Oct. 28, 1930. T. CHRISTIAN 1,780,066

TOOTHBRUSH

Filed July 18, 1928

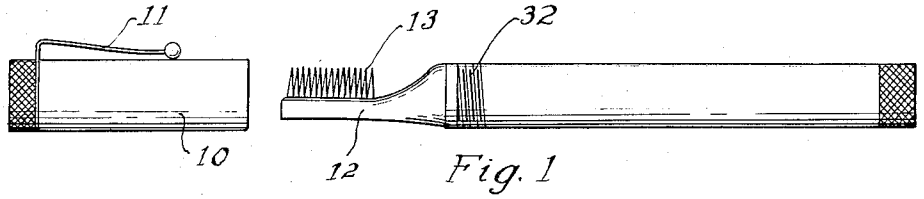


Fig. 1

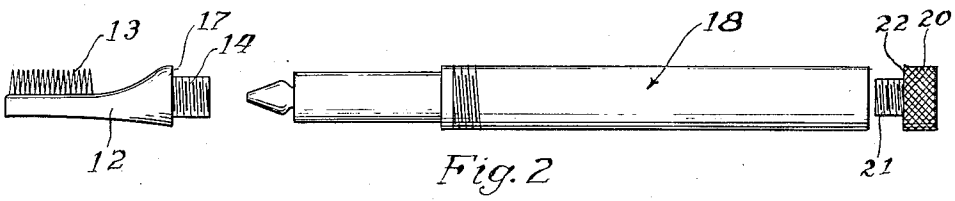


Fig. 2

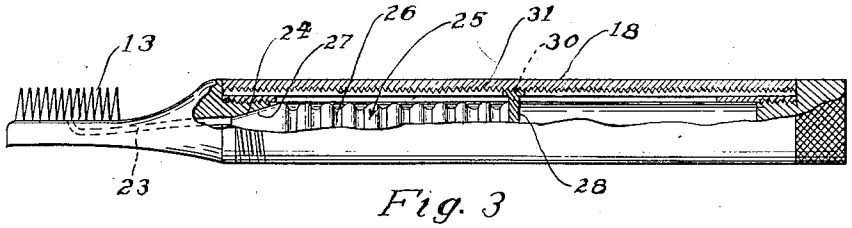


Fig. 3

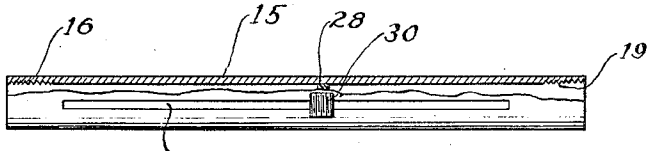


Fig. 4

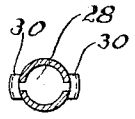


Fig. 5

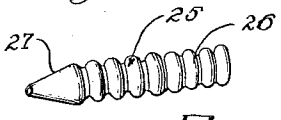


Fig. 6

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UNITED STATES PATENT OFFICE

THOMAS CHRISTIAN, OF CHICAGO, ILLINOIS

TOOTHBRUSH

Application filed July 18, 1928. Serial No. 293,569.

This invention relates to certain novel improvements in tooth brushes, and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

It is among the objects of my invention to provide a tooth brush which may be expeditiously transported and this consists in arranging the brush such that it may be mounted in the user's pocket and such that it will have an appearance substantially similar to that of a so-called fountain pen.

Another object of the invention is to provide a tooth brush which may be arranged such that it will embody a reservoir in which a tooth cleaning preparation may be mounted and this is accomplished by arranging the device such that it may receive a capsule containing a tooth cleaning preparation preferably in paste form.

Another object of the invention is to arrange a device of the above mentioned character in a manner such that the tooth cleaning preparation may be expeditiously discharge from the capsule by causing operation of certain mechanisms set forth hereinafter.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings, showing the preferred form of construction and in which:

Fig. 1 is an elevational view depicting a preferred form of construction for my invention and showing the cap removed from the brush structure;

Fig. 2 is a view depicting the various parts arranged in their respective positions during the assembling of the device;

Fig. 3 is a view, partly in elevation and partly in section, depicting the form of construction employed for the embodiment of the invention illustrated in Fig. 1;

Fig. 4 is a view depicting the element which receives the capsule of paste and disclosing the element employed for forcing the paste from the capsule;

Fig. 5 is an end elevational view of the member employed to expel the paste from the capsule; and

Fig. 6 is a perspective detail view of a preferred form of capsule employed in the device.

In the drawing wherein I have illustrated a preferred form of construction for my device 10 indicates the cap which preferably has a clip 11 associated therewith so as to facilitate carrying the device in the pocket. The brush comprises of a bristle receiving head 12 which has the bristles 13 mounted therein in any approved manner.

