July 20, 1954 F. W. BILETH 2,684,063

GUM MASSAGING DEVICE

Filed March 24, 1951

FIG. 1

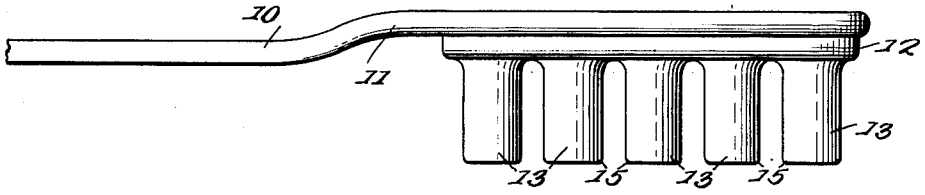



FIG. 8

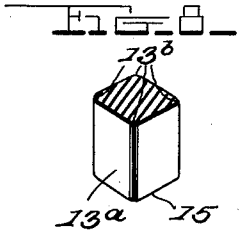



FIG. 2

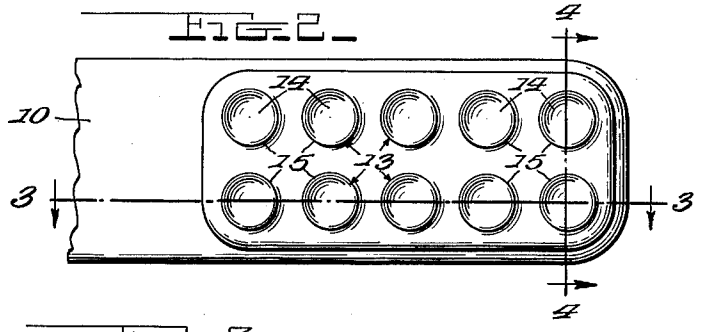



FIG. 3

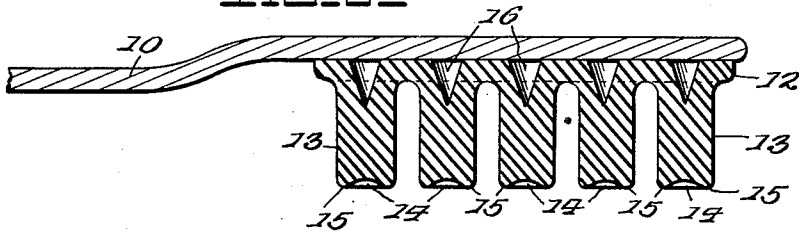



FIG. 4

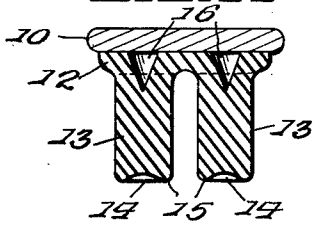



FIG. 5

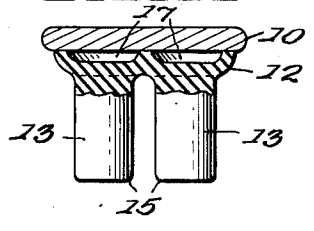



FIG. 7

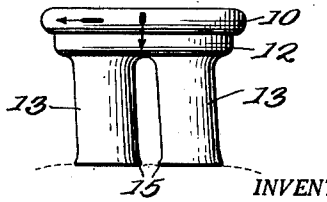
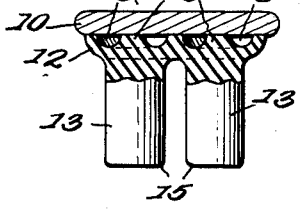



FIG. 6

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## GUM MASSAGING DEVICE

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6 Claims. (Cl. 128—62)

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This invention relates broadly to massaging equipment, and in its specific phases to a new and improved gum massaging device for gently massaging human gums without any irritating sliding movement of the massaging elements upon the gums, thereby obtaining a very gentle massaging action similar to that which may be effected with the tips of the human fingers.

