, Serial No. 26,329, consisting of sprocket-wheels B E F, mounted upon the tank, and an enlarged band-wheel G, also mounted in a bracket supported by the tank, which bracket also carries a carrying-wheel H. A band is made of two sprocket-chains J J (see Fig. 2) and running over the sprocket-wheels at each

side of the tank. The two chains are connected by bars K K, bolted to lugs projecting laterally from the links of each chain in the manner shown in Fig. 2. Said bars have perforations L L large enough to take in the bottles, which are inserted by hand as the band passes over D at the point marked M. Upon the inner side of the travel of the band and erected around each of the holes L L are preferably four wire projections N N, the tops of which are bent inwardly, thus forming a cage or pocket in which the neck of the bottles passing through the ends of the convergent wires can be placed. Pockets made of sheet metal could be substituted, as no spring is required for the bottles, but merely a receptacle for holding them individually, and so long as the pockets or cages are inverted the bottles will remain in place in the chain.

A shield O, which extends from side to side of the tank, is placed in proper relation to the wheel at which the bottles are inserted at M, so that as the wheel rotates and the bottles are carried down into the position shown at O' they will not slide out of the cages. A similar shield P is provided for the wheel E, so as to carry the bottles upward without their slipping out of the cages until they are inverted, as shown in the figures, when their contents are discharged back into the sterilizing-tank. The shield is located in close proximity to the carrying-band until it passes between the sprocket-wheels G and returns downward and terminates at the top of the tank C' at P'.

Underneath the horizontal portion of the band B is arranged a traveling band B', operating upon two band-wheels or drums R R, the band B' being preferably made of wire-netting of a mesh small enough to prevent the bottles from passing through it, as shown in Fig. 4. The band-wheels R R rotate freely upon proper axes inside the tank, and thereby by reason of the close proximity of the said band B' to the band B the bottles in the cages N N are prevented from dropping out of the band B into the sterilizing liquid, because, as shown in Fig. 3, their bottoms resting upon the band B', and as it is freely rotatable, the friction of the bottles thereon compels the band B' to rotate in unison with that of the band B in the direction



of the arrow, thereby preventing any sliding action between the bottoms of the bottles and any fixed structure supporting them. The band B' being foraminous operates freely and at the same time permits the liquid to pass through it with readiness.

If desired, the band B' may be carried upward in proximity to the wheel E by appropriate band-wheels E' in such manner as to dispense with the lower end of the shield P, which comes in close proximity to the band B, whereby any catching of the bottles against the fixed end of the shield P is avoided. The bottles being held in the pockets by reason of the shield P until they reach its lower end at P' are at that point allowed to drop by gravity freely out of the cages into the rinsing-tank C, and the apparatus thus dispenses with the necessity of any positive ejector, such as is shown in the application referred to, Serial No. 26,329.

The mode of operation of this device is as follows: The band-wheel B, traveling in the direction of the arrow, is for a portion of its extent submerged in the sterilizing-tank A. The foul bottles are placed by hand in the pockets at M, and as the wheel D turns they are carried downward into the tank and are prevented from falling out of the pockets by the shield O until their bottoms rest upon the band B', when the travel of the bottle-holding band and their friction carries the band B' along until it reaches the wheel E. Then the band or the shield P prevents their dropping out of the pockets until they are carried to and over the large band-wheel G and down to the rinsing-tank C, whence they automatically drop out of the pockets and the band-

chain B returns empty to M, where the plates are again refilled by the insertion of the bottles within the cages, as hereinbefore stated, and the operation is continuously repeated.

What we claim is—

1. In a bottle-washing machine, the combination of a tank adapted to contain sterilizing material, an endless band having pockets therein for loosely holding the bottles to be sterilized, means for carrying said band whereby a portion of it is submerged within the sterilizing material, an endless band adapted to freely travel under and in close proximity to the carrying-band and adapted to support the bottles within the cages erected on the carrying-band, substantially as described.

2. In a bottle-washing machine, the combination of two tanks, one adapted to contain sterilizing material, and the other rinsing material, an endless band having pockets therein for loosely holding the bottles to be sterilized, means for carrying said band whereby a portion of it is submerged within the sterilizing material, an endless band adapted to freely travel under and in close proximity to the carrying-band and adapted to support the bottles within the cages erected on the carrying-band, and means to carry the bottles over and permit their deposit in the second tank, substantially as described.

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

RALZEMOND A. PARKER.

FRITZ GOEBEL.

Witnesses:

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