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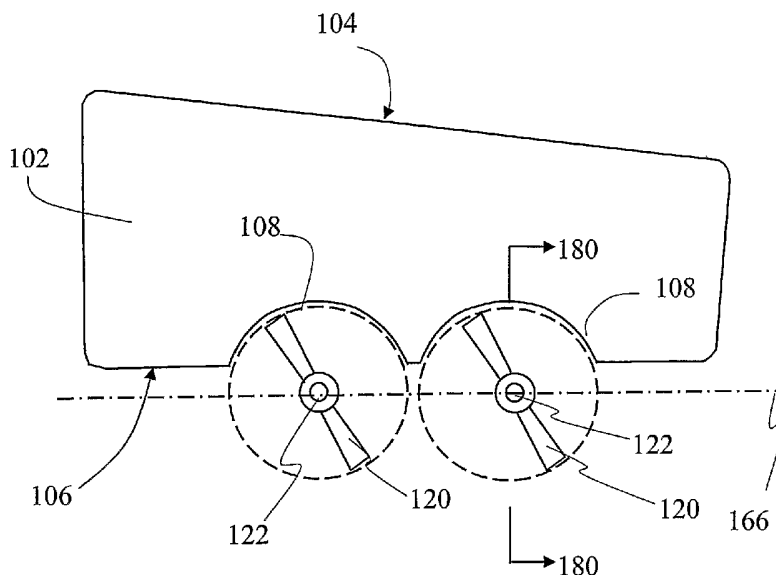
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HIGH-LIFT, LOW-DRAG, STALL-RESISTANT AIRFOIL



(57) Abstract: Method and apparatus embodiments of the present invention are disclosed wherein wing-rotor configurations having rotors (220) passing within arcuate cut-outs (108) of an airfoil (102) provide aerodynamically high lift, low-drag capabilities including high stall angles via the placement of the center of rotor rotation (122) aft of the chord (124) of the arcuate cut-out (108) co-linear with the trailing edge (106) of the wing. In addition, wing-rotor-propeller configurations (1010, 1340) provide aerodynamically high lift, low-drag and forward thrust capabilities for all vehicles moving through gaseous fluids and particularly including applications for air vehicles and watercraft. Also, wing leading edge air-blowing systems (801) augment the example configurations for enhanced performance including substantially vertical take-off and landing of air vehicles.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : B64C 23/00
 US CL : 244/12.1, 12.3, 12.4, 12.5, 23B, 23D, 207, 204, 205, 55, 56, 66, 65, 6, 7R
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B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 244/12.1, 12.3, 12.4, 12.5, 23B, 23D, 207, 204, 205, 55, 56, 66, 65, 6, 7R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6343768 B1 (MULDOON) 05 FEBRUARY 2002 (05.02.2002) FIG. 1	-
A	US 5244167 A (TURK ET AL) 14 SEPTEMBER 1993 (14.09.1993) FIG. 1	1-68
A	US 5195702 A (MALVESTUTO, JR.) 23 MARCH 1993 (23.03.1993) FIG. 4	1-68
A	US 5016837 A (WILLIS) 21 MAY 1991 (21.05.1991) FIG. 2	-
A	US 3856238 A (MALVESTUTO, JR.) 24 DECEMBER 1974 (14.12.1974) FIG. 1	1-68
A	US 3372891 A (MALVESTUTO, JR.) 12 MARCH 1968 (12.03.1968) FIG. 3	1-68
A	US 3273827 A (GIRARD) 20 SEPTEMBER 1966 (20.09.1966) FIG. 4	-
A	US 3179354 A (ALVEREZ-CALDERON) 20 APRIL 1965 (20.04.1965) FIG. 3	-
A	US 2415710 A (SMITH) 11 FEBRUARY 1947 (11.02.1947) FIG. 1	-

Further documents are listed in the continuation of Box C. See patent family annex.

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INTERNATIONAL SEARCH REPORT

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 1307826 A (MATTHEWS ET AL) 24 JUNE 1919 (24.06.1919) FIGS. 1-3	1-68