

Base : FAMPAT

SEARCH STRATEGY

SS Results

3	11	2 AND AIR AND FAN+ AND PD<2017-11-17
2	576	1 AND (FIXED BED OR FIXED-BED)
1	8395	(SYNGAS OR SYN* GAS)

11 Documents

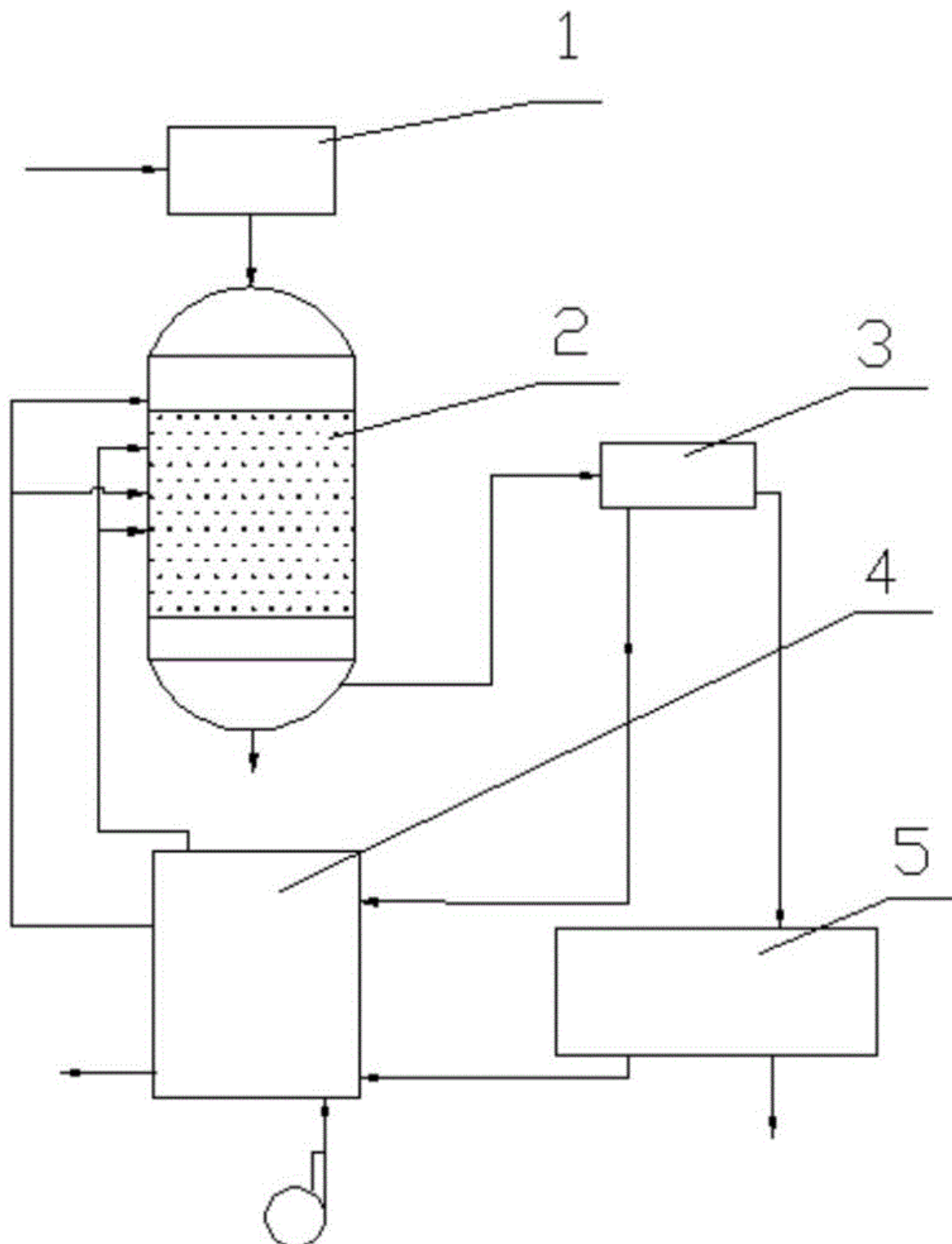
Publication numbers	Title	Current assignees
CN103639172 A	Method for performing high-temperature steam-air gasification disinfection and degradation on medical wastes	INNER MONGOLIA UNIVERSITY OF SCIENCE & TECHNOLOGY
CN103074111 A	Equipment and technology for producing synthesis gas through cooperating outer cylinder air gasification with inner cylinder steam gasification	DANYANG HUAFA ENVIRONMENTAL PROTECTION MACHINERY
WO200815630 A2	Method for the production of synthesis gas and of operating a fixed bed dry bottom gasifier	SASOL
CN203112763U U	Device for preparing synthesis gas through synergy of outer cylinder air gasification and inner cylinder steam gasification	DANYANG HUAFA ENVIRONMENTAL PROTECTION MACHINERY
US20120036777 A1	Sandwich gasification process for high-efficiency conversion of carbonaceous fuels to clean syngas with zero residual carbon discharge	ENERGY & ENVIRON RESEARCH CENTER FOUND
FR3043088 A1	Device for thermolysis in stages	HAFNER ENERGY
CN101781584 A	Method and equipment for gasifying coal by using plasma	ZHOU KAIGEN
CN201530801U U	Auxiliary gasification device using synthesis gas for return burning	WUHAN KAIDI HOLDING INVESTMENT
CN106244239 A	Process method of producing and synthesizing natural gas by gasifying garbage	WUHUAN ENGINEERING
CN106701198 A	Process for converting biomass and combustible matters in garbage into liquid fuel or gas fuel	DU XINGUO
CN106831327 A	Methanol production process combining pressure-controlled high-speed gasification and microreactor	WANG YUDONG

