W. W. WICK.

MACHINE FOR MECHANICAL WASHING AND STERILIZING OF THE HANDS.

APPLICATION FILED JULY 6, 1920.

1,366,306.

Patented Jan. 18, 1921.

2 SHEETS—SHEET 1.

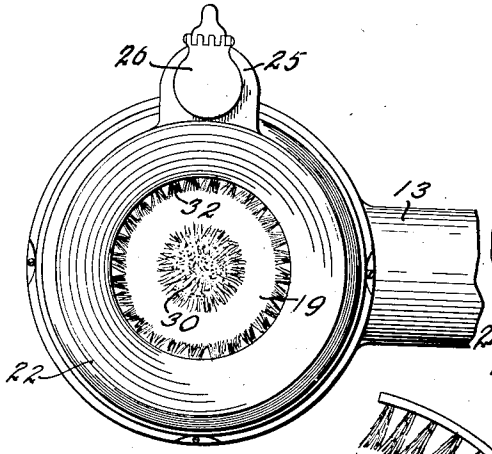

Fig. 3.

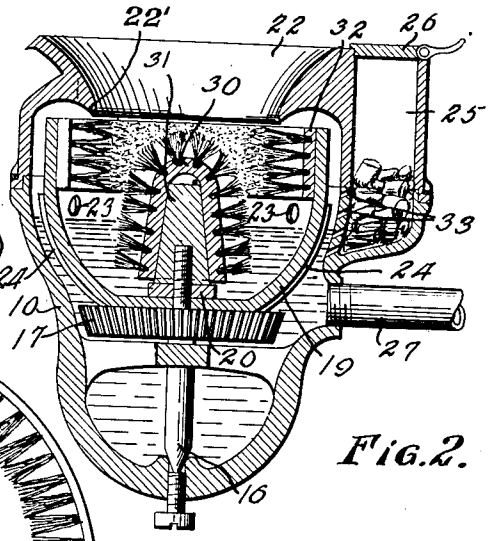

Fig. 2.

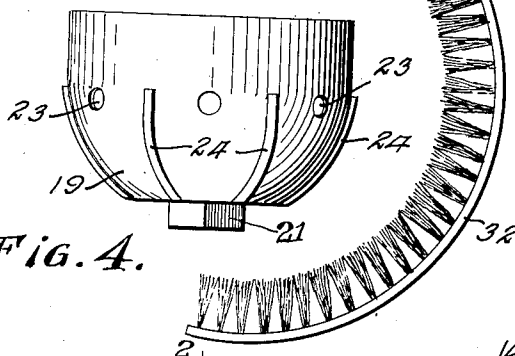

Fig. 4.

Fig. 5.

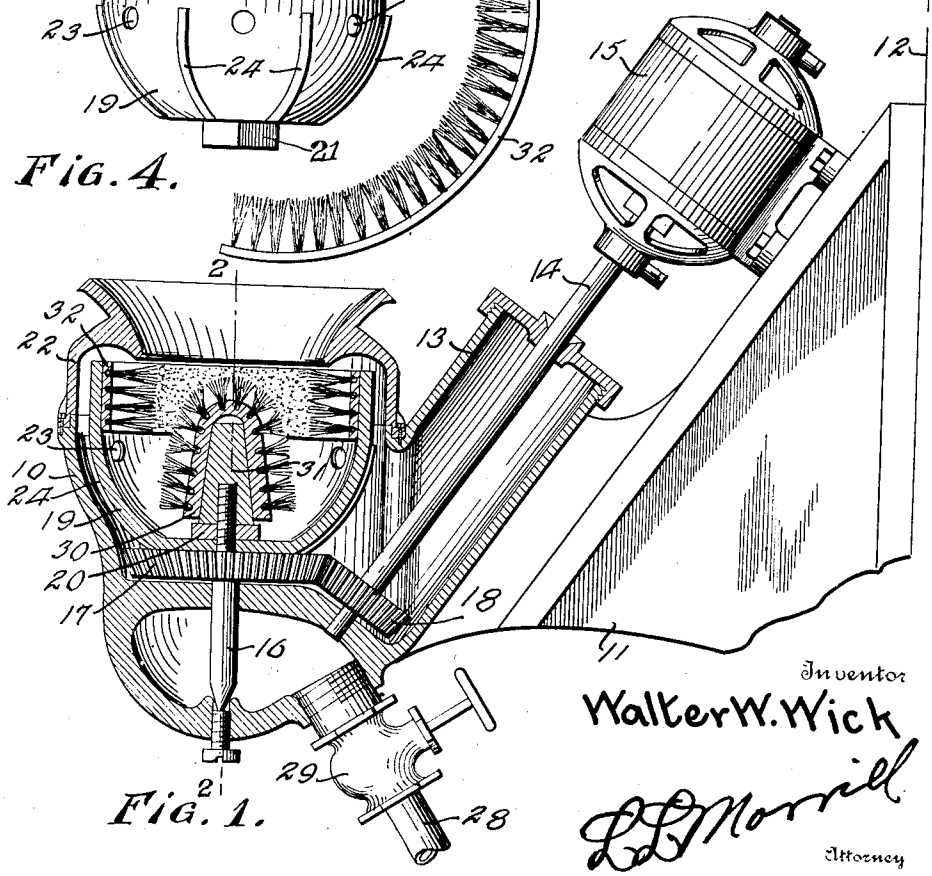

Fig. 1.

