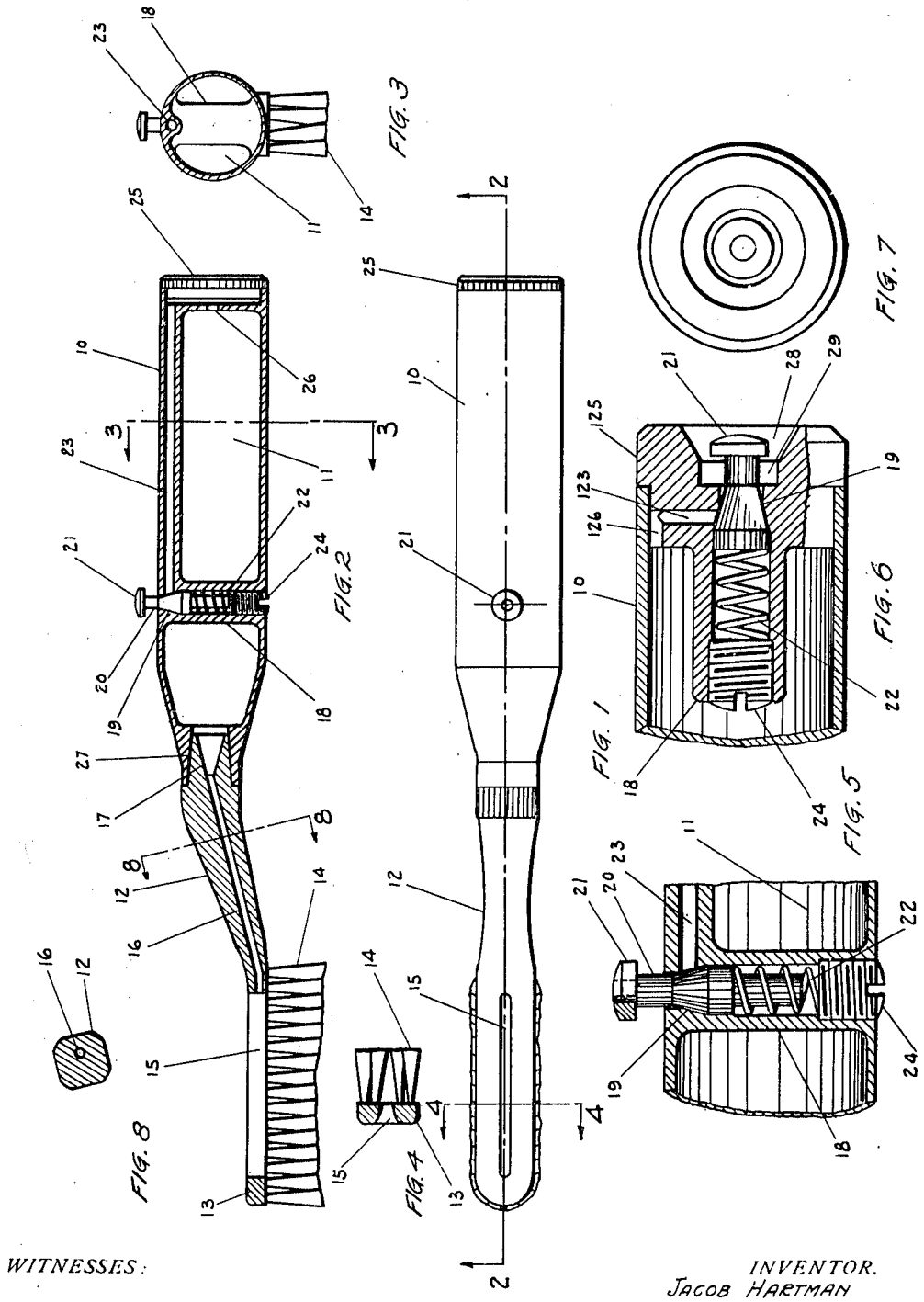
J. HARTMAN AND L. JOY.

FOUNTAIN TOOTH BRUSH.

APPLICATION FILED MAY 5, 1919.

1,314,646. Patented Sept. 2, 1919.



WITNESSES:

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FOUNTAIN TOOTH-BRUSH.

1,314,646. Specification of Letters Patent. Patented Sept. 2, 1919.

Application filed May 5, 1919. Serial No. 294,904.

To all whom it may concern:

Be it known that we, JACOB HARTMAN and LEONARD JOY, citizens of the United States, and residents of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Fountain Tooth-Brush; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to a fountain tooth brush of the gravity type whereby the dental fluid is contained in a reservoir in the handle of the brush, and fed by gravity through an orifice and slot adjacent to the bristles in the brush head.

