

Title (en)

TOOTHBRUSH HAVING IMPROVED TUFT RETENTION AND ANCHOR WIRE

Title (de)

ZAHNBÜRSTE MIT VERBESSERTER BÜSCHELFIXIERUNG UND VERANKERUNGSDRAHT

Title (fr)

BROSSE À DENTS AYANT UNE MEILLEURE RETENUE DES TOUFFES ET DES FILS D'ANCRAGE

Publication

**EP 2448446 B1 20160127 (EN)**

Application

**EP 09790029 A 20090701**

Priority

US 2009049432 W 20090701

Abstract (en)

[origin: WO2011002460A1] An ansate implement, especially a toothbrush (200), having improved tuft retention and a staple (100) for use therewith. The staple has a specially designed topography that provides reliable anchoring and creation from cost effective materials. In one embodiment, the invention is an ansate implement comprising: a handle (220); a head (210) connected to said handle and having at least one hole (215) extending into the head from a surface (211); at least one cleaning element (50) positioned in the hole; and a staple located in the hole anchoring the cleaning element in the tuft hole, the staple having a longitudinal axis (A-A) and a first major surface (20), wherein a plurality of spaced apart grooves (30) are formed into the first major surface, each of the grooves extending along a linear axis (B-B) from a bottom edge (111 ) of the staple toward a top edge (10) of the staple, the linear axis intersecting the longitudinal axis at an acute angle (?) of 40 to 70 degrees.

IPC 8 full level

**A46B 3/16** (2006.01)

CPC (source: EP KR)

**A46B 3/16** (2013.01 - EP KR); **A46B 9/04** (2013.01 - KR); **A46B 2200/1066** (2013.01 - EP)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

**WO 2011002460 A1 20110106**; AU 2009348907 A1 20111208; AU 2009348907 B2 20130516; CA 2764966 A1 20110106; CA 2764966 C 20140930; CN 102469871 A 20120523; CN 102469871 B 20160120; EP 2448446 A1 20120509; EP 2448446 B1 20160127; KR 101402438 B1 20140603; KR 20120031094 A 20120329; MX 2011012446 A 20111216; PH 12013502553 A1 20150413; PH 12013502553 B1 20150413; RU 2472404 C1 20130120

DOCDB simple family (application)

**US 2009049432 W 20090701**; AU 2009348907 A 20090701; CA 2764966 A 20090701; CN 200980160310 A 20090701; EP 09790029 A 20090701; KR 20127002823 A 20090701; MX 2011012446 A 20090701; PH 12013502553 A 20131209; RU 2012103333 A 20090701