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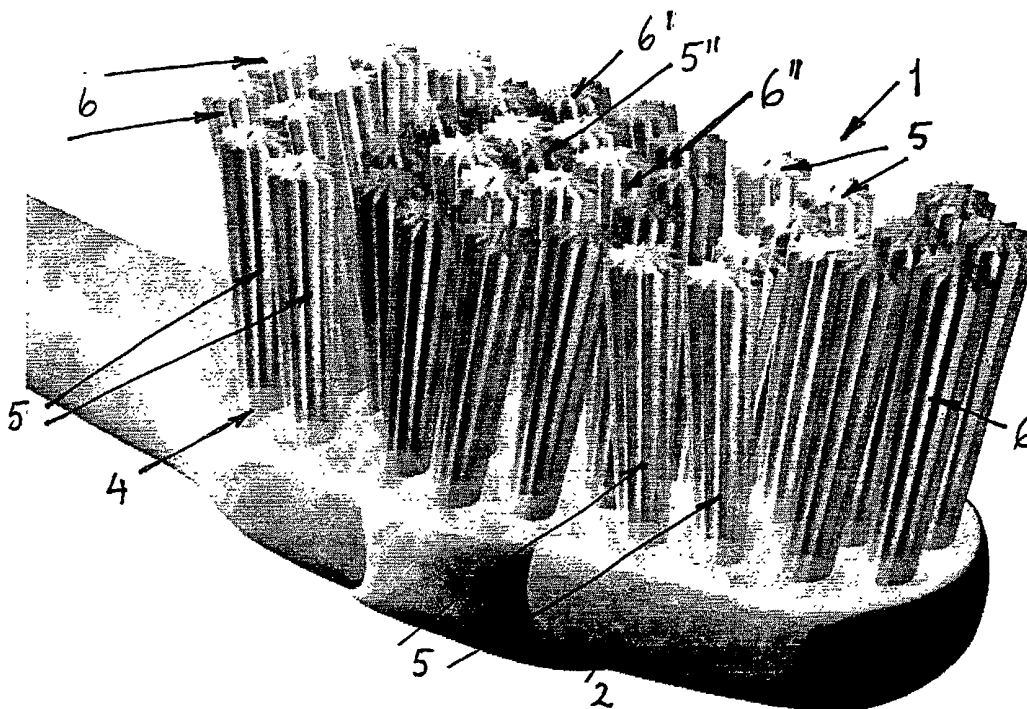
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- (71) Applicant (for all designated States except US): **JORDAN AS** [NO/NO]; Haavard Martinsens vei 30, N-0978 Oslo (NO).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **BRAATEN, Stig** [NO/NO]; Inga Bjørnsons vei 41, N-0969 Oslo (NO).
- (74) Agent: **LANGFELDT, Jens, F., C.**; Bryns Patentkontor a/s, P.O. Box 765, Sentrum, N-0106 Oslo (NO).
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[Continued on next page]

(54) Title: **TOOTHBRUSH HEAD DEVICE**



(57) Abstract: A brush head (1) for a toothbrush, where the brush head has a plurality of bristles and where a first set (5) of the bristles projects straight upright from the brush head body (2), and where a second set (6, 6', 6'') of the bristles forms an angle with the brush head body (2). Some of the bristles (6', 6'') in the second set are arranged on the brush head as at least two concentric rings, thus forming a third bristle set (6', 6'') that is arranged at approximately the halfway point in the longitudinal direction of the brush head.

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TOOTHBRUSH HEAD DEVICE

The present invention relates to a brush head for a toothbrush where the brush head has a plurality of bristles and where a first set of the bristles projects straight upright from the brush head body, and where a second set of the bristles forms an angle with the head body.

Innumerable bristled heads on toothbrushes are previously known where the bristles have different configurations of the type mentioned above.

However, in connection with toothbrushes of this kind there has been a greatly felt need to obtain a V-configuration of some of the bristles on the brush head, so that the teeth can be cleaned more effectively. One of the essential aspects of the present invention is to ensure that this V-configuration will be in evidence to some degree, irrespective of the brushing direction of the brush against the teeth.

According to the present invention, the toothbrush head mentioned above is characterised in that some of the bristles in the second set are arranged on the brush head as at least two concentric rings, thereby forming a third set of bristles.

