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(54) **GAS BURNER ASSEMBLY**

(57) An atmospheric gas water heater includes a burner assembly. The burner assembly includes a burner having a body, and a screen member coupled to the body. A conduit is fluidly connected to the body. The conduit has an open end configured to receive gas and air. The flow of gas and air from the open end through the conduit to the body and past the screen member is defined as a downstream direction. The screen member defines a zone of combustion. The gas and the air is 100% premixed together upstream of the zone of combustion. The body of the burner has a first segment extending between a first end and a second end, and second and third segments extending from the first segment. The second segment and the third segment extend parallel to and spaced apart from each other to form a U-shape.

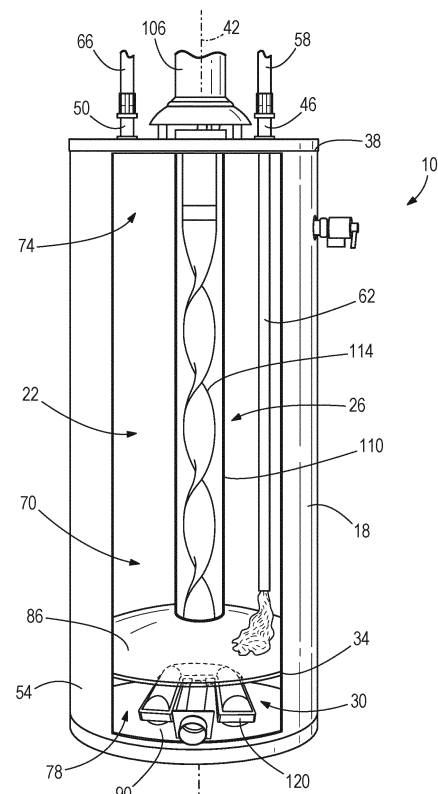


FIG. 2



EUROPEAN SEARCH REPORT

Application Number

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EPO FORM 1503 03.82 (P04C01)

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Y	FR 2 310 679 A5 (FERROLI SPA IND [IT]) 3 December 1976 (1976-12-03) * page 2, line 36 - page 3, line 19 * * figures 1, 2, 5 * -----	1-6	
A	US 6 135 061 A (VALCIC ZORAN [AU] ET AL) 24 October 2000 (2000-10-24) * column 4, line 53 - column 5, line 11 * * figure 1 * -----	1	
			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 4 October 2021	Examiner Vogl, Paul
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	



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-6

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-6**U-shaped gas burner**
---**2. claims: 7-13****Combustion oscillations**
---**3. claims: 14-20****Mounting of pilot assembly**

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

EP 21 17 0271

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.

04-10-2021

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