(No Model.)

H. H. MILLER.

BOTTLE WASHER.

No. 589,135. Patented Aug. 31, 1897.

Fig. 1.

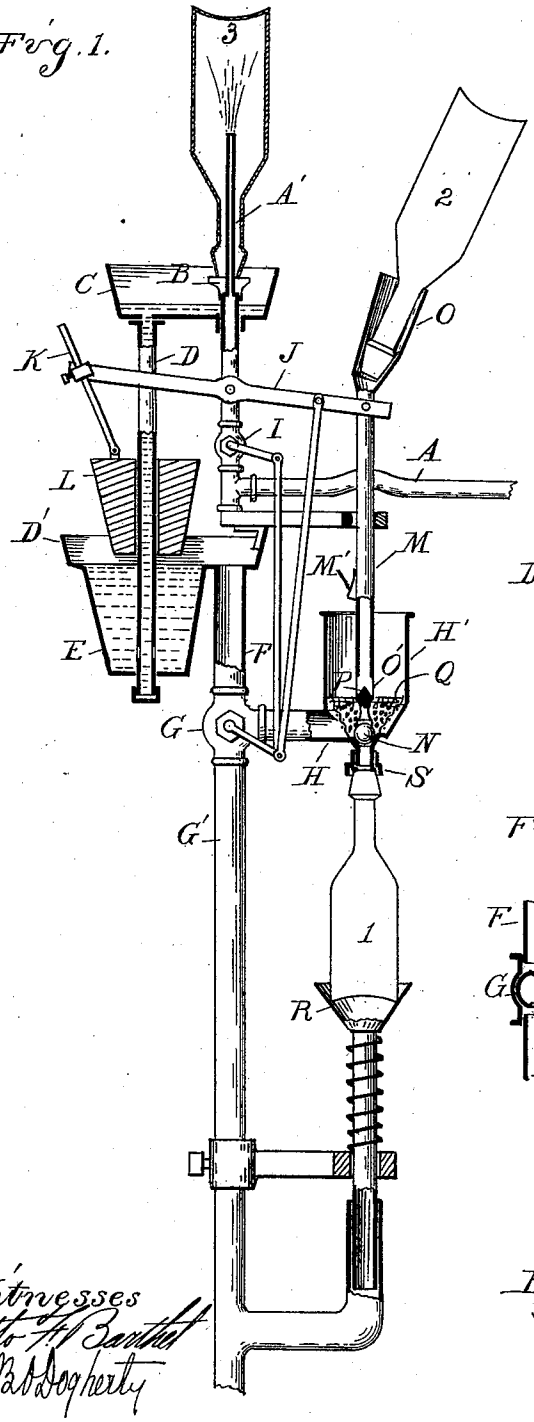


Fig. 2.

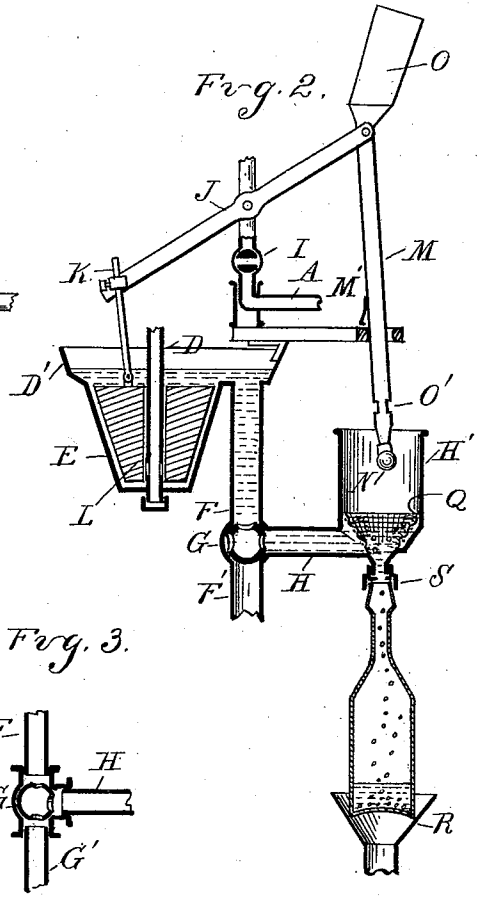


Fig. 3.

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UNITED STATES PATENT OFFICE.

HENRY H. MILLER, OF LAKESIDE, OHIO.

BOTTLE-WASHER.

SPECIFICATION forming part of Letters Patent No. 589,135, dated August 31, 1897.

