July 26, 1932. R. B. GENTLE 1,868,893

PORTABLE MASSAGE AND SPRAY APPARATUS

Filed Aug. 20, 1928

Fig. 1.

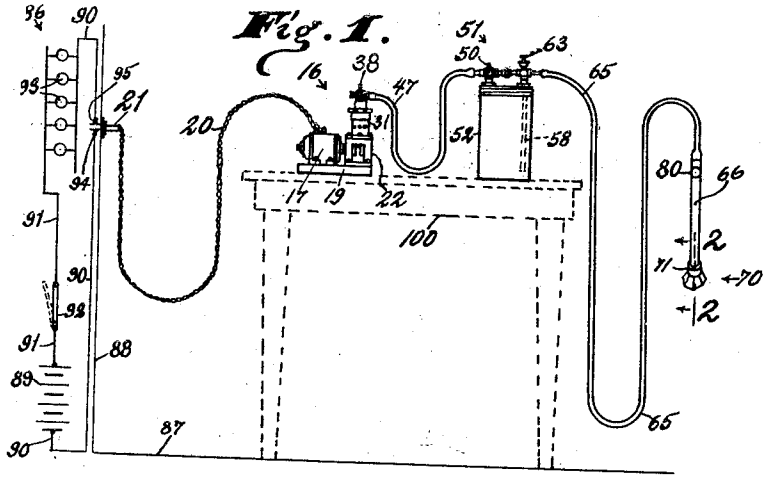


Fig. 3.

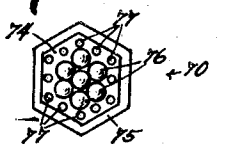


Fig. 2.

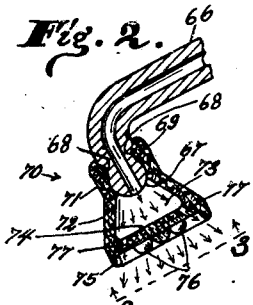


Fig. 10.

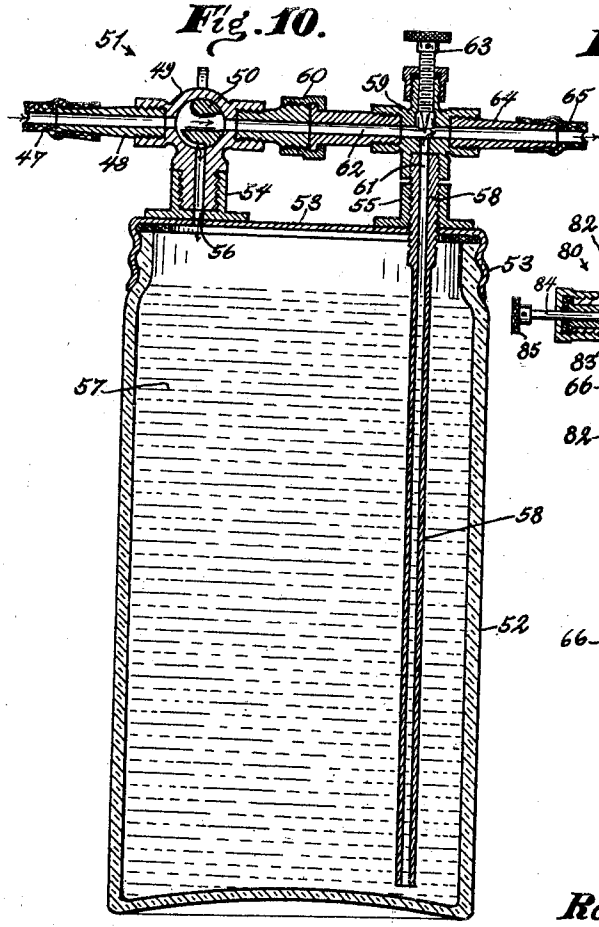


Fig. 4.

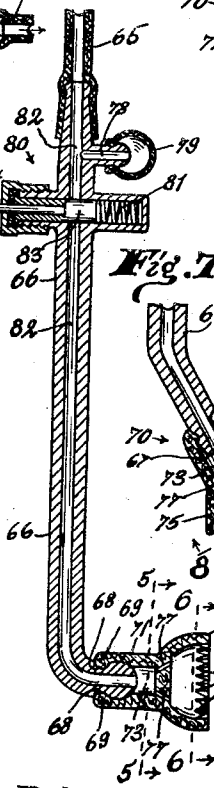


Fig. 5.

Fig. 6.

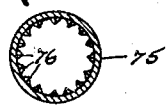


Fig. 7.

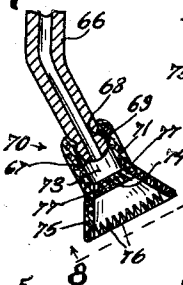


Fig. 8.