Family 1/11 - FAMPAT - ©Questel

Title

(CN103639172)

Method for performing high-temperature steam-air gasification disinfection and degradation on medical wastes

Images**Publication data including kind & date**

CN103639172	A	2014-03-19	CN103639172
CN103639172	B	2017-01-04	CN103639172B

**Abstract**

(CN103639172B)

The invention relates to a method for performing high-temperature steam-air gasification disinfection and degradation on medical wastes and belongs to the technical field of environmental protection and energy. The technical process comprises

medical waste pretreatment, and the use of a gasification furnace, a heat exchange boiler, an energy-storage heat exchanger and a gasified **air** purification system. The pretreated medical wastes enter the gasification furnace, and high-temperature steam and high-temperature **air** generated by the energy-storage heat exchanger are introduced into the gasification furnace for performing integrated disinfection, degradation and gasification; gasified **air** generated by the gasification furnace performs **air**-water type heat exchange with spray water in the heat exchange boiler, low-temperature steam is generated and is used for preparing high-temperature steam, and the gasified **air** from the heat exchange boiler enters the purification system to obtain hydrogen-rich purified gasified **air** to serve as a heat source of the energy-storage heat exchanger or for other use. According to the method, harmlessness and volume reduction of the medical wastes can be realized, recycling is realized, the cracking rate of tar in the gasified **air** can be over 99 percent, the emission product does not contain dioxin, and zero energy consumption, zero pollution and zero emission of the medical wastes are realized.

