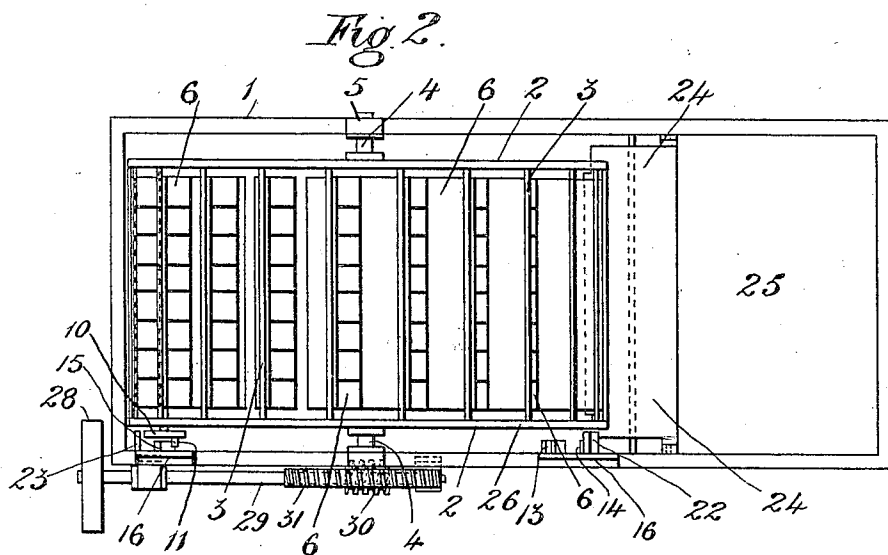
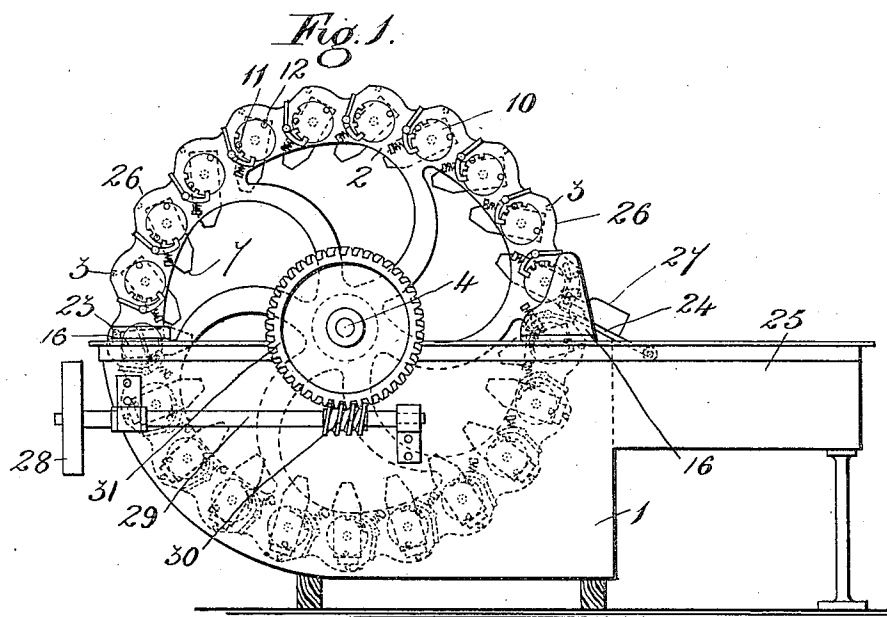


No. 838,927.

PATENTED DEC. 18, 1906.

D. WICKHAM.  
BOTTLE SOAKING MACHINE.  
APPLICATION FILED AUG. 27, 1906.

2 SHEETS—SHEET 1.



*Witnesses*  
*[Signature]*  
*[Signature]*

*Inventor*  
*Dennis Wickham*  
*By James L. Norris*  
*att'y*

No. 838,927.