The main feature of the invention lies in the construction of the reservoir and channels through which the fluid may pass so as to produce a compact brush with the maximum of fluid containing space.

A further feature of the invention is the valve construction in connection with the air inlets for controlling the gravity feed of the fluid, whereby the brush may be of simple construction, of few parts and easily assembled.

In the drawings, which are made a part of this application, Figure 1 is a plan view of the top of the brush. Fig. 2 is a central longitudinal cross section taken on the line 2—2 of Fig. 1. Fig. 3 is a cross section taken on the line 3—3 of Fig. 2. Fig. 4 is a cross section taken on the line 4—4 of Fig. 1. Fig. 5 is an enlarged sectional view of the valve mechanism. Fig. 6 is an enlarged sectional view of a modified form showing the valve in the rear of the reservoir. Fig. 7 is a rear elevation of the end of the brush reservoir. Fig. 8 is a cross section taken on the line 8—8 of Fig. 1.

In the drawings there is shown a fountain tooth brush having a handle 10 provided with a fluid reservoir 11, which is removably secured to a shank 12 which is integral with the brush head 13. Mounted in the brush head 13 are a plurality of bristles 14 of the usual character, said head being provided with a slot 15 adjacent said bristles, which is in communication with the bore 16 extending longitudinally through said shank, said bore being in communication with the reservoir 11 in said handle by a flared passageway 17, whereby the fluid contained in said reservoir may flow by gravity through said bore into the slot 15 extending through said head, so as to feed the brush.

Extending vertically through said reservoir and mounted in said handle there is a valve housing 18, being tapered at its upper end to conform to a tapered valve 19, having a projection 20 extending upwardly through the handle, and provided with a cap 21 to be engaged for forcing said valve downwardly against the spring 22 so as to permit communication from the atmosphere outside to the air passageway 23. The tension of the spring 22 may be adjusted by a set screw 24 which screws into the bottom of said housing and presses on said spring. The air passage 23 communicating through said valve to the outer air is in direct communication with said reservoir through the rear end of the handle, which is closed by the cap 25, and the opening 26.

The handle is removed from the neck of the brush by twisting the same in order to overcome frictional contact produced on taper fitting of shank, and loaded with the dental fluid through the mouth 27 or tapered socket of handle. It is then replaced and the fluid charge retained therein against discharge by vacuum. When it is desired to use the brush and cause the fluid to flow to the bristles, the cap 21, and with it the tapered valve, is pressed down against the spring 22 so as an open space between valve and its seat can be caused to permit air to enter the rear of the reservoir through the air passageway, so as to release the vacuum and cause the fluid to flow into the brush by gravity. The flow of the fluid may then be arrested by releasing the cap 21 to cause the valve to press again against its seat, cutting off the air supply and the vacuum which thus forms again overcoming the gravity and arresting the flow of the fluid.

The modified form shown in Fig. 6 shows the valve 19 mounted in the rear of the handle or reservoir in a cap 125 which closes the rear end thereof, which is provided with an inwardly tapering recess 28 communicating with a circular recess 29 in which the cap 21 is forced to cause the valve 19 to open up the air passageway 123 for permitting the air to enter the reservoir through the

opening 126, whereby the operation of the brush will be the same as heretofore described.

The invention claimed is:

1. A fountain brush comprising a handle having a reservoir therein for containing fluid, a brush head having bristles secured therein for receiving the fluid, a passageway connecting said brush head with said reservoir, an air control valve mounted in said handle, and an air passage leading from said valve to said reservoir whereby air may enter said reservoir through said passageway and the liquid will be prevented from escaping through said valve.

2. A fountain brush comprising a handle having a reservoir therein for containing fluid, a brush head having bristles secured therein for receiving the fluid, a passageway communicating with said bristles and reservoir, a valve housing mounted in said handle, a valve in said housing, and an air passageway extending longitudinally of said handle for connecting said housing with said reservoir whereby air may be admitted therein by the operation of said valve for permitting the fluid to flow to said brush head.

3. A fountain brush comprising a handle having a reservoir therein for containing fluid, a brush head having bristles secured therein for receiving the fluid, a passageway communicating with said bristles and reservoir, a housing extending diametrically through said handle, a valve inclosed in said housing, and an air passage communicating with said valve and extending from said housing longitudinally of said handle so as to prevent the fluid from entering said housing and escaping through said valve.

In witness whereof, we have hereunto affixed our signatures.

JACOB HARTMAN.
LEONARD JOY.