(No Model.)

J. HAUCK & G. LAUTENSCHLAGER.

BOTTLE WASHING MACHINE.

No. 267,199. Patented Nov. 7, 1882.

Fig. 1.

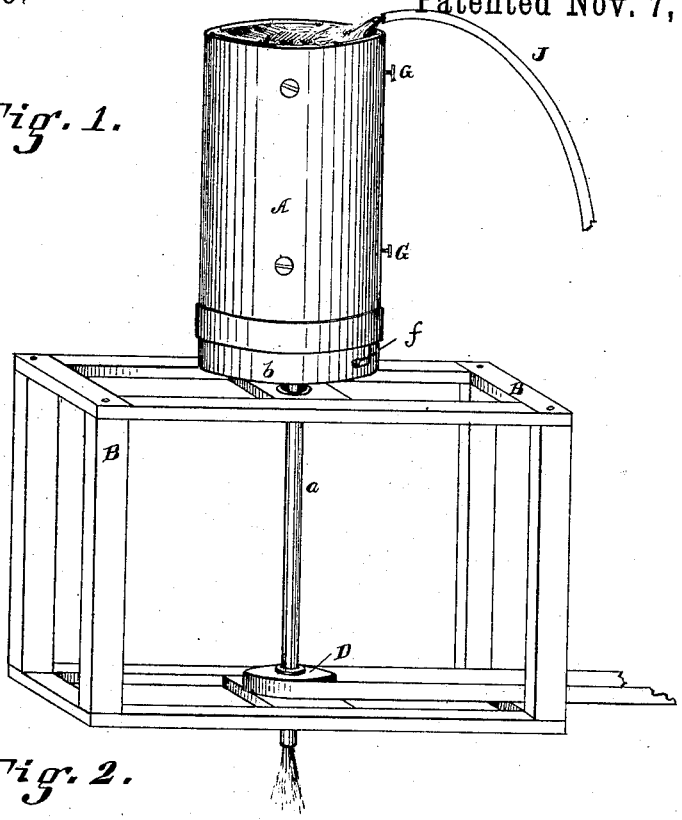


Fig. 2.

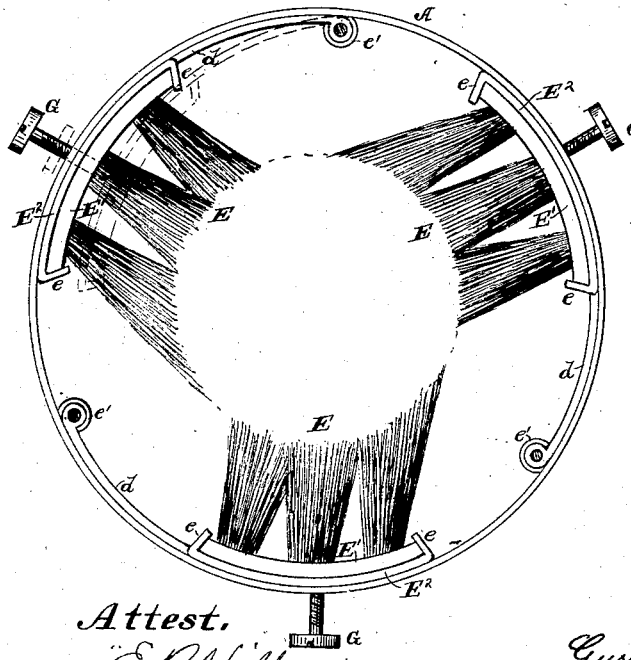
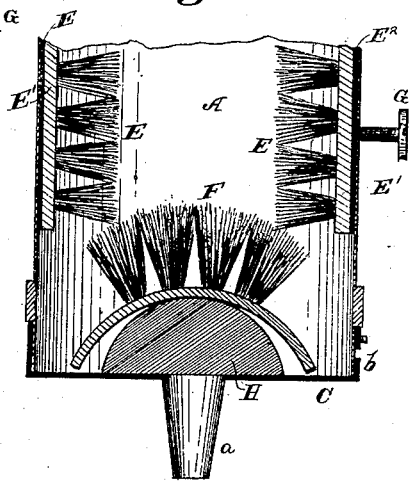


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN HAUCK AND GUSTAVE LAUTENSCHLAGER, OF CINCINNATI, OHIO.

BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 267,199, dated November 7, 1882.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that we, JOHN HAUCK and GUSTAVE LAUTENSCHLAGER, both residents of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Bottle-Washing Machines, of which the following is a specification.

Our machine relates particularly to machines for cleansing the outer surface of wine or beer bottles; and some of its objects are to provide a cheap and convenient means for thoroughly cleaning the bottle in a short space of time, and to thoroughly utilize all of the brush portion of each brush employed in cleansing the bottle.

The nature of the various features of our invention will be apparent from the following description and the drawings, in which—

Figure 1 is a perspective view of our invention complete. Fig. 2 represents a horizontal section through the washing-cylinder; and Fig. 3 represents a longitudinal section through the same, showing the parts within.

A is the washing-cylinder, which is supported above the table or platform B. This cylinder A is hollow, open at the upper end and closed at the lower end. The lower end or bottom, C, may, if desired, be soldered or otherwise firmly attached to the cylinder; but we prefer to make it separable and in the form of a cap, having an upwardly-extending flange or collar, *b*, which cap is attached to the cylinder by a bayonet-joint, *f*, or otherwise, as desired. This cylinder may be provided with a handle, preferably tubular, and affixed to the end C, and thereby be held in one hand of the operator and be operated by the latter, the bottle being held in and operated by his other hand; but we prefer to otherwise operate the cylinder, and a preferred construction for enabling the cylinder to be rotated by power is as follows, viz: This cylinder A or the cap C is preferably secured firmly to the upper end of the hollow shaft or tube *a*, which is journaled in the table or frame B, the cylinder A being situated above said platform, as shown in the drawings. This hollow shaft *a* communicates with the interior of the cylinder A, so that any water which enters the cylinder will pass out through said shaft. To this shaft *a* is secured a pulley, D, around which a belt passes to cause the shaft and the cylinder to revolve.

To the interior of the cylinder A are suitably secured a hollow circular brush or two or more curved brushes, covering all or a large portion of the curved surface of the cylinder, and a brush, F, located over the bottom of the cylinder. It is desirable that the longitudinal brushes be advanced toward the axial center of the cylinder as the brushes wear. The means which we propose employing for this purpose are as follows: There are preferably three of the longitudinal brushes E, placed at equal distances around the interior of the cylinder. The backs E of these brushes are preferably made stiff, and each brush is retained in a frame, E^2, preferably of metal, the edges of the back of the brush being beveled, as shown, and the edges of the frame E^2 being provided with flanges *e*, bent to fit the beveled edges of the back of the brush. The frame E^2 is thus in the form of a dovetailed recess, into which the back of the brush is slipped and is securely retained therein. By this construction, when the brush is worn down so as to become useless it may be readily removed and as readily replaced by another.

If desired, the brushes E may be secured in the frame E^2 by means of rivets or screws, instead of the flanges *e*; but this construction is not as desirable as the employment of said flanges. Each of these frames E^2 is connected to the interior of the cylinder by the arms *d*, each frame being provided with two or more of said arms, the ends of which are pivoted to lugs *e'*, projecting from the interior of the cylinder, by which construction the brushes are free to move toward the center of the cylinder. The cylinder is provided with a number of set-screws, G, which screws pass through the shell of the cylinder, and are so located that the backs of the frames E^2 rest against the ends of said screws when they have entered the cylinder. When the bristles of the brushes E have been worn off to such an extent as to prevent the brushes from bearing with the required degree of firmness against the bottles to be washed the screws G are turned into the cylinder A, and thus the brushes E are pushed away from the side of the cylinder and toward its center. By this construction the brushes may be used until they are entirely worn out,

and when so worn out, as before stated, be readily replaced by others. There are preferably two or more of these screws G placed in the cylinder for each of the brushes E.