Advantageously, the third bristle set is positioned at approximately the halfway point in the longitudinal direction of the brush head. At least some of the bristles in the first set, i.e., the vertically projecting set, are advantageously located in front of the third set, and some are also located behind the said third set. "In front of" should be understood to mean the area at the free end of the brush head, whilst "behind" should be understood to mean the area of the brush head lying closest to the neck and handle of the toothbrush.

Advantageously, the bristles in the second set that are arranged in front of and behind the third set are positioned so that they slope away from the third set.

Furthermore, it may be advantageous to allow the bristles in the two bristle rings of the third set of bristles to slope in the same direction along their respective rings. The bristles in the outer ring preferably have a greater angle of inclination than the bristles in the inside ring. It would also be advantageous to allow there to be at least one straight upright projecting tuft of bristles in the centre of the third set.

The invention will now be explained in more detail with reference to the attached drawing, wherein:

Fig. 1 shows the toothbrush head seen looking directly towards the head face that supports the bristles.

Fig. 2 shows the brush head seen from one side.

Fig. 3 is a perspective view of a brush head equipped with bristles.

In the drawings the brush head is indicated by the reference numeral 1. The brush head consists of a relatively rigid material 2 of, e.g., plastic, and a plurality of bristles 3 projecting from respective holes 4 in the rigid part 2 of the brush head. A first set of bristles, indicated by the reference numeral 5, projects vertically from the head body 2, whilst a second set of bristles, indicated by the reference numeral 6, forms an angle with the head body 2. Some of the bristles in the second set are arranged on the head body 2 as at least two concentric rings 6' and 6''. As will be seen from Fig. 1, the third set of bristles 6, 6' is arranged at approximately the halfway point in the longitudinal direction of the brush head. It will also be seen from Fig. 1 in particular, but also from Fig. 3, that at least some of the straight upright projecting bristles 5 are located in front of the third set 6, 6' and some behind this set. It will also be seen from Figs. 1 and 3 in particular that the bristles in the second set that are arranged in front of and behind the third set slope away from the third set. The bristles in the two bristle rings 6' and 6'' preferably slope in the same direction along their respective rings. However, it is possible to allow, for instance, the bristles in the outer ring 6' to slope in the opposite direction to the one in which the bristles 6'' in the inner ring slope. The bristles 6' in the outer ring preferably have a greater angle of inclination than the bristles in the inside ring 6''.

It will also be noted with reference to Figs. 1 and 3 that the third set in the centre thereof has a vertically projecting tuft of bristles 5.

Thus, the present invention provides a brush head on a toothbrush which during clinical tests has been found to have improved brushing properties compared with known toothbrushes of the type mentioned in the introduction. The major advantage of the present invention over the known solutions is that a greater number of the bristles than usual will form a V-shape, irrespective of the brushing direction.

P a t e n t c l a i m s

1.

A brush head for a toothbrush where the brush head has a plurality of bristles, and where a first set of the bristles projects straight upright from the brush head body and where a second set of the bristles forms an angle with the brush head body, characterised in that some of the bristles in the second set are arranged on the brush head as at least two concentric rings, thus forming a third set of bristles.

2.

A brush head as disclosed in claim 1, characterised in that the third set of bristles is arranged at approximately the halfway point in the longitudinal direction of the brush head.

3.

A brush head as disclosed in claim 1 or 2, characterised in that at least some of the bristles in the first set are positioned in front of the third set and some behind the third set.

4.

A brush head as disclosed in one or more of the preceding claims, characterised in that the bristles in the second set that are arranged in front of and behind the third set slope away from the third set.

5.

A brush head as disclosed in one ore more of the preceding claims, characterised in that the bristles in the two bristle rings slope in the same direction along their respective rings.

6.

A brush head as disclosed in claim 5, characterised in that the bristles in the outer ring have a greater angle of inclination than the bristles in the inside ring.

7.

A brush head as disclosed in one or more of the preceding claims, characterised in that the third set in the centre thereof has a straight upright projecting tuft of bristles.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 00/00428

A. CLASSIFICATION OF SUBJECT MATTER

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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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| A | US 4399582 A (ERNEST ET AL), 23 August 1983 (23.08.83) -- | 1-7 |
| A | US 5396678 A (BREDALL ET AL), 14 May 1995 (14.05.95) -- | 1-7 |
| A | US 5806127 A (SAMOIL ET AL), 15 Sept 1998 (15.09.98) -- | 1-7 |

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Åke Olofsson /BS

Telephone No. +46 8 782 25 00

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PCT/NO 00/00428**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

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