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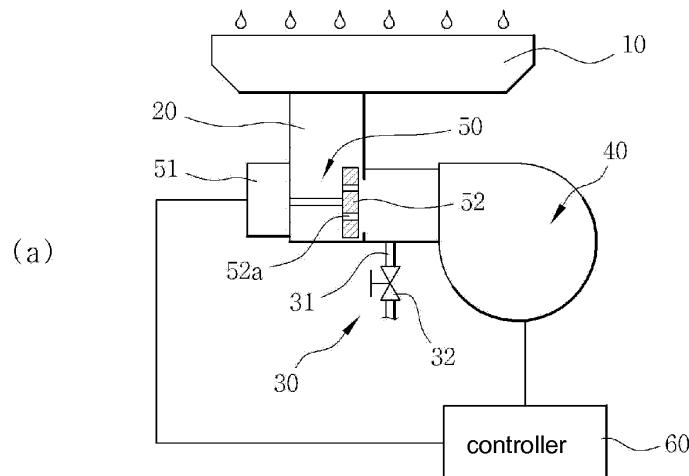
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(54) Premix combustion device of gas burner

(57) A premix combustion device of a gas burner applicable to a domestic gas boiler or water heater is disclosed. The premix combustion device includes a gas mixture supply pipe to supply gas mixture to the gas burner, and a gas supply means and air supply means connected with the gas mixture supply pipe. A damper is provided at a predetermined position in the gas mixture supply pipe to regulate the amount of the gas mixture to

be supplied to the gas burner, degree of opening of the damper is adjusted by an electrically operated valve controlled by a control signal from a controller, and a valve disc arranged to open and close the gas mixture supply pipe according to operation of the valve is provided with a plurality of holes. The premix combustion device extends the range of controllable combustion, ensuring supply of water at a set temperature.

Fig. 1



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EUROPEAN SEARCH REPORT

Application Number
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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)
X	EP 0 978 687 A1 (BOSCH GMBH ROBERT [DE]) 9 February 2000 (2000-02-09) * paragraph [0020]; figure 9 * * paragraphs [0015], [0016]; figures 4,5 * ----- X DE 197 28 965 A1 (VAILLANT JOH GMBH & CO [DE] VAILLANT GMBH [DE]) 15 January 1998 (1998-01-15) * figures 8,9 * ----- X EP 1 387 985 A1 (BEKAERT COMB TECHNOLOGY B V [NL] BEKAERT COMB TECHNOLOGY BV [BE]) 11 February 2004 (2004-02-11) * the whole document * -----	1-3 1 1	INV. F23D14/60 F23N1/02
			TECHNICAL FIELDS SEARCHED (IPC)
			F23D F23N
The present search report has been drawn up for all claims			
1	Place of search Munich	Date of completion of the search 22 October 2013	Examiner Christen, Jérôme
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			

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

EP 13 15 7362

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.

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Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 0978687	A1	09-02-2000	DE	19835692 A1		17-02-2000
			EP	0978687 A1		09-02-2000
DE 19728965	A1	15-01-1998	CH	691137 A5		30-04-2001
			DE	19728965 A1		15-01-1998
			DE	29711889 U1		13-11-1997
EP 1387985	A1	11-02-2004	AT	445126 T		15-10-2009
			EP	1387985 A1		11-02-2004
			ES	2333411 T3		22-02-2010
			WO	02095294 A1		28-11-2002