As best illustrated in Figs. 2 and 3, the bristle receiving head 12 terminates in a reduced annular portion 14 which is preferably provided with screw threads on the periphery thereof. A tubular member 15 is provided which has one end portion thereof internally threaded as at 16 and which screw threads are adapted to receive the screw threads on the portion 14. It is apparent that the reduced portion 14 defines a shoulder 17 on the bristle receiving head 12.

A tubular body member 17 is adapted to be fitted over the tubular member 15 and one end portion thereof is adapted to abut the shoulder 17. The opposite end of the tubular member 15 is screw-threaded as at 19. A cap member 20 is provided which includes the reduced portion 21 that defines a shoulder 22. The screw-threaded portion 21 is adapted to be fitted into engagement with the screw threads 19 and thus the main body member 18 is clamped between the shoulders 17 and 22, and the screw threads on the portions 14 and 21 engaging in the screw-threaded end portions 16 and 19 of the member 15 which is disposed interiorly the body member 18 serve to lock this body member 18 in position and it is apparent that by gripping either or both the plug 20 or the bristle receiving head 12 that the body member 18 may be rotated relative to the remaining portions of the device.

The bristle receiving head 12 has a passage 23 provided therein one end of which opens below the bristles 13. The opposite end of

the passage 23 terminates in a conical portion 24 in the portion 14. The capsule which is intended to receive the tooth cleaning preparation which, as stated, is preferably in paste form is indicated by 25 and preferably this member is corrugated so as to facilitate the discharge of paste therefrom and these corrugations are indicated by 26. One end of the capsule 25 terminates in a conical portion 27 that is adapted to be fitted in the conical recess 24. In assembling the device the capsule 25 is disposed interiorly of the tubular member 15 such that the conical portion 27 thereof protrudes from the end of the member 15. This conical portion is then fitted into the conical recess 24 and the portion 14 is fitted into the end portion of the tubular member 15 in a manner hereintofore set forth.

In order to force the paste from the capsule 25 I provide a follower member indicated by 28 in the drawing. In the member 15 at diametrically opposed points axially extending slots 29 are provided. The follower member 28 is arranged interiorly of the tubular member 15 and includes ears 30 which are preferably screw-threaded and which extend through the slots 29. The inner surface of the tubular member 18 is preferably screw-threaded throughout its length as indicated at 31. The screw threads on the projections 30 engage the screw threads 31 and therefore when the member 18 is rotated in a manner set forth hereintofore the follower 28 is moved toward or away from the capsule 25 and in this manner the paste contained therein is forced therefrom out through the passage 23 into the bristles 13.

The cap 10 is adapted to be fitted on to the screw threads 32 provided on the outer periphery of the member 18 adjacent the end thereof and juxtaposed the bristle receiving head 12. This cap 10 tends to keep air away from the discharged end of the passage 23 and therefore the tooth cleaning preparation is protected against drying out.

It is apparent that after all the paste has been extracted from the capsule 25 that a new capsule is to be inserted. The material from which the casing of this capsule is made is preferably readily flexible as; for example, so called tinfoil. It is apparent that this casing will be clasped adjacent the inner end of the portion 14 and therefore when the brush head 12 is removed the old casing of the previous capsule may be readily removed and a fresh capsule inserted and then the brush head 12 re-positioned.

It is apparent from the foregoing description that I have provided a device which may be expeditiously transported and one in which a tooth cleaning preparation may be carried such that it may be expeditiously introduced into the bristles of the brush. While I have described this device as being intended for pocket transportation it is apparent that this feature might be dispensed with without departing from the purview of my invention.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification, without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variation and modifications as come within the scope of the appended claim.

Having thus described my invention what I claim as new and desire to protect by Letters Patent is:

An article of the class described comprising an internally threaded tubular member, a bristle bearing head provided with a longitudinally extending boss and adapted to abut one end of the tubular member with the boss extending into said tubular member, said boss being provided with a substantially conical-shaped opening and said head being provided with a passage communicating with said opening and with said bristles, a cap member having a laterally extending boss formed thereon and arranged to abut the opposite end of the tubular member with the boss extended into said tubular member, a follower arranged in the tubular member and having threaded engagement with the internal threads of said tubular member, a cylindrical member having oppositely disposed longitudinally extending slots formed therein through which the end portions of said follower extend, said cylindrical member having opposite end portions provided with internal threads for threaded engagement with thread portions provided by the boss of said head and the boss of said cap, the combination with a collapsible tube having a substantially conical-shaped discharge end adapted to engage in the conical-shaped opening, and a substantially flat end opposite said discharge end adapted to be engaged by said follower whereby upon rotation of said tubular member relative to said cylindrical member said follower will compress said tube and press the conical-shaped discharge end into said conical-shaped opening to effectuate a seal therebetween and the walls providing said conical-shaped opening and to discharge the contents of said tube.

In testimony whereof I affix my signature.

THOMAS CHRISTIAN.