

Title (en)  
SURFACE CLEANING HEAD INCLUDING OPENABLE AGITATOR CHAMBER AND REMOVABLE AGITATORS FOR USE THEREIN

Title (de)  
FLÄCHENREINIGUNGSKOPF MIT EINER ÖFFNUNGSFÄHIGEN RÜHRERKAMMER UND ABNEHMBAREN RÜHRERN ZUR VERWENDUNG DARIN

Title (fr)  
TÊTE DE NETTOYAGE DE SURFACE COMPRENANT UNE CHAMBRE D'AGITATEUR POUVANT ÊTRE OUVERTE ET DES AGITATEURS AMOVIBLES DESTINÉS À ÊTRE UTILISÉS À L'INTÉRIEUR DE CELLE-CI

Publication  
**EP 3250102 A4 20190213 (EN)**

Application  
**EP 16744107 A 20160128**

Priority

- US 201562110232 P 20150130
- US 201514739915 A 20150615
- US 201514744438 A 20150619
- US 201514801185 A 20150716
- US 201514812734 A 20150729
- US 201514867599 A 20150928
- US 2016015370 W 20160128

Abstract (en)  
[origin: EP4008228A1] A removable rotatable agitator (130, 730) for use in a surface cleaning head (100, 700, 2400, 2500, 2600, 2700, 2800, 2900), the removable rotatable agitator comprising: the agitator, or an agitator body (131, 531, 631, 731) having a driven end (132, 732) and a non-driven end (134, 754); at least one agitator element (136, 536) located on at least a portion of the agitator body between the driven end and the non-driven end; a tab (796), or an end cap including a tab, the tab extending radially from at least one end of the agitator body and configured to be gripped by a user to facilitate removing and inserting the non-driven end into an agitator chamber (120, 720) in the surface cleaning head; and a splined driven member (780) located at the driven end of the agitator body, the splined driven member being configured to mate axially and engage with a splined drive member (770) on a drive mechanism (750) in the surface cleaning head.

IPC 8 full level  
**A47L 9/04** (2006.01)

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Citation (search report)

- [XA] US 5309601 A 19940510 - HAMPTON LEONARD D [US], et al
- [A] US 4980945 A 19910101 - BEWLEY WILBUR C [US]
- [A] GB 2292673 A 19960306 - SHARP KK [JP]
- [A] JP H1014830 A 19980120 - HITACHI LTD
- See references of WO 2016123345A1

Cited by  
CN114682188A; CN115120151A; US11503968B2

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