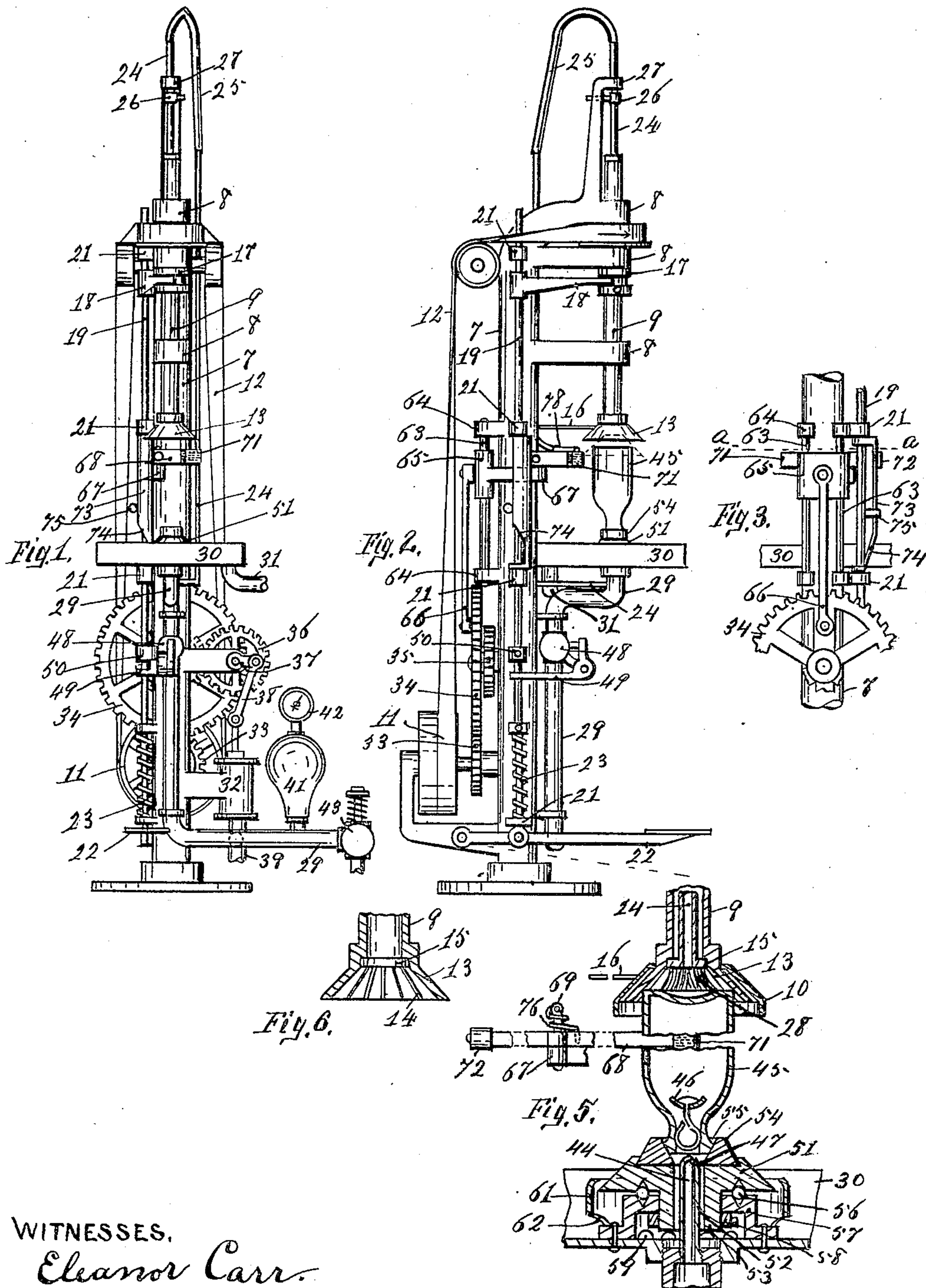


No.800,874.

PATENTED OCT. 3, 1905.

C. PABST.
BOTTLE WASHER.
APPLICATION FILED SEPT. 22, 1904.

2 SHEETS—SHEET 1.



WITNESSES.