Application filed May 14, 1896. Serial No. 591,475. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. MILLER, a citizen of the United States, residing at Lakeside, in the county of Ottawa and State of Ohio, have invented certain new and useful Improvements in Bottle-Washing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the construction of a bottle-washing apparatus and in devices for discharging the cleaning medium (such as shot) and the water from a cleaned bottle, charging the shot into a bottle to be cleaned, and in rinsing the cleaned bottle, the rinsing-water being fed in the bottle to be cleaned.

To this end the invention consists in the construction, arrangement, and combination of the various parts, all as more fully hereinafter described and claimed.

In the drawings, Figure 1 is a diagram section through my apparatus, parts being in elevation; Fig. 2, a similar section showing the parts in a different position, and Fig. 3 is a section through the three-way valve.

A is a water-supply pipe terminating in the vertical nozzle A', on which is the bottle-support B, and below which is a basin C, the bottle being adapted to be placed on the nozzle, the water discharged therein, and the water discharged from the bottle flowing into the basin.

From the basin is a discharge-pipe D, leading to a receptacle D', which has the cup E preferably surrounding the pipe D.

L is a plunger adapted to be forced into the cup E to displace more or less water therefrom and cause it to overflow into the receptacle D'. From the receptacle D' is a discharge or overflow pipe F, and in this pipe is a three-way valve G, adapted to connect the pipe F with the waste-pipe G' or with the pipe H, leading to the funnel H', and to connect the pipe H with the waste or to shut off that connection.

I is a valve in the water-supply pipe. J is a lever to which a crank on the stem of the value G is connected, a crank on the stem of valve I being connected to crank of valve G, so as to move the two valves together. This lever is connected by an adjustable and detachable rod K with the plunger or piston L, sliding on the pipe D and adapted to enter the cup E to displace more or less water therefrom. The other end of the lever J carries the tube M, on which is a catch M', intended to hold the tube in its raised position, which at its lower end has a valve N, closing the discharge from the funnel H', and at its upper end a bottle-holding nipple O. At the lower end of pipe M are the ports O', the lower end of the pipe ending in a conical or beveled deflector P. In the funnel H' is a perforated false bottom Q.

R is a tapering spring-pressed holder for a bottle below the funnel H', which funnel at its lower end has a discharge-nozzle provided with the bottle-flange S, against which the mouth of the bottle is abutted by the spring-pressed holder R. The holder is shown in the drawings as sliding in a bracket secured to some fixed part of the apparatus, such as the waste-pipe G'.

The parts being thus constructed their operation is as follows: The lever J being in the position shown in Fig. 1, the valve I is open and the valve G is turned, as seen in Fig 3, to connect the pipes F and H with the waste-pipe G'. The cleaned bottle is placed in the nipple O, a bottle to be cleaned is placed on the holder R, with its mouth pressed against the flange S, and a cleaned bottle, from which the shot and water has been discharged, is placed on the nipple A'. Shot and water from the cleaned bottle on the nipple O will pass through the discharge-pipe M out through the ports O' and into the funnel. The shot will be retained in the funnel, being stopped be the perforated false bottom Q, while the water will pass through that bottom and find outlet through the pipe H into the outlet G'. During the same interval clean water from the inlet-pipe A will thoroughly rinse the bottle on the nipple A', the water therefrom passing into the pan C and thence into the cup E. Such surplus as may be used will overflow from the cup E and find exit through the pipes F and G'.

When the bottle in the nipple O is freed of its contents and the bottle on the nozzle A' is rinsed, the operator shifts the lever J into the position shown in Fig. 2, in which position it is held by a spring-catch M', carried by the tube M and adapted to engage with some fixed

part of the apparatus, such as the guide-bearing for the tube, as shown in Fig. 2. This shuts off the water-supply pipe A, and also the waste-pipe G', and connects the pipe F with the pipe H. It also lowers the plunger L into the cup E and forces the water therein through the pipes F and H into the funnel H'. The movement of the lever also lifts the pipe M and its valve N, so that the shot on the false bottom Q will freely pass into the bottle on the holder R. Any clogging of the shot will be prevented by the charge of water from the cup E, which will pass through the false bottom Q and be discharged into the bottle below the same. The bottle No. 1 will therefore be filled, the bottle No. 2 be emptied, and the bottle No. 3 be rinsed. These bottles are then removed, the bottle No. 2 placed on the rinsing-nozzle A', and a new bottle to be cleaned placed on the holder R in place of No. 1, which latter, with its contained shot and water, has been taken away to be shaken by any suitable means. The lever J is then shifted to lower the valve N to its seat, and the contents of the bottle No. 1, after it has been thoroughly shaken to loosen any dirt or grease which it may contain, are turned into the nipple O. The operation may be continued as described.

