

(19)



(11)

EP 2 618 059 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
31.12.2014 Bulletin 2015/01

(51) Int Cl.:
F23R 3/28 (2006.01) **F23R 3/14** (2006.01)
F23D 14/62 (2006.01)

(43) Date of publication A2:
24.07.2013 Bulletin 2013/30

(21) Application number: **13151601.5**

(22) Date of filing: **17.01.2013**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(72) Inventors:
• **Parsania, Nishant Govindbhai**
Schenectady, NY New York 12345 (US)
• **Singh, Ajay Pratap**
Schenectady, NY New York 12345 (US)

(30) Priority: **18.01.2012 US 201213352814**

(71) Applicant: **General Electric Company**
Schenectady, New York 12345 (US)

(74) Representative: **Cleary, Fidelma**
GPO Europe
GE International Inc.
The Ark
201 Talgarth Road
Hammersmith
London W6 8BJ (GB)

(54) **Combustor nozzle/premixer with curved sections**

(57) An apparatus for premixing fuel and air prior to combustion in a gas turbine engine includes an annular fuel passage (62) receiving fuel from a fuel source. The annular fuel passage (62) includes a fuel plenum (68) and has a wave shape with a peak section surrounded by trough sections. An annular air passage (70) sur-

rounds the annular fuel passage (62). The annular air passage (70) receives air to be mixed with the fuel in the fuel passage (62) for downstream combustion. A plurality of swirler vanes (72) are disposed in the annular air passage (70) adjacent the fuel plenum (68).

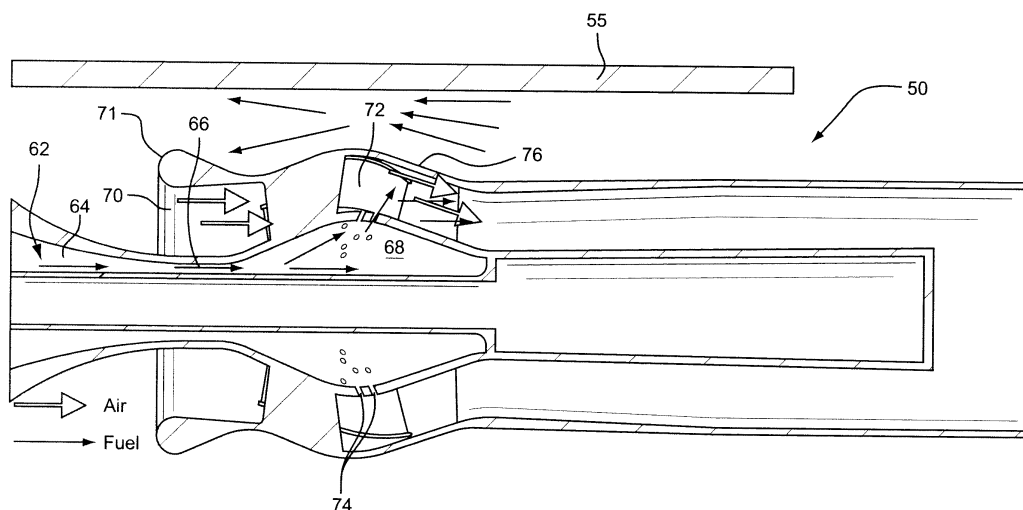


Figure 2

EP 2 618 059 A3



EUROPEAN SEARCH REPORT

Application Number
EP 13 15 1601

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 082 111 A (STOKES MITCHELL O [US]) 4 July 2000 (2000-07-04)	1-3,7,8, 10-12	INV. F23R3/28
Y	* column 4, line 26 - line 65; figure 5 *	4,6,9	F23R3/14
A	-----	5	F23D14/62
Y	US 2003/110774 A1 (SAITOH KEIJIRO [JP]) 19 June 2003 (2003-06-19)	4,6,9	
A	* paragraph [0035] - paragraph [0042]; figures 7-9 *	1-3,5,8, 10-12	

			TECHNICAL FIELDS SEARCHED (IPC)
			F23R F23D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 24 November 2014	Examiner Munteh, Louis
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 15 1601

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

24-11-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6082111 A	04-07-2000	NONE	

US 2003110774 A1	19-06-2003	CA 2418296 A1	03-02-2003
		CN 1464959 A	31-12-2003
		EP 1403583 A1	31-03-2004
		JP 4508474 B2	21-07-2010
		JP 2002364849 A	18-12-2002
		US 2003110774 A1	19-06-2003
		WO 02101294 A1	19-12-2002
