



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
12.11.2008 Bulletin 2008/46

(51) Int Cl.:
F23D 14/06 (2006.01) F23D 14/58 (2006.01)

(43) Date of publication A2:
29.10.2008 Bulletin 2008/44

(21) Application number: **08008063.3**

(22) Date of filing: **25.04.2008**

(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:
• **Oda, Hiroshi**
Nagoya-shi
Aichi (JP)
• **Chikazawa, Hideo**
Nagoya-shi
Aichi (JP)

(30) Priority: **27.04.2007 JP 2007119829**

(74) Representative: **Feldmeier, Jürgen et al**
Prüfer & Partner GbR
Patentanwälte
Sohnckestrasse 12
81479 München (DE)

(71) Applicant: **Paloma Industries, Ltd.**
Nagoya-shi,
Aichi (JP)

(54) **Burner**

(57) The object is to provide a burner 1 capable of taking in sufficient primary air without using a fan, and being preferably used as an all-primary air burner.

The burner 1 includes a burner main body 2 having a mixing pipe 4 to which a fuel gas and combustion air are supplied, and a mixing chamber 6 is provided at a top end on the downstream side of the mixing pipe 4, and a burner head 3, which is provided at an upper part of the burner main body 2. The burner head communicates with the mixing chamber 6 and ejects the mixed gas of the fuel gas and air for combustion mixed in the mixing chamber. The burner head 3 is in a cylindrical shape and provided right above the mixing chamber 6 of the burner main body 2. The burner head 3 has many first and second burner ports 15 and 16 bored around an almost whole periphery of a side face thereof. Further, the mixing pipe 4 is provided to direct in a direction where the mixing pipe 4 is crossed with an axis line of the burner head 3 at substantially right angles to each other.