Inventors

CHEN YISHENG

NIU YONGHONG

PANG YUNJI

CHEN JUNJUN

Latest standardized assignees - inventors removed

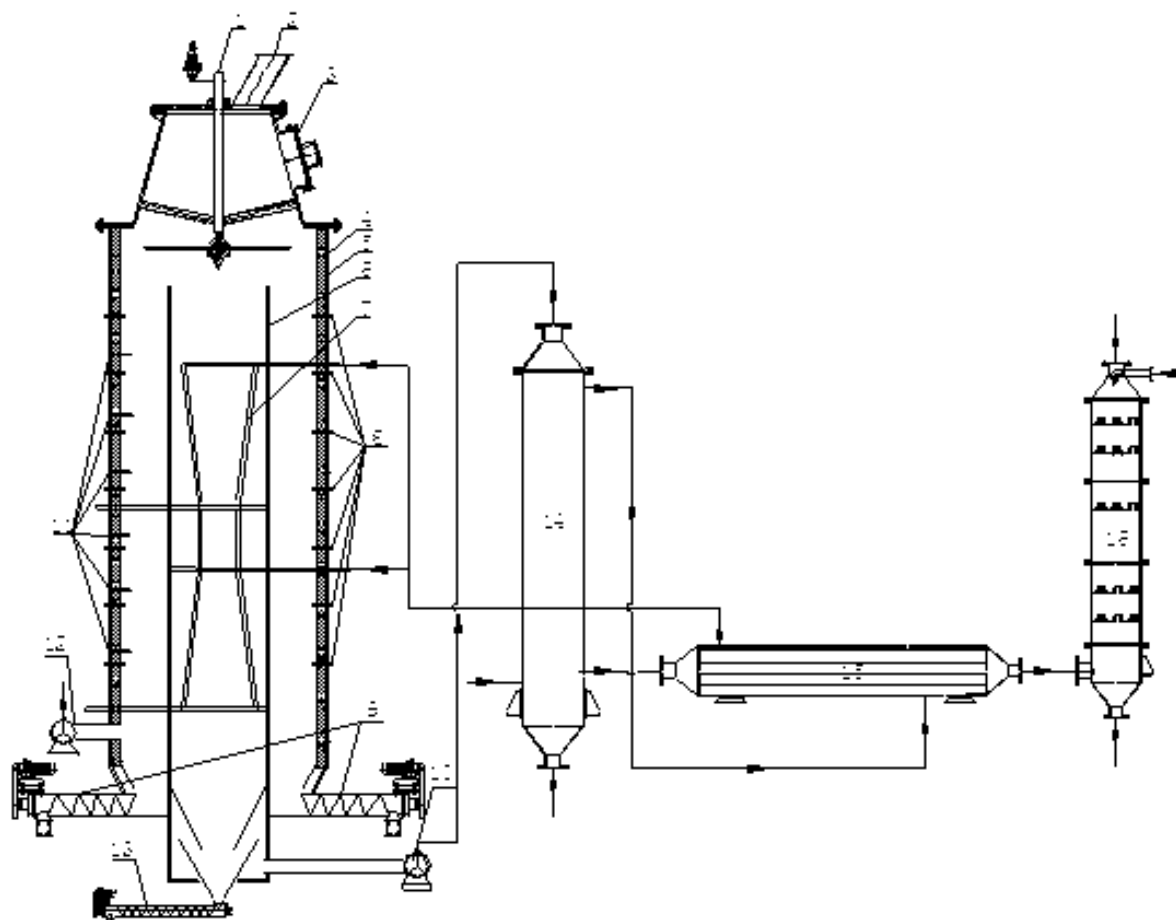
INNER MONGOLIA UNIVERSITY OF SCIENCE & TECHNOLOGY

Family 2/11 - FAMPAT - ©Questel

Title

(CN103074111B)

Equipment and technology for producing synthesis gas through cooperating outer cylinder **air** gasification with inner cylinder steam gasification

Images**Publication data including kind & date**

CN103074111

A 2013-05-01 CN103074111



CN103074111

B 2014-01-29 CN103074111B

Abstract

(CN103074111B)

The invention belongs to the technical field of biomass thermal transition, and particularly relates to equipment and a technology for producing synthesis gas through cooperating outer cylinder **air** gasification with inner cylinder steam gasification. The equipment comprises a refining device (1), a feed port (2), an observation port (3), an outer cylinder (4), an outer cylinder inner heat preservation (5), an inner cylinder (6), a steam distribution device (7), an **air** distribution port (8), a carbon discharge device (9), an inner cylinder induced draft **fan** (10), a temperature measuring device (11), an outer cylinder induced draft **fan** (12), an ash discharge device (13), an ash removal tower (14), an exhaust-heat boiler (15) and a carbon dioxide absorption tower (16). According to the equipment and the technology, the cooperation between the outer cylinder **air** gasification and the inner cylinder steam gasification is adopted for achieving energy self-sufficiency, and inner cylinder high-temperature self-catalysis reforming and steam gasification are adopted for producing the synthesis gas with hydrogen and carbon monoxide content of 85-90%.

