

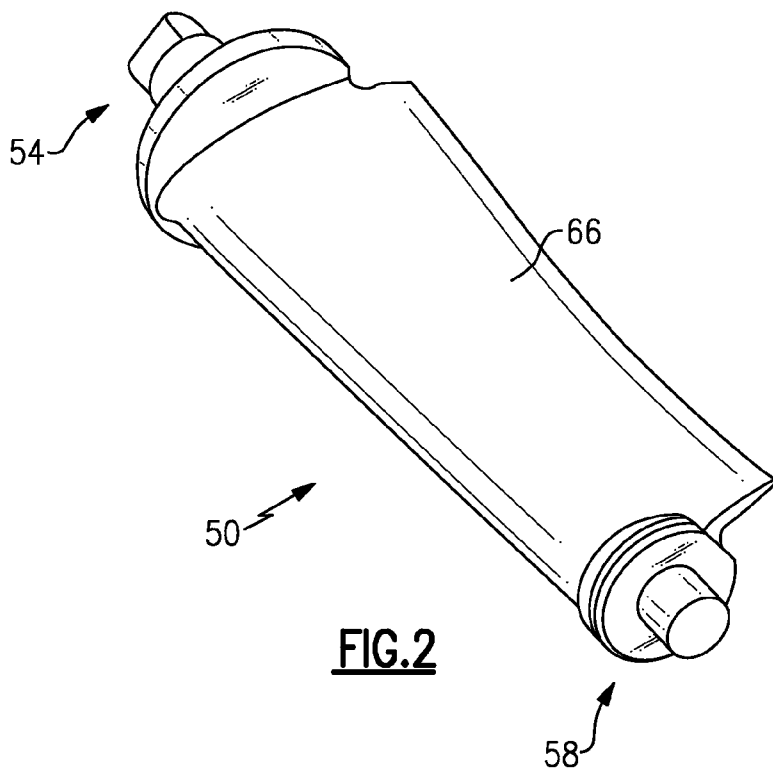


- (51) International Patent Classification:  
F01D 5/04 (2006.01) F02C 7/04 (2006.01)  
F01D 5/02 (2006.01)
- (21) International Application Number:  
PCT/US2013/026075
- (22) International Filing Date:  
14 February 2013 (14.02.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
13/407,899 29 February 2012 (29.02.2012) US
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,

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(54) Title: GAS TURBINE ENGINE WITH FAN-TIED INDUCER SECTION AND MULTIPLE LOW PRESSURE TURBINE SECTIONS



(57) Abstract: A gas turbine engine includes a first shaft defining an axis of rotation and a second shaft rotatable about the axis of rotation and spaced radially outwardly relative to the first shaft. A speed change mechanism is driven by the second shaft. A fan includes a fan rotor driven by the speed change mechanism such that the fan and the first shaft rotate at a slower speed than the second shaft. At least one inducer stage is positioned aft of the fan and is coupled for rotation with the fan rotor.





TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

**Published:**

— *with international search report (Art. 21(3))*

**(88) Date of publication of the international search report:**

27 December 2013

**A. CLASSIFICATION OF SUBJECT MATTER****F01D 5/04(2006.01)i, F01D 5/02(2006.01)i, F02C 7/04(2006.01)i**

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)

F01D 5/04; F02C 3/02; F02C 7/26; F02C 7/36; F02K 3/06; F02K 3/04; F02K 3/072; F01D 5/02; F02C 7/04

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) &amp; keywords: shaft, first, second, fan, drive, speed change mechanism, and inducer stage

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007-0084186 A1 (ORLANDO et al.) 19 April 2007 See abstract; paragraphs [0011]-[0018]; figure 1.	1-19
A	EP 1939430 A2 (GENERAL ELECTRIC COMPANY) 02 July 2008 See abstract; paragraphs [0007]-[0008], [0011]-[0012]; claim 1 and figure 2.	1-19
A	US 4,860,537 A (TAYLOR, JOHN B.) 29 August 1989 See abstract; column 3, lines 28-53; claim 1.	1-19
A	US 5,381,653 A (ALTHAUS, ROLF) 17 January 1995 See abstract; column 3, lines 15-30; claim 1.	1-19
A	US 2002-0189231 A1 (FRANCHET et al.) 19 December 2002 See abstract; paragraphs [0022]-[0024]; claim 1.	1-19



Further documents are listed in the continuation of Box C.



See patent family annex.

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family


Date of the actual completion of the international search

06 November 2013 (06.11.2013)

Date of mailing of the international search report

**06 November 2013 (06.11.2013)**

Name and mailing address of the ISA/KR

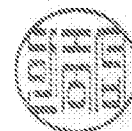

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2013/026075**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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