Fig. 1A

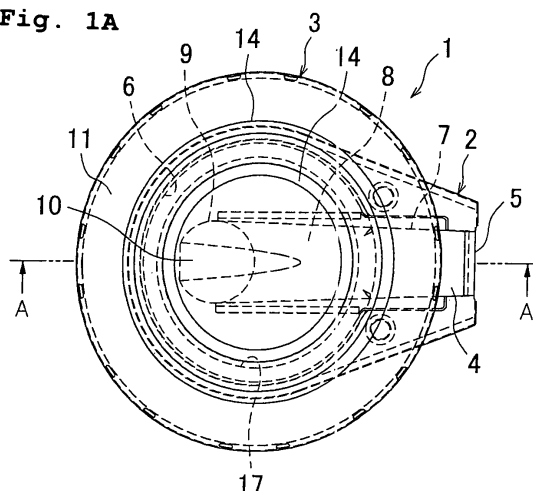


Fig. 1D

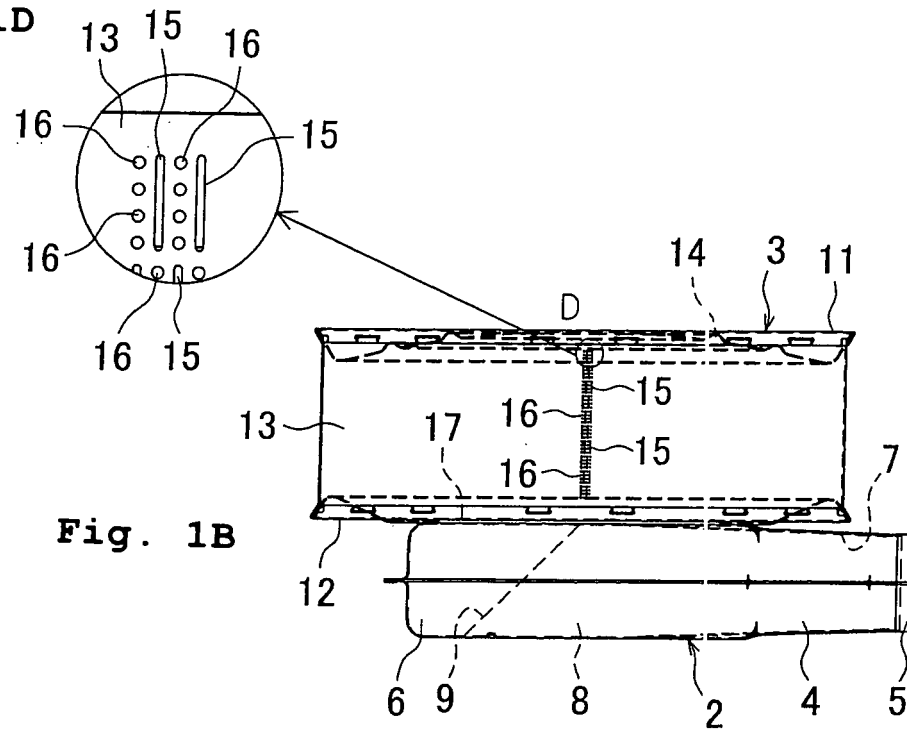
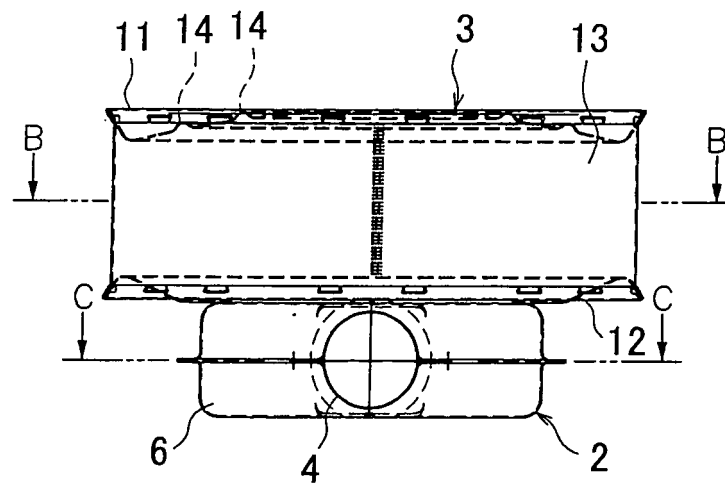


Fig. 1B

Fig. 1C





EUROPEAN SEARCH REPORT

Application Number
EP 08 00 8063

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	GB 1 443 553 A (BRITISH GAS CORP) 21 July 1976 (1976-07-21)	1	INV. F23D14/06 F23D14/58
Y	* figure *	2	
X	US 3 858 811 A (MIZERAK DENNIS S ET AL) 7 January 1975 (1975-01-07) * figures 1,2 *	1	
Y	WO 2004/104477 A (WORGAS BRUCIATORI SRL [IT]; FOGLIANI GIUSEPPE [IT]; MACH WENZEL [DE];) 2 December 2004 (2004-12-02) * figure 10a *	2	
A	DE 89 14 577 U1 (GASWAERME-INSTITUT EV, 4300 ESSEN, DE) 8 February 1990 (1990-02-08) * figure 1 *	1,2	
A	GB 868 173 A (HARPER WYMAN CO) 17 May 1961 (1961-05-17) * figure 1 *	1,2	
P,A	WO 2008/033238 A (HARNEIT UWE [US]) 20 March 2008 (2008-03-20) * figure 2 *	1,2	TECHNICAL FIELDS SEARCHED (IPC)
			F23D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 September 2008	Examiner Coquau, Stéphane
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	

1
EPO FORM 1503 03.02 (P04C01)

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

EP 08 00 8063

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.

30-09-2008

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 1443553	A	21-07-1976	NONE	
US 3858811	A	07-01-1975	NONE	
WO 2004104477	A	02-12-2004	EP 1629232 A1 US 2007054228 A1	01-03-2006 08-03-2007
DE 8914577	U1	08-02-1990	NONE	
GB 868173	A	17-05-1961	FR 1247159 A	25-11-1960
WO 2008033238	A	20-03-2008	US 2007218414 A1	20-09-2007

EPO FORM P0459

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