J. J. LAWLER.

TOILET BRUSH, &c.

APPLICATION FILED NOV. 2, 1908.

944,679.

Patented Dec. 28, 1909.

Fig. 1.

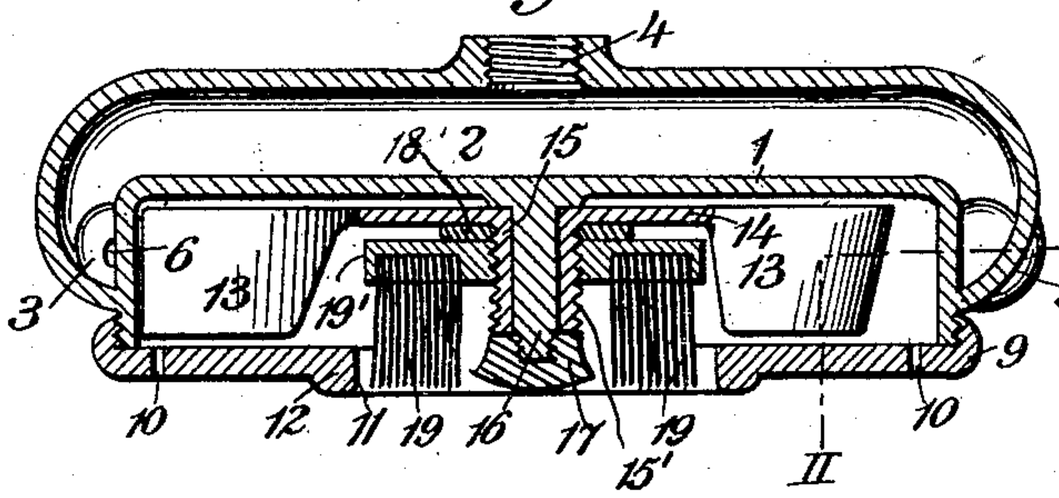


Fig. 5.

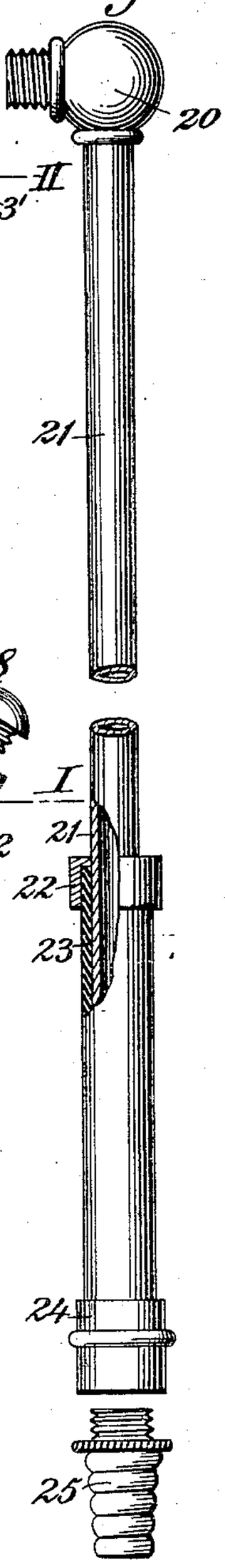


Fig. 2.

