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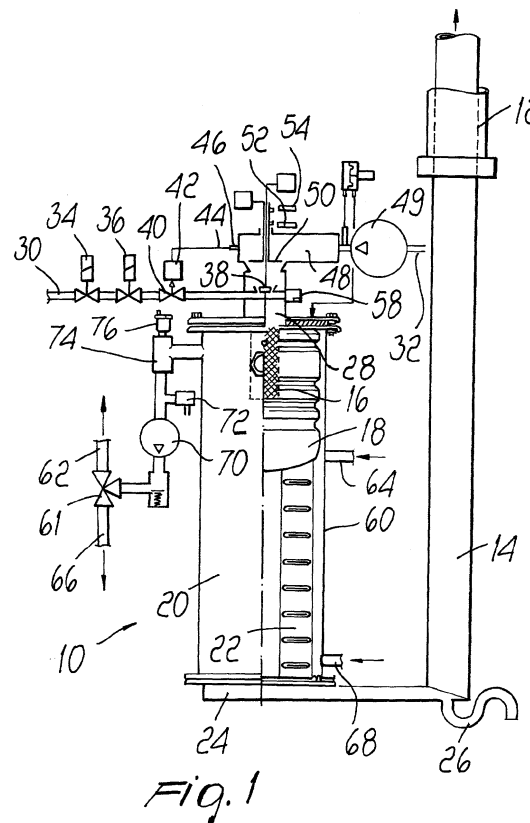
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(54) **Gas-fired boiler**

(57) A gas-fired boiler (10) provided with: a burner (16) arranged in a firebox (18); a gas/water heat exchanger (20) arranged around the firebox and provided with a system of flat pipes (22) for the conveyance of the burnt gases (14) arranged in a radial pattern and provided with lateral recesses (106; 24) for noise reduction; a mixer (28) for supplying a gas-air mix to the burner, structured so that the pressure of the gas-air mix is constant regardless of the amount of mix supplied.





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# EUROPEAN SEARCH REPORT

Application Number  
EP 98 12 4458

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 234 991 A (SEAGEM) 2 September 1987 (1987-09-02) * page 3, line 17 - page 5, line 3 * * page 6, line 3 - page 8, line 31 * * figures 1-4 * ---	1-3	F23D14/60 F23D14/58 F23D14/30 F24H1/28 F23N1/02
X	EP 0 626 541 A (RANCO INCORPORATED OF DELAWARE) 30 November 1994 (1994-11-30) * page 9, line 1 - page 12, line 29 * * figures 2,3 * ---	1,2	
X	PATENT ABSTRACTS OF JAPAN vol. 9, no. 70 (M-367), 30 March 1985 (1985-03-30) & JP 59 202318 A (UEMATSU HIDEO), 16 November 1984 (1984-11-16) * abstract * ---	1-3	
A	US 2 210 830 A (BERNHARD JOHN B.) 6 August 1940 (1940-08-06) * the whole document * ---	1	
P,A	WO 98 33010 A (STUART KEVIN J.) 30 July 1998 (1998-07-30) * page 4, line 3 - page 5, line 29 * * page 7, line 8 - page 8, line 13 * * page 9, line 30 - page 10, line 11 * * page 11, line 29 - page 13, line 2 * * figures 1,2,5,8-10 * ---	1	
P,A	EP 0 821 208 A (MONTINI RENATO) 28 January 1998 (1998-01-28) * the whole document * -----	1	
-The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>17 November 1999</b>	Examiner <b>Coquau, S</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03 82 (P/MC01)



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#### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims 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 the first ten claims.

#### 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 - 16



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**LACK OF UNITY OF INVENTION**  
**SHEET B**

Application Number  
EP 98 12 4458

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: 1-16

Gas-fired boiler operated in such a way that the pressure of the fuel gas and air mixture is kept constant regardless of the amount of fuel gas and air supplied.

2. Claims: 17-25

A hot gas/water heat exchanger comprising burnt-gas pipes provided with a sequence of indents or hollows on at least one of their larger surfaces.

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

EP 98 12 4458

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  
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17-11-1999

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EPO FORM P0458

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