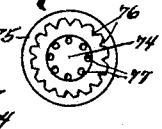
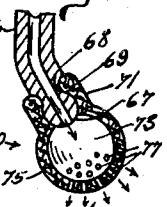


Fig. 9.



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UNITED STATES PATENT OFFICE

ROBERT BRUCE GENTLE, OF NEW YORK, N. Y.

PORTABLE MASSAGE AND SPRAY APPARATUS

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This invention relates to a portable massage and spray apparatus and the principal object thereof is to provide an apparatus of exceedingly small proportions that can be carried by individuals in small traveling cases for self-treatment of their mouths, noses and throats to keep those organs in a clean, healthy condition. To that end I provide an apparatus that includes a small air compressor, an antiseptic or cleansing liquid container and mixer to which can be connected the various nozzles and nipples suited for cleansing and treating the mouth, nose and throat.

Another object of the invention is to provide an apparatus with means connected therewith for increasing or decreasing the force of the liquid spray, and also to increase or decrease the proportion of cleansing or healing liquid to compressed air.

Features of invention are shown in the construction combination, arrangement and coaction of parts whereby a portable massage and sprayer apparatus for cleansing and treating the mouth, nose and throat is provided that is of great usefulness in the art of cleanliness and health promotion, which also is easy to operate in self-treatment, neat and pleasing in appearance and durable in use.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claim.

The accompanying drawing illustrates the invention.

Fig. 1 is a semi-diagrammatic view of an apparatus constructed in accordance with this invention showing it mounted on a table ready for use, the table being indicated by dotted lines; also showing it connected to an electric lighting system of a room.

Fig. 2 is an enlarged fragmental section on the line 2—2, Fig. 1, showing one form of the massage nipple connected to the spray nozzle.

Fig. 3 is an end view of the nipple shown in Fig. 2, as viewed from the line 3—3, Fig. 2.

Fig. 4 is a central longitudinal section through the spray nozzle with another form of nipple attached thereto.

Fig. 5 is a cross section on the line 5—5, Fig. 4.

Fig. 6 is another cross section on the line 6—6, Fig. 4, showing the corrugations on the inside wall of the nipple skirt.

Fig. 7 is a fragmental section analogous to Fig. 4 showing another form of nipple.

Fig. 8 is an end view of the nipple shown in Fig. 7 as seen from the line 8—8 of Fig. 7.

Fig. 9 is a view analogous to Fig. 7 showing a spherical ball or nipple attached to the nozzle.

Fig. 10 is a central vertical section through the combined container and mixer with its connections to the air compressor and nozzle broken away.

The portable massage and spray apparatus includes an air compressor 16, a container 52 and mixer 51, nozzle 66 and removable nipple 70 that are connected and arranged so that when in use they can be placed on a dresser table 100 as indicated in Fig. 1, and when not in use it can be packed into a small space such as is in a suitcase for transportation.

The air compressor 16 includes a motor 17 that is secured to a wood block 19. The motor is provided with a cord 20 and plug 21 whereby it can be placed in circuit with the usual lighting and power connections of building circuits as indicated diagrammatically in Fig. 1, and by which electrical connections the motor can be driven when necessary.

The air compressor 16 is connected by a flexible tube 47 to a pipe fitting 48 that is connected to one arm of the valve housing 49 of a two-way valve 50 on the mixer 51.

The container is preferably a glass vessel 52 having its open end closed by a screw top 53 on which the spaced bosses 54, 55 are secured as by brazing or welding, and they are hollow and threaded.

One arm of the valve housing 49 is secured in the boss 54 so that compressed air can discharge through the passage 56 onto the top of the liquid 57 in the container to force it out of the siphon pipe 58 that has its upper end extended through the boss 55 and connected to the lower arm of the three-way pipe fitting 59.

The pipe fitting 59 is connected to the valve housing 49 by a pipe coupling 60 so that the passage 61 in the siphon pipe and 62 in the

coupling are connected and arranged at right angles to one another so that when compressed air is forced through the passage 62 it will draw liquid 57 from the vessel through the passage 61 and mix it with the compressed air to form a spray mixture, the the richness of which is regulated by the valve 50 and the needle valve 63.

The needle valve 63 is provided for the fitting 59 to control the discharge of liquid through the discharge end of the passage 61.

Another pipe fitting 64 is secured to one arm of the three-way fitting 59, and a flexible hose 65 connects the fitting 64 with the tapered inlet end of the spray nozzle 66.

A major portion of the nozzle 66 is straight and has a portion at its discharge end 67 that is preferably bent about thirty degrees out of a straight alignment for convenience in inserting the nozzle in the nose or throat.

The ball tipped discharge end 67 is smooth and rounded so that its contact with the membrane of the mouth or nose will not be painful or injurious.

The nozzle 66 is provided with an annular recess 68 adjacent the ball tipped discharge end 67 into which the annular rim 69 on the neck of the removable nipple 70 is extended to secure the nipple on the nozzle and prevent it from being accidentally displaced.

