

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number
WO 2005/073046 A1

(51) International Patent Classification⁷: **B60V 1/08**,
B64C 39/12

(21) International Application Number:
PCT/AU2005/000094

(22) International Filing Date: 27 January 2005 (27.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004900404 30 January 2004 (30.01.2004) AU

(71) Applicant and

(72) Inventor: **ELLNOR, Piet** [AU/AU]; 5 Coolgardie Avenue, East Fremantle, Western Australia 6160 (AU).

(74) Agent: **WRAY & ASSOCIATES**; Level 4, The Quadrant, 1 William Street, Perth, Western Australia 6000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

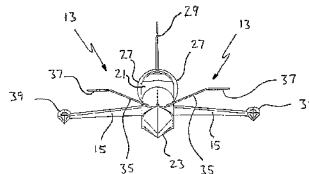
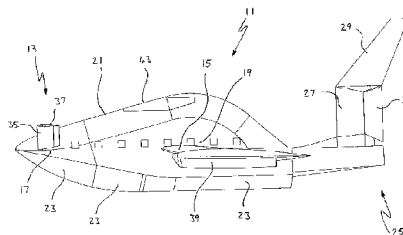
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WING-IN-GROUND-EFFECT CRAFT



(57) **Abstract:** An wing-in-ground-effect craft (11) having a loaded canard forewing (13) and a main forward delta configuration wing (15) attached to fore (17) and mid (19) sections of a body (21) respectively. The body (21) is formed with an integral planing hull (23) for amphibious applications, extending rearward to a tail section (25) which incorporates a ducted fan (27), and a vertical stabiliser (29). Rudder (31) is located in the exhaust of the ducted fan (27) for steering the craft (11), and serves as a stator to reduce spiral induced in the airflow exiting the duct (27). The canard forewing (13) has about 12% of the area of the main wing (15), and has inner portions (35) having a dihedral configuration disposed at a first angle of inclination from the vertical of 68° (equating to a dihedral angle of 22°), and outer portion (37) disposed at a first angle of inclination from the vertical of about 91° (equating to an anhedral angle of about 1°). The inner portions (35) have an angle of attack of 7.5%, while the outer portions (37) have an angle of attack of 4.5°. The main wing (15) has a flat to slightly anhedral configuration and an angle of attack of from 4° to 4.5°. The main wing (15) incorporates a pontoon float (39) attached on the outer end of each main wing (15). The canard forewing (13) has control surfaces in the form of elevons (41) attached behind the inner portions (35).

WO 2005/073046 A1