E. C. TURBEVILLE.

BOTTLE-WASHER.

No. 189,669. Patented April 17, 1877.

FIG. 1.

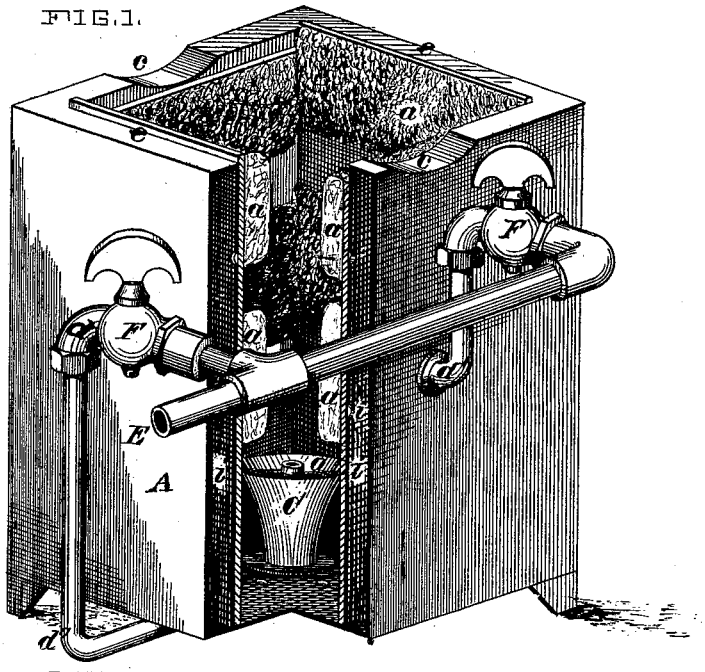


FIG. 2.

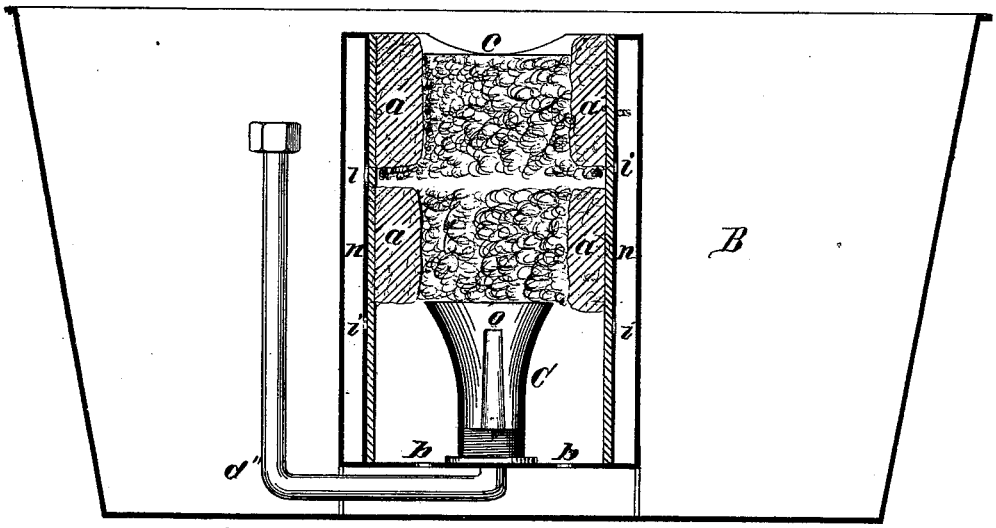


FIG. 3.

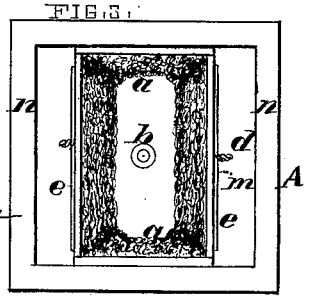
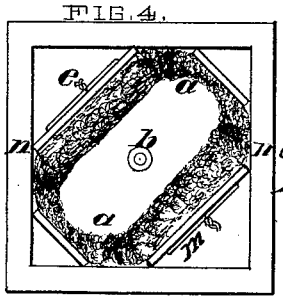


FIG. 4.



ATTEST.

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UNITED STATES PATENT OFFICE.

EWING CLAY TURBEVILLE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE S. SHRYOCK, OF SAME PLACE.

IMPROVEMENT IN BOTTLE-WASHERS.

Specification forming part of Letters Patent No. **189,669**, dated April 17, 1877; application filed February 28, 1877.

