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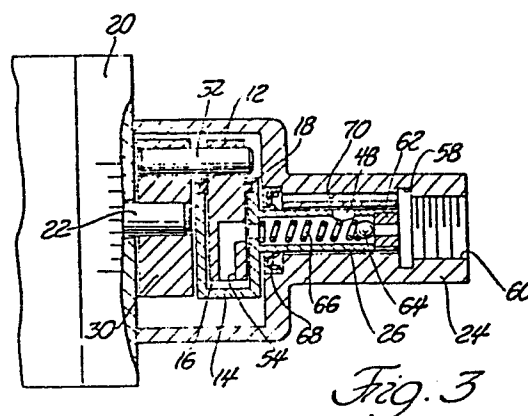
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54 Pump having piston and cylinder rotatable respectively about spaced axes transverse to the reciprocating axis.

57 A pump assembly (10) including a piston (12) connected to a rotating wheel (30) by a pin (32) radially offset from the axis of rotation of the wheel and a cylinder (14) in reciprocating telescoping relationship with the piston (12) and supported by a hollow shaft (26) for rotation in a housing member (24) so that the piston (12) rotates about the axis of a supporting shaft (22) extending transversely to the reciprocating movement while the cylinder (14) rotates about another axis transverse to the reciprocating movement with the distance between the two axes being adjustable to vary the displacement of the pumping chamber (16) between zero when the two axes coincide to a maximum degree when the two axes are spaced the maximum amount. The housing (24) rotatably supporting the hollow shaft (26) of the cylinder (14) includes two fixed fluid ports (50, 52) which alternately communicate with an axially aligned radial port (48) in the hollow shaft (26).





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EUROPEAN SEARCH REPORT

0143521

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DOCUMENTS CONSIDERED TO BE RELEVANT			EP 84306162.3
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	US - A - 4 375 945 (JARRETT et al.) * Totality *	1	F 04 B 19/02 F 04 B 7/06
Y	* Fig. 1,2 *	2-14, 15-17	
Y	-- DD - A - 29 172 (KEMPE) * Totality *	2-14, 15-17	
Y	-- AT - B - 51 597 (HELE-SHAW) * Totality *	2-14, 15-17	
Y	-- US - A - 2 895 426 (ORSHANSKY JR.) * Fig. 1,3,5,8 *	2-14, 15-17	
Y	-- GB - A - 1 289 500 (DANFOSS A/S) * Page 2, line 127 - page 3, lines 117; fig. *	2-14, 15-17	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
A	-- AT - B - 5 473 (WINKLER) * Totality *	1	F 04 B 1/00 F 04 B 7/00 F 04 B 19/00 F 04 B 27/00 F 04 B 49/00
A	-- AT - B - 21 759 (LEON CHALAS et al.) * Totality *	1	
A	-- DE - B - 1 156 315 (GESELLSCHAFT FÜR LINDES EISMASCHINEN) * Totality *	1	
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 14-06-1985	Examiner WITTMANN
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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A	CH - A - 461 278 (MOLL) * Totality * ---	1																					
A	US - A - 1 910 876 (APPEL) ----																						
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CATEGORY OF CITED DOCUMENTS <table border="0"> <tr> <td>X</td> <td>particularly relevant if taken alone</td> <td>T</td> <td>theory or principle underlying the invention</td> </tr> <tr> <td>Y</td> <td>particularly relevant if combined with another document of the same category</td> <td>E</td> <td>earlier patent document, but published on or after the filing date</td> </tr> <tr> <td>A</td> <td>technological background</td> <td>D</td> <td>document cited in the application</td> </tr> <tr> <td>O</td> <td>non-written disclosure</td> <td>L</td> <td>document cited for other reasons</td> </tr> <tr> <td>P</td> <td>intermediate document</td> <td>&</td> <td>member of the same patent family corresponding document</td> </tr> </table>				X	particularly relevant if taken alone	T	theory or principle underlying the invention	Y	particularly relevant if combined with another document of the same category	E	earlier patent document, but published on or after the filing date	A	technological background	D	document cited in the application	O	non-written disclosure	L	document cited for other reasons	P	intermediate document	&	member of the same patent family corresponding document
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