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(54) **Disposable, self-driven centrifuge rotor**

(57) A disposable, cone-stack, self-driven centrifuge rotor assembly (20) for separating particulate matter out of a circulating flow of oil includes first and second rotor shell portions (22 and 23) which are injection molded out of plastic and joined together by ultrasonically welding engaging edges (26 and 27) so as to create an enclosing shell with a hollow interior. An injection molded, plastic support hub (25) is assembled into a central opening in the lower half (23) of the rotor shell and extends upwardly into the hollow interior. An injection molded, plastic bearing/alignment spool (24) is assembled into a central opening in the upper portion (22) of the rotor shell and extends downwardly into the hollow interior. A cone-stack subassembly (21), including a plurality of individual separation cones which are injection molded out of plastic, are arranged into an aligned stack and positioned within the hollow interior and cooperatively assembled between the support hub (25) and the bearing/alignment spool (24). The all plastic construction for the centrifuge rotor assembly (20) allows the entire assembly (20) to be disposed of without any disassembly required.

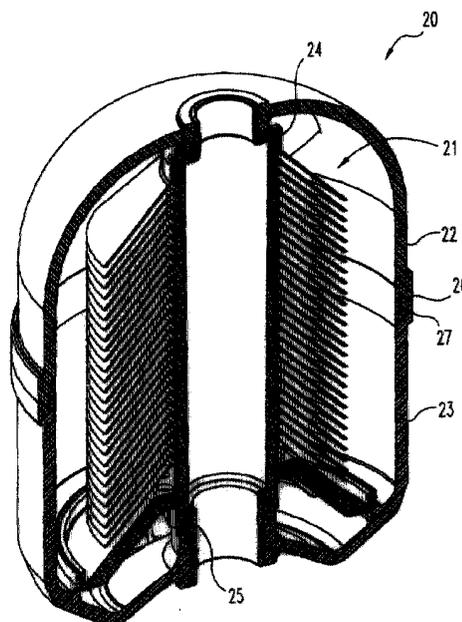


Fig. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 00 30 5657

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,X	US 5 637 217 A (HERMAN PETER K ET AL) 10 June 1997 (1997-06-10) * column 3, line 41 - line 54 * * column 13 - column 16 * -----	1,2,4, 6-12	B04B7/08 B04B1/08 B04B5/00
Y	* claims; figures 11-22 *	3,5	
Y	WO 98 46361 A (FISCHER HELMUT ;FREHLAND PETER (DE); WEBER OLAF (DE); WEINDORF MAR) 22 October 1998 (1998-10-22) * page 8 - page 9; claims; figure 3 * -----	3,5	
X	GB 2 049 494 A (GLACIER METAL CO LTD) 31 December 1980 (1980-12-31) * the whole document * -----	6-10	
A		1,4	
X	US 4 787 975 A (PURVEY RONALD J) 29 November 1988 (1988-11-29) * the whole document * -----	6-10	
A		1,4	
A	WO 92 16303 A (GLACIER METAL CO LTD) 1 October 1992 (1992-10-01) * the whole document * -----	1-12	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	US 5 549 821 A (BOUNNAKHOM ALAN S ET AL) 27 August 1996 (1996-08-27) * the whole document * -----	1-12	B04B B01D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
MUNICH		14 December 2001	Herry, M
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	
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			

EPO FORM 1503 03 82 (P/AC01)

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

EP 00 30 5657

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14-12-2001

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5637217	A	10-06-1997	US 5575912 A	19-11-1996
			AU 688201 B2	05-03-1998
			BR 9606794 A	30-12-1997
			EP 0806985 A1	19-11-1997
			JP 2001505476 T	24-04-2001
			US 5795477 A	18-08-1998
			AU 4758596 A	14-08-1996
			WO 9622835 A1	01-08-1996
WO 9846361	A	22-10-1998	DE 19715661 A1	22-10-1998
			WO 9846361 A1	22-10-1998
			EP 1011868 A1	28-06-2000
			JP 2001518839 T	16-10-2001
			US 6224531 B1	01-05-2001
GB 2049494	A	31-12-1980	US 4400167 A	23-08-1983
			AT 9279 T	15-09-1984
			AU 535133 B2	01-03-1984
			BR 8008837 A	30-06-1981
			DD 154527 A5	31-03-1982
			DE 3069128 D1	18-10-1984
			EP 0035498 A1	16-09-1981
			WO 8002119 A1	16-10-1980
			JP 56500485 T	16-04-1981
			JP 62041071 B	01-09-1987
			US 4288030 A	08-09-1981
			US 4787975	A
AU 5382186 A	04-09-1986			
BR 8600736 A	04-11-1986			
CA 1294593 A1	21-01-1992			
DE 3663455 D1	29-06-1989			
EP 0193000 A2	03-09-1986			
ES 2091162 A6	16-10-1996			
FI 860829 A ,B,	28-08-1986			
FR 2577824 A1	29-08-1986			
IN 166595 A1	09-06-1990			
JP 1946181 C	10-07-1995			
JP 6049162 B	29-06-1994			
JP 61234963 A	20-10-1986			
KR 9306394 B1	14-07-1993			
ZA 8600899 A	24-09-1986			
WO 9216303	A	01-10-1992	WO 9216303 A1	01-10-1992
US 5549821	A	27-08-1996	AU 2604395 A	21-12-1995

EPO FORM P0459

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

EP 00 30 5657

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.

14-12-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5549821 A		WO 9532786 A1	07-12-1995
		AU 8011794 A	18-04-1995
		BR 9407616 A	14-01-1997
		EP 0721364 A1	17-07-1996
		JP 9503431 T	08-04-1997
		WO 9509037 A1	06-04-1995
		US 5556542 A	17-09-1996

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82