Eleanor Carr.
Sam'l S. Carr.

Christian Pabst, INVENTOR.
By Robert S. Carr. Atty.

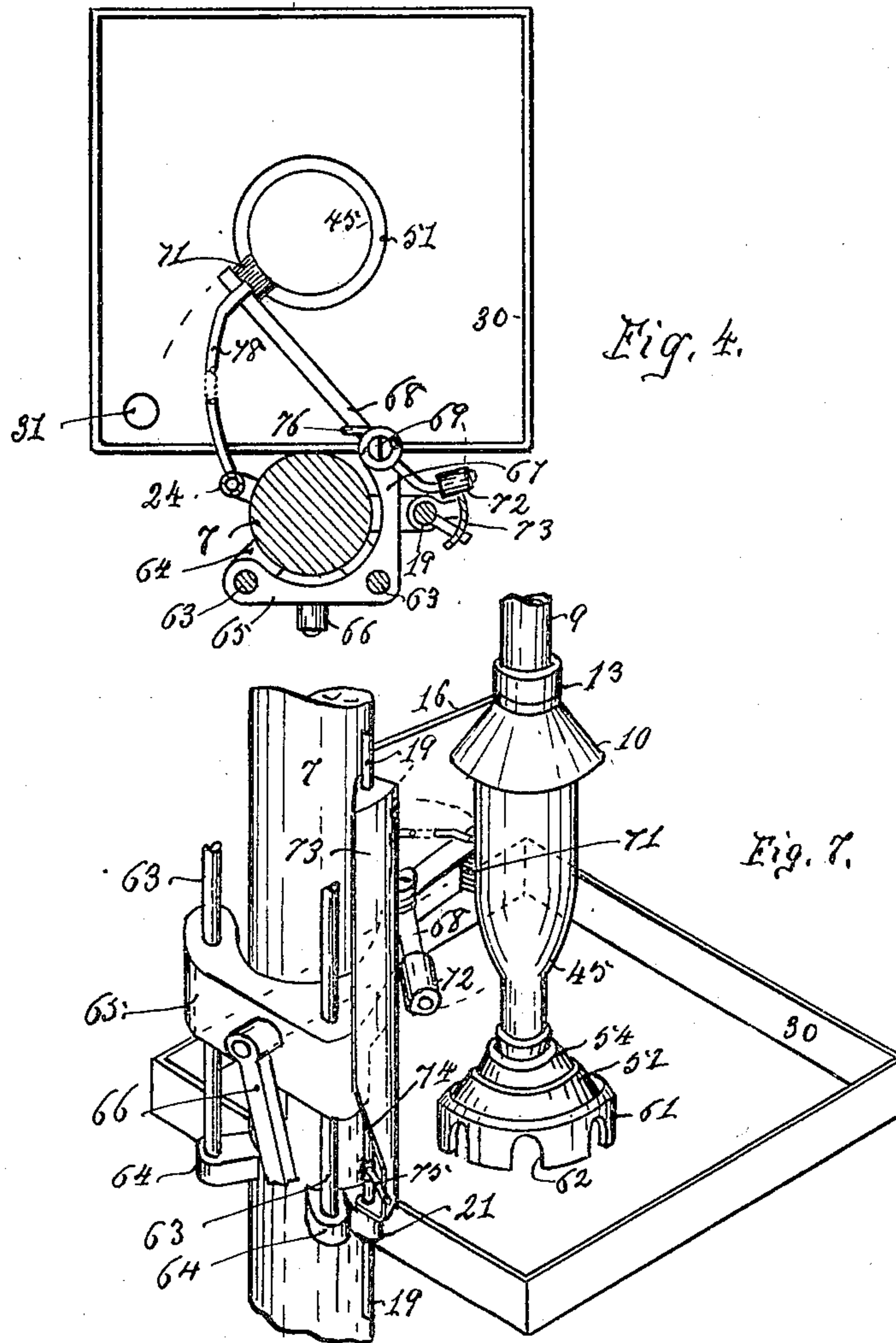
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WITNESSES,

Geo Allendup
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UNITED STATES PATENT OFFICE.

CHRISTIAN PABST, OF HAMILTON, OHIO.

BOTTLE-WASHER.

No. 800,874.