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Fig. 6.

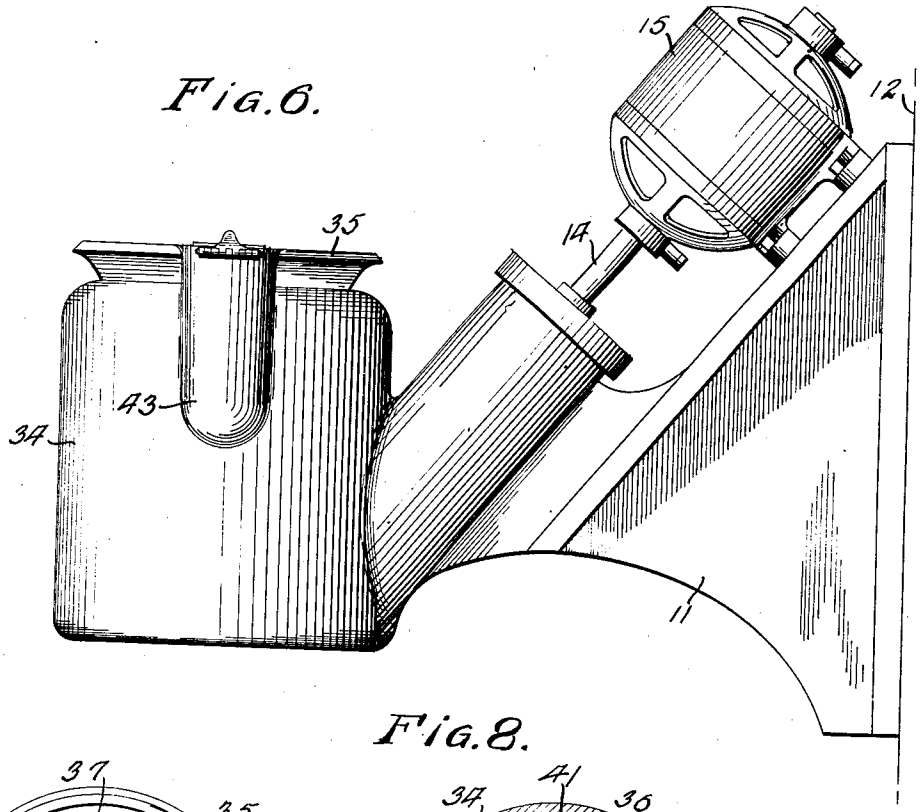


Fig. 8.

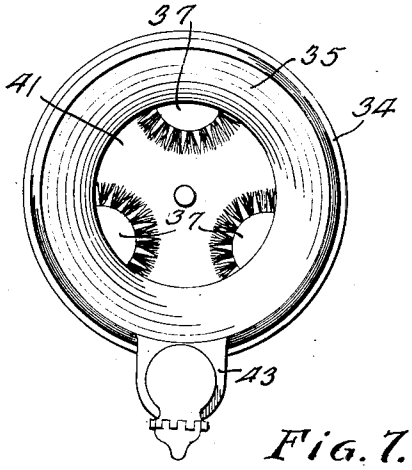
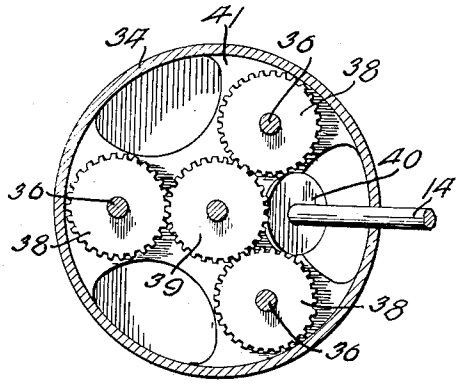


Fig. 7.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR MECHANICAL WASHING AND STERILIZING OF THE HANDS.

1,366,306. Specification of Letters Patent. Patented Jan. 18, 1921.

Application filed July 6, 1920. Serial No. 394,272.

To all whom it may concern:

Be it known that I, WALTER W. WICK, a citizen of the United States, residing at Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented certain new and useful Improvements in Machines for Mechanical Washing and Sterilizing of the Hands, of which the following is a specification.

This invention relates to devices for cleansing and sterilizing hands and the like, and, while especially adapted for use in hospitals, manufacturing establishments and the like, where a large number of people are employed, is not limited in its scope or utility to such use.

An object of the invention is to provide a device permanently fixed and driven by a motor having means for applying abrading or disinfecting material or detergents, together with water for cleansing and sterilizing the hands and arms.

Another object of the invention is to provide a bowl rotating within a housing within which the cleansing liquid is contained, said bowl having means for throwing and splashing the cleansing liquid upon the hands.