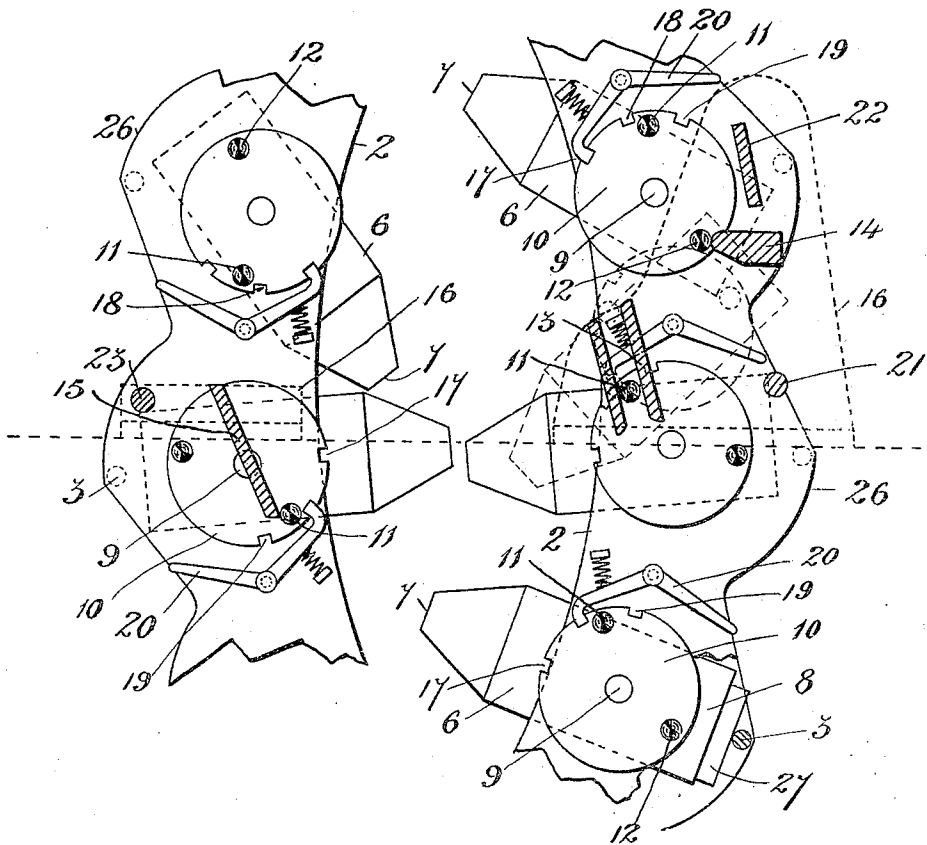
PATENTED DEC. 18, 1906.

D. WICKHAM.  
BOTTLE SOAKING MACHINE.  
APPLICATION FILED AUG. 27, 1906.

2 SHEETS—SHEET 2.

Fig. 3.

Fig. 4.



Witnesses

*[Signature]*  
*[Signature]*

Inventor

Dennis Wickham  
by *[Signature]*  
att'y

# UNITED STATES PATENT OFFICE.

DENNIS WICKHAM, OF WARE, ENGLAND.

## BOTTLE-SOAKING MACHINE.

No. 838,927.

Specification of Letters Patent.

Patented Dec. 18, 1906.

Application filed August 27, 1906. Serial No. 332,260.

*To all whom it may concern:*

Be it known that I, DENNIS WICKHAM, a subject of the King of Great Britain, residing at Baldock street, Ware, Hertfordshire, England, have invented certain new and useful Improvements in Bottle-Soaking Machines, of which the following is a specification.

The object of this invention is an improved construction of bottle-soaking machine whereby beer, mineral water, and other like bottles can be placed in cups or receivers of the machine and passed slowly through a soaking solution, the receivers and bottles automatically tilted just as each row of bottles is leaving the solution to empty and drain the contents back into the tank containing the solution, after which the cup or receiver can be again automatically tilted to discharge the bottles down a board into another tank containing fresh water for rinsing purposes, the row of cups or receivers passing to the other side of the machine, and then filled with bottles and automatically again positioned, being passed through the tank.

My invention will be clearly understood from the following description, aided by the accompanying drawings, in which—

Figure 1 is a side elevation of the machine; Fig. 2, a plan. Figs. 3 and 4 are enlarged elevations of the bottle-tilting mechanism.

For the purpose of my invention, I construct a tank 1, having a semicircular track in it, or one end of the tank can be semicircular, and the other is at right angles, as shown, and in this tank 1 I arrange a skeleton drum or two wheels 2 or disks at a distance apart and connected together by rods 3 and having an axle 4 journaled in bearings 5 on the frame of the machine or on the tank 1.

