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L. R. HILL ET AL
FOUNTAIN TOOTHBRUSH
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Fig. 1.

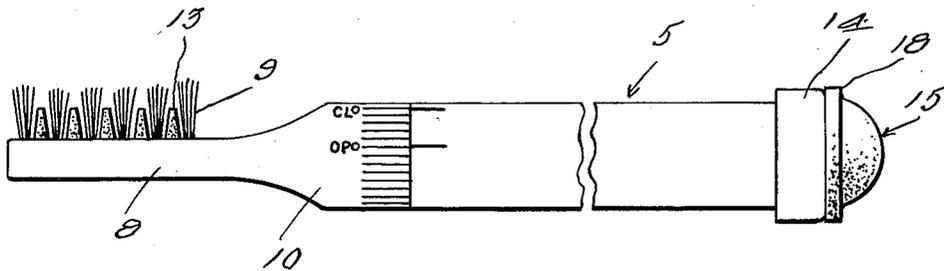


Fig. 2.

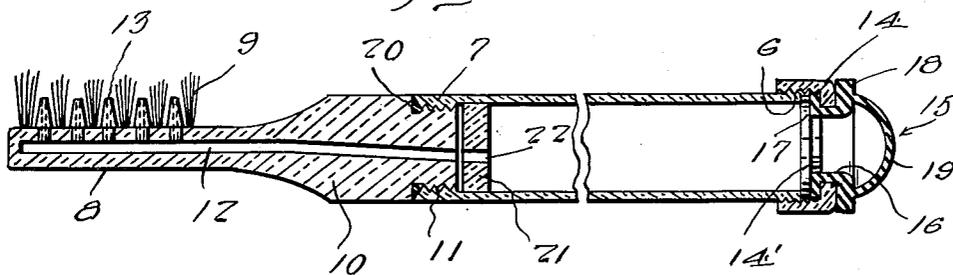


Fig. 3.

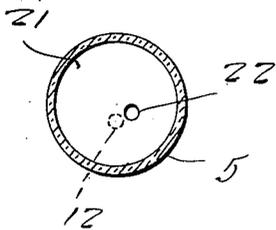
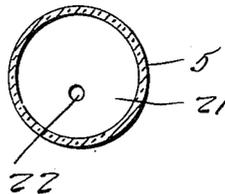


Fig. 4.



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FOUNTAIN TOOTHBRUSH

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Application April 24, 1939, Serial No. 269,770

1 Claim. (Cl. 15—136)

This invention relates to a fountain toothbrush, and has for the primary object the provision of a device of this character which will permit teeth and gums of the mouth to be cleaned and treated more easily and thoroughly than through the use of a conventional type of toothbrush and has provision for the storage of a quantity of the cleaning and treating agent therein with means for conveniently ejecting said agent in desired amounts onto the bristles of the brush for transmission thereby onto the teeth and gums of the mouth, the device being further constructed to permit easy adjustment thereof to close the agent from escape therefrom during nonuse of the device.

With these and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of our invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a side elevation illustrating a fountain toothbrush constructed in accordance with our invention.

Figure 2 is a vertical sectional view illustrating the device.

Figure 3 is a transverse sectional view illustrating the valve means for effecting closing of the reservoir to the brush head.

Figure 4 is a transverse sectional view taken through the reservoir and showing the valve means for effecting the closing of the reservoir to the brush head.

Referring in detail to the drawing, the numeral 5 indicates a handle of a toothbrush which is of hollow cylindrical shape having one end externally screw threaded, as shown at 6, and its opposite end internally screw threaded, as shown at 7. The brush head is indicated by the character 8 on which is mounted a plurality of tufts of bristles 9. Integral with the brush head 8 is a shank 10, a portion of which is of increased diameter over the remaining portion or the portion on which the brush head is formed. The enlarged portion is provided with a reduced externally screw threaded part 11 for threading into the internally screw threaded end of the handle. The brush head is provided with a passage 12 which also extends through the shank 10 having direct communication with the interior of the handle 5 when the latter is mounted on the shank.

