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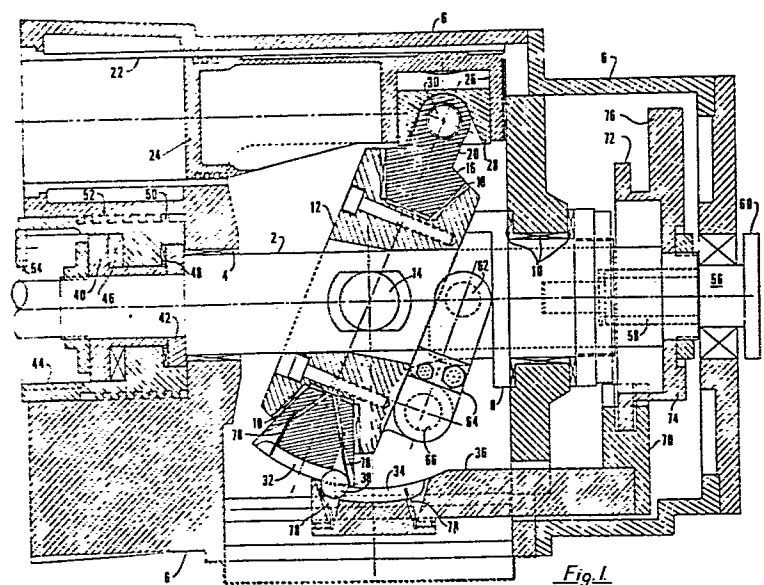
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(54) **Wabblers plate engine mechanisms.**

(57) The invention relates to wabblers plate engine mechanisms having a wabblers plate (16) rotatably mounted on a wabblers carrier (12) which is in turn inclinably mounted on a crankshaft (2) in a crankcase (6). The wabblers plate (16) has a plurality of arms (20) which are coupled to pistons (24) slidably mounted in cylinders (22) arranged around the axis of the crankshaft (2). As the crankshaft (2) rotates, each arm (20) oscillates laterally relative to its respective piston (24) and a stabilizer mechanism comprising ball races (32, 34) on the wabblers plate and a ball carrier (36) on the crankcase (6), is included to prevent the oscillations from unbalancing the mechanism. To provide a variable displacement facility, the present invention incorporates means (44) for shifting the rotational axis of the wabblers plate (16) along the axis of the crankshaft (2), and the ball carrier (36) parallel thereto, while simultaneously altering the angle between the crankshaft axis and the wabblers carrier (12) to vary the stroke of the mechanism.





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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	DE - A - 2 107 729 (HESTERMANN) * entire document * ---	1-8, 13	F 16 H 23/02 F 01 B 3/02// F 02 B 75/26 F 04 B 1/12
Y	FR - A - 1 355 385 (SUZUKI) * entire document * ---	1, 2, 3, 6	
Y	FR - A - 392 320 (RENAULT) * entire document * ---	4	
Y	DE - C - 540 055 (LE BRET) * entire document * ---	5, 7, 8, 13	TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
Y	FR - E - 57 971 (SE. APPLICATION) * entire document * ---	7, 8	F 16 H F 01 B F 04 B
Y	DE - C - 669 350 (SCHNEGGENBURGER) * entire document * ---	13	
A	AT - B - 175 754 (EBERT) * entire document * ---		CATEGORY OF CITED DOCUMENTS
A	DE - C - 636 557 (SCHNEGGENBURGER) * entire 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 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
A	DE - C - 971 177 (BAUER) * entire document * ---	./.	
The present search report has been drawn up for all claims			&: member of the same patent family, corresponding document
Place of search VIENNA		Date of completion of the search 15-03-1982	Examiner BAUMANN



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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	<u>DE - A - 2 206 101</u> (RIEDL) * entire document * ---		
A	<u>CH - A - 218 712</u> (THE VARIABLE) * entire document * ---		
A	<u>FR - A - 432 183</u> (S.A. DU TEMPLE) * entire document * ---		TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
A	<u>GB - A - 463 543</u> (GÖLZ) * entire document * ---		
A	<u>GB - A - 835 936</u> (WAHLMARK) * entire document * ---		
A	<u>GB - A - 906 357</u> (THE NEW YORK AIR) * entire document * ---		
A	<u>GB - A - 1 204 021</u> (NEUKIRCH) * entire document * ---		
A	<u>GB - A - 1 502 425</u> (LUCAS IND.) * entire document * ---		
A	<u>US - A - 2 465 638</u> (ECKERT) * entire document * ---	./.	



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	<u>US - A - 2 718 758 (MINSHALL)</u> * entire document * ---		
A	<u>US - A - 3 357 209 (MOONEY)</u> * entire document * -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)



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:

1. claims 1-9,13: Shiftings and inclining the wabblers plate
2. claims 10-12: Means for inhibiting free movement of the balls in the guiding grooves

- ☐ 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: 1-9,13