A few so-called gum massaging devices have been proposed in the past, but those devices have universally been of the brushing or rubbing type. That completely overlooks the principles of true massaging action which requires that the surface of the massager in contact with the surface to be massaged remain in relatively fixed position while substantially non-brushing massaging movement takes place. Then by moving the massager to one new location after another this same massaging movement can be repeated over and over. It was a recognition of this problem, and the lack of an adequate solution for same, which lead to the conception and development of the present invention.

Accordingly among the objects of the present invention is the provision of a highly practical, simple, and inexpensive device for attaining the desired end.

In carrying out the above end, a plurality of stocky, resilient pillars of soft rubber or the like are mounted, in similar location to the bristles of a toothbrush, on the front end of a relatively rigid handle, and a further object is to provide these pillars with free ends which are radially expansible when pressed against the gums, thereby producing a gentle massaging action in addition to that attainable by a non-brushing somewhat rotary motion with the ends of the pillars firmly pressed against the gums. Moreover, this expansion of the free ends of the pillars results in a gentle pinching of the portions of the gum between the expanded pillar ends, producing a further gentle massaging action. Thus, by alternately pressing the pillars against the gums, with or without a rocking or rotary movement, and releasing the pressure, effective massage is attained with no irritating sliding or brushing of the pillars upon the gum. Upon release of the pressing in question, the pillar ends of course return to their normal form and thus produce a further massaging action.

Another object of the invention is to give the free ends of the pillars a shallow concave form, resulting in a flattening out of said ends when pressed against the gum, said flattening out and the following return to normal shape serving to effectively and gently massage the gum.

Yet another object is to still further increase the efficiency of the massaging pillars by making novel provision whereby they may readily tilt laterally during use, thereby more readily conforming to the shape of the gum and facilitating massaging action.

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Still further objects and advantages of this massaging device 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 drawing:

Figure 1 is a side elevation of a preferred form of the present massaging device.

Figure 2 is a bottom view of the device shown in Figure 1.

Figures 3 and 4 are sectional views taken on lines 3—3 and 4—4 of Figure 2, looking in the direction of the arrows.

Figures 5 and 6 are views similar to Figure 4 but showing slight modifications.

Figure 7 is a front end view illustrating the pillars expanded at their free ends and sprung to tilted positions.

Figure 8 is a sectional perspective view showing a different shape which the pillars may have.

Preferences have been shown in the drawing and will be specifically described, but it is to be understood that variations may be made within the scope of the invention as claimed. Then, too, it is to be understood that the word "resilient" as herein used, comprehends the use of rubber, synthetic rubber, or other suitable material having the resilient and pliable characteristics of the kind of rubber commonly known as "soft rubber" or "moderately soft rubber." Furthermore, "relatively rigid" as applied to the handle is not intended to imply that said handle has no yieldability. It may be formed from any of the materials commonly used, for toothbrush handles, or from any other suitable material.

A relatively rigid handle is shown at 10, said handle preferably, although not necessarily, having an offset 11. Cemented or otherwise secured against the inner side of this handle, at the front end portion of the latter, is a resilient base 12 which may, for example, be about one and three-quarters inches long, three-quarters inches wide, and one-eighth inch thick. Integral with the outer side of this base 12 are the resilient, stocky massaging pillars 13. These pillars 13 may, for instance, be from $\frac{3}{8}$'' to $\frac{7}{16}$'' in length, $\frac{7}{32}$'' in diameter, and spaced apart about $\frac{3}{32}$''. The illustrative dimensions are for a massager ordinarily suited for adult use. For children, smaller dimensions may be used.

Two straight rows of five pillars 13, have been

shown, but location of the pillars in straight rows is not essential, nor is that particular number of pillars. Furthermore, while the pillars 13 of Figures 1 to 7 are cylindrical, this shape is not essential and Figure 8 is illustrative of one of the many other cross-sectional shapes which may be used. In this view, the pillar 13*a* is square in cross-section and all corners are rounded as seen at 13*b*.

