Abstract (en)
[origin: EP0035867A2] The invention relates to wabbler plate engine mechanisms. One such mechanism has a wabbler plate (16) rotatably mounted on a wabbler carrier (12) which is in turn inclinably mounted on a crankshaft (2) in a crankcase (6). The wabbler 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 wabbler plate and a ball carrier (36) on the crankcase (6), is included to prevent the oscillations from unbalancing the mechanism. This construction is quite satisfactory but is not readily adaptable to provide for variable displacement. Attempts have been made to incorporate this facility, but a successful solution has not yet been found. In order to provide a variable displacement facility in an engine mechanism of the above kind, the present invention incorporates means (44) for shifting the rotational axis of the wabbler 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 wabbler carrier (12) to vary the stroke of the mechanism. The invention also provides for the effective lengths of the ball races (32, 34) to be variable to accommodate the alteration of said angle.