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(54) **Title:** VERTICAL TAKE-OFF AND LANDING AIRCRAFT

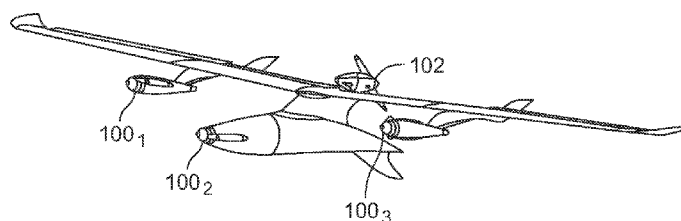


FIG. 1

(57) **Abstract:** A VTOL aircraft includes at least one puller rotor and at least one pusher rotor. The VTOL aircraft, for example, may include three puller rotors and one pusher rotor. The combination of static puller and pusher rotors allows the rotors to remain in a fixed orientation (i.e., no moving mechanical axes are required) relative to the wings and fuselage of the VTOL aircraft, while being able to transition the aircraft from a substantially vertical flight path to a substantially horizontal flight path.



INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - B64C 29/00, B64C 3/56, B64D 27/02, B64C 29/02, B64C 5/02 (2015.01)

CPC - B64C29/00, B64C3/56, B64D27/02, B64C2201/021, B64C29/02, B64C29/0025, B64C5/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC (8) B64C 29/00, B64C 3/56, B64D 27/02, B64C 29/02, B64C 5/02 (2015.01)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatBase; Google Patents; Google Scholar; Google Web; Search terms used: Vertical take-off takeoff and landing VTOL aircraft aeroplane plane jet autogyro fuselage forward-facing forward tractor puller rotor impeller rear-facing rearward pusher rotor impeller payload bay compartment wing aileron aerofoil airfoil foldable bendable collapse horizonta

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y — A	US 6,561,455 B2 (Capanna) 13 May 2003 (13.05.2003), entire document, especially Fig. 1, 2, 3; col 2, ln 39-41; col 1, ln 12-14; col 1, ln 60 to col 2, ln 8; col 2, ln 45-50; col 2, ln 61-64; col 2, ln 54-60;	1, 10 ----- 2-3, 8-9, 12-13, 19-20 ----- 11
Y — A	US 6,655,631 B2 (Austen-Brown) 02 December 2003 (02.12.2003), entire document, especially Fig. 1, 2; col 1, ln 8-11; col 5, ln 35-41; col 5, ln 51-56;	1, 4, 5, 13, 14, 17, 18 ----- 6, 7, 15, 16
Y — A	US 2005/0178879 A1 (Mao) 18 August 2005 (18.08.2005), entire document, especially Fig. 1; para[0013]; para[0038]-[0039]; para[0030];	1, 4, 5, 14 ----- 6, 7, 11
Y — A	US 2012/0091257 A1 (Wolff et al.) 19 April 2012 (19.04.2012), entire document, especially Fig. 1, 2, 3a, 3b; para[0141]; para[0142]; para[0143]; para[0166];	2, 3, 13, 14, 17, 18 ----- 15, 16
Y	US 2013/0206921 A1 (Paduano et al.) 15 August 2013 (15.08.2013), entire document, especially Fig. 1A; para[0006]; para[0035];	8, 9, 17, 18
Y	US 3,142,455 A (Wilford) 28 July 1964 (28.07.1964), entire document, especially Fig. 1, 2; col 3, ln 7-11; col 6, ln 7-10;	12
Y — A	US 2002/0074452 A1 (Ingram) 20 June 2002 (20.06.2002), entire document, especially Fig. 1, 2; para[0027]; para[0028]; para[0035]; para[0032];	19, 20 ----- 11

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"G" document member of the same patent family

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