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2,710,982

BRUSH OF INTEGRAL CONSTRUCTION

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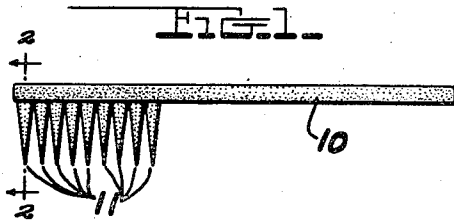


FIG. 2

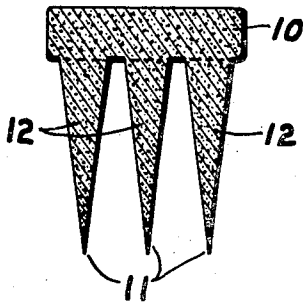


FIG. 3

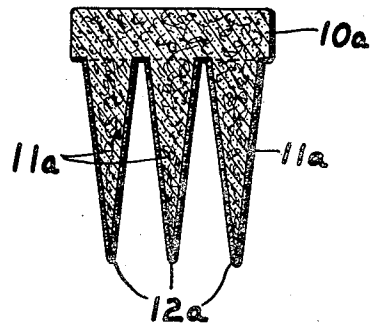


FIG. 4

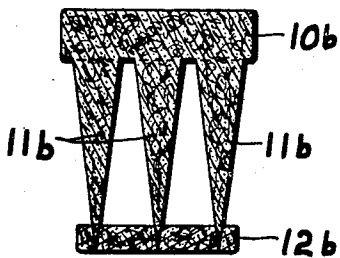
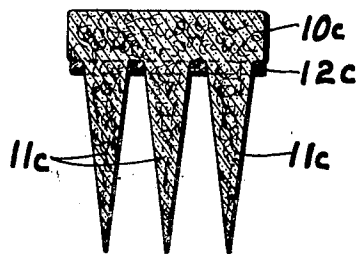


FIG. 5



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BRUSH OF INTEGRAL CONSTRUCTION

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3 Claims. (Cl. 15-187)

The present invention relates broadly to brushes, and in its specific phases to a special type of toothbrush.

There are many times when it would be desirable to obtain an inexpensive toothbrush and dentifrice which could be used just once and then discarded. Such desirability arises, for instance, when one arrives at a hotel or is about to arrive as guest at someone's home and inadvertently lacks a toothbrush and dentifrice. While some moderately cheap toothbrushes have been proposed to meet this need, they have invariably had bristles of a different material from that used in the handle, which in turn increases the manufacturing expense. The common procedure has also been to either include a small tube of toothpaste with the brush or to provide a pocket in the handle to carry toothpaste or tooth powder, all of which runs into extra expense. It was a recognition of these shortcomings and problems of the prior art, and the need of a solution for same, which lead to the conception of the present invention.

My invention, accordingly, aims to fulfill the foregoing need by the provision of an extremely simple, inexpensive, and practical dentifrice-carrying brush which may be reasonably sold at stores, newsstands, and the like, or vended from conveniently placed vending machines.

Another object of the invention is to provide a toothbrush and dentifrice combination of such construction that it will effectively perform one complete toothbrushing operation but will thereby be rendered substantially unfit for further use and in such a condition that it will disintegrate when flushed down a toilet drain.

Another object of the invention is to provide a toothbrush wherein the bristle portion, head, and handle are all formed of an inexpensive and readily disintegrable composition, preferably of cellulosic material such as paper stock, or the like, with a dentifrice associated with the bristle portion.

A further object is to provide a brush integrally molded in one piece with the bristles and handle made from the same material.

Still further objects and advantages of the present invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawing and the following description setting forth in detail certain means for carrying out the invention, such disclosed means illustrating, however, but several of various ways in which the principle of the invention may be used.

In the annexed drawing:

Figure 1 is a side elevation of one preferred form of the invention, in which the brush is preferably impregnated with a dentifrice.

Figure 2 is an enlarged transverse sectional view on line 2-2 of Figure 1.

Figures 3, 4, and 5 are views similar to Figure 2, showing three other ways of incorporating the brush and dentifrice into a unitary article.

In Figures 1 and 2 the toothbrush is shown as comprising an elongated handle 10 having integral toothbrushing projecting elements 11 at the end which forms the brushing element support, said elements being preferably in the form of tapered rather steep sided conical projections with their enlarged ends fastened to said handle. The handle 10 and the elements 11 are formed of the same material and this material is such that it will be soluble in water, the rate of dissolution, however, being sufficiently slow to allow effective use of the brush for performing one complete toothbrushing operation, yet sufficiently fast to render the brush substantially unfit for further use. While various materials may be employed in the manufacture of the toothbrush, a cellulosic material such as paper pulp, of proper grade to fulfill the requirements, is the preferred material, and any suitable dentifrice may be mixed with the pulp before moulding the brush therefrom, whereby the brush will be impregnated with the dentifrice and this dentifrice will be gradually released upon subsequent wetting and use of the brush. By the time the brushing operation has been completed, or shortly thereafter, the brush will have reached a state of such flaccidity as to be unfit for further use and is ready for complete disintegration when further subjected to water, for example, in the bowl of a toilet.

In Figures 3, 4, and 5, the handle and the tooth cleaning elements may be considered as formed from the same basic material as that above discussed and therefore as having the same quality of dissolution or disintegration. In these views, however, the dentifrice is not impregnated in the brush material. In Figure 3, the projecting elements 11a are coated with a soluble dentifrice 12a applied by dipping said elements in a suitable preparation of same. This coating may extend throughout the length of the elements 11a, or only along portions of same, and the showing is intended to be considered as diagrammatically illustrating both of these constructions.

In Figure 4, the tips of all or some of the projecting elements 11b penetrate and are thus connected with a substantially solidified ribbon 12b of water soluble toothpaste. Figure 5, on the other hand, shows the use of a thin highly soluble cake of dentifrice 12c applied to the side portion of the handle 10c where it surrounds some or all of the projecting elements 11c at the base thereof or junctures of same with the handle.

From the foregoing it will be seen that a novel and advantageous provision of a substantially soluble toothbrush assembly with included toothpaste has been made which attains the desired ends, and while four preferred forms of the invention have been disclosed, further variations may of course be made within the scope and basic considerations of the invention as set forth.

Other modes of applying the principle of my invention may be employed instead of those explained, change being made as regards the article and combinations herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:

1. A toothbrush having an elongated handle with brushing projections extending sidewise in a group from one end portion thereof, the other end of the handle extending beyond the brushing projections to provide a hand-grip portion, there being a multiplicity of said brushing projections both crosswise and lengthwise of the portion of said handle carrying same, both of said handle portions and brushing projections being disintegrable in water and of integral one-piece construction formed from the same material and having substantially the same water disintegrability throughout.

2. A toothbrush as set forth in claim 1, wherein said

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brushing projections are pointed and larger at their point of joinder to said handle portion than at their free ends.

3. A toothbrush as set forth in claim 1, wherein said brushing projections are pointed and larger at their point of joinder to said handle portion than at their free ends, and a dentifrice mixed with the material from which the handle and projections are formed and releasable from the material in the presence of moisture.

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