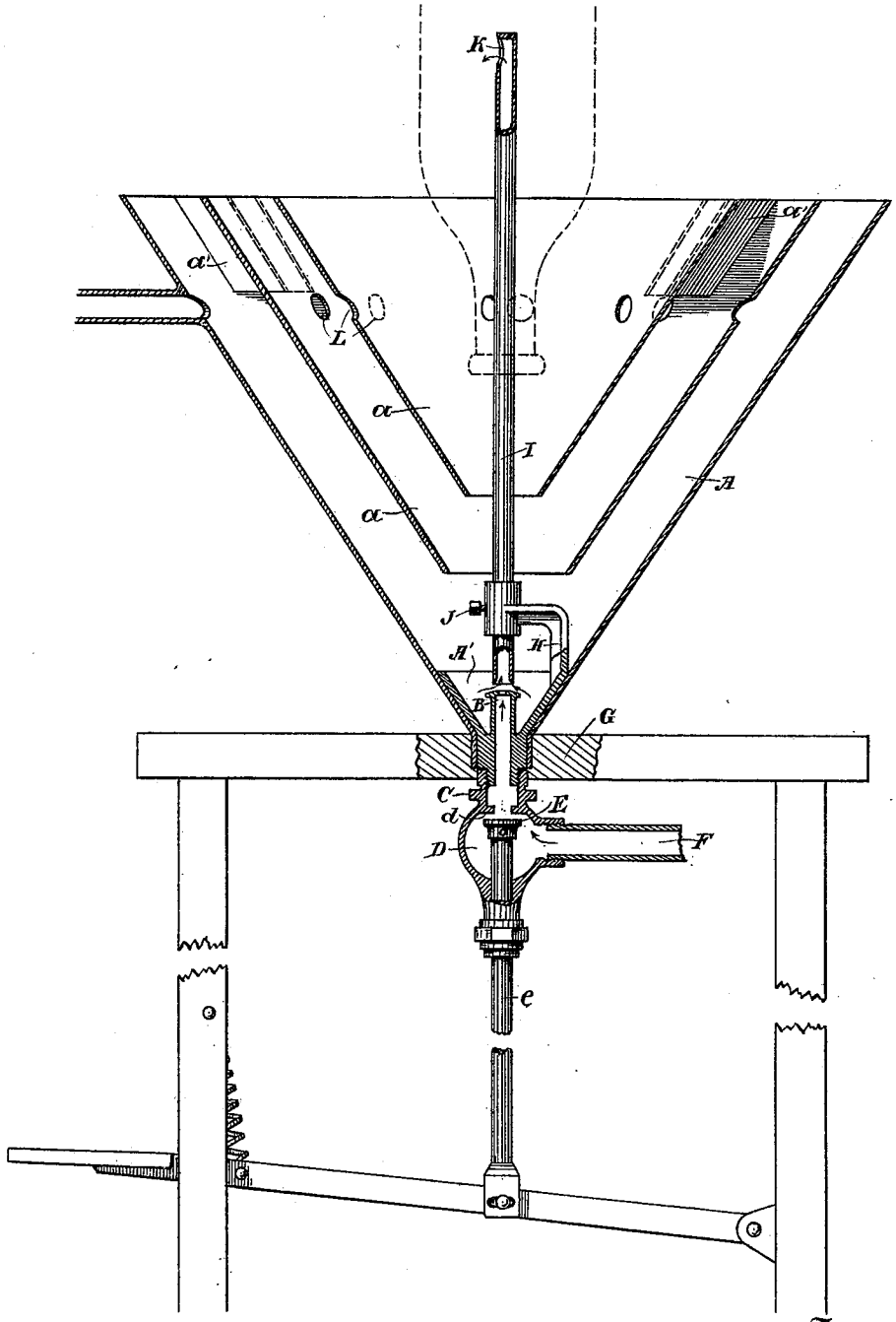
No. 624,097. Patented May 2, 1899.

J. R. ROBB.

BOTTLE WASHING MACHINE.

(Application filed Oct. 19, 1898.)

(No Model.)



Witnesses,
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UNITED STATES PATENT OFFICE.

JOHN R. ROBB, OF SAN FRANCISCO, CALIFORNIA.

BOTTLE-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 624,097, dated May 2, 1899.

Application filed October 19, 1898. Serial No. 693,965. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. ROBB, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Bottle-Washing Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an apparatus which is especially designed for cleansing bottles and like articles.

It consists in the parts and constructions and combinations of parts hereinafter described and claimed.

