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H. G. DIVELEY
DENTAL CLEANING PAD
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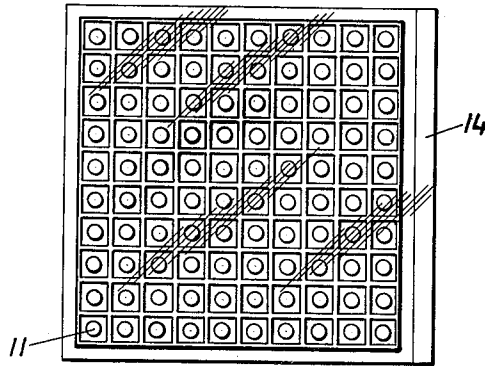


Fig. 1

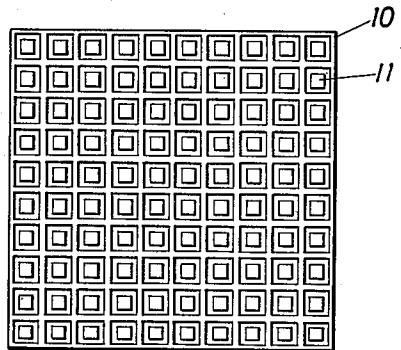


Fig. 2

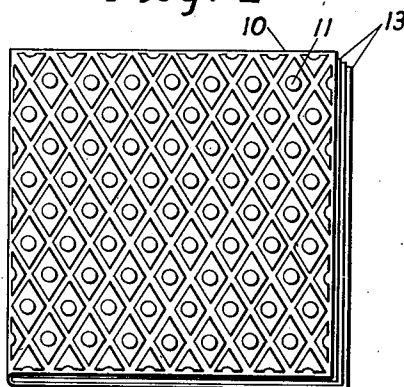


Fig. 3

INVENTOR.
HARRY G. DIVELEY

BY

H. a. McGrew

ATTORNEY.

UNITED STATES PATENT OFFICE

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DENTAL CLEANING PAD

Harry G. Diveley, Colorado Springs, Colo., assignor, by mesne assignments, to Twix, Inc., Colorado Springs, Colo., a corporation of Colorado

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3 Claims. (Cl. 15-209)

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My invention is directed to improvements in dental cleaning pads and has among its primary objects the provision of an inexpensive, disposable dental pad which may be stored for substantial periods of time without appreciable degeneration and which incorporates detergent and astringent ingredients refreshing to the mouth.

Other objects include the provision of novel processes for the production of my pad, as well as for the preparation and application of impregnating reagents.

Referring to the drawings:

Figure 1 illustrates a pad embodying the subject matter of my invention, the pad as shown in this figure being sealed in a transparent cellophane envelope.

Figure 2 illustrates a similar pad, without the cellophane envelope, in which the desired irregular surface is of a somewhat different design.

Figure 3 is a perspective view illustrating how the pad is made of a plurality of plies.

In the drawings reference character 10 designates a sheet of paper which is corrugated, embossed or otherwise formed as at 11, to provide an irregular surface. As shown by reference character 13, in Figure 3, a plurality of the sheets 10 are superimposed, one upon the other, to form a pad consisting of any desired number of plies, preferably not less than two nor more than twelve plies, eight usually being the most satisfactory. The individual sheets of this pad, which is intended to be employed as a unit, and then discarded after one use, may be bound together at one edge, if desired, or they may be kept separate. In either event the sheets, after being impregnated as hereinafter described, are preferably sealed in a suitable container such as a cellophane envelope as indicated by reference character 14 in Figure 1. The dimensions of the pad should be such that it may be placed around the finger without unfolding and thus used to vigorously massage the teeth and gums. A square, approximately two inches on each side, has been found suitable for this purpose.

The paper employed in forming my pad should be of an absorbent nature, such as the paper conventionally employed for the manufacture of paper table napkins, and containing only relatively minor quantities of size. An absorbent high wet strength paper, such as the paper employed in the production of paper towels, is also highly satisfactory and is in some instances preferable to the relatively low wet strength paper previously mentioned, since the tendency to tear while in use is substantially reduced.

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I prefer to purchase this paper in the form of rolls or sheets which I impregnate by dipping, spraying, or the like with a liquid mixture incorporating a flavoring compound, a non-toxic detergent, and an oral astringent.

More specifically, my mixture may include:

4 ounces oil of peppermint
36 ounces ethyl alcohol
75 drops menthol
9 ounces detergent solution
18 ounces aqueous astringent

The detergent solution above mentioned is essentially similar to conventional liquid dentifrices which include, in general, a small percentage of a non-toxic surface active compound such as sodium lauryl sulphonate or lauryl glycerol sulphate, alcohol, water, a thickening agent, and if desired a small percentage of a soft colloiddally suspended abrasive, such as chalk or anhydrite. The aqueous astringent may include a quantity of zinc chloride dissolved in water and mixed with a small quantity of formaldehyde and alcohol. Commercially available dentifrices and astringents of the type above described may be employed without difficulty provided that excessive quantities of the ingredients do not become insoluble upon mixing with each other. The composition above described will form a minor quantity of insoluble precipitate when the alcohol is added to the mixture, as certain of the ingredients are relatively insoluble in alcohol; but since the quantity of precipitate is relatively minor, it may be removed by filtration and the resulting clear solution utilized without difficulty.

The ingredients are ordinarily mixed by agitation in a suitable vessel and stored out of contact with air prior to application to the paper. After the paper has been impregnated, it must be dried at relatively low temperatures, preferably at a room temperature on the order of 75°-80° F. A blast of air, preferably of low humidity, is advantageous in the drying process, provided that the temperature of the air does not exceed the range specified. If attempt is made to apply heat in the drying process a substantial reduction in the value of the final product will occur, since several of the ingredients in the impregnating solution are relatively volatile even in solid form, as well as being subject to oxidation.

In order to preserve the desirable detergent and astringent properties of the dried pad it is necessary to package the pad in such manner as to substantially inhibit the oxidation or volatilization of the ingredients. As heretofore pointed

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out, this is best accomplished by enveloping the pad in a cellophane container 14 suitably sealed against the passage of air. When so packaged I have found that my pad may be carried in a pocket or bag for substantial periods of time without either soiling or rendering less efficient the active ingredients.

When application of the pad is required, the user breaks the seal of the package, removes the pad from the container and wraps it around the index finger. The pad is then inserted in the mouth and brushed vigorously against the teeth. The saliva partially dissolves the compounds deposited in the paper by impregnation, which become active in the mouth both as detergents and astringents. The embossed surface of the paper, although soft, provides sufficient irregularity to serve as an efficient scrubbing surface against the teeth. When the application has been completed the pad is discarded, thus making the product highly desirable for travelers and the like when access to the customary cleaning equipment is inconvenient.

I have described in detail a preferred embodiment of my invention, but I do not bind myself to the details therein disclosed except insofar as defined in the appended claims.

I claim:

1. A dental pad for use in cleaning the teeth and gums comprising a sheet of soft absorbent paper having an embossed surface and impregnated with a liquid consisting of flavoring, a detergent and an astringent solution.
2. A dental pad for use in cleaning the teeth

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and gums comprising a pad having not less than two nor more than twelve plies of soft absorbent embossed paper, said plies being impregnated with the dried reaction product of a liquid incorporating a flavoring oil, an astringent, and a detergent.

3. A dental pad for cleaning the teeth and gums comprising a folded pad of soft absorbent embossed paper containing the dried reaction product of a liquid mixture including oil of peppermint, alcohol, water, a non-toxic wetting agent, and zinc chloride.

HARRY G. DIVELEY.

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