Between the peripheries of the two wheels I journal rows of cups 6 for receiving the bottles, the cups 6 being shaped to receive the bottles with both ends open, one, 7, being of small diameter to prevent the bottle falling through, the larger end 8 being situate outside the periphery of the wheels 2 or drum. The axle 9 of each row of cups extends through and beyond one or both wheels 2 or disks and is provided with a plate or disk 10 at either or both ends, said plates 10 carrying pins 11 12 for engaging cams 13 14 15, affixed to frames 16, positioned on either side of the tank 1 to insure a tilting of each row of cups 6 as they come round to a certain point for emptying the bottles, discharging the bottles, and after again refilling repositioning

the cups 6 for being passed through the tank 1, the plates or disks 10 being provided with notches 17 18 19 and controlled by a pawl 20 on the wheel 2 or disk, which pawl 20 is operated by other cams or pins 21 22 23 on the frames just before the various tiltings to allow the cups to be operated.

A sloping board 24, pivoted or otherwise connected to the fresh-water tank 25, which is situate next the solution-tank at the discharge side, is positioned to have a bearing on a wavy-like projecting rim 26 of the wheels 2 or disks, so that as the wheels 2 are revolved the board is lifted to clear the ends of the bottles 27 and cups 6 and just as they are clear to drop down onto the next cam-like surface just previous to the discharge of the row of bottles down which they fall into the fresh-water tank for rinsing and removal, the board being close up to the cups, so that there is no space for the bottles to jump over or fall into and block the machine.

The cups in rows are fed from one side of the machine and the whole revolving frame-work slowly moved, the bottles being conducted down into the solution and as they are carried round by reason of the angle they assume find a bearing on the curved bottom of the solution-tank or on the bars 3, but are carried round by the cups, the solution entering the bottles and having action thereon, both inside and out, to remove the dust and filth. Just before each row of bottles leaves the tank on the other side a pin 21 on the frame operates the pawl 20 and frees it from the plate or disk 10. Immediately a cam 13 on the frame operates one pin 11 on the plate or disk 10 and tilts the row of cups for the mouths of the bottles to be in a downward direction. The pawl in the meantime has been freed, and its nose enters the notch 19 in the plate or disk. The contents of the row of bottles are now automatically emptied back into the soaking-tank. During this movement the free end of the board 24 has been lifted by the wavy surfaces or cams 26 on the drum or wheels 2 and allowed that row of bottles to pass its edge, and just as the bottles are free the board falls onto the next cam and assumes its original position. At or just before this action another cam 22 on the frame 16 has released the pawl 20 and a different cam 14 operated another pin 12 on the plate or disk 10 and revolved the row of bottles to approximately at an angle of ninety degrees, so that the bottoms of the

bottles are lowermost, and the pawl 20, having been released, enters the notch 17 in the plate and locks the row of bottles in that position. Just at this movement all the bottles of that row fall on the board 24 and fall down into the fresh-water tank 25 for rinsing and removal. The drum 2 still continues revolving, and as each row of cups arrives at the other side of the machine the position they occupy allows them to be readily filled, and after being filled the pin 23 will release the pawl 20, and the cam 15 will act on the pin 11 and operate the plate and return the row of cups back to their original position for being passed round to the other side of the machine, the bottles being thus preferably held by the bars 3.

The operation is continuous, and by reason of the slow movement of the wheels or drum there is time for a proper filling of each row of bottles and a rinsing and removal from the fresh-water tank. Instead of the cams being on the frame and the pins on the plates the pins may be on the frame and the cams on the plates. In some cases I may have a double row of cups on one axle, in which case I have two discharging-boards connected together and preferably so operated that the bottom board is actuated by the wavy edges of the drum or wheels and at the same time the top board be brought forward to receive the top row of bottles, this board being long enough to shoot the top row of bottles into the fresh-water tank clear of the lower row.

An endless band may be arranged in the rinsing-tank to carry the bottles up to the surface for easy removal, the band being rotated by the drum or otherwise. The drum or wheels 2 may be rotated by any means or by pulley 28 on shaft 29, carrying worm 30, gearing with a toothed wheel 31 on the axle 4 of the drum 2.

What I claim, and desire to secure by Letters Patent, is—

The improved construction of bottle-soaking machine consisting of a tank, a skeleton drum arranged to have a movement in said tank, rows of bottle-carriers pivoted across said drum, notched plates or disks on the axle of said bottle-carriers, a pawl for each row of bottle-carriers engaging either of said notches to fix the bottle-carriers in certain positions, pins and cams on a frame for engaging the pawl, and pins or cams on the disks, wavy or cam edges to the drum, a rinsing-tank at the discharge side of the machine, a pivoted board operated by the cam edges of the drum, means for rotating the drum, all constructed and acting substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DENNIS WICKHAM.

Witnesses:

RICHARD CORE GARDNER,  
STANLEY RICHARD EVANS.