

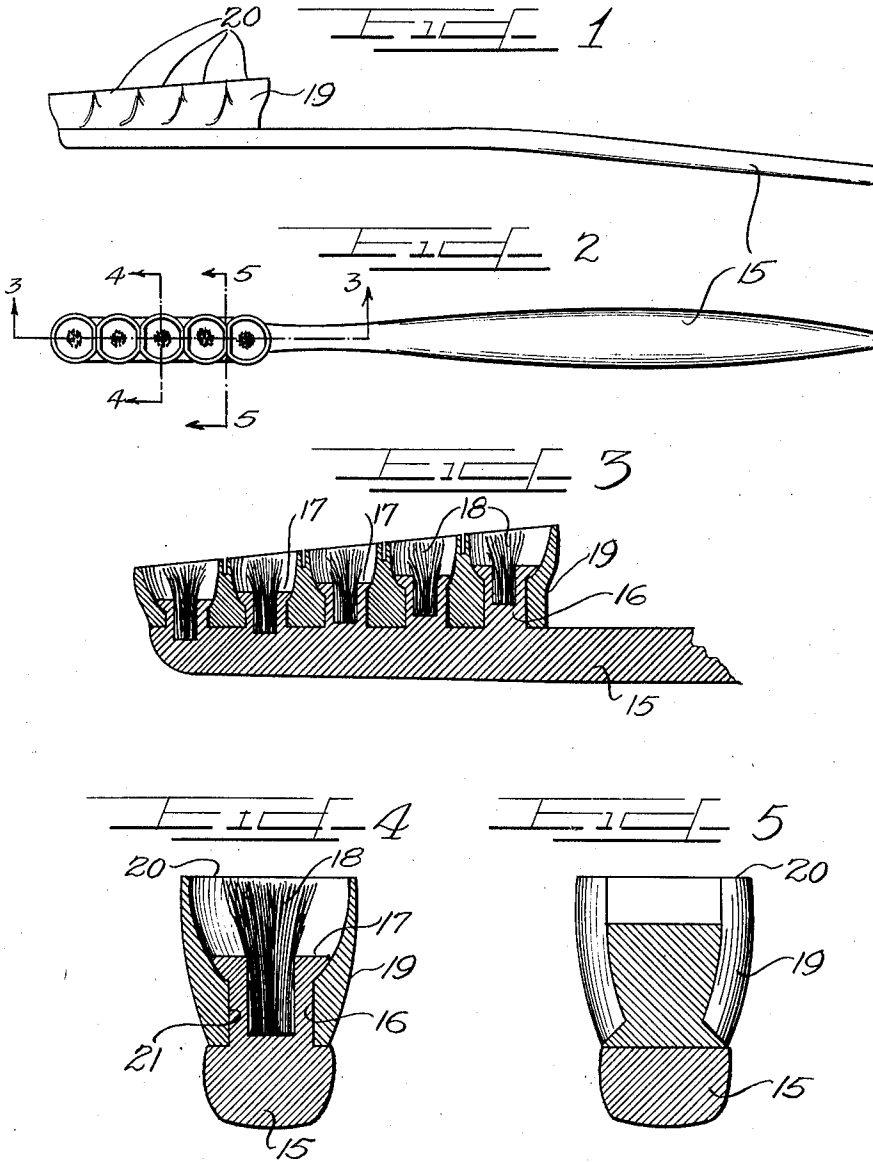
June 15, 1926.

1,588,785

R. H. VAN SANT

TOOTHBRUSH

Original Filed June 30, 1924 2 Sheets-Sheet 1



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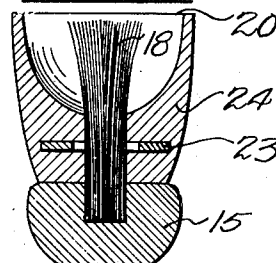
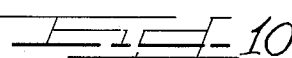
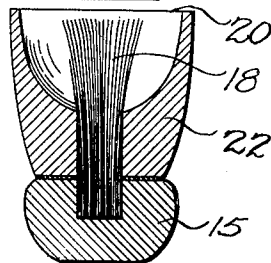
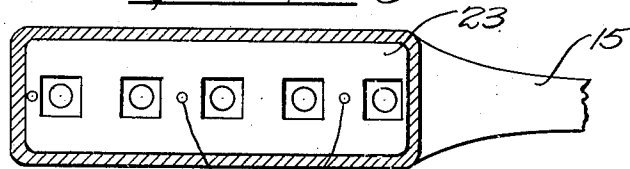
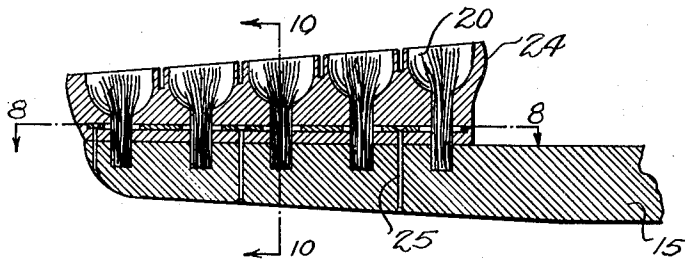
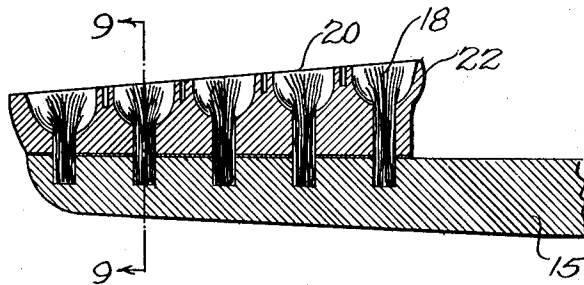
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R. H. VAN SANT

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Original Filed June 30, 1924 2 Sheets-Sheet 2



INVENTOR  
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# UNITED STATES PATENT OFFICE.