Specification of Letters Patent.

Patented Oct. 3, 1905.

Application filed September 22, 1904. Serial No. 225,399.

To all whom it may concern:

Be it known that I, CHRISTIAN PABST, a citizen of the United States, residing at Hamilton, Ohio, have invented a new and useful
5 Improvement in Bottle-Washers, of which the following is a specification.

My invention relates to bottle-washers of the class adapted to wash mineral-water, beer, or other bottles, especially those provided with non-removable stoppers; and
10 the objects of my improvement are to provide means to automatically center the bottles for rotation; means to rapidly rotate the bottles; to provide a non-rotative scrubbing-brush for the bottom and reciprocating scrubbing-brush automatically movable in contact with the outside of the bottle during its rotation; to simultaneously deliver
20 streams of water under pressure to the respective brushes and to the interior of the bottle; to automatically shut off said streams of water when the rotation of the bottle is discontinued, and to provide a fresh supply of water for each bottle. These objects are
25 attained in the following described manner, as illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my washer; Fig. 2, a side elevation; Fig. 3, a rear elevation
30 with parts broken away; Fig. 4, a plan with parts in section on the line *a a* of Fig. 3; Fig. 5, a vertical diametrical section of the idle chuck; Fig. 6, a vertical section of the centering-chuck, and Fig. 7 a perspective view
35 with parts broken away.

In the drawings, 7 represents a column formed with bearings 8, wherein hollow spindle 9 is journaled and rotated from driven pulley 11 by means of belt 12 in the usual
40 manner. Live chuck 13 terminates the lower end of the spindle in the form of a cone-shaped opening having radiating corrugations or ribs 14 on its inner surface and formed with cylindrical brush-seat 15 near
45 its apex. Hood 10 rides on the chuck and overhangs its edges to intercept the water centrifugally thrown therefrom and is prevented from rotating by means of arm 16, extending therefrom in contact with the side
50 of the column.

Collar 17, formed with an annular groove, is adjustably secured on the spindle, and yoke 18 adjustably secured on rod 19 engages therewith. Said rod mounted in bearings
55 21 formed on the column is movable longi-

tudinally in opposite directions respectively and simultaneously with the spindle by means of foot-lever 22 and spring 23, engaging with the lower portion of the rod.

Tube 24, having a flexible section 25 and
60 provided with dog 26 to prevent it from rotating, is movable through guide 27 and is extended through the hollow spindle where-with it is movable axially. Bottom brush
28 is secured on one extremity of said tube
65 and thereby retained in the seat 15, formed in chuck 13. The other extremity of said tube communicates with supply-pipe 29 directly under basin 30, which projects from the front of the column and discharges
70 through overflow-pipe 31.

Water under pressure is supplied to pipe 29 from any desired source, as from a pump 32, preferably duplex, and actuated from pulley 11 through intermediate gears 33, 34,
75 35, and 36, crank 37, and pitman 38 to draw water from a supply through pipe 39. Pipe 29 is provided with air-chamber 41, having a pressure-gage 42 and with a pressure-regulating valve 43 on one end, through which it
80 overflows when the pressure exceeds a predetermined amount for which said valve is adjusted. The opposite end of pipe 29 is secured to the bottom of basin 30 and terminates upwardly therethrough in jet-tube 44,
85 which discharges within bottle 45 to one side of stopper 46 therein through jet-opening 47, formed in said tube at an angle to its axis. Valve 48, formed with arm 49, automatically closes pipe 29 and is opened by stop
90 50, which is adjustably secured on rod 19, being moved into engagement with said arm by the depression of foot-lever 22.

