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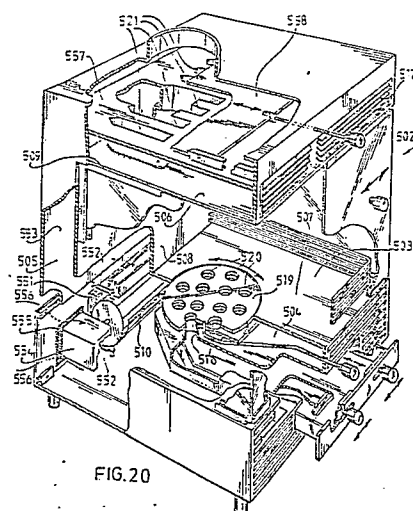
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54 Heating device.

57 The invention relates to a heating device.

A first object of the invention is to embody a heating device with a combustion space having at least one free side, such as an open hearth, or optionally a free-standing heater, such that it possesses a high yield. Another object is the embodying of this heating device such that in addition to use as a free-standing heater it can also be used as insert system for an open hearth.

These objects are realized with a heating device characterized by a tilted, substantially U-shaped heat exchanger open to the front for heating air at the fireplace, this heat exchanger being provided with a lower heat exchanger part onto which can be laid solid fuel, for example a number of pipes laid adjacent to one another, which lower part connects onto a standing heat exchanger part, for example a number of pipes located at an interval from one another, such that the heat exchanger bounds the combustion space.





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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 (Int. Cl. 4)
X	BE-A- 849 921 (COSTA) * Pages 12-15, claims; figures * --	1-3,5 .	F 24 B 1/188 F 24 B 5/02 F 24 B 1/19
X	US-A-2 161 723 (RUTLAND) * Page 3, claim 1; figures * --	1-3	
X	CA-A-1 125 129 (VAN DER PLAAT) * Page 8, lines 11-25; figures 1-5 * --	1,2,4	
X	NL-A-79 03 447 (RINGLEVER) * Page 4, lines 17-25; pages 6-8, claims; figures * --	1	
X	FR-A-2 288 946 (THOMAS) * Page 9, lines 1-36; figures *	1,3,6, 7,43	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
Y	--	13,14, 16,17, 19	F 24 B
Y	US-A-4 129 114 (HISER) * Column 6, lines 47-68; column 7, lines 1-4; figures 2,3 * --	13,14, 16,17	
Y	US-A-4 446 848 (BECKER) * Column 9, lines 38-68; figures 1-6 * -- ./.	19	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 07-02-1989	Examiner VANHEUSDEN
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DOCUMENTS CONSIDERED TO BE RELEVANT				- 2 -
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)	
X	CH-A- 209 286 (KUNTNER) * Page 22, claims; figures 1,2 *	25,26, 35,37, 39,40		
	--			
X	US-A-1 707 096 (RICH) * Whole document *	25-27, 31,35- 37,39, 40		
A	--	29,34		
A	GB-A-2 081 436 (MONTAGUE) * Page 2, lines 104-130; page 3, lines 1-7; figures *	4,9,10	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)	
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A	US-A-4 254 757 (EMMENDORFER) * Abstract *	1		
	--			
A	US-A-4 091 794 (STITES) * Column 4, lines 37-64; figures *	13-15		
	--			
A	FR-A-2 542 068 (MASANTI) * Whole document *	13		
	--			
A	US-A-1 389 194 (HARRIS) * Whole document *	25		
	--			
A	US-A-4 103 669 (PAULEY) * Column 4, lines 12-18; figure 3 *	45		
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