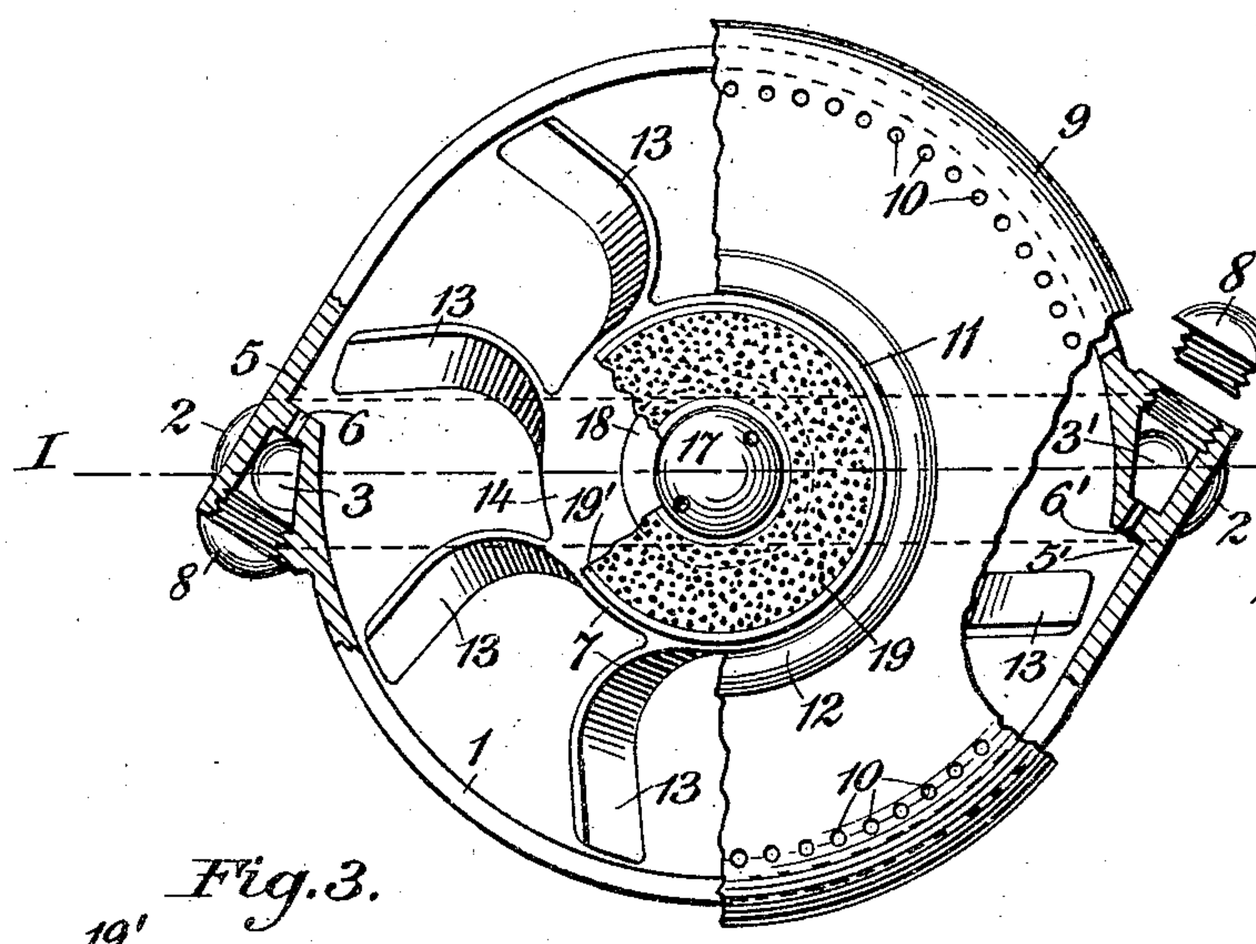


Fig. 3.

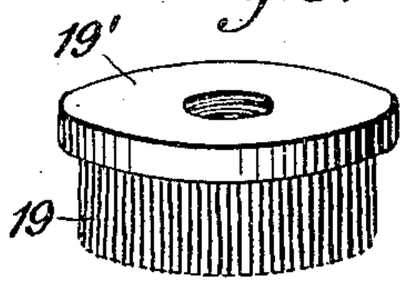


Fig. 4.

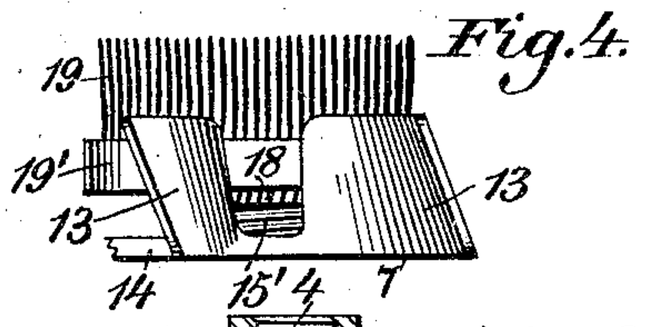
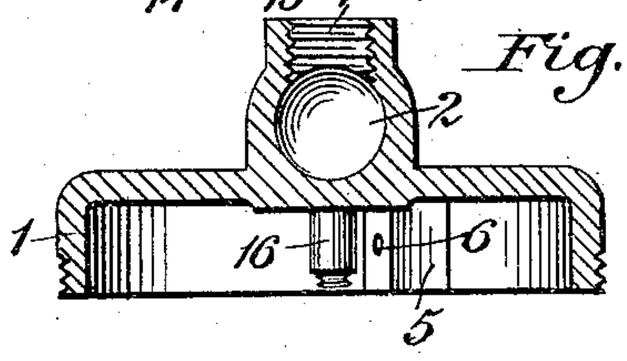


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES J. LAWLER, OF MOUNT VERNON, NEW YORK.

TOILET-BRUSH, &c.

944,679. Specification of Letters Patent. **Patented Dec. 28, 1909.**

Application filed November 2, 1908. Serial No. 460,742.

To all whom it may concern:

Be it known that I, JAMES J. LAWLER, a citizen of the United States, and a resident of Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Toilet-Brushes, &c., of which the following is a specification.

This invention relates to toilet-brushes, &c., and has for its object the production of such a brush, comparatively small in size, mounted centrally upon a rotary water motor of larger diameter than said brush to overcome the resistance of pressure against said brush when in use; also to provide a plurality of jets, similar to a shower, which jets have a spiral and concentric direction owing to the shape and rapid passage of the blades of the motor across the path of the water in its escape from the motor case.

