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(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,

[Continued on next page]

(54) Title: METHOD AND GAS GENERATOR FOR GASIFICATION OF A SOLID FUEL WITH THE LOW CALORIFIC VALUE, PARTICULARLY OF A BIOMASS WITH THE WIDE SPECTRUM OF HUMIDITY

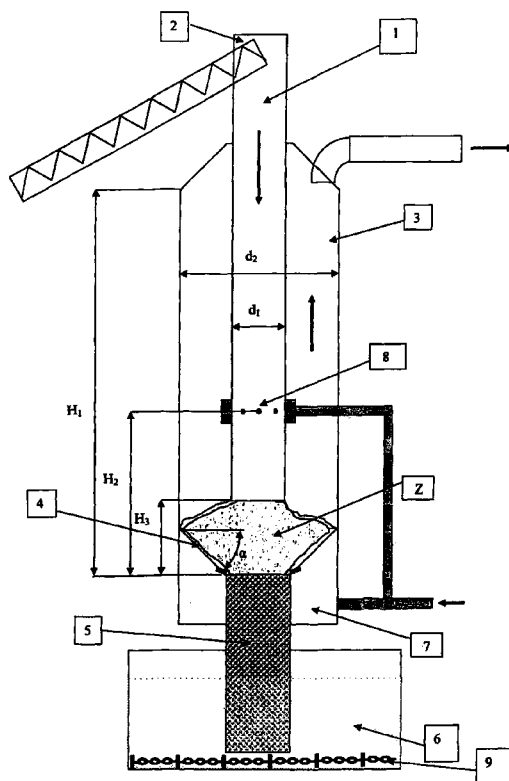


Fig. 1.

(57) Abstract: The method and the gas generator for gasification of the solid fuel with the low calorific value, particularly of the biomass with the wide spectrum of humidity is characterized in this that there is made prior assessment of fuel reactivity and humidity using the known methods and then fuel is introduced through the top inlet into the gasification chamber (1) which is located inside of the external chamber (3) in an inside of which there is axially built-in the slot grate (4) in the form of a truncated cone of the angle (α) of an inclination of the wall in relation to the plane ranging from 20° to 80° and the lower part of the external chamber (3) constitutes the air box (7). Under the grate (4) there is located the chamber of ash receiving (5). Moreover, gasifying medium nozzles (8) are located on the surface of the pipe wall of the pyrolysis chamber on the height (h2) from the lower edge of the slot grate (4).

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— *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))*

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INTERNATIONAL SEARCH REPORT

International application No
PCT/PL2010/000019

A. CLASSIFICATION OF SUBJECT MATTER
INV. C10J3/26
ADD.
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)
C10J

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.
X	WO 2009/020442 A1 (DETES MADEN ENERJI VE CEVRE TE [TR]; YAMANKARADENIZ HUSEYIN [TR]; TOLA) 12 February 2009 (2009-02-12) page 21, line 20 - page 26, line 7 -----	1,2
A	US 2007/006528 A1 (DIEBOLD JAMES P [US] ET AL) 11 January 2007 (2007-01-11) the whole document -----	1,2
A	US 2002/069798 A1 (AGUADAS ELLIS CHARLES W [US] ELLIS CHARLES W AGUADAS [US]) 13 June 2002 (2002-06-13) the whole document -----	1,2

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

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12 April 2011

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/PL2010/000019

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: **1, 2(partially)**
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/PL2010/000019

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2009020442 A1	12-02-2009	TR 200705430 A2	22-12-2008
US 2007006528 A1	11-01-2007	NONE	
US 2002069798 A1	13-06-2002	NONE	

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 1, 2(partially)

Claim 1 specifies that gasifying medium is fed to the pyrolysis chamber at a height h_2 , depending on the humidity of the fuel. Thus, determining the humidity of the fuel is essential, as is the supply of the gasifying medium at a specific height h_2 . However, there is no disclosure, either in claim 1 or in the description, how the humidity is determined or how the height h_2 is determined. It is also not clear how the humidity is expressed (relative humidity, weight percentage, volume percentage etc). Claim 2 mentions the use of "separate methods, preferably experimentation" to determine h_2 , but no further information is provided regarding these methods. The application thus contravenes Art. 5 PCT. In the absence of an enabling disclosure with regard to the humidity of the fuel and the height h_2 , this opinion has been established without taking these features into account.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.