With these and other objects in view, the device comprises certain novel elements, units, constructions, parts, combinations and functions as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a view of the device in vertical diametrical section.

Fig. 2 is a vertical diametrical section taken at right angles to the plane of Fig. 1, as indicated by line 2—2 in said figure.

Fig. 3 is a top plan view with the motor omitted.

Fig. 4 is a view of the bowl in side elevation.

Fig. 5 is a view of the outer brush removed.

Fig. 6 is a view in side elevation of a modified type of the device.

Fig. 7 is a top plan view of the modified type.

Fig. 8 is a horizontal sectional view, showing the gear drive of the modified type.

Like characters of reference indicate corresponding parts throughout the several views.

The improved cleansing apparatus which forms the subject-matter of this application comprises a housing 10 supported in any approved manner, as by a bracket 11, capable of being secured to a wall or other stationary object indicated at 12. The housing communicates with a sleeve 13 within which is mounted a shaft 14, which in turn is driven by a motor 15 of any approved type here indicated as an electric motor, it being understood, of course, that the drive is not limited to electric motive power. Within the housing 10 a spindle 16 is journaled having a gear 17 co-acting with the gear 18 carried upon the shaft 14 whereby the gear 17 and spindle 16 are driven.

Upon the spindle 16 above the gear 17 a bowl 19 is secured in any approved manner, as by applying a nut 20 to the spindle clamping the bowl rigidly against the gear 17. The bowl may also be provided with a multiangular neck 21 which may fit a socket complementarily proportioned in the gear 17.

The housing 10 is provided with a top member 22 of hopper formation having an inwardly downwardly turned lip as at 22′, whereby the opening of the bowl is somewhat constricted. The bowl is provided with a plurality of perforations 23 and with wings or vanes 24 spaced about the periphery of such bowl, preferably between the openings 23.

At one side the housing is provided with an offset chamber 25 having a closure 26 and adapted to contain detergent or antiseptic materials. An inlet pipe 27 is provided for the introduction of water into the housing 10 and an outlet pipe 28 also communicates with the bottom of the housing and is provided with a valve 29. Within the bowl a conoidal brush 30 is mounted upon the spindle 16 in any approved manner, as by fitting the said brush upon a cap nut 31, which is screwed down upon the nut 20. An outer brush 32 is prefarably formed with a spring back whereby it may be contracted from the form shown at Fig. 5 or straight as may be to nearly a complete circle to fit within the upper portion of the bowl 19 and by its own resiliency and the centrifugal force of the rotating bowl be retained in such position.

In the type shown at Figs. 1 to 5, inclusive, the detergents or antiseptics are placed in the chamber 25 and water admitted through the pipe 27 to such level as to come into engagement with the materials in the chamber 25 through the perforations 33. The valve 29 being closed to retain the

water in the housing 10, the motor is started, rotating the bowl 19 with great velocity, whereby the water in the housing is agitated by the vanes 24 to dissolve the materials in the chamber 25 and to throw it upwardly against the lip 22′ by which it is deflected to the interior of the bowl and into engagement with the hands inserted between the brushes 30 and 32 escaping through the perforations 23.

The type shown at Figs. 6 to 8, inclusive, comprises a housing 34 cylindrical throughout the major portion of its length with a hopper-like constriction 35 at the top similar to the top 22 of the preferred embodiment.

Within the cylindrical housing 34 a plurality of vertical spindles 36 are journaled having brushes 37 thereon and provided with gears 38. The gears 38 and the brushes 37 carried thereby are driven in any approved manner, as by a central gear 39 meshing with a gear 40 upon the motor arbor 14. The necessary webs 41 and 42 to provide bearings for the spindle 36 are preferably cast integral with the housing 34 with the gears 38, 39 and 40 located between such webs. It is obvious that the integrality of the webs and the housing is purely a matter of choice, and any other manner of constructing will equally as well serve the purpose.

A chamber 43 similar to the chamber 25 is provided for the same purpose and the operation and function are the same, it being apparent that the interval between the brushes is greater in this type than in the preferred form, permitting the forearm, as well as the hands, to be operated upon.

I claim:

1. A device for cleansing hands and the like comprising a bowl having a constricted opening in the top embodying an inwardly downwardly directed lip, brushes mounted to rotate in the bowl under the lip and means to supply a cleansing liquid in the bottom of the device stopping short of the tops of the brushes.

2. A device for cleansing hands and the like comprising a bowl having a constricted opening in the top embodying an inwardly downwardly directed lip, means to admit cleansing liquid to the bowl to partially fill the same, and brushes and brush carriers journaled to rotate partly in and partly out of the liquid and to splash liquid upwardly into engagement with the lip.

3. A device for cleansing hands and the like comprising a housing, a bowl mounted to rotate within the housing, and provided with peripheral perforations, means to control a cleansing liquid within the housing to maintain a level lower than the perforations, a downwardly inwardly directed lip carried by the housing and overhanging the bowl and means upon the exterior of the bowl to splash liquid upwardly to be deflected by the lip downwardly into the bowl.

In testimony whereof I affix my signature.

WALTER W. WICK.