



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
01.04.2009 Bulletin 2009/14

(51) Int Cl.:
F02M 61/18 (2006.01)

(43) Date of publication A2:
25.02.2009 Bulletin 2009/09

(21) Application number: **08162767.1**

(22) Date of filing: **21.08.2008**

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

(72) Inventors:
• **Pontoppidan, Michael**
92700 Colombes (FR)
• **Montanari, Gino**
Santana do Parnaiba (BR)

(30) Priority: **24.08.2007 BR PI0703812**

(74) Representative: **Cabinet Plasseraud**
52, rue de la Victoire
75440 Paris Cedex 09 (FR)

(71) Applicant: **Magneti Marelli Sistemas Automotivos Indústria e Comércio Ltda.**
Avenida de Emancipação, N° 801 Galpao 4
Jardim Santa Rita de Cassia
13184-654 Hortolandia /SP (BR)

(54) **Fuel injector atomizer for automotive mixture preparation systems**

(57) The present patent application refers to a double layer fuel injector atomizer for automotive mixture preparation systems, in which the fuel injector can generate

a spray pattern, which may be shaped in a desired form to create an appropriate spray momentum without the use of any auxiliary mechanical adaptor on the downstream side of the atomizer.

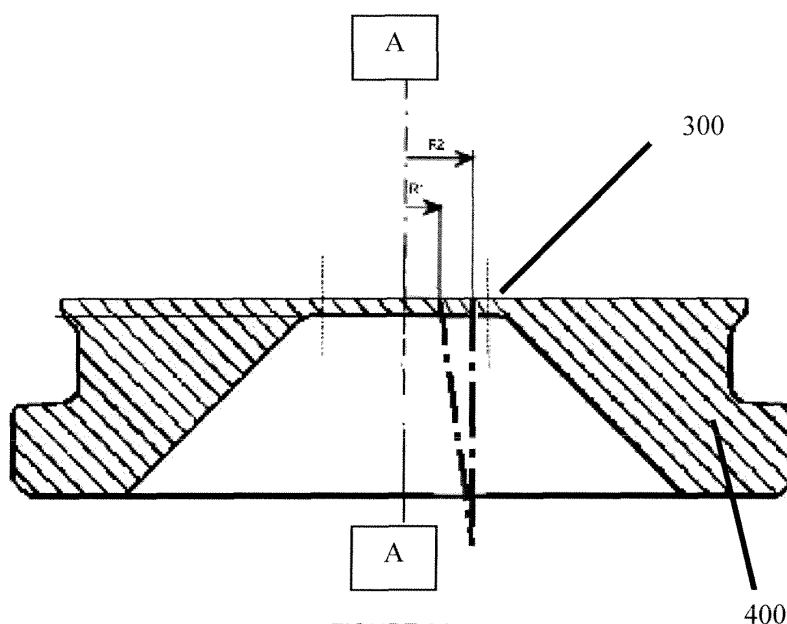


FIGURE 3 b



EUROPEAN SEARCH REPORT

Application Number
EP 08 16 2767

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 100 21 073 A1 (AISAN IND [JP]) 8 February 2001 (2001-02-08) * the whole document *	1-3	INV. F02M61/18
A	US 2002/063175 A1 (KITAMURA KOJI [JP] ET AL) 30 May 2002 (2002-05-30) * the whole document *	1-4	
A	US 6 089 476 A (SUGIMOTO TOMOJIRO [JP] ET AL) 18 July 2000 (2000-07-18) * the whole document *	1-4	
A	GB 400 836 A (SCHWEIZERISCHE LOKOMOTIV) 2 November 1933 (1933-11-02) * the whole document *	1-3	
A	DE 196 42 513 A1 (BOSCH GMBH ROBERT [DE]) 16 April 1998 (1998-04-16) * the whole document *	1-3	
A	US 2005/224605 A1 (DINGLE PHILIP J [US]) 13 October 2005 (2005-10-13) * the whole document *	1-3	TECHNICAL FIELDS SEARCHED (IPC) F02M
A	US 2007/068142 A1 (ROBEL WADE J [US] ET AL) 29 March 2007 (2007-03-29) * the whole document *	1-3	
A	US 2003/132322 A1 (DANTES GUENTER [DE] ET AL) 17 July 2003 (2003-07-17) * the whole document *	1-3	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 February 2009	Examiner Schwaller, Vincent
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			

 3
EPO FORM 1503 03.82 (P04C01)

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

EP 08 16 2767

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.

18-02-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 10021073 A1	08-02-2001	JP 2000314360 A	14-11-2000
US 2002063175 A1	30-05-2002	JP 3837282 B2	25-10-2006
		JP 2002130082 A	09-05-2002
US 6089476 A	18-07-2000	DE 19827220 A1	07-01-1999
		JP 3164023 B2	08-05-2001
		JP 11013599 A	19-01-1999
GB 400836 A	02-11-1933	NONE	
DE 19642513 A1	16-04-1998	WO 9816736 A1	23-04-1998
US 2005224605 A1	13-10-2005	US 2005224606 A1	13-10-2005
US 2007068142 A1	29-03-2007	NONE	
US 2003132322 A1	17-07-2003	WO 0246604 A2	13-06-2002
		DE 10060290 A1	06-06-2002
		EP 1339970 A2	03-09-2003
		JP 2004515691 T	27-05-2004