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— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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(54) Title: CIRCULATING FLUIDIZED BED BOILER WITH AN AIR PREHEATER SYSTEM

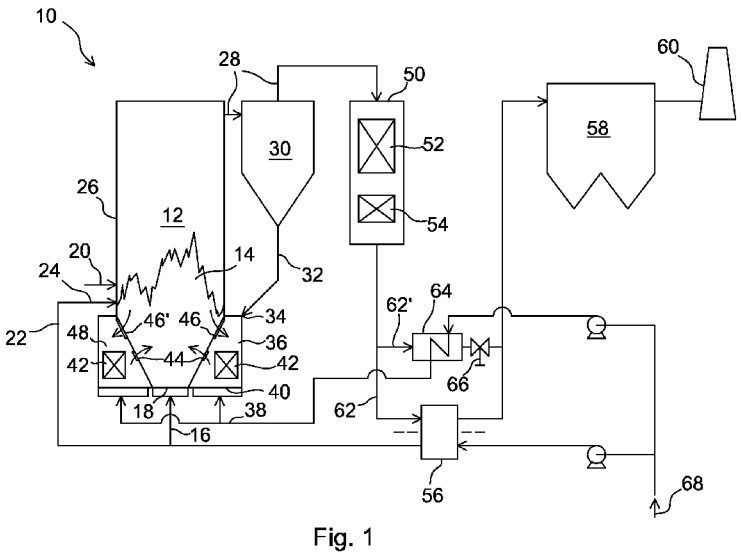

Fig. 1

(57) Abstract: A circulating fluidized bed boiler with an air preheater system,comprising a furnace for combusting particulate solid fuel with primary air injected to the furnace through a bottom grid and secondary air injected to the furnace through walls of the furnace; a flue gas channel connected to the furnace for discharging flue gas and particles entrained therewith from the furnace, a particle separator for separating particles from the flue gas;a return duct for returning separated particles from the particle separator to the furnace;and a fluidized bed heat exchange chamber for recovering heat from particles conducted therein from the furnace, the fluidized bed heat exchange chamber comprising inlet means for conducting particles from the furnace to the fluidized bed heat exchange chamber;outlet means for conducting particles from the fluidized bed heat exchange chamber back to the furnace;and means for injecting second fluidizing gas to the fluidized bed heat exchange chamber, wherein the air preheater system comprises a primary air preheater arranged in a first portion of the flue gas channel for preheating the primary air and secondary air and an air preheater for preheating the second fluidizing air arranged in a second portion of the flue gas channel, which second portion of the flue gas channel is connected in parallel with the first portion of the flue gas channel.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 046 406 A2 (FLUIDISED COMBUSTION CONTRACT [GB]) 24 February 1982 (1982-02-24) page 2, line 11 - page 5, line 26; figure 1	1-8
Y	EP 2 372 239 A2 (RWE POWER AG [DE]) 5 October 2011 (2011-10-05) paragraphs [0001], [0004], [0011], [0012], [0018] sentence 27, paragraph 0027 - sentence 32 paragraphs [0036], [0039]; figures 1-3	1-8
A	EP 0 661 495 A1 (GEN MOTORS CORP [US]) 5 July 1995 (1995-07-05) column 1, line 39 - line 49 column 2, line 3 - column 3, line 14; figure 1	1,5,7,8

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 2008/142608 A1 (KROGMANN UWE [DE]) 19 June 2008 (2008-06-19) paragraphs [0001], [0005], [0012], [0025], [0027]; figure 2	1
A	US 2010/212610 A1 (HARRISON RUPERT MARK [GB]) 26 August 2010 (2010-08-26) paragraphs [0012], [0031] - paragraph [0051]; figures 1, 2	1

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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