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(21) International Application Number: PCT/SE98/01511 (22) International Filing Date: 24 August 1998 (24.08.98) (30) Priority Data: 9704477-0 2 December 1997 (02.12.97) SE (71) Applicant (for all designated States except US): HARADS INDIKATOR AB [SE/SE]; P.O. Box 88, S-960 24 Harads (SE). (72) Inventor; and (75) Inventor/Applicant (for US only): HARJU, Bert [SE/SE]; P.O. Box 88, S-960 24 Harads (SE). (74) Agents: MODIN, Jan et al.; Axel Ehmers Patentbyrå AB, P.O. Box 10316, S-100 55 Stockholm (SE).		(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TI, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>With amended claims.</i>
(54) Title: PENDULUM PISTON MOTOR (57) Abstract A hydraulically or pneumatically actuated pendulum piston motor or ring (toroid) piston motor comprising a cylinder housing (1) having a cylinder (toroid) race (2) therein, in which a pendulum piston (3) is swingable in two opposite swing directions, and in which the cylinder race (2), at a place thereof, is divided by a piston chamber wall (4) which defines a piston chamber (5 and 6) on each side of the piston (3), and in which the pendulum piston (3), via a fly mass (10), is connected to a central, output shaft (13) and is arranged to operate over an actuation angle in each swing direction of 340-355°. The pendulum piston motor is formed with two free wheel couplings (14, 15) acting in opposite directions in relation to each other, and with means (17-21) for inverting the direction of rotation of the output shaft (13) during one swing direction of pendulum piston (3).		

