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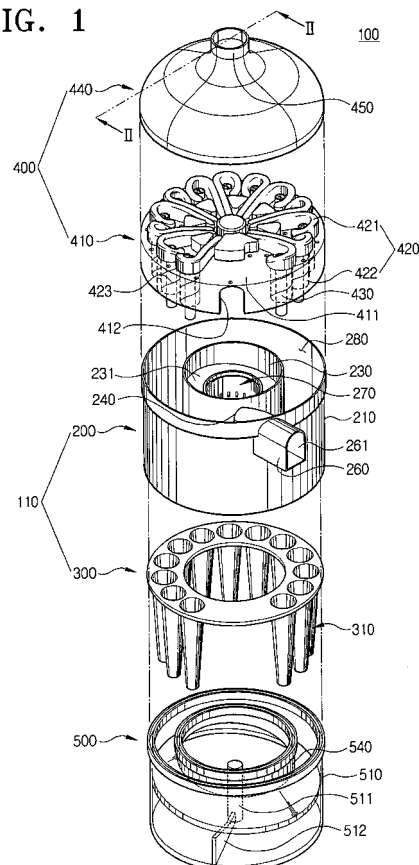
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(54) **Mutli cyclone dust separating apparatus**

(57) A multi cyclone dust separating apparatus (110) including a first cyclone (200) and a second cyclone (300) having a plurality of cyclones (310) formed on an outer side of the first cyclone (200). The first cyclone (200) includes a first cyclone chamber centrifugally separating dust from air, a chamber outer wall, a first inlet (240) and a first outlet (250) forming the first cyclone chamber. The second cyclone unit (300) includes a plurality of cyclones (310) arranged along an outer circumference of the first chamber outer wall (230), and having a second cyclone chamber (320) centrifugally separating minute dusts from air drawn in from the first cyclone unit (200), a second chamber outer wall (330) forming the second cyclone chamber, second inlet (340), and a second outlet. The second inlet (340) of each second cyclone (310) of the second cyclone unit (300) is lower than the first inlet (240) of the first cyclone unit (200) and freely settable.

FIG. 1





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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2005/050864 A1 (OH JANG-KEUN [KR] ET AL) 10 March 2005 (2005-03-10) * paragraphs [0007] - [0015] *	1-8	INV. A47L9/16 B04C5/04
A	GB 2 360 719 A (NOTETRY LTD [GB]; DYSON LTD [GB]) 3 October 2001 (2001-10-03) * page 3, line 18 - page 12, line 22; figure 4a *	1-8	
A	GB 835 884 A (THEODORE RUFUS NAYLOR) 25 May 1960 (1960-05-25) * page 1, line 27 - page 2, line 100 *	1-8	
A	US 2002/043055 A1 (CONRAD WAYNE ERNEST [CA]) 18 April 2002 (2002-04-18) * paragraphs [0005] - [0017] *	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47L B04C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 5 June 2007	Examiner MARTIN GONZALEZ, G
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		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.**

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The members are as contained in the European Patent Office EDP file on
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05-06-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2005050864	A1	10-03-2005	AU 2004202470 A1	24-03-2005
			CA 2469533 A1	09-03-2005
			CN 1593324 A	16-03-2005
			DE 102004028677 A1	31-03-2005
			ES 2253094 A1	16-05-2006
			FR 2859371 A1	11-03-2005
			JP 2005081135 A	31-03-2005
			KR 20050026217 A	15-03-2005
			RU 2263459 C1	10-11-2005

GB 2360719	A	03-10-2001	AT 279263 T	15-10-2004
			AU 4089401 A	15-10-2001
			CN 1422187 A	04-06-2003
			DE 60106407 D1	18-11-2004
			DE 60106407 T2	13-10-2005
			EP 1268076 A1	02-01-2003
			ES 2228819 T3	16-04-2005
			WO 0174493 A1	11-10-2001
			JP 2003528704 T	30-09-2003
			US 2004088956 A1	13-05-2004

GB 835884	A	25-05-1960	NONE	

US 2002043055	A1	18-04-2002	NONE	
