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(54) **Toothbrushes**

(57) A toothbrush is disclosed having a handle portion and a head portion carrying or adapted to carry a bristle configuration. The handle has an end portion, a waist, a shoulder portion and a neck connecting the shoulder to the head. The waist is narrower, at least in plan view, than the end portion or the shoulder, and the end portion, preferably, is rounded. The bristle configuration is such that the teeth engaging ends of the bristles do not lie in a plane parallel to the surface of the head of the handle in which the bristles are embedded. In a first embodiment, the teeth engaging ends of at least a proportion of the bristles lie in a curved line when the toothbrush is viewed in side elevation. The curved line is provided by a mixture of concave groups of bristles and convex groups of bristles. In a second embodiment, the bristle configuration falls into at least two groups of bristles. The teeth engaging ends of the bristles of the first group, and the teeth engaging ends of the bristles of the second group, lie in curved lines when the toothbrush is viewed in side elevation. In a third embodiment, the teeth engaging ends of the bristles form a continuous wavy line. In a fourth embodiment, the teeth engaging ends of the bristles fall into two groups, a rearwardly

located group, the castellated group, made up of transversely extending rows of bristles, the rows alternating in height, and a forwardly located group having at least some bristles extending further from the surface of the toothbrush head than any of the bristles of the castellated group.

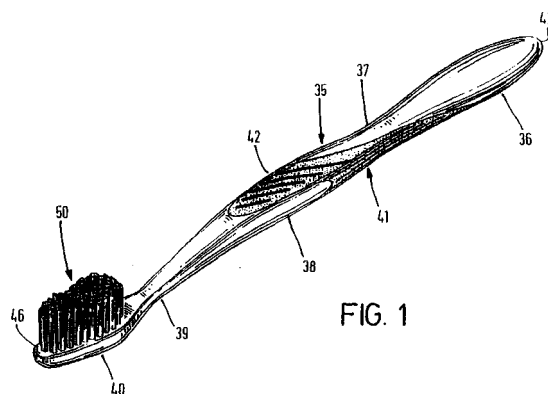


FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	* column 1, line 35 - column 4, line 2; figures 1,2 *	41	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 December 2002	Examiner Triantaphillou, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☒ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
Place of search THE HAGUE		Date of completion of the search 16 December 2002	Examiner Triantaphillou, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 00 20 3299

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-13,39

A toothbrush characterised by the shape of the handle.

2. Claims: 14-20

A toothbrush handle having grip enhancing means in the form of an additional mat.

3. Claims: 21-38,40,41

A toothbrush having a specific bristle configuration.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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