Thus with a minimum of water I am enabled to rinse the bottles, using the rinsing-water for charging the bottle to be cleaned, and provide means for separating the shot from the water and charging the shot into the dirty bottles with a minimum of labor.

It is quite desirable where the water is metered or where in small places outside of cities the water has to be specially pumped to use as little water as possible for each bottle, and this I effect by utilizing the rinsing for filling the bottles to be cleaned. The amount of charge can be determined by the movement of the plunger L.

Any desired support or frame can be employed for the apparatus, and in the drawings I have shown the entire apparatus as supported from the waste-pipe G'.

What I claim as my invention is—

1. In a bottle-washing apparatus, the combination with supporting means of a rinsing-nozzle, a catch-basin for said nozzle, a discharge-nozzle, a support for holding a bottle to said discharge-nozzle, a pipe connection from said catch-basin to said discharge-nozzle, and a valve controlling said pipe connection.

2. In a bottle-washing apparatus, the combination with a support, of a bottle-holder, a bottle-rinser, a catch-basin for said rinser, the connection from the basin to the bottle in the holder, a receptacle or tank in said connection and a plunger for displacing the water in said tank to cause it to flow into the bottle in the holder.

3. In a bottle-washing apparatus, the combination with a supporting means, of a bottle-holder, a rinser, a catch-basin, a receptacle connected with said catch-basin, an overflow-pipe from said receptacle leading to a point above the bottle-holder, a valve in said pipe, a plunger for displacing the water in said receptacle, and means for simultaneously operating said plunger and valve, substantially as set forth.

4. The combination with a bottle-holder, and a shot-holder above the same, of a valve-controller discharge for the shot, a water connection for charging the bottle in the holder, and a waste-water discharge communicating into the shot-holder.

5. The combination with the funnel H' into which the shot and water are discharged, a perforated false bottom in which the water is separated from the shot, a waste-pipe, a water-supply connection, a valved discharge for the shot.

6. The combination with a support, of a bottle-holder, a valve-controlled funnel above the same which discharges into the bottle in the holder, a perforated false bottom therein, a lateral connection below the false bottom and a valve to connect said connection with a waste-pipe or a water-supply pipe.

7. The combination with a support, of the receptacle H', the tube M, movably mounted on the support having a valve at its lower end controlling the exit from the receptacle, and ports O' in its side, a perforated false bottom in the receptacle, beneath which is a waste connection, a water-supply connection, and a nipple O at the top of the tube M adapted to hold an inverted bottle for the purpose described.

8. In an apparatus of the kind described, and in combination with a support a bottle-rinser, a holder O for a bottle to be filled, a holder for a bottle to be emptied, a receptacle above said first holder into which the shot and water from the emptied bottle discharge, means for separating the shot and water, and means for feeding the shot and rinsing-water into the bottle in the holder.

9. In a bottle-washing apparatus, the combination with a support, a rinser, a catch-basin therefor, a receptacle, a connection from the basin to said receptacle, a water-supply for said rinser, an overflow from said receptacle, a waste-pipe connecting with said overflow, a funnel, means for holding a bottle below said funnel, a connection H from said funnel to the waste-pipe and the overflow, a plunger working in said receptacle, a valve controlling said overflow waste-pipe and the connection H, a valve in the water-supply, and connections between the plunger and valves whereby the latter are operated on the movement of the plunger.

10. In a bottle-washing apparatus, the combination with supporting means, of a funnel, means for holding a bottle below said funnel, a rinsing-nozzle, a water-supply for said rinsing-nozzle, a basin to catch the water from said nozzle, a connection from said

basin to said funnel, means for causing the water to enter said funnel, valves controlling said water-supply and said connection, and means for carrying the waste water from said connection and funnel.

11. In a bottle-washing apparatus, the combination with a waste-pipe, a bottle-holder supported by said pipe, a receptacle above said holder supported by said pipe and communicating therewith, receptacle D′ communicating with said pipe and with said first receptacle, a water-supply and nozzle supported by said pipe, a catch-basin for said nozzle, a connection from said basin to said receptacle D′, and means for controlling said water-supply and waste-pipe.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY H. MILLER.

Witnesses:
GEO. F. ANDERSON,
G. W. DOEIZBACH.