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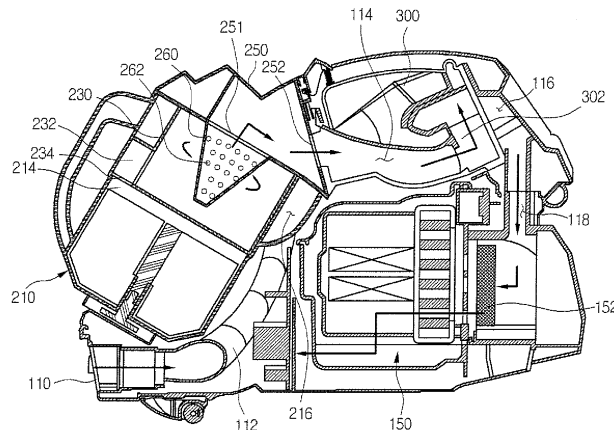
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(54) Vacuum cleaner having primary and secondary cyclone units

(57) A vacuum cleaner (10) is provided. The vacuum cleaner (10) includes a main body (100) in which a suction generating unit is disposed, a dust collection unit (200) detachably mounted on a front portion of the main body (100) and having a primary cyclone unit for separating

dusts contained in air, a secondary cyclone unit (300) provided in the main body (100), and a discharge unit (120) formed in the main body (100) to discharge air whose dusts are separated at the secondary cyclone unit (300) out of the main body (100).

Fig. 7



EP 1 857 032 A3



EUROPEAN SEARCH REPORT

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EP 06 12 5823

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 2 404 887 A (DYSON LTD [GB]; DYSON TECHNOLOGY LTD [GB]) 16 February 2005 (2005-02-16)	1-8, 12, 15	INV. A47L9/16
Y	* page 8, paragraph 3; figure 9a *	9-11	
Y	WO 00/74548 A (LG ELECTRONICS INC [KR]; AN HYEOK SEONG [KR]; LIM KYEONG SEOK [KR]; Kw) 14 December 2000 (2000-12-14) * abstract; figure 3 *	9-11	
X	WO 01/60524 A (LG ELECTRONICS INC [KR]; PARK DEOG BAE [KR]; YANG BYUNG SUN [KR]) 23 August 2001 (2001-08-23) * abstract; figures 1-13 *	1	
X	US 2005/252179 A1 (OH JANG-KEUN [KR] ET AL) 17 November 2005 (2005-11-17) * abstract; figures 1-5 *	1	
X	GB 2 416 721 A (DYSON LTD [GB]; DYSON TECHNOLOGY LTD [GB]) 8 February 2006 (2006-02-08) * abstract; figures 1-7 *	1	
A	US 2002/088079 A1 (OH JANG-KEUN [KR]) 11 July 2002 (2002-07-11) * abstract; figures 1-6 *	13	TECHNICAL FIELDS SEARCHED (IPC) A47L
The present search report has been drawn up for all claims			
1	Place of search Munich	Date of completion of the search 29 May 2009	Examiner Hubrich, Klaus
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 12 5823

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on

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29-05-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2404887	A	16-02-2005	AU 2004264703	A1 24-02-2005
			CA 2534344	A1 24-02-2005
			CN 1832700	A 13-09-2006
			EP 1653837	A1 10-05-2006
			WO 2005016108	A1 24-02-2005
			JP 2007501116	T 25-01-2007
			US 2006179802	A1 17-08-2006

WO 0074548	A	14-12-2000	AU 3333300	A 28-12-2000
			EP 1199970	A1 02-05-2002

WO 0160524	A	23-08-2001	AU 3332700	A 27-08-2001
			CN 1434749	A 06-08-2003
			EP 1259330	A1 27-11-2002
			JP 4176994	B2 05-11-2008
			JP 2003524522	T 19-08-2003
			KR 20010083627	A 01-09-2001
			RU 2226433	C1 10-04-2004
			US 6746500	B1 08-06-2004

US 2005252179	A1	17-11-2005	AU 2005200092	A1 01-12-2005
			CA 2492737	A1 14-11-2005
			CN 1695537	A 16-11-2005
			DE 102005002377	A1 08-12-2005
			ES 2270688	A1 01-04-2007
			FR 2870140	A1 18-11-2005
			GB 2413973	A 16-11-2005
			JP 2005324002	A 24-11-2005
			KR 20050109145	A 17-11-2005
			RU 2286079	C2 27-10-2006

GB 2416721	A	08-02-2006	AU 2005266174	A1 02-02-2006
			CA 2575456	A1 02-02-2006
			CN 1988962	A 27-06-2007
			EP 1786568	A1 23-05-2007
			WO 2006010881	A1 02-02-2006
			JP 2008507311	T 13-03-2008
			KR 20070043811	A 25-04-2007
			US 2008302071	A1 11-12-2008

US 2002088079	A1	11-07-2002	AU 783658	B2 24-11-2005
			CA 2361956	A1 11-07-2002
			GB 2370978	A 17-07-2002
			KR 20020060493	A 18-07-2002