If preferred, the arms *d* may be connected directly to the backs of the brushes and the frame E^2 dispensed with; but this construction is not so desirable, for the reason that the brushes cannot be so readily removed and replaced as when the frame is employed.

The purpose of the brushes E is to clean the sides of the bottle, and for the purpose of cleaning the bottom of the bottle we employ the bottom brush, F, which is placed in the bottom of the cylinder, and is formed in any manner whereby the central portion of the brush projects beyond those portions which are at the sides, the brush being so shaped as to enter and fit the concavity of the exterior of the bottom of the bottle. A novel and desirable mode of forming this brush F is as follows, viz: The brush is made on a flexible back, preferably of leather or rubber, and beneath this brush, in the bottom B, is secured the raised plate or projection H, which causes the flexible brush F, when the bottle is pushed down on it, to assume the required shape to fit into the concave bottom of the bottle, and thus thoroughly cleanse it. A pipe, J, communicates with the hydrant or other source of supply, and one end of this pipe extends a short distance into the top of the cylinder A, and through this pipe water is introduced to the brushes in the cylinder.

The operation of our invention, as above described, is as follows: A belt, operated by suitable mechanism, is passed around the pulley D, which is caused to rapidly revolve, which causes the cylinder A to revolve. Water is now permitted to flow through the pipe J into the cylinder. The operator takes the bottle to be washed by the neck and pushes it down into the cylinder, and the brushes E and F rub the sides and bottom of the bottle, and in a very short time it is thoroughly cleansed, and can be lifted out of the cylinder.

If desired, an additional cylinder may be employed, smaller than the cylinder A, or having the brushes E closer together, into which the neck of the bottle is thrust after the body has been cleaned, and thus the entire outside of the bottle is thoroughly cleaned. The water which enters the cylinder A through the pipe J escapes through the hollow shaft *a*, and is conducted to any desired place.

It will be obvious that the machine, as above described, may be somewhat altered without materially interfering with its perfect operation. For instance, the cylinder A may be caused to revolve by means other than the shaft *a* and pulley D, and the water carried off through another source.

The number of the brushes E may be varied, using two or more; but we have found three brushes operate to the best advantage.

Having thus described our invention and its mode of operation, what we claim as new and of our invention, and desire to secure by Letters Patent, is—

1. The combination of the cylinder A and the brushes E, attached thereto by means of the frame E^2, said frame being provided with the arms *d*, the free ends of which are connected to the interior of the cylinder, substantially as and for the purposes specified.

2. The combination of the cylinder A and the adjustable brushes E, attached to the interior of the cylinder by arms *d*, the cylinder being provided with the set-screws G for causing the brushes to be pushed toward the center of the cylinder, substantially as and for the purposes specified.

3. The cylinder A, provided with interior lugs, *e*, in combination with the brushes E, each provided with arms *d*, by which said brushes are connected to the lugs, and means for adjusting said brushes at a varying distance from the center of the cylinder, substantially as and for the purposes specified.

4. The cylinder A, in combination with the brushes E, each provided with arms *d*, by which the brushes are connected to a fastening device on the cylinder, and means for adjusting said brushes at a varying distance from the center of the cylinder, substantially as and for the purposes specified.

5. The combination of the brush E with the frame E^2, said frame being provided with the arms *d*, the free ends of which are connected to the interior of the cylinder, and means for adjusting said brushes at a varying distance from the center of the cylinder, substantially as and for the purposes specified.

6. The combination of the cylinder A, provided with bottom C, and the flexible brush F, located in the bottom of the cylinder, the bottom C being provided with a curved projection, H, substantially as and for the purposes specified.

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Witnesses:
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W. P. GULICK.