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(54) **Apparatus for continuous drying of a filter cake, fibrous materials, paste, sludge, fibres, and similar materials**

(57) The apparatus embodies a feeding device (1), which conveys the paste/fibrous feeding material into a rotating disintegrator (4). In the under part of the apparatus the drying gasses (6) are being introduced and passed upwards through the slot (8) and into the disintegrator housing (4). The drying chamber has a conical shape with the point towards the outlet for the drying gasses (14), where the symmetrical rotating layer of powder (16), because of the rotation of the disintegrator (4), is being pressed by the wall of the cone (12) away from the the outlet for the drying air (14) with a resulting accelerating force (13) which is greater than the force of gravity. The symmetrical rotating layer of powder (16) is being held in position during the stay in the drying/floating zone (5). The finally dried material and the spent drying air is being discharged through the product outlet (17) and (18) in the upper part of the drying chamber.

A step 2 air volume (9), which has a for the particles moderate temperature, is being blown from the ring chamber (10) through slots or nozzles (11) into the drying/ floating zone and can for this reason gently after dry the symmetrical rotating layer of powder (16) as in a fluid bed.

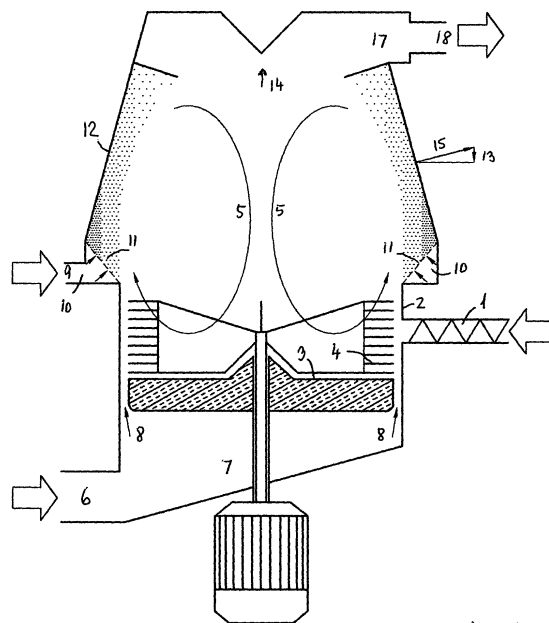


Fig 1



EUROPEAN SEARCH REPORT

Application Number
EP 06 38 8033

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	WO 92/12796 A (TECHDANIA I S [DK]) 6 August 1992 (1992-08-06) * page 23, lines 1-6; figure 8 *	1	INV. F26B1/00 F26B5/08 F26B17/10
Y	GB 981 750 A (BAYER AG) 27 January 1965 (1965-01-27) * the whole document *	1	
A	DE 36 12 049 A1 (KUEHLMANN JOSEF) 15 October 1987 (1987-10-15) * the whole document *	1	
A	US 6 065 695 A (SHIMASAKI TATSUAKI [JP]) 23 May 2000 (2000-05-23) * the whole document *	1	
A	WO 97/19307 A (ANHYDRO AS [DK]; GETLER JENS [DK]) 29 May 1997 (1997-05-29) * the whole document *	1,3	
A	EP 1 319 632 A (KLIMAPOL SP Z O O J V [PL]) 18 June 2003 (2003-06-18) * the whole document *	1,3	TECHNICAL FIELDS SEARCHED (IPC)
A	US 5 647 142 A (ANDERSEN POUL RASMUS [DK] ET AL) 15 July 1997 (1997-07-15) * figure 4 *	1	F26B
A	GB 1 183 355 A (SIEMENS AG [DE]) 4 March 1970 (1970-03-04) * the whole document *	2	
A	DE 31 08 875 A1 (KRAFTWERK UNION AG [DE]) 16 September 1982 (1982-09-16) * the whole document *	2	
		-/--	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 9 February 2009	Examiner Silvis, Henk
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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EUROPEAN SEARCH REPORT

Application Number
EP 06 38 8033

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	EP 1 287 304 A (ANDRITZ AG MASCHF [AT]) 5 March 2003 (2003-03-05) * the whole document *	3	
A	US 5 544 426 A (YOSHIDA KATUNORI [JP] ET AL) 13 August 1996 (1996-08-13)		
A	EP 0 141 403 A (ANHYDRO AS [DK]) 15 May 1985 (1985-05-15)		
A	DE 103 09 292 A1 (ALLGAIER WERKE GMBH [DE]) 23 September 2004 (2004-09-23)		
A	WO 99/27316 A (TWISTER MILIEU B V [NL]; JANSZ LUCAS JOHANNES [NL]) 3 June 1999 (1999-06-03)		
A	US 3 592 395 A (LOCKWOOD RAYMOND M ET AL) 13 July 1971 (1971-07-13)		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
2 Place of search The Hague Date of completion of the search 9 February 2009 Examiner Silvis, Henk			
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			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 38 8033

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-02-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9212796 A	06-08-1992	AU 1202292 A	27-08-1992
		DE 69204277 D1	28-09-1995
		DE 69204277 T2	28-03-1996
		DK 9891 A	15-09-1992
		DK 567560 T3	04-12-1995
		EP 0567560 A1	03-11-1993
GB 981750 A	27-01-1965	NONE	
DE 3612049 A1	15-10-1987	NONE	
US 6065695 A	23-05-2000	CA 2253091 A1	12-12-1999
		JP 2944036 B2	30-08-1999
		JP 11351741 A	24-12-1999
		SG 79998 A1	17-04-2001
WO 9719307 A	29-05-1997	DE 69603288 D1	19-08-1999
		DE 69603288 T2	09-12-1999
		EP 0862718 A1	09-09-1998
		US 6085440 A	11-07-2000
EP 1319632 A	18-06-2003	NONE	
US 5647142 A	15-07-1997	NONE	
GB 1183355 A	04-03-1970	AT 274744 B	25-09-1969
		BE 694026 A	17-07-1967
		CH 495770 A	15-09-1970
		DE 1542445 B1	14-05-1970
		DE 1542446 A1	18-06-1970
		DE 1667252 B1	03-02-1972
		FR 1513885 A	16-02-1968
		NL 6702604 A	11-09-1967
		SE 309573 B	31-03-1969
DE 3108875 A1	16-09-1982	US 4454661 A	19-06-1984
EP 1287304 A	05-03-2003	AT 408751 B	25-03-2002
		AU 6753101 A	17-12-2001
		DE 50104840 D1	20-01-2005
		WO 0194866 A1	13-12-2001
		NZ 522955 A	28-10-2005
		US 2004112796 A1	17-06-2004
US 5544426 A	13-08-1996	DE 9410985 U1	01-09-1994
		JP 7027476 A	27-01-1995

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 38 8033

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The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-02-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5544426 A		JP 8027133 B	21-03-1996
EP 0141403 A	15-05-1985	DE 3475728 D1	26-01-1989
		DK 514483 A	11-05-1985
		US 4581830 A	15-04-1986
DE 10309292 A1	23-09-2004	NONE	
WO 9927316 A	03-06-1999	AU 1264499 A	15-06-1999
US 3592395 A	13-07-1971	NONE	

EPO FORM P0459

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