The nipples 70 are made in various forms for various purposes and made removable so that a change from one to the other can be quickly and easily accomplished when cleansing the mouth and treating the gums, but for the sake of brevity only four forms of the nipple are shown and described.

All the nipples are formed of soft rubber or very pliable material that is not injurious to the membrane of the mouth when in contact with it in the process of massaging.

The nipples shown in Figs. 1 to 8 inclusive are especially for use in cleansing the teeth and massaging the gums in between and around them.

In Figs. 1 to 3 the nipple is shown formed with a neck 71, body 72 in which there is a chamber 73, bottom wall 74, and short hexagonal skirt 75. The bottom 74 is provided with protuberances 76 and discharge ports 77, the purpose of which are obvious.

In the form of nipple shown in Figs. 4 to 6 inclusive the skirt 75 is semi-spherical and has saw tooth corrugations on its inner bottom edge and the discharge ports 77 are directed toward the corrugations for the purpose of cleaning between and around the teeth. In Figs. 7 and 8 the nipple is shown with a tapered skirt which is especially adapted for cleaning the teeth in and around bridgework.

The nipple shown in Fig. 9 is formed spherical with a slightly thicker wall than the other nipples and its purpose is for massaging the membrane of the mouth, especially in the space between the jaws and cheeks and around the tongue.

The flexible tube 47 is preferably of considerable length so that in operation it functions in a measure as a compressed air reservoir interposed between the compressor and mixer so that in use the flow of compressed air from the nozzle, when valve 80 is open, is relatively continuous, it being understood that a very small air pressure is required in operation.

Also the flexible hose 65 is of considerable length so that it also functions as a compressed air reservoir to aid in supplying a continuous flow of air to the nozzle when necessary.

The nozzle 66 is provided with an escape passage 78 that is normally closed by a rubber ball cap 79 that is arranged to blow off relatively noiseless so as not to startle a patient being treated when the pressure in the hose 65 becomes excessive. In other words the stem of the passage 78 and cap 79 form a blow-off valve. Also there is a control valve 80 mounted in hollow bosses oppositely arranged and integral with the nozzle 66 that has a sliding plunger 83 held by a spring 81 in position to normally close the passage 82 through the nozzle.

The valve is opened by pushing the plunger 83 against the spring 81. The plunger 83 is actuated by a stem 84 on which there is a knurled finger knob 85.

In Fig. 1 the apparatus is diagrammatically shown with its plug 21 in circuit with the electric light wiring 86 of a room indicated by the floor and wall lines 87, 88. The circuit includes the battery 89, wires 90 and 91 in which the switch 92 and lights 93 are interposed, and showing the plug 21 engaging the contacts 94, 95 so as to complete the circuit.

As previously indicated the plug 21 can be formed so as to be readily connected to any socket in an electric lighting or power circuit suitable for actuating a small electric motor.

In operation the plug 21 is placed in circuit with any suitable building power or lighting system, as indicated in Fig. 1, and when so connected the motor 17 will be actuated to drive a current of compressed air through the container and mixer and out of the nozzle when the valve 80 is open.

When the compressor is in operation, the valves 50 and 63 can be manipulated to increase or diminish the amount of liquid 57 forced or drawn through the siphon pipe 68.

In other words when the valve 50 is set so that the passage 56 is almost entirely closed the liquid 57 will be siphoned out of the container in a flow governed by the position of the valve 63; and when the valve 50 is set to fully close the passage 62 and valve 63 is fully open, and also the nozzle valve 80 is open, the liquid 57 will be driven by the com-

pressed air in a solid stream out of the container until it is emptied, or until the nozzle valve is closed. It is obvious that the valves 50 and 63 can be manipulated to give any desired mixture or proportion of compressed air and liquid as may be desired and that the nozzle valve 80 can be opened more or less to give a discharge of greater or less force from the nozzle.

When the nose is to be cleansed or treated the nozzle 66 can be used without any of the nipples and when the mouth and throat are to be cleansed or treated the proper nipple for any specific membrane is attached to the nozzle.

I claim as my invention:

A portable massage and spray apparatus for treating the mouth, throat and nose including a nozzle having an inlet end adapted to be detachably connected to the discharge end of a flexible hose, a control valve adjacent the inlet end of said nozzle arranged to normally close a passage therethrough, a pop-off valve interposed between said control valve and inlet end of said nozzle, a discharge end portion to said nozzle that is offset angularly to the main portion of said nozzle, a smooth ball tip at the discharge end of said nozzle, and a soft rubber nipple detachably connected to said ball tip, said nipple having protuberances for massaging the gums while a treating mixture is discharged from said nozzle.

In witness whereof I have hereunto affixed my signature.

ROBERT BRUCE GENTLE.