To all whom it may concern:

Be it known that I, EWING CLAY TURBEVILLE, of St. Louis, county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Bottle-Washers, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view, giving an insight into the interior by the breaking out of one corner of the water-trunk, my specific improvement being therein shown in the arrangement of the sponge-boards *e e*. Fig. 2 is a vertical section of the same, showing its position in the tank wherein it is placed when arranged for operation. The hollow space *n n*, between the double water-trunk, to be kept full of water from pipe *d'*, is also shown. Figs. 3 and 4 represent in plan views my manner of accommodating the sponge-boards in the water-trunk to the forms of various-shaped bottles, either oval, oblong, six-sided, or fluted.

The object of my invention is to make more perfect and effective the apparatus used for washing new or returned bottles. I accomplish this most perfectly by arranging thin boards around each of the four interior sides of a bottle-washing trunk. To these boards I attach sponges, which I sew to the boards with copper or other wire. The sponges, when filled with water, occupy so much of the interior space that if a bottle is inserted neck downward between the sponges, and at the same time its neck caused to enter the nozzle-cup C to a proper distance, the conjoint action of the sponges and the upflow of the water from the injected water from nozzle O cleanses the outside of the bottle very completely. The sponges hold the bottle suspended, with the neck passing into the guide-cup and inclosing the nozzle, which, being very much smaller than the entrance into the bottle, and arranged to pass very little higher than the inner shoulder of the bottle, permits the free outflow of the water injected through the nozzle to effect the cleaning of the inside of the bottle.

In operating my improved bottle-washer, a stream of water from the street-pipes is conveyed through the pipe E to the branch pipes *d* and *d'*. The pipe *d*, by its two goose-necks, conveys one portion of the water used under the bottom and up into the trunk. The other portion passes onward into the space between the inner and outer skins of the externally tight water-trunk A. The inner skin of the water-trunk has many perforations, through which the water filling the space *n* is intended to pass to the interior of the trunk, which it fills. When washing operations commence it is necessary to turn the cock F, Fig. 1. The sponge-boards are separated from contact with the inner skin of the water-trunk by the wires that are used wherewith to sew the sponges to the boards. The water admitted by the pipe *d'* serves to suppress the vertical jet from the nozzle O, which otherwise, when the bottle was withdrawn, would spout to the ceiling or roof of the room. The bottle, when pressed down through the sponges, on reaching the bell-mouthed cup C, is guided by it precisely over the nozzle O. This nozzle is changeable in length to suit the varying lengths of bottle-necks. The nozzle passes into the bottle so far as to allow its orifice always to slightly reach above the contraction of the neck.

When the bottle is pressed down amid the sponges the jet from the nozzle-orifice is driven with great force against the bottom and down the inside of the bottle, most effectually removing all dirt or adhering matters excepting grease; while, by the upward rush of the water and the rubbing or scouring action of the sponges, the outside of the bottle is well cleaned. The guide-cup C is so large that the water passing out from the bottle is unobstructed.

So effective is the application of the sponges to outside cleaning that at a single handling of a bottle it is washed inside and out, saving one of the handlings of the ordinary methods, and permitting the complete washing of nearly ten thousand bottles per day.

I will illustrate the apparatus more in detail by referring to the accompanying drawings, wherein the respective parts are shown by corresponding letters in each figure.

A is the double water-trunk, of metal or

wood, which is thus formed hollow between its sides. *a a* are sponges, which are wire-sewed to thin boards fitting inside of the trunk; B, tank in which the water-trunk is placed; *b b*, drain-holes for emptying the trunk when work is closed; *b' b'*, arrangement for small or irregular-shaped bottles; C, bell-mouthed guide-cup, to direct the bottle-neck over the nozzle; *c c*, overflows for waste-water, also as conveniences in withdrawing the bottle; *d*, branch pipe leading under water-trunk to nozzle O; *d'*, another branch pipe leading to hollow water-space in water-trunk; E, supply-pipe leading from street-main; F, faucets to regulate water-supply; *e e*, sponge-boards; *i i i i*, perforations in inner skin of water-trunk, to admit water from hollow water-space *n*; *m m*, manner of sewing the sponges to the boards; *n n*, hollow spaces to permit the water from pipe *d'* to inclose and fill the trunk, its intent being to suppress the nozzle-jet while the bottles are being changed; O, nozzle through which water is injected into the bottle under full hydrant-pressure.

I am aware that a nozzle-jet and a counter-stream have long been used for bottle-washing in a water-trunk.

I claim as my invention—

A bottle-washer consisting, essentially, of a double-walled compartment, having the spaces *n n* between the walls thereof, the pipes *d d'*, nozzle O, perforations *i i*, and sponges *a a*, fastened by wires *m* to thin boards *e e*, all substantially as and for the purposes set forth.

EWING CLAY TURBEVILLE.

Witnesses:

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JOSEPH E. WARE.