

Title (en)  
SUCTION NOZZLE AND VACUUM CLEANER AND ROBOT CLEANER HAVING THE SAME

Title (de)  
SAUGDÜSE UND STAUBSAUGER UND ROBOTERREINIGER DAMIT

Title (fr)  
BUSE D'ASPIRATION ET ASPIRATEUR ET ROBOT NETTOYEUR COMPRENANT CES DERNIERS

Publication  
**EP 3471589 A4 20190814 (EN)**

Application  
**EP 17853336 A 20170911**

Priority  
• KR 20160122429 A 20160923  
• KR 20160170620 A 20161214  
• KR 2017009932 W 20170911

Abstract (en)  
[origin: KR20180033031A] Disclosed are a suction nozzle, and a vacuum cleaner and a robot cleaner having the same. The suction nozzle according to the present invention comprises: a housing formed with a suction port at the bottom surface thereof and formed with a suction flow path communicating with the suction port at the inside thereof; and a vacuum cleaning unit disposed on the suction flow path and through which air including dirt introduced through the suction port passes, wherein the vacuum cleaning unit comprises: a vibration source; a vibration transfer frame accommodating the vibration source; and a vibration bar receiving vibration from the vibration transfer frame for resonance.

IPC 8 full level  
**A47L 9/04** (2006.01); **A47L 5/28** (2006.01); **A47L 7/02** (2006.01); **A47L 9/06** (2006.01); **A47L 9/28** (2006.01)

CPC (source: EP KR US)  
**A47L 5/28** (2013.01 - US); **A47L 7/02** (2013.01 - KR); **A47L 9/04** (2013.01 - KR); **A47L 9/0405** (2013.01 - KR); **A47L 9/0411** (2013.01 - EP US); **A47L 9/0455** (2013.01 - EP); **A47L 9/0466** (2013.01 - US); **A47L 9/0483** (2013.01 - EP KR); **A47L 9/0488** (2013.01 - EP); **A47L 9/0606** (2013.01 - US); **A47L 9/066** (2013.01 - US); **A47L 9/2826** (2013.01 - US); **A47L 9/2847** (2013.01 - EP); **A47L 9/2852** (2013.01 - EP US); **A47L 2201/04** (2013.01 - US); **A47L 2201/06** (2013.01 - EP)

Citation (search report)  
• [XA] JP H07313411 A 19951205 - SHARP KK  
• [XA] US 2011088207 A1 20110421 - LIM SEUNG-HEUN [KR]  
• [XA] US 7234198 B2 20070626 - BOSSES MARK D [US]  
• See references of WO 2018056622A1

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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
EP 3471589 A1 20190424; EP 3471589 A4 20190814; EP 3471589 B1 20221102; KR 102596734 B1 20231102; KR 20180033031 A 20180402

DOCDB simple family (application)  
EP 17853336 A 20170911; KR 20160170620 A 20161214