The figure is a vertical section of the apparatus.

A is a cone-shaped vessel, the apex of which is secured to a conical casting A′, which forms the base or support. This conical cup-shaped casting has a central passage and a jet-nozzle, as shown at B, which stands axially and in a vertical line. The bottom of this cup-shaped casting screws into a coupling C, the lower part of which forms a valve-chamber D, with a seat *d*, against which the upwardly-closing valve E is normally seated. At the side of the valve-chamber is a pipe or passage F, through which water or other fluid under pressure is admitted into the valve-chamber, and when the valve is opened this fluid will pass up through the jet-nozzle B.

The apparatus is properly supported upon any framework, as G, and the valve-stem *e* extends through a suitable stuffing-box at the bottom of the valve-chamber and connects by a pitman or other device with a treadle, by which the valve may be opened at any time.

Within the cone and supported from the part A′ is a bracket H, which has a hub with a vertical hole through it adapted to receive a pipe I, and J is a set-screw by which the pipe may be held in position with the lower end just above the jet-nozzle B and at a sufficient distance to allow the material contained within the cup A′ and around the jet-nozzle to be carried up into the tube by the action of the jet. This tube extends up far enough so that when entered into a bottle or like article the upper end will be very near the bottom of the bottle, which has been inverted over it. The upper end is closed and an opening is formed, as at K, upon the sides of the tube near the top, so that water and material carried up within the tube will be discharged out through the opening K.

Within the outer cone A are situated a plurality of similarly-shaped cones *a* of successively smaller diameter. These cones have lugs *a′* fixed around them at such points that these lugs or projections resting against the cone exterior to the one having the lugs will center the inner cone within the outer one, and the next one, if more than two be used, will be correspondingly smaller and in a like manner centered within the one exterior to it. Around these cones are made holes L of sufficient size to allow a portion of the water, sand, or other material which is used to pass out through these holes and be distributed in the annular spaces between the cones, through which it finds its way again to the bottom and into the cup A′.

In the operation of the machine sand or other material of sufficient quantity and having a sharpness which will cause it to cleanse the bottles by impact within them is placed in the cone, finding its way to the bottom and around the jet-nozzle in the lower part of the tube I. The lower end of this tube may be made slightly divergent, so as to insure the entrance of the jet when the valve is opened, and this jet acts to draw in the surrounding sand or equivalent material, forcing it up through the tube I, whence it escapes at the top, and impinging upon the interior of the bottle acts with a scouring motion, which soon cleanses it. As the material passes out through the mouth of the bottle it is distributed within the cones, passing directly down into the cup A′ and lower portion of the larger cones, whence it is again taken up by the jet and carried into the bottle, said cones being designed to prevent the sand from clogging or being packed in one place and having holes L, through which the water used in washing may overflow from one cone to the other.

Whenever the foot is removed from the treadle or other operating device, the valve E will be closed and the supply of water or other fluid cut off.

The tube I can be adjusted up or down by means of a set-screw J, so as to regulate the

amount of cleansing material which may be drawn in and forced upward by the action of the jet.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bottle washing and scouring apparatus including a conical vessel containing a jet-nozzle, means for controlling the supply of water to the nozzle, a tube disposed in line with the nozzle whereby the water and scouring material are directed into the article to be scoured when the latter is inverted over the tube, means whereby the tube is adjustable toward and from the nozzle, and a plurality of cones of decreasing sizes arranged within the outer vessel and adapted to prevent the scouring material packing at any one point, said interior cones having overflow-passages connecting said cones with each other.

2. An apparatus for washing and scouring bottles comprising an upwardly-diverging cone with a correspondingly-shaped cup at the bottom and a central upwardly-directed jet-nozzle, a valve-chamber situated below the jet-nozzle, means for supplying water under pressure into said valve-chamber and a valve within said valve-chamber, a bracket fixed within the cup at the bottom of a cone having a vertical opening, a tube fitting said opening, a set-screw whereby it is adjusted with its open bottom above the jet-tube, said tube having a discharge in the upper end adapted to discharge into the upper interior portion of a bottle inverted over the tube whereby the latter is cleansed, and a plurality of successively-decreasing cones arranged within the exterior one having perforations through which the water overflows from one cone to the other, said last-named cones being adapted to prevent the sand from packing at any one place.

In witness whereof I have hereunto set my hand.

JOHN R. ROBB.

Witnesses:
S. H. NOURSE,
JESSIE C. BRODIE.