Another object is to make the brush adjustable, to give more or less friction or take up for wear, and to so construct the entire device that the brush is within the motor case and that it can easily be taken apart and cleansed or dried.

In the accompanying drawings, Figure 1 is a central sectional view on line I—I of Fig. 2.—Fig. 2 is an inverted plan view of Fig. 1, part of the cover being removed centrally to show the motor, the perforations for the propelling jets being shown in central section on dotted line, II,—II, of Fig. 1. Fig. 3 is a perspective view of the brush, removed; Fig. 4 is an end view of two of the motor blades and the brush in an elevated position and Fig. 5 is a combination handle and nipple adapted for attaching to the motor body. Fig. 6 is a central sectional view on line *x*—*x* of Fig 2, the motor and brush being removed.

Similar reference numbers indicate like parts in the several views.

The body, 1, with the divided tubular water passage, 2, and jet boxes, 3—3′, at diametrically opposite sides, may be formed of one piece of hard rubber or cast in any suitable metal or composition, the size being not much greater than an ordinary bath brush, for convenient handling; the divided tubular water passage is shown by dot and dash lines in Fig. 2, this passage having an inlet, 4, and extending across the back of the body from side to side to and over the periphery where it connects with the jet boxes as shown; the annular flange composing part of the integral motor case is recessed at 5—5′ to form a right angle as shown; the perforations, 6—6′, through which the water passes under pressure, form jets to operate the motor wheel 7. A screw, 8, is used in each jet box so that the perforations can be cleaned out;—one such screw is shown removed in Fig. 2.

The cover, 9, is preferably screwed into its position on the motor case, and is provided with a circle of a plurality of perforations, 10, the circle being just inside of the motor case flange. A central annular opening, 11, is reinforced or thickened at the edge, 12, for the purpose hereinafter described.

The motor wheel, 7, consists of a number of blades, 13, curved near the base plate, 14, and twisted so that the outer edge of the blade stands at an oblique angle with said base plate. A journal, 15, extends inwardly from said plate, said journal being externally threaded, 15′. It is rotatively mounted on a stud or pin, 16, extending inwardly in the center of the motor case, the end being threaded for the cap, 17, which keeps the wheel in place. A lock-nut, 18, is screwed upon the threaded journal, and the annular brush, 19, also provided in its body, 19′, with an internal thread, is screwed down until it reaches the lock-nut, the brush revolving with the motor or wheel, when in use. The hair of the brush may be "rubber-set," so called, or may be inserted and held in place in the ordinary manner.

The handle shown in Fig. 5 is provided with an elbow nipple, 20, adapted to screw into the inlet, 4, the tube, 21, being of any suitable length. I prefer to mount a ferrule, 22, on the tube, and make use of a gum rubber hose, 23, as a grip.

The lower fitting, 24, holds the lower end of the rubber handle in place, and being provided with a female thread, the hose nipple, 25, can be screwed onto it, or said nipple can be directly screwed into the inlet, 4, when the handle is not required, for shampooing or other purposes. It is obvious that a rubber hose, not shown, slips over the hose nipple to afford a supply of water.

Such being the construction, the operation is as follows:—The water enters the divided tubular passage and runs in opposite directions to and through the two perforations, 6—6′, where it issues with great force and striking the blades as they successively pass

by the jets of water causes the motor to revolve very rapidly. The combined area of all the perforations in the cover is very much greater than the area of the perforations of the two pressure jets, hence there is no back pressure and owing to the angle of the blades and their rapid passage across the jets in the cover, the water is discharged through said perforations in a spiral and concentric direction so that no water is scattered, and, owing to this centrifugal action, the water within the motor box does not touch the brush; or in other words, if the brush is entirely removed, no water will come out through the central opening, but will issue only through the perforations in the cover, and so that the said perforations will be free to discharge water when the brush is applied to the skin, the cover is thickened around the annular opening, as shown at 12. In Fig. 1, the brush is shown in its innermost position. If desired to set it out farther so as to increase the friction or take up the wear, it can be unscrewed, the lock-nut, 18, set up farther on the journal, and the brush replaced until it screws up against the lock-nut, as shown in Fig. 4. In operation, the brush can never spread out by centrifugal force to any greater diameter, than the central opening, 11, will permit, hence there is no scattering of water from the ends of the hairs; no water passes through the hairs of the brush, but what water is used is furnished by the jets in the cover.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described what I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made, when desired, as are within the scope of the claim.

Having described my invention, what I claim is:—

A toilet device, consisting of a body having a divided passage and an integral hollow motor case, a motor wheel mounted therein, a brush mounted on the shaft of said wheel, means for directing a series of jets against motor wheel, a cover being provided with a circular central opening for the brush, and a circle of perforations near its outer edge.

Signed at the city of New York, in the county and State of New York, this thirtieth day of October, A. D. 1908.

JAMES J. LAWLER.

Witnesses:
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