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(54) Title: WATER HEATING SYSTEM

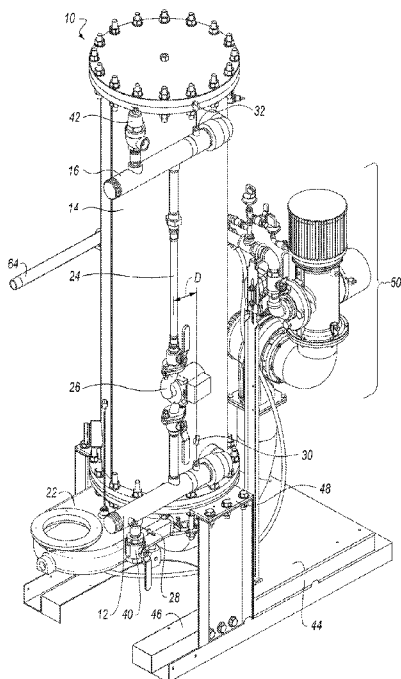


FIG. 2

(57) Abstract: A water heating system includes a burner assembly for providing a source of thermal energy to a heat exchanger. A water inlet conduit is coupled to the heat exchanger assembly for supplying fresh water to be heated, and a water exit conduit is coupled to the heat exchanger assembly for delivering the heated water to a point of use. A bypass conduit connects the water exit conduit to the water inlet conduit, and a pump disposed in the bypass conduit circulates at least a portion of the heated water from the water exit conduit to the water inlet conduit. A feed-forward sensor positioned in the water inlet conduit between the heat exchanger assembly and the bypass conduit monitors a parameter of the water entering the heat exchanger assembly, and a processor controls the operation of the burner assembly in response to the feed-forward sensor.





LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F24H 9/00; F24H 1/20; F24H 1/14; F24H 1/10; F24H 9/20; F24H 9/18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: burner, heat exchanger, bypass, sensor, processor

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 60-185050 A (MATSUSHITA ELECTRIC IND CO LTD) 20 September 1985 See the abstract, page 2 and figure 2	1-4, 8-16, 19, 20
Y	the abstract, page 2 and figure 2	5-7
A	the abstract, page 2 and figure 2	17, 18, 21-27
Y	US 2009-0151653 A1 (MULLEN TERRENCE J. et al.) 18 June 2009 See the abstract, paragraph 0015 and figure 1	5, 6
Y	US 2010-0195991 A1 (DEIVASIGAMANI SRIDHAR et al.) 05 August 2010 See the abstract, paragraph 0128 and figures 1, 2	7

 Further documents are listed in the continuation of Box C. See patent family annex.

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Information on patent family members

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