The outer or free end of each pillar 13 or 13*a* is blunt and is radially expansible when pressed against the gum, as seen in Figure 7; and said end will of course return to its original shape when the pressure is relieved. Thus, by alternately pressing against the handle and relieving the pressure thereon when using the device, the free ends of the pillars will alternately expand and contract. In so doing, they gently massage the gum. Moreover, as the pillar ends expand, they will gently pinch the gum portions between them, exerting a further gentle massaging action. It is preferable when using the device, to not only press it against the gum and hold it in substantially fixed contact position at each point of massaging, but to give it a slight rocking and/or rotary motion in order to obtain still more effective massaging action.

In the specific construction shown, the free end of each pillar 13 (or 13*a*) is formed with a shallow concave recess 14 extending almost to the periphery of the pillar. Surrounding this concave recess 14 is a continuous rounded rib 15. Inwardly, this rib 15 merges into the wall of the recess 14. Outwardly, the rib 15 merges into the peripheral surface of the pillar. The recesses 14 allow the pillar ends to flatten out more easily and thus insure the desired radial expansion of the free ends of the pillars without undue pressure, and rounding of the ribs 15 prevents them from irritating the gum.

To permit the pillars 13 or 13*a* to easily tilt laterally as shown in Figure 7 to allow the device to adapt itself to the various gum shapes while facilitating massaging action, the base 12 is recessed and thus made more yieldable at the inner end of each pillar. In Figures 3 and 4, conical recesses 16 are shown, with their apexes extending slightly into the pillars. In Figure 5, shallow cup-like recesses 17 are shown of a diameter somewhat greater than that of the pillars. In Figure 6, the recesses 18 are in the form of continuous channels in concentric relation with the inner ends of the pillars, leaving resilient piers 19 axially alined with said pillars. The gross diameter of each channel 18 is preferably somewhat greater than the diameter of the base or inner end of the pillar to facilitate moderate tilting of the pillars under massaging pressure and action.

From the above detailed description of several forms of the invention, it will be seen that novel and advantageous provisions have been made for attaining the desired ends, and while preferences in construction of the massaging elements have been disclosed, it is nevertheless to be understood that minor changes may be made to those elements without departing from the spirit of the invention as shown and described.

Other modes of applying the principle of my invention may be employed instead of those explained, change being made as regards the massaging device therein 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 gum massaging device comprising a relatively rigid handle, and a multiplicity of firm bodied resilient stocky pillars projecting from one side of said handle in spaced relation with each other, said device having a hollow portion at the base of said pillars which facilitates yieldable bodily tilting of same when lateral pressure is exerted on them, said resilient stocky pillars also having blunt free ends the whole area of which is adapted to contact the gum and also be radially expansible by pressure against the gum; whereby the whole end of said pillars will provide massaging action while the expansion of said pillar ends will further gently massage the gum and will gently pinch portions of the gum between said ends.

2. A gum massaging device comprising a relatively rigid handle, a resilient base secured to the front end portion of said handle, and a multiplicity of resilient stocky pillars integral with one side of said base and projecting therefrom in spaced relation, said base having recesses at the inner ends of said resilient stocky pillars, permitting said pillars to yieldably tilt when lateral pressure is exerted on the handle while holding the free ends of said pillars pressed against the gum, each of said resilient stocky pillars having a blunt free end of extensive area and of slightly concave form; whereby when the free ends of a multiplicity of said pillars are forcibly pressed against the gum by pressure upon said handle, the concave form of said free ends will flatten out, resulting in radial massaging expansion of said free ends and in gentle pinching of the gum between them.

3. A gum massaging device comprising a relatively rigid handle, a resilient base having an inner side secured against one side of said handle at the front portion of the latter, said base having an outer side substantially unidirectional with said inner side, and a multiplicity of resilient stocky pillars integral with said outer side of said base, said pillars having blunt free ends of extensive area to be pressed against the gum, said base having recesses at the inner ends of said pillars, permitting said pillars to laterally tilt when lateral pressure is exerted on said handle while holding said blunt free ends pressed against the gum.

4. A gum massaging device as set forth in claim 3, wherein said recesses extend into said inner ends of said pillars.

5. A gum massaging device as set forth in claim 3, wherein said recesses are of greater diameter than said inner ends of said pillars.

6. A gum massaging device as set forth in claim 3, wherein said recesses are in the form of continuous channels and in concentric relation with said inner ends of said pillars.

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