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(54) **HEATING SYSTEM AND METHOD**

(57) Heaters for homes come in various shapes and size, such as gas heaters burning gas to convert gas to heat. These heaters have most of the time to support multiple flows of water, commonly at different temperatures. It is an object of the invention to provide a heating system with lower complexity and improved efficiency. The current invention provides for a heating system comprising: a flow-through electrical heater for heating a primary heat conductive fluid; a fluid buffer for buffering the primary heat conductive fluid, wherein the fluid buffer comprises: a buffer input in fluid communication with the flow-through electrical heater for receiving the heated primary heat conductive fluid; a first heat exchanger having a first primary side for flow through of the primary heat conductive fluid and a first secondary side for flow through of a first secondary heat conductive liquid and being arranged for exchanging heat between the primary heat conductive fluid and the first secondary heat conductive liquid, wherein the first primary side is arranged downstream of the buffer input; a second heat exchanger having a second primary side for flow through of the pri-

mary heat conductive fluid and a second secondary side for flow through of a second secondary heat conductive liquid and being arranged for exchanging heat between the primary heat conductive fluid and the second secondary heat conductive liquid, wherein the second primary side is arranged downstream of the buffer input and wherein the second secondary heat conductive liquid is separated from the first secondary heat conductive liquid; and control means arranged for controlling the temperature of the first secondary heat conductive liquid exiting the first heat exchanger and/or the second secondary heat conductive liquid exiting the second heat exchanger, wherein the control means comprise a flow sensor for detecting flow of the second secondary heat conductive liquid through the second secondary side of the second heat exchanger; and flow control means arranged for controlling flow of the first secondary heat conductive liquid through the first heat exchanger based on measurements of the flow sensor.

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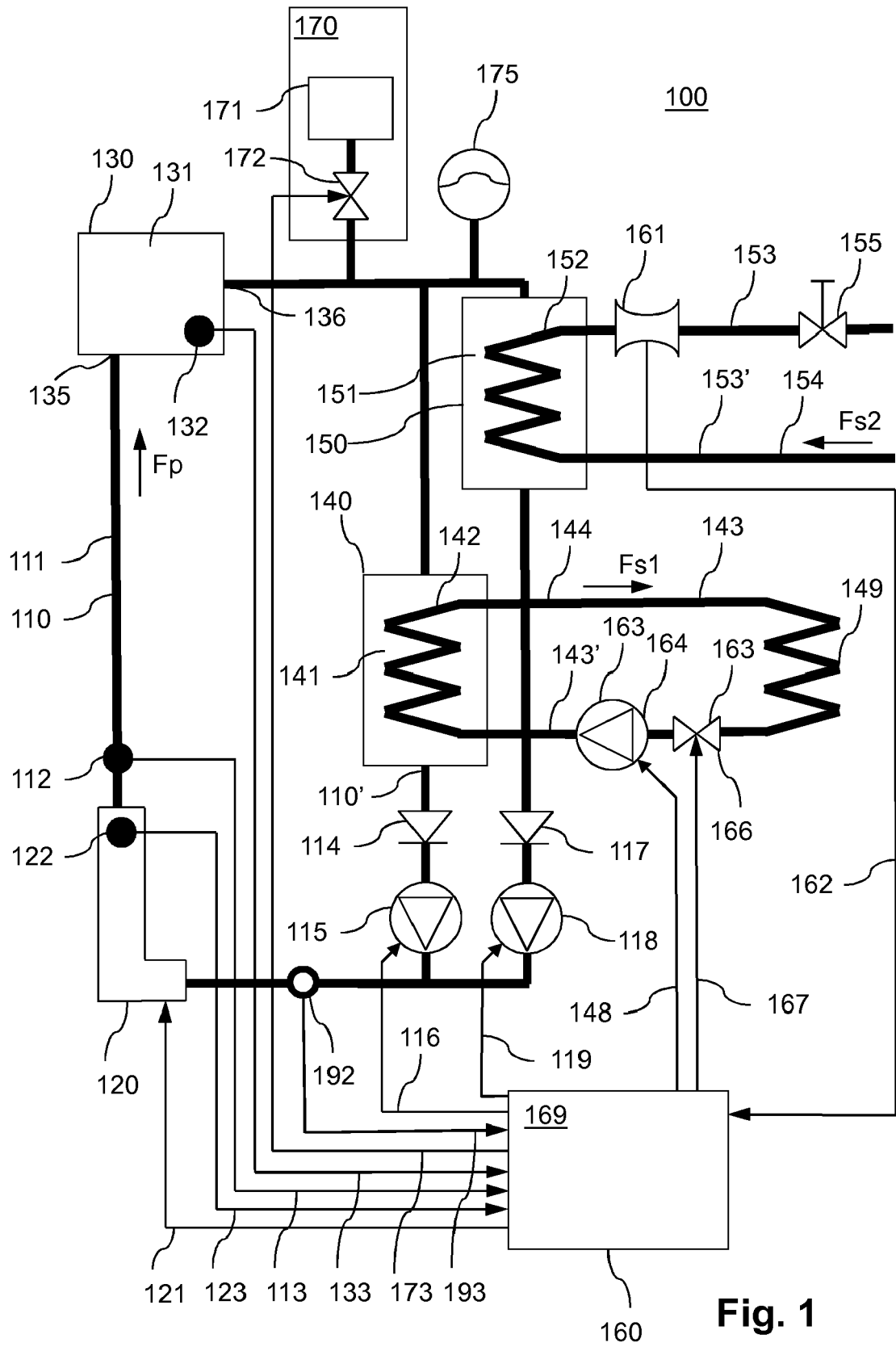


Fig. 1



EUROPEAN SEARCH REPORT

Application Number  
EP 19 16 6922

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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)
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Y	* page 13 - page 20; figures 3,6 * -----	7	
Y	DE 10 2016 107627 A1 (OVENTROP GMBH & CO KG [DE]) 26 October 2017 (2017-10-26) * paragraph [0045] - paragraph [0052]; figure 1 * -----	7	
A	US 4 738 395 A (CHILTON DAVID B [US] ET AL) 19 April 1988 (1988-04-19) * column 4 - column 5; figure 4 * -----	1	
A	DE 10 2012 009397 A1 (OEKO HAUSTECHNIK INVENTER GMBH [DE]) 14 November 2013 (2013-11-14) * paragraph [0001] - paragraph [0005]; figure 1 * -----	1	
A	EP 0 358 843 A1 (OPLAENDER WILO WERK GMBH [DE]) 21 March 1990 (1990-03-21) * the whole document * -----	1	TECHNICAL FIELDS SEARCHED (IPC)  F24D
----- -The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>5 September 2019</b>	Examiner <b>Riesen, Jörg</b>
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			

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**CLAIMS INCURRING FEES**

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

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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):

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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.

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**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:

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see sheet B

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

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

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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:

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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:

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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  
EP 19 16 6922

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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:

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## 1. claims: 1-9

Heating system comprising a through-flow heater, method for heating and computer program product therefore

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## 2. claims: 10-15

Conductivity adaptor for adapting the electrical conductivity of a heat conductive fluid in a heating circuit having a flow-through electrical heater, method for adapting the electrical conductivity of a heat conductive fluid in a heating circuit and computer program product therefore

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

EP 19 16 6922

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.

05-09-2019

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