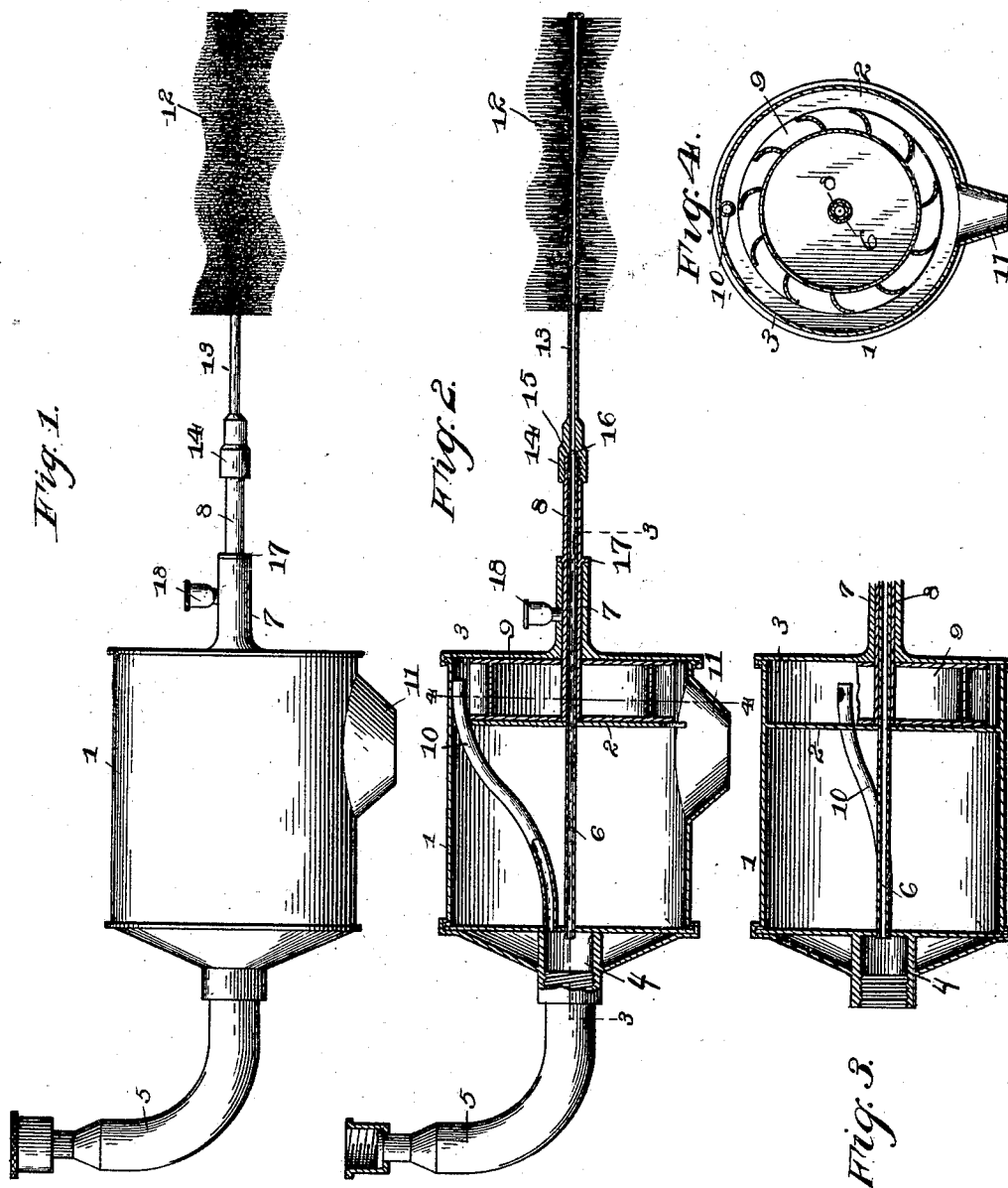


(No Model.)

C. HUETHER & J. E. GROSS.
BOTTLE WASHER.

No. 513,640.

Patented Jan. 30, 1894.



Witnesses

Ch Ford.
D. D. Doyle.

By their Attorneys,

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UNITED STATES PATENT OFFICE.

CONRAD HUETHER AND JOSEPH E. GROSS, OF SOUTH BETHLEHEM,
PENNSYLVANIA.

BOTTLE-WASHER.

SPECIFICATION forming part of Letters Patent No. 513,640, dated January 30, 1894.

Application filed August 23, 1893. Serial No. 483,859. (No model.)

