



(11) **EP 4 023 939 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
12.10.2022 Bulletin 2022/41

(51) International Patent Classification (IPC):
F23N 1/02 (2006.01) **F23D 11/00** (2006.01)
F23D 11/42 (2006.01)

(43) Date of publication A2:
06.07.2022 Bulletin 2022/27

(52) Cooperative Patent Classification (CPC):
F23D 11/001; F23D 11/408; F23D 11/42;
F23N 1/022; F23Q 3/008; F23C 2900/03004;
F23N 2227/02; F23N 2227/36; F23N 2239/06;
F23N 2241/04; Y02E 20/34

(21) Application number: **21218239.8**

(22) Date of filing: **29.12.2021**

(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
Designated Validation States:
KH MA MD TN

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(30) Priority: **30.12.2020 KR 20200188127**

(54) **BURNER, WATER HEATING APPARATUS, AND METHOD FOR CONTROLLING BURNER**

(57) Disclosed is a burner comprising a fuel providing part configured to provide a fuel for a combustion reaction; an air providing part configured to send air for the combustion reaction; an ignition part configured to cause a spark such that the fuel and air provided are ignite; and a processor electrically connected to the fuel providing part, the air providing part, and the ignition part, wherein the processor is configured to: control the fuel providing part and the ignition part to provide the fuel for ignition and cause the spark; and control the air providing part such that an flow rate of the air provided at an ignition time point, at which the spark is caused and ignition occurs, is lower than a flow rate of the air provided at an air provision time point corresponding to a specific delay time after the ignition time point.

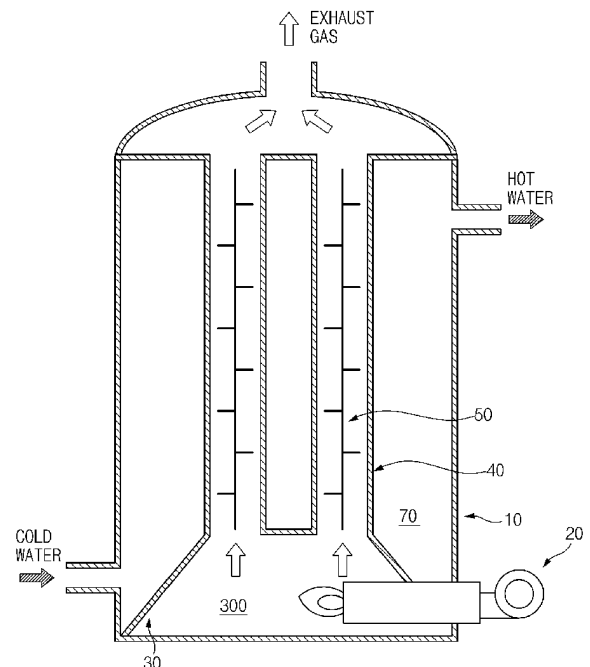


FIG. 1

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PARTIAL EUROPEAN SEARCH REPORT

Application Number

under Rule 62a and/or 63 of the European Patent Convention.
This report shall be considered, for the purposes of
subsequent proceedings, as the European search report

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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 2009/313975 A1 (MCCOMBS AARON [US]) 24 December 2009 (2009-12-24)	1, 2, 8, 9	INV. F23N1/02
A	* page 1, paragraph 1 * * page 2, paragraph 19 - page 3, paragraph 23 * * page 3, paragraph 30 - page 4, paragraph 36 * * claims 1, 6, 10 * * figures 1, 2 *	3-6, 10	F23D11/00 F23D11/42
X	GB 2 182 764 A (BRITISH GAS CORP; HOTWORK DEV LTD) 20 May 1987 (1987-05-20)	1-3, 8, 9	
A	* page 2, line 34 - line 62 * * page 5, line 35 - line 44 * * claim 1 * * figure 1 *	4-6, 10	
A	GB 2 201 276 A (BRITISH GAS PLC) 24 August 1988 (1988-08-24) * page 3, paragraph 5 - page 7, last paragraph * * figures 1, 2 *	1, 8	
			TECHNICAL FIELDS SEARCHED (IPC)
			F23N F23D

INCOMPLETE SEARCH

The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.

Claims searched completely :

Claims searched incompletely :

Claims not searched :

Reason for the limitation of the search:

see sheet C

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Place of search	Date of completion of the search	Examiner
Munich	1 September 2022	Gavriliu, Costin
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 03/82 (P04E07)



**INCOMPLETE SEARCH
SHEET C**

Application Number

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Claim(s) completely searchable:

1-6, 8-10

Claim(s) not searched:

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Reason for the limitation of the search:

Following the invitation pursuant to Rule 62a EPC, the applicant indicated that the search is to be carried out based on apparatus claims 1-6.

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

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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.

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