Inventors

QIN HENGFEI

QUE MINGHUA

Latest standardized assignees - inventors removed

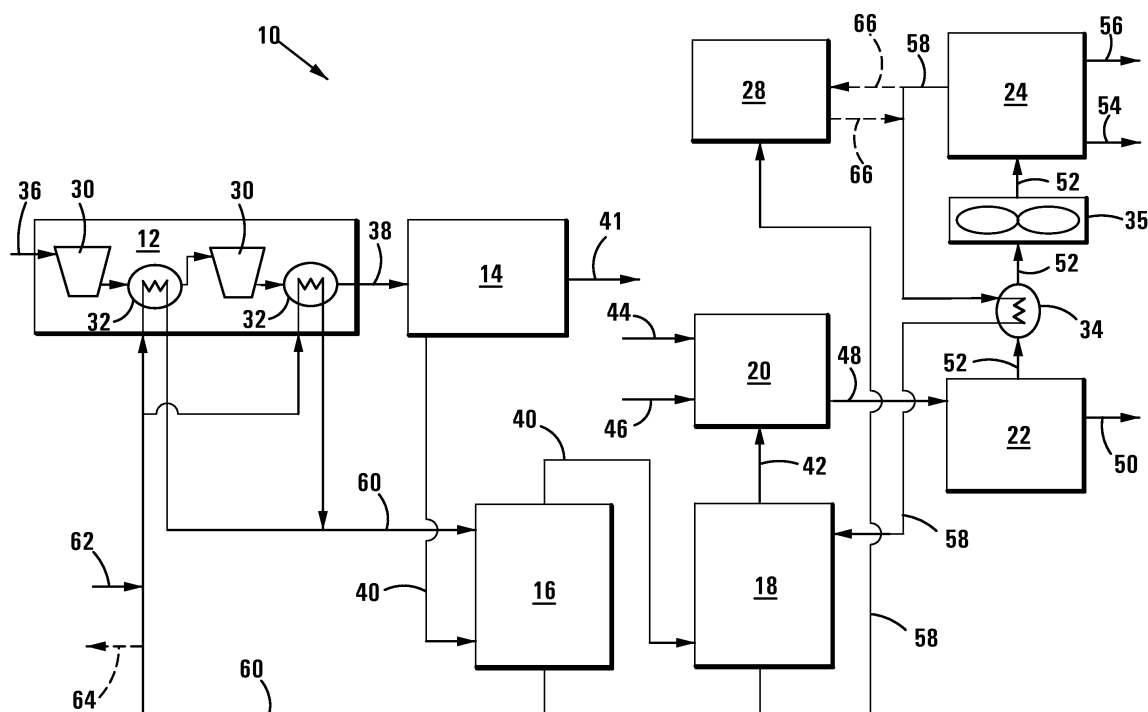
DANYANG HUAFA ENVIRONMENTAL PROTECTION MACHINERY

Family 3/11 - FAMPAT - ©Questel

Title

(WO200815630)

Method for the production of synthesis gas and of operating a fixed bed dry bottom gasifier

Images**Publication data including kind & date**

WO2008015630	A2	2008-02-07	WO200815630
CA2658602	A1	2008-02-07	CA2658602
AU2007280060	A1	2008-02-07	AU2007280060
WO2008015630	A8	2008-03-20	WO200815630



WO2008015630	A3	2008-05-22	WO200815630				
MX2009001162	A	2009-03-30	MX2009001162				
IN0727/CHENP/2009	A	2009-05-29	IN2009CN00727				
DE112007001821	T5	2009-06-10	DE112007001821				
CN101553556	A	2009-10-07	CN101553556				
US20090261296	A1	2009-10-22	US20090261296				
ZA200900789	B	2010-02-24	ZA200900789				
RU2009106969	A	2010-09-10	RU2009106969				
AU2007280060	B2	2010-11-25	AU2007280060				
AU2007280060	C1	2011-03-31	AU2007280060				
RU2433164	C2	2011-11-10	RU2433164				
US8158029	B2	2012-04-17	US8158029				
CN101553556	B	2013-01-23	CN101553556B				
CA2658602	C	2014-06-17	CA2658602				
IN266724	B	2015-06-05	IN-266724				

Abstract

(WO200815630)

A method (10) for the production of synthesis gas includes humidifying an oxygen- containing stream (40) by contacting the oxygen-containing stream (40) with a hot aqueous liquid (58) to produce a humidified oxygen-containing stream (42), and feeding the humidified oxygen-containing stream (42) into a gasifier (20) in which a carbonaceous material (44) is being gasified, thereby to produce synthesis gas.