To all whom it may concern:

Be it known that we, CONRAD HUETHER and JOSEPH E. GROSS, citizens of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented a new and useful Bottle-Washer, of which the following is a specification.

Our invention relates to an improved rotary bottle-washing apparatus, and has for its objects to provide means for conveying and applying the wheel-driving water directly to the wheel without necessitating a sharp bend or curve in the conveying tube; furthermore, to provide means for mounting a water-wheel whereby it is enabled to rotate freely and communicate its motion directly to the brush; and furthermore, to provide means whereby washing water is conveyed through the stem of the brush and delivered to bristles thereof.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings: Figure 1 is a side view of a bottle-washing apparatus embodying our invention. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a longitudinal central section of the cylinder on the plane indicated by the line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a cylindrical casing, which is provided adjacent to its front end with a transverse partition 2, which separates the box 3 from the main portion of the interior of the casing, and provided at the rear end with a chamber 4, to which is connected a supply pipe 5.

Arranged axially in the cylinder and extending through registering seats formed in the partition 2 and the front wall of the chamber 4 is a feed-pipe 6, and mounted in a bearing 7, which is formed at the center of the front head of the casing, is a tubular shaft 8, having a larger bore than the diameter of the feed-tube to inclose the exterior or projecting

portion of the latter, said tubular shaft and feed-tube terminating approximately at the same point.

Fixed to the tubular shaft, and arranged within the box 3, is a flanged water-wheel 9, which is driven by water received through the conveyer 10, which communicates at one end with the chamber 4, passes longitudinally through the casing, and discharges its contents directly against the wings or buckets of the wheel. This conveyer is curved spirally but gradually in order to project the water in the direction of rotation of the wheel. An outlet or exhaust 11 is provided at the under side of the cylinder to permit the escape of the waste water.

The brush 12 is provided with a tubular stem 13, having a cap 14 which is interiorly threaded to engage the exterior threads at the front end of the tubular shaft, and the bore of said cap is shouldered and reduced to form a socket 15 into which the rounded or reduced tip 16 of the feed-tube projects when the cap is in operative position, as shown clearly in Fig. 2. The stem of the brush is perforated to deliver the washing water among the bristles of the brush.

In the drawings the front cap of the casing is shown fixed in position, but it will be understood that it may be detachably secured in place to permit of access to the wheel. The bearing 7, which is arranged exteriorly of the casing and at the center of the front head, is extended or elongated to prevent lateral straining of the shaft, said shaft being provided at the extremity of said bearing with a collar 17 to prevent longitudinal vibration. An oil cup 18 is arranged to communicate with the interior of said bearing.

It will be seen that the washing water is received by the axial tube from the chamber into which the supply discharges and conveys the same directly to the stem of the brush without coming in contact with the wheel or other parts of the mechanism; and the water for driving the wheel is received from the same chamber and is carried directly to the wheel box from which, after performing its function, it escapes by way of the outlet above described. Thus the water for driving the wheel and that which is employed in washing

are derived from the same source but do not come in contact after leaving the receiving chamber.

5 The delivery of the washing water through the brush applies the same directly to that part of the bottle or other article upon which the brush is operating, and hence obviates the necessity of turning the bottle or article so that the brush may always be in contact
10 with the lower side thereof in order to utilize the water.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of
15 this invention.

Having described the invention, what we claim is—

20 In a bottle-washing apparatus, the combination of a cylindrical casing provided at one end with a wheel-box 3 and at the other end with a receiving-chamber 4 which is interiorly threaded for attachment to a supply pipe 5, a feed-tube 6 arranged axially in the casing,
25 communicating with said receiving chamber and extending through and beyond the wheel-

box, a water-wheel arranged rotatably in the box and provided with a tubular shaft 8, which is mounted in a bearing at the center of the adjacent cap of the casing and incloses the contiguous portion of the feed-tube, said shaft terminating short of the extremity of the feed-tube, a brush having a tubular perforated stem 13 provided with an enlarged cap detachably fitted upon the outer extremity of the tubular shaft and having a shouldered and reduced bore forming a socket 15 in which fits the tip of the feed-tube, a spirally-disposed conveyer communicating with the receiving-chamber and terminating within the wheel-box to discharge its contents against the wheel and in the direction of rotation thereof, and an outlet provided at the lower side of the casing, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CONRAD HUETHER.
JOSEPH E. GROSS.

Witnesses:

ROBERT MCKEE,
JAS. MCKEE.