ROBERT H. VAN SANT, OF CHICAGO, ILLINOIS.

TOOTHBRUSH.

Application filed June 30, 1924, Serial No. 723,100. Renewed January 4, 1926.

This invention relates to a toothbrush wherein the combination of scrubbing bristles and the squeegee action of moist pliant rubber is obtained.

5 It is an object of this invention to provide a toothbrush wherein bristles are mounted centrally of each of a series of soft rubber vacuum cups, the bristles serving as scouring members adapted to enter the  
10 spaces between adjacent teeth, and the vacuum cups serving to pump cleaning fluid through the spaces between teeth on the principle of a force cup while the interior surface and rim of the cups serves  
15 as a scraper and a vehicle for the polishing and cleaning material for cleaning the exposed surfaces of the teeth.

Other and further important objects of this invention will be apparent from the disclosures in the drawings and specifica-  
20 tion.

The invention (in a preferred form) is illustrated on the drawings and hereinafter more fully described.

25 On the drawings:

Figure 1 is a side view of a toothbrush embodying one form of the device of this invention.

Figure 2 is a top view thereof.

30 Figure 3 is an enlarged fragmentary section on the line 3—3 of Figure 2.

Figure 4 is an enlarged section on the line 4—4 of Figure 2.

35 Figure 5 is an enlarged section on the line 5—5 of Figure 2.

Figure 6 is a fragmentary longitudinal section of a slightly modified form of toothbrush.

40 Figure 7 is a fragmentary longitudinal section of another modified form of toothbrush.

Figure 8 is a section on the line 8—8 of Figure 7.

45 Figure 9 is a section on the line 9—9 of Figure 6.

Figure 10 is a section on the line 10—10 of Figure 7.

As shown on the drawings:

50 A toothbrush handle is indicated by the numeral 15 and may be formed from a variety of materials, preferably being molded from celluloid, rubber or one of the many phenol condensate products. The brush end of the handle, in the first form  
55 of the device, is provided with a single row of upstanding bosses 16 having expanded

tops 17 with a group of bristles 18 molded centrally of each boss. A strip of flexible soft rubber 19 is molded to conform to the general outline of the handle 15 and is  
60 provided with a series of cup like members 20 on its face, the rim of each member being independent of the adjacent members for an appreciable distance below the surface. The members 20 are spaced to cor-  
65 respond with the spacing of the handle bosses 16 and each cup member is centrally apertured as at 21 so that the molded strip 19 as a whole can be assembled over the bosses by suitable stretching thereof, the  
70 elasticity of the rubber causing it to grip each boss 16 below the expanded tops 17 with the result that the bristles 18 of each boss form a central teat in each cup member 20.  
75

In the modified form of Figures 6 and 9 the bosses 16 previously described are omitted, the bristles 18 being set directly into the handle 15 and the cupped member 22, corresponding in all essential details  
80 with the corresponding member 19, being stretched while assembling over the groups of bristles and cemented in place on the handle 15. The modification of Figures 7, 8 and 10 differs from the foregoing only  
85 in that a plate 23 is embedded in the cup member 24 and rivets 25 are provided for securing it to the handle after assembling about the bristles.

It is a peculiarity of the cupped members  
90 20 that the flexible rims thereof serve as a squeegee or scraper for removing foreign matter from the teeth and gums, while the cups as such serve as vehicles for the tooth paste and water, the polishing agents of  
95 which become temporarily embedded in the rubber and hence have a yielding background tending to preserve the polishing action by maintaining continued contact with the tooth surface. The cups also have  
100 a forcing action tending to pump fluid back and forth through the spaces between the teeth. The central bristles serve to reach into the spaces between any irregularities of the tooth surfaces with a scrubbing ac-  
105 tion that dislodges foreign particles, the pumping action of the vacuum cups serving to force such dislodged particles out of the spaces and cavities and thereby greatly enhancing the cleaning action of the bristles  
110 alone.

I am aware that numerous details of con-

struction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a toothbrush, a handle having a plurality of groups of bristles inserted therein, and soft rubber vacuum cups surrounding the groups of bristles.

2. A device of the class described comprising a handle, a series of groups of bristles secured in the handle, and an equal number of cupped rubber projections hav-

ing a common base engaging the lower portions of said bristles.

3. A toothbrush comprising a handle terminating in a suitable brush support, a series of vacuum cups mounted on said support, and bristles disposed in the centers of said cups.

4. A toothbrush comprising a handle, a row of bristles secured therein and a row of vacuum cups each surrounding a single bunch of bristles.

In testimony whereof I have hereunto subscribed my name.

ROBERT H. VAN SANT.