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(11) **EP 1 808 642 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
23.03.2011 Bulletin 2011/12

(43) Date of publication A2:
18.07.2007 Bulletin 2007/29

(21) Application number: **06012836.0**

(22) Date of filing: **22.06.2006**

(51) Int Cl.:
F23N 5/00 *(2006.01)*

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK RS

(30) Priority: **12.01.2006 US 331729**

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(54) High efficiency fuel injection system for gas appliances

(57) A unique control system is provided for optimizing and effecting efficient combustion of gas appliances by controlling the proportion of fuel and air variables. The control system provides continuous active feedback of the combustion event by detecting the level of CO_2 and eventually CO exhaust gases to trigger the modulation of a gas valve. Based upon the detected level, a control signal is generated by the system and received by a processor to adjust pressure and gas flow for future combustion events. Accordingly, the control System varies the proportion of air to fuel inflow to a prescribed optimum range thereby achieving efficient fuel combustion.

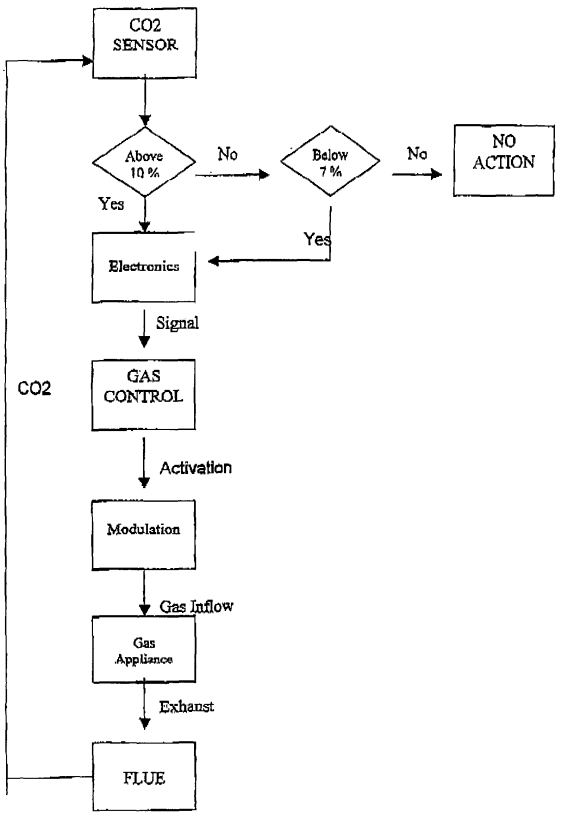

FIG 5

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EUROPEAN SEARCH REPORT

Application Number
EP 06 01 2836

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 375 950 A (DURLEY III BENTON A [US]) 8 March 1983 (1983-03-08) * column 1, lines 1-28 * * column 2, lines 39-44 * * column 3, lines 13-45,58-62 * * column 4, lines 22-26 * * column 4, line 58 - column 5, line 6 * * column 27, line 66 - column 8 * * claims 1-3,11,13; figures 1,2 *	1,4-6	INV. F23N5/00
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A	DE 101 40 388 A1 (WEBASTO THERMOSYSTEME GMBH [DE]) 3 April 2003 (2003-04-03) * paragraphs [0001], [0017], [0018], [0027], [0030], [0036] * * claims 1-3; figure 2 *	1-3	
A	WO 02/29326 A1 (SWEDISH BIOBURNER SYST AB [SE]; INGVARSSON ROBERT [SE]) 11 April 2002 (2002-04-11) * page 2, lines 1-15 * * page 5, line 32 - page 6, line 25 * * page 8, lines 20-29 * * page 10, line 14 - page 11, line 7 * * page 13, lines 11-27 * * page 14, lines 10-35 * * claims 1,2,9,10; figures 1,4,5 *	1,5,6	TECHNICAL FIELDS SEARCHED (IPC) F23N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	7 February 2011	Vogl, Paul

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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L : document cited for other reasons

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EPO FORM 1503 03.82 (P04C01)

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