



- (51) **International Patent Classification:**  
*F02C 7/12* (2006.01)      *F01D 25/12* (2006.01)  
*F01D 5/18* (2006.01)
- (21) **International Application Number:**  
PCT/US2013/061857
- (22) **International Filing Date:**  
26 September 2013 (26.09.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
13/630,107 28 September 2012 (28.09.2012) US
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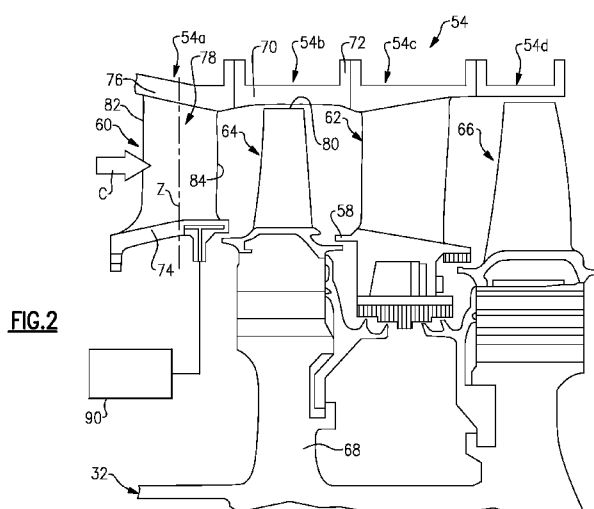
- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, 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, SA, 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, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report (Art. 21(3))
- 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))

- (88) **Date of publication of the international search report:**  
21 August 2014

(54) **Title:** AIRFOIL WITH VARIABLE TRIP STRIP HEIGHT



(57) **Abstract:** An airfoil component for a gas turbine engine includes an airfoil extending from a platform. At least one of the airfoil and the platform includes a cooling passage defined by a surface. A chevron-shaped trip strip extends from the surface into the cooling passage at a trip strip height along a length. The trip strip height varies along the length. A turbine vane for a gas turbine engine includes inner and outer platforms. A cooling passage is provided in the inner platform. The cooling passage is provided by first and second radially extending legs spaced circumferentially apart from one another and joined to one another by a circumferential passage. A pair of airfoils extend radially from the same inner platform. A trip strip extends from the surface into the circumferential passage at a trip strip height along a length. The trip strip height varying along the length.



## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2013/061857****A. CLASSIFICATION OF SUBJECT MATTER****F02C 7/12(2006.01)i, F01D 5/18(2006.01)i, F01D 25/12(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)

F02C 7/12; F01D 5/18; F02C 7/18; F01D 9/04; F01D 25/12

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: turbine vane, airfoil, platform, cooling passage, chevron, trip strip, height, length, and variable

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 2407639 A1 (SIEMENS AKTIENGESELLSCHAFT) 18 January 2012 See paragraphs [0045], [0048], [0051]-[0053], claim 3 and figures 1-3.	1-15
Y	US 5695321 A (KERCHER, DAVID MAX) 09 December 1997 See column 1, line 58 - column 2, line 3, column 7, lines 13-40, column 8, line 60 - column 9, line 54; claims 1-3, 9; and figures 1-2, 11-14.	1-15
A	US 6406260 B1 (TRINDADE et al.) 18 June 2002 See column 4, lines 1-36; claims 1-2, 5, 15-17; and figures 2a-1b.	1-15
A	US 2011-0223004 A1 (LACY et al.) 15 September 2011 See paragraphs [0023], [0033] and figures 1-2, 5.	1-15
A	US 2011-0123310 A1 (BEATTIE et al.) 26 May 2011 See paragraphs [0017]-[0019], [0029]-[0030] and figures 1-4, 7-8.	1-15

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

\* Special categories of cited documents:

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"O" document referring to an oral disclosure, use, exhibition or other means

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

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"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

10 July 2014 (10.07.2014)

Date of mailing of the international search report

**10 July 2014 (10.07.2014)**

Name and mailing address of the ISA/KR

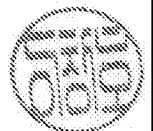
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2013/061857**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2407639 A1	18/01/2012	CN 102971494 A EP 2553220 A1 EP 2553220 B1 US 2013-0209231 A1 WO 2012-007250 A1	13/03/2013 06/02/2013 19/03/2014 15/08/2013 19/01/2012
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