

Title (en)
ULTRASONIC HAIR STYLING

Title (de)
ULTRASCHALLHAARSTYLING

Title (fr)
COIFFURE ULTRASONORE

Publication
EP 3328235 B1 20201125 (EN)

Application
EP 16751230 A 20160728

Priority
• EP 15178824 A 20150729
• EP 2016068102 W 20160728

Abstract (en)
[origin: WO2017017236A1] A hair styler uses ultrasound at an ultrasound frequency of at least 1 MHz to get a non-chemical hair styling. Advantageously, the ultrasound frequency is between 1 and 100 MHz, preferably between 3 and 10 MHz, and more preferably between 3 and 5 MHz. The ultrasound energy is preferably applied at a power that is at least 1 W/cm², and preferably does not exceed 10 W/cm², such as 6 W/cm². The invention may be used for hair curling and for hair straightening. A hair straightening method comprises temporarily straightening hair, and applying ultrasound to temporarily straightened hair to obtain straightened hair. Advantageously, ultrasound is applied during a period of between 5 seconds and 2 minutes, and preferably during about 10 seconds.

IPC 8 full level
A45D 2/00 (2006.01); **A45D 1/04** (2006.01)

CPC (source: EP KR US)
A45D 1/04 (2013.01 - EP US); **A45D 2/001** (2013.01 - EP US); **A45D 2/002** (2013.01 - US); **A45D 2/10** (2013.01 - KR); **A45D 2/141** (2013.01 - KR); **B06B 1/02** (2013.01 - KR); **A45D 2200/207** (2013.01 - EP US)

Citation (opposition)
Opponent : AWA Babyliss Faco
• JP 2009291545 A 20091217 - PANASONIC ELEC WORKS CO LTD
• US 2011108051 A1 20110512 - YAHNKE CHRISTOPHER RYAN [US], et al
• US 2015173477 A1 20150625 - LEUNG ANTHONY KIT LUN [CN]
• EP 1728450 A2 20061206 - MATSUSHITA ELECTRIC WORKS LTD [JP]
• JP 2010162150 A 20100729 - PANASONIC ELEC WORKS CO LTD
• JP 2009089945 A 20090430 - PANASONIC ELEC WORKS CO LTD

Designated contracting state (EPC)
AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2017017236 A1 20170202; BR 112018001929 A2 20180925; CN 107847026 A 20180327; CN 107847026 B 20210504; EP 3328235 A1 20180606; EP 3328235 B1 20201125; JP 2018521773 A 20180809; KR 20180034572 A 20180404; RU 2018107077 A 20190828; US 2018220765 A1 20180809

DOCDB simple family (application)
EP 2016068102 W 20160728; BR 112018001929 A 20160728; CN 201680043999 A 20160728; EP 16751230 A 20160728; JP 2018502422 A 20160728; KR 20187005580 A 20160728; RU 2018107077 A 20160728; US 201615747969 A 20160728