



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
17.09.2014 Bulletin 2014/38

(51) Int Cl.:
F02M 31/18 (2006.01) **F02M 25/08** (2006.01)
F02D 9/10 (2006.01)

(43) Date of publication A2:
28.03.2012 Bulletin 2012/13

(21) Application number: **11175942.9**

(22) Date of filing: **29.07.2011**

(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:
• **Shirai, Junji**
Miyagi, 981-1505 (JP)
• **Takahashi, Kuniaki**
Miyagi, 981-1505 (JP)

(30) Priority: **22.09.2010 JP 2010211682**

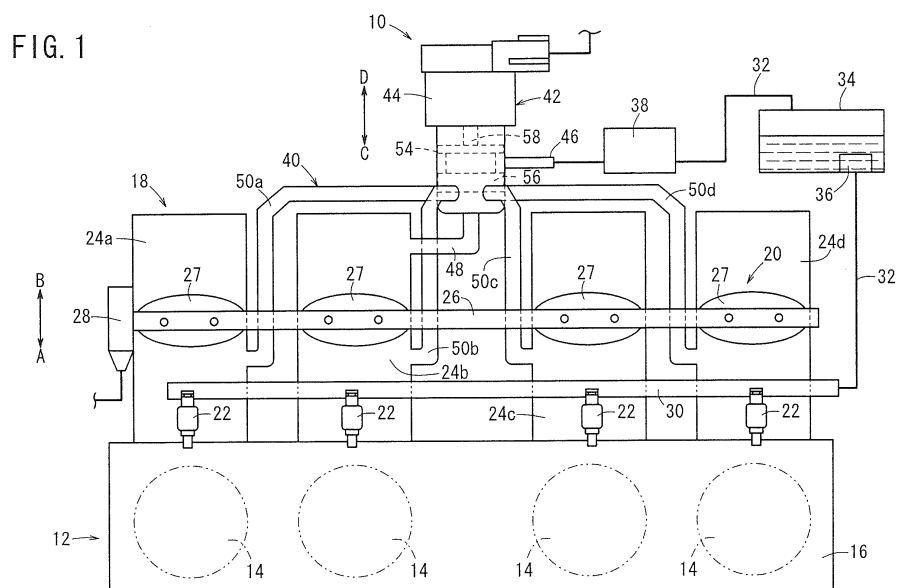
(74) Representative: **Prechtel, Jörg**
Weickmann & Weickmann
Patentanwälte
Postfach 86 08 20
81635 München (DE)

(71) Applicant: **Keihin Corporation**
Tokyo 163-0539 (JP)

(54) **Evaporative fuel control apparatus for internal combustion engine**

(57) In an evaporative fuel control apparatus (10), a first passage (48) of a bypass conduit (40) is connected between an upstream side of an intake passage (24b) and a switching valve (42), and second passages (50a to 50d) interconnect the switching valve (42) and downstream sides of respective intake passages (24a to 24d), whereas a purge conduit (46) to which the evaporative fuel is supplied is connected with respect to the switching

valve (42). The switching valve (42) is operated responsive to a driven state of the internal combustion engine (12), thus switching between a communication state between the first passage (48) and the second passages (50a to 50d), and a communication state between the purge conduit (46) and the second passages (50a to 50d), such that intake air or evaporative fuel is made to flow to the intake passages (24a to 24d).





EUROPEAN SEARCH REPORT

Application Number
EP 11 17 5942

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 2009/183500 A1 (UCHIDA TAKAHIRO [JP] ET AL) 23 July 2009 (2009-07-23)	1	INV. F02M31/18 F02M25/08 F02D9/10
A	* abstract *	2-11	
	* figure 1 *		
	* paragraph [0067] *		
A	FR 2 704 601 A1 (RENAULT [FR]) 4 November 1994 (1994-11-04) * figures 2-4 *	1	
A	EP 0 699 832 A2 (BAYERISCHE MOTOREN WERKE AG [DE]) 6 March 1996 (1996-03-06) * figures 1,2 *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			F02M F02D
Place of search		Date of completion of the search	Examiner
The Hague		13 August 2014	Aubry, Yann
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			

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

EP 11 17 5942

5

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.

13-08-2014

10

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2009183500	A1	23-07-2009	JP	2009167962 A	30-07-2009
			US	2009183500 A1	23-07-2009

FR 2704601	A1	04-11-1994	NONE		

EP 0699832	A2	06-03-1996	DE	4430971 A1	07-03-1996
			EP	0699832 A2	06-03-1996
			ES	2141283 T3	16-03-2000

15

20

25

30

35

40

45

50

55

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82