

Title (en)  
TOOTHBRUSH

Publication  
**EP 0471312 A3 19920617 (EN)**

Application  
**EP 91113431 A 19910809**

Priority  
• JP 8561690 U 19900813  
• JP 40490090 U 19901226

Abstract (en)  
[origin: EP0471312A2] A toothbrush has a grip portion (1), and a head portion (2) integrally connected with the grip portion (1) through a neck portion (4) and having bristles implanted therein (3). The neck portion (4) is bent or curved toward the bristles side relative to the grip portion (1). The head portion (2) is further bent or curved toward the bristles side relative to the neck portion (4). In a further embodiment the heights of bristles (15a) implanted in a distal area (12a) of the head portion (2) are set shorter than those in the remaining area. The average position of the tips of each tuft (15, 16) are even across the whole head portion (2). The lengths of bristles within any one tuft (15, 16) may also be varied. The tips of the bristles may also be rounded. <IMAGE>

IPC 1-7  
**A46B 5/02**; **A46B 9/04**

IPC 8 full level  
**A46B 5/02** (2006.01); **A46B 9/04** (2006.01)

CPC (source: EP)  
**A46B 5/02** (2013.01); **A46B 9/045** (2013.01); **A46B 2200/1066** (2013.01)

Citation (search report)  
• EP 0274618 A1 19880720 - TRISA BUERSTENFABRIK AG [CH]  
• US 4654922 A 19870407 - CHEN HORNG Y [TW]  
• DE 8612586 U1 19860807  
• [X] GB 1098933 A 19680110 - SUNBEAM CORP  
• [A] US 4670931 A 19870609 - ABBASSI MALIHEH [US]

Cited by  
EP1661486A3; US5926897A; CN103239010A; EP2298126A1; EP1649776A3; AU700294B2; US5926898A; US5628082A; DE19507364A1; EP1240848A3; US6178583B1; US10405642B2; US11219303B2; WO9616571A1; WO9628994A1; WO9625866A1; WO2004056235A1; US7814606B2; US7979947B2; WO2005006915A1; WO2006043114A3; US7174596B2; US7354112B2; US7445295B2; US7458647B2; US7988238B2; USRE42985E; USRE44346E; USRE47468E; US7520571B2

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