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54 **Apparatus for magnetic separation of impurities from fluids.**

57 Disclosed is an apparatus for efficiently effecting a high gradient magnetic separation process. This apparatus for purifying impurities in fluids provides a plurality of filter elements with a frame stretched with ferromagnetic linear bodies which are contained in fluid flowpassage in a non-magnetic case, a magnetizing device disposed externally on side walls of the non-magnetic case, and washing means for washing the filter elements, whereby magnetic impurities in the fluid can be captured efficiently, and backwashing can be easily accomplished.

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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 (Int. Cl.4)
X	FR-A-2 318 682 (KLOCNKER-HUMBOLDT DEUTZ AG) * Claims 1,4,9,11; page 9, line 30 - page 10, line 15; page 10, line 36 - page 11, line 1; figures 2-4 *	1-4	B 03 C 1/02
A	---	5	
A	PATENT ABSTRACTS OF JAPAN, vol. 2, no. 103 (M-78), 24th August 1978, page 3168 M 78; & JP-A-53 72 273 (DAIDO SEIKO K.K.) 27-06-1978 * Abstract *	1,8	
A	GB-A-2 116 077 (JAPAN ORGANO CO., LTD) * Claim 5; page 2, line 93 - page 3, line 2; figures 4,6,7 *	1,5	
A	US-A-2 912 106 (W.C. MARTIN) * Claim 1; column 1, lines 15-19; column 3, line 1 - column 4, line 22; column 5, lines 16-34; figures 1,3 *	1,7	
A	PATENT ABSTRACTS OF JAPAN, vol. 12, no. 209 (C-504)[3056], 15th June 1988; & JP-A-63 7348 (NIPPON STEEL CORP) 13-01-1988 * Abstract *		
X	GB-A-1 562 941 (R.R. BIRSS et al.) * Claims 1,14,15; page 2, lines 40-45; page 3, line 129 - page 4, line 36; figures 1,2,9 *	11,15	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15-01-1991	Examiner DECANNIERE L.J.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>..... & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (04/82) (P0401)



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid,
namely claims:
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

X

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions,
namely:

See sheet -B-

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid,
namely claims:
- None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims,
namely claims:



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.4)
A	FR-A-2 349 363 (ENGLISH CLAYS LOVERING POCHIN & CO., LTD) * Claims 1,2,4; page 8, line 18 - page 10, line 37; figures 1,2 * ----	11-15, 17-22	
A	PATENT ABSTRACTS OF JAPAN, vol. 4, no. 20 (M-92), 19th February 1980, page 140 M 92; & JP-A-54 158 767 (NIPPON DENKI K.K.) 14-12-1979 -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
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LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.

namely:

1. Claims 1-10: Purifying apparatus comprising filter elements composed of a frame with stretched ferromagnetic linear.
2. Claims 11-22: Purifying apparatus comprising filter elements packed with ferromagnetic linear bodies in a net bag.