Idle chuck 51, preferably cone-shaped and containing an axial discharge-opening
95 52, is formed with depending hub 53 and provided with an elastic mouthpiece 54, whose tapering opening 55 registers with the opening 52. Said chuck is mounted with ball-bearings 56 on bracket 57 to rotate in a
100 horizontal plane and is maintained in position on the bracket by means of collar 58, being adjustably secured on hub 53. Said bracket is secured on the bottom of basin 30 with discharge-opening 52 concentric with
105 jet-tube 44 and is formed with discharge-passages 59 for the water from opening 52 to the basin. Cylindrical guard 61, formed with water-passages 62, removably encircles
110 chuck 51 to intercept the water centrifugally

thrown therefrom and direct it to the basin. Guide-rods 63 are secured in lugs 64 on the rear of the column and cross-head 65 is reciprocated vertically thereon by means of pitman 66, engaging with a crank-pin on gear 34. Arm 67, formed on the cross-head, projects in a forward direction between the column and rod 19, and lever 68, movable in a horizontal plane, is fulcrumed thereon near its middle portion by means of fixed pintle 69. One end of said lever is provided with side brush 71 and the other end with anti-friction-roller 72, which is movable along the straight edge of curved guide-plate 73. Said guide-plate is mounted to swing concentric with rod 19 between adjacent bearings 21 and is movable in a forward direction to throw brush 71 in a rearward direction by means of the sliding engagement of the inclined portion 74 of its rear edge with the upward movement of dog 75, which is adjustably secured on rod 19. Spring 76, mounted on pintle 69, moves lever 68 in a forward direction and yieldingly maintains brush 71 in contact with the outside of bottle 45 when dog 75 is disengaged from incline 74 of the plate by a downward movement of the foot-lever. Flexible tube 78 leads from supply-pipe 29 and discharges in front of brush 71, to which it is secured.

In operation, a bottle is placed in an inverted position between the chucks, whereby it is automatically centered and rapidly rotated when the foot-lever is depressed. The same movement of the foot-lever simultaneously opens the valve in the supply-pipe and permits the water therein to discharge through the jet-tube to the interior of the bottle, through tube 24 to the bottom of the bottle under the bottom brush, and through flexible tube 78 on the side of the bottle under the face of the brush 71. During the rotation of the bottle the stationary bottom brush thoroughly scrubs its bottom, brush 71 reciprocates vertically in contact with and thoroughly scrubs its side and neck, and the friction of the water thrown within the bottle from the jet-tube thoroughly rinses its interior. When the foot-lever is released, spring 23 raises the spindle and releases the bottle and valve 48 is automatically closed.

Having fully described my improvement, what I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The combination of a hollow rotative spindle provided at one end with a chuck, means to hold the end of the bottle opposite the chuck, a non-rotative tube within the spindle, a brush thereon within the chuck,

and means to move the spindle and tube longitudinally.

2. The combination of a rotative spindle provided with a chuck, means to hold the end of the bottle opposite the chuck, a brush automatically movable toward the bottle, means to reciprocate the brush parallel therewith, and means to move the spindle longitudinally.

3. In a bottle-washer, the combination of a rotative spindle, a chuck secured thereon, a non-rotative brush supported therein, an idle chuck formed with an axial opening opposite said chuck, a stationary tube therein arranged to discharge within the bottle at an angle to its axis, and means to move the spindle longitudinally.

4. In a bottle-washer, the combination of means to detachably engage with and rotate a bottle, a tube arranged to discharge at an angle through the neck, a brush automatically movable into contact with the side, and means to reciprocate the brush parallel with the axis, of the bottle.

5. In a bottle-washer, the combination of a rotative spindle provided with a chuck, means to hold the end of a bottle opposite the chuck, a brush arranged to reciprocate parallel with the bottle during the rotation of the spindle, and means to simultaneously move the spindle longitudinally and the brush laterally in relation to the bottle.

6. In a bottle-washer, a rotative spindle arranged to detachably engage with a bottle, a pivotally-supported brush arranged to reciprocate parallel with the axis of the bottle, and means to simultaneously move the spindle longitudinally and the brush in a direction from the bottle.

7. In a bottle-washer, the combination with a non-rotative brush arranged to scrub the bottom of a rotative bottle, a reciprocating brush arranged to reciprocate in contact with the side of a bottle and parallel with its axis, of separate means to deliver jets of water to the respective brushes, and means to simultaneously deliver a jet of water within the interior of the bottle.

8. In a bottle-washer, the combination of a self-centering idle chuck adapted to engage with the mouth of a bottle and formed with an axial opening registering therewith, a stationary tube within the opening and arranged to throw a stream of water within the bottle through said mouth and at an angle to the axis, and means to rotate the bottle.

CHRISTIAN PABST.

Witnesses:

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