The brush head carries a series of jets 13 ar-

ranged between the tufts of bristles and in direct communication with the passage 12. The jets 13 may readily yield under force being constructed of rubber or any other material suitable for the purpose and the free ends thereof terminate short of the free ends of the bristles, as clearly shown in Figures 1 and 2.

Threaded on the externally screw threaded end of the handle 5 is a cap 14 preferably of the flanged type in which the flange is internally screw threaded to match the external screw threads 6 on the handle and the cap is provided with a centrally arranged opening to receive an ejector element 15 including a tubular neck 16 having integrally with opposite ends flanges 17 and 18. The flange 17 is received within the cap and is clamped between the latter and a washer 14' located at the end of the handle when the cap is threaded onto said handle establishing a leakproof connection between the ejector and the handle. The flange 18 lies outwardly of the cap and has formed thereon a dome-shaped portion 19 capable of being flexed toward and from the handle.

The dome-shaped portion 19 of the ejector element is capable of flexation being constructed of rubber or some other similar material and when pressure is applied this part will move toward the handle and when the pressure is released will assume normal position. This action of the portion 19 will draw air into the handle by way of the passage 12 and expel air from said handle by way of the passage. The flange 18 will be flush with cap 14. The dome-shaped portion 19 may readily flex inwardly and outwardly with respect to the neck when pressure is applied and released thereon.

It is preferable that a gasket 20 be arranged between the handle and the shank 10 where these parts thread together to prevent leakage.

The passage 12 when opening outwardly through the shank into the handle is arranged eccentrically of the handle and the shank, as clearly shown in Figure 2. A valve disc 21 is mounted in the handle adjacent its internally screw threaded end and has a port 22 adapted to move into and out of registration with the passage 12 by the rotation of the handle in opposite directions, indicators being provided on the handle and shank to inform which direction the handle should be rotated to open the passage 12 to the interior of the handle and to close the passage 12 to the interior of the handle. Normally the passage 12 is closed to the handle and to fill the handle with a suitable agent, pref-

erably in liquid form, the cap 14 is removed and on replacement a certain amount of air will be trapped in the handle along with the agent. To use the device, the handle is rotated to open the passage 12 to the interior of the handle and pressure is applied and released on the portion 19 of the ejector element. This action on the ejector element will force the agent through the passage and jets onto the bristles and by carefully actuating the ejector with one finger the amount of the agent placed on the bristles may be readily controlled.

After the desired amount of the agent has been applied to the bristles the handle may be rotated in an opposite direction to bring about closing of the passage 12 to the interior of the handle which will prevent escape and consequently waste of the agent either during the time of use of the toothbrush on the teeth and gums of the mouth or when the brush is in non-use.

It is preferable that the head, shank and handle be constructed of a suitable transparent material and while the ejector and jets are constructed of rubber and the bristles of fibrous material it will be seen that no metal is employed consequently obviating corrosion or the possibility of affecting the agent by contact with metal.

A toothbrush of the character described and shown in the drawing is economical to manufacture and will be durable and easily operated and will have the advantage of applying the agent directly onto the bristles as needed so that the

bristles may transmit the agent onto the teeth and gums of the mouth.

It is believed that the simplicity and advantages of this invention will be apparent to those skilled in the art to which this device relates, and while we have herein set forth a satisfactory embodiment of the invention, it is to be understood that such changes therefrom as fairly fall within the scope of our claim may be resorted to when desired.

What is claimed is:

A fountain toothbrush comprising a shank including a head carrying spaced tufts of bristles and provided with a longitudinally extending passage, a plurality of flexible hollow discharge fingers carried by said head positioned between said bunches of bristles and extending approximately to the outer ends thereof, said passage having communication with said hollow fingers, a handle reservoir connected to said shank, valve means between said handle reservoir and shank, a flexible ejector means formed with an annular flange seated on the rear end of said handle reservoir, and a second annular flange thicker than said first mentioned flange and spaced therefrom, a threaded locking ferrule carried by said ejector means disposed between said flanges and arranged for threaded engagement with said handle reservoir for locking said ejector means thereon.

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