



- (51) **International Patent Classification:**
F23C 9/00 (2006.01) *F23L 7/00* (2006.01)
- (21) **International Application Number:**
PCT/IB2008/055454
- (22) **International Filing Date:**
19 December 2008 (19.12.2008)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
11/960,958 20 December 2007 (20.12.2007) US
- (71) **Applicant (for all designated States except US):** **FOSTER WHEELER ENERGY CORPORATION** [US/US]; Perryville Corporate Park, Clinton, NJ 08809-4000 (US).
- (72) **Inventors:** **SELTZER, Andrew**; 23 Tanglewood Drive, Livingston, NJ 07039-2439 (US). **FAN, Zhen**; 15 Chrome Court, Parsippany, NJ 07054 (US). **HACK, Horst**; 6 Kenneth Place, Hampton, NJ 08827 (US). **ROBERTSON, Archibald**; 3 Van Pelt Drive, Whitehouse Station, NJ 08889-3901 (US). **WU, Song**; 3 Brentwood Drive, Livingston, NJ 07039 (US).

(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

[Continued on next page]

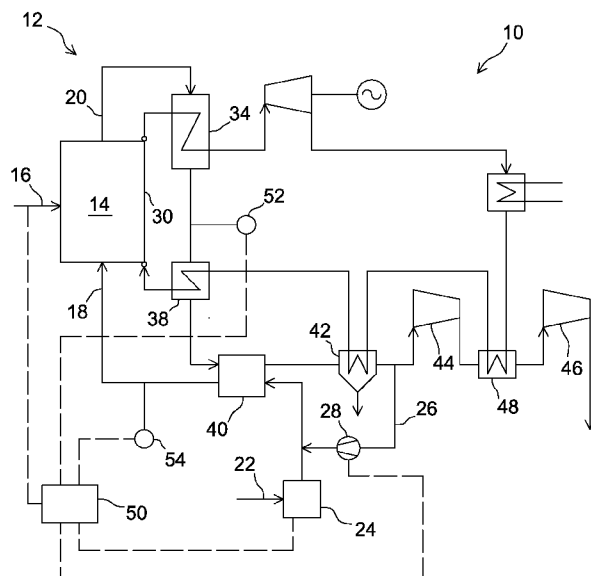
(54) **Title:** METHOD OF CONTROLLING A PROCESS OF GENERATING POWER BY OXYFUEL COMBUSTION

Fig. 1

(57) **Abstract:** At full load conditions, the method includes introducing a first carbonaceous fuel feed stream into a furnace, introducing a first substantially pure oxygen feed stream into the furnace for combusting the first carbonaceous fuel feed stream with the oxygen, and recirculating a portion of the exhaust gas discharged from the furnace at a first recirculation flow rate to the furnace, to form, together with the first substantially pure oxygen feed stream, a first inlet gas stream having a predetermined average oxygen content, thereby discharging exhaust gas from the furnace at a first discharge flow rate. In second load conditions, corresponding to at most 90% load, the method includes introducing a second carbonaceous fuel feed stream into the furnace, introducing a second substantially pure oxygen feed stream into the furnace for combusting the second carbonaceous fuel feed stream with the oxygen, and recirculating a portion of the exhaust gas discharged from the furnace at a second recirculation flow rate to the furnace, to form, together with the second substantially pure oxygen feed stream, a second inlet gas stream, so as to discharge exhaust gas from the furnace at a second discharge flow rate, and controlling the second recirculation flow rate to be from the first recirculation flow rate to a value providing the second discharge flow rate to be substantially as high as the first discharge flow rate.



-
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
29 October 2009

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2008/055454

A. CLASSIFICATION OF SUBJECT MATTER
 INV. F23C9/00 F23L7/00

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)

F23C F23L

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 355 601 A (HATTIANGADI UDAY S) 26 October 1982 (1982-10-26) column 3, line 8 - column 9, line 24 figure; table 1	1-5,8
Y	US 2002/185043 A1 (MARIN OVIDIU [US] ET AL) 12 December 2002 (2002-12-12) page 2, paragraph 22 - page 4, paragraph 41; figure 1	1-5,8
A	DE 195 03 348 A1 (LIEBIG ERHARD [DE]; WERNER MICHAEL [DE]; HUEHNLEIN PETER [DE]) 8 August 1996 (1996-08-08) the whole document	1
	----- -/-- -----	



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

31 August 2009

Date of mailing of the international search report

04/09/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040,
 Fax: (+31-70) 340-3016

Authorized officer

Gavriliu, Costin

INTERNATIONAL SEARCH REPORT

International application No

PCT/IB2008/055454

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2007 147162 A (ELECTRIC POWER DEV CO; ISHIKAWAJIMA HARIMA HEAVY IND) 14 June 2007 (2007-06-14) cited in the application abstract; figure 1 -----	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2008/055454

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4355601	A	26-10-1982	NONE
US 2002185043	A1	12-12-2002	NONE
DE 19503348	A1	08-08-1996	NONE
JP 2007147162	A	14-06-2007	AU 2006316951 A1 31-05-2007
			CN 101336351 A 31-12-2008
			EP 1959193 A1 20-08-2008
			WO 2007061106 A1 31-05-2007
			KR 20080083627 A 18-09-2008