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(54) **Title:** COUNTER-ROTATING LOW PRESSURE TURBINE WITH GEAR SYSTEM MOUNTED TO TURBINE EXHAUST CASE

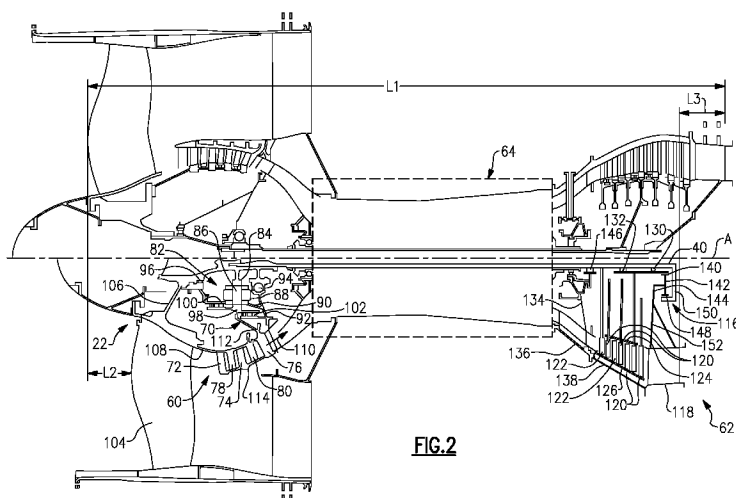


FIG. 2

(57) **Abstract:** A gas turbine engine includes a shaft defining an axis of rotation. An outer rotor directly drives the shaft and includes an outer set of blades. An inner rotor has an inner set of blades interspersed with the outer set of blades. The inner rotor is configured to rotate in an opposite direction about the axis of rotation from the outer rotor. A gear system couples the inner rotor to the shaft and is configured to rotate the inner set of blades at a faster speed than the outer set of blades.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/026287**A. CLASSIFICATION OF SUBJECT MATTER****F02C 3/067(2006.01)i, F02K 3/072(2006.01)i, F01D 25/24(2006.01)i**

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

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
F02C 3/067; F02K 3/00; F02K 3/06; F16H 57/08; B23P 19/00; F02K 3/072; F01D 1/26; F01D 25/24Documentation 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 modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: gas turbine, counter-rotating, inner rotor, outer rotor, low pressure turbine, low pressure compressor, and gear system**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010-0154384 A1 (SCHILLING, JAN CHRISTOPHER) 24 June 2010 See abstract, paragraphs [0006]-[0022] and figures 1-3.	1-10, 12-13, 15-20
Y		11, 14
Y	US 2008-0148707 A1 (SCHILLING, JAN CHRISTOPHER) 26 June 2008 See abstract and paragraphs [0004]-[0005].	11, 14
A	US 2009-0191045 A1 (SUCIU et al.) 30 July 2009 See paragraphs [0010]-[0014] and figure 2.	1-20
A	US 2004-0020186 A1 (ORLANDO et al.) 05 February 2004 See abstract, paragraphs [0020]-[0024] and figures 2-3.	1-20
A	US 2010-0105516 A1 (SHERIDAN et al.) 29 April 2010 See abstract, paragraphs [0011]-[0015] and figures 1-2.	1-20

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

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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