Inventors

ERNST WERNER SIEGFRIED

Latest standardized assignees - inventors removed

SASOL

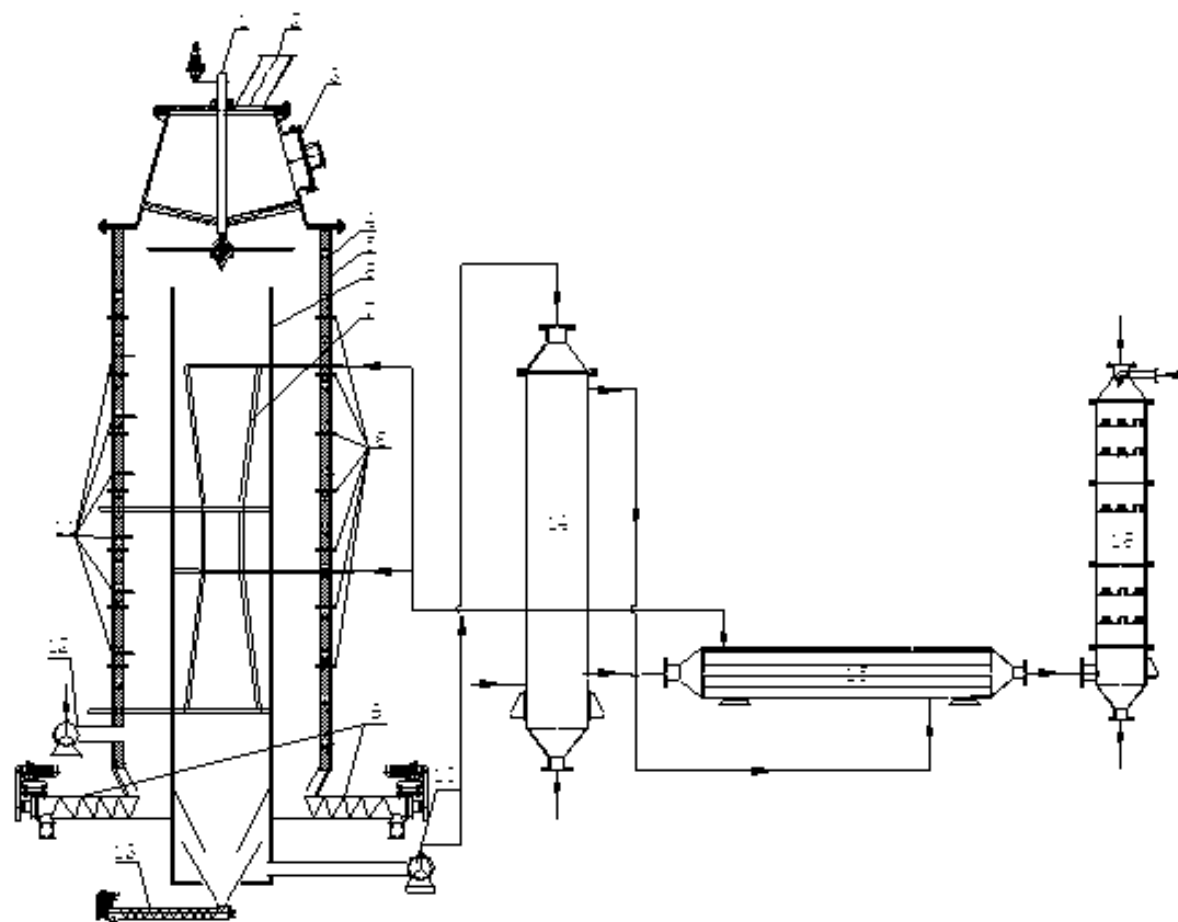
Family 4/11 - FAMPAT - ©Questel

Title

(CN203112763U)

Device for preparing synthesis gas through synergy of outer cylinder **air** gasification and inner cylinder steam gasification

Images



Publication data including kind & date

CN203112763

U

2013-08-07

CN203112763U



Abstract

(CN203112763U)

The utility model belongs to the field of biomass thermal transition technology, particularly to a device and technology of preparing synthesis gas through synergy of outer cylinder **air** gasification and inner cylinder steam gasification. The device comprises a refining device (1), a feed opening (2), a viewport (3), an outer cylinder (4), an outer cylinder interior thermal insulation device (5), an inner cylinder (6), a steam distribution device (7), an **air** distribution opening (8), a charcoal discharging device (9), an inner cylinder induced draft **fan** (10), a temperature measuring device (11), an outer cylinder induced draft **fan** (12), an ash discharging device (13), a dusting tower (14), a waste heat boiler (15) and a carbon dioxide absorption tower (16). According to the device and technology of preparing synthesis gas through synergy of outer cylinder **air** gasification and inner cylinder steam gasification, the synergy of outer cylinder **air** gasification and inner cylinder steam gasification is utilized to achieve self-sufficient energies, and inner cylinder high temperature self catalytic reforming and steam gasification are utilized to obtain synthesis gas with 85-90% volume content of hydrogen and carbon monoxide.

Inventors

QIN HENGFEI

QUE MINGHUA

Latest standardized assignees - inventors removed

DANYANG HUAFA ENVIRONMENTAL PROTECTION MACHINERY

Family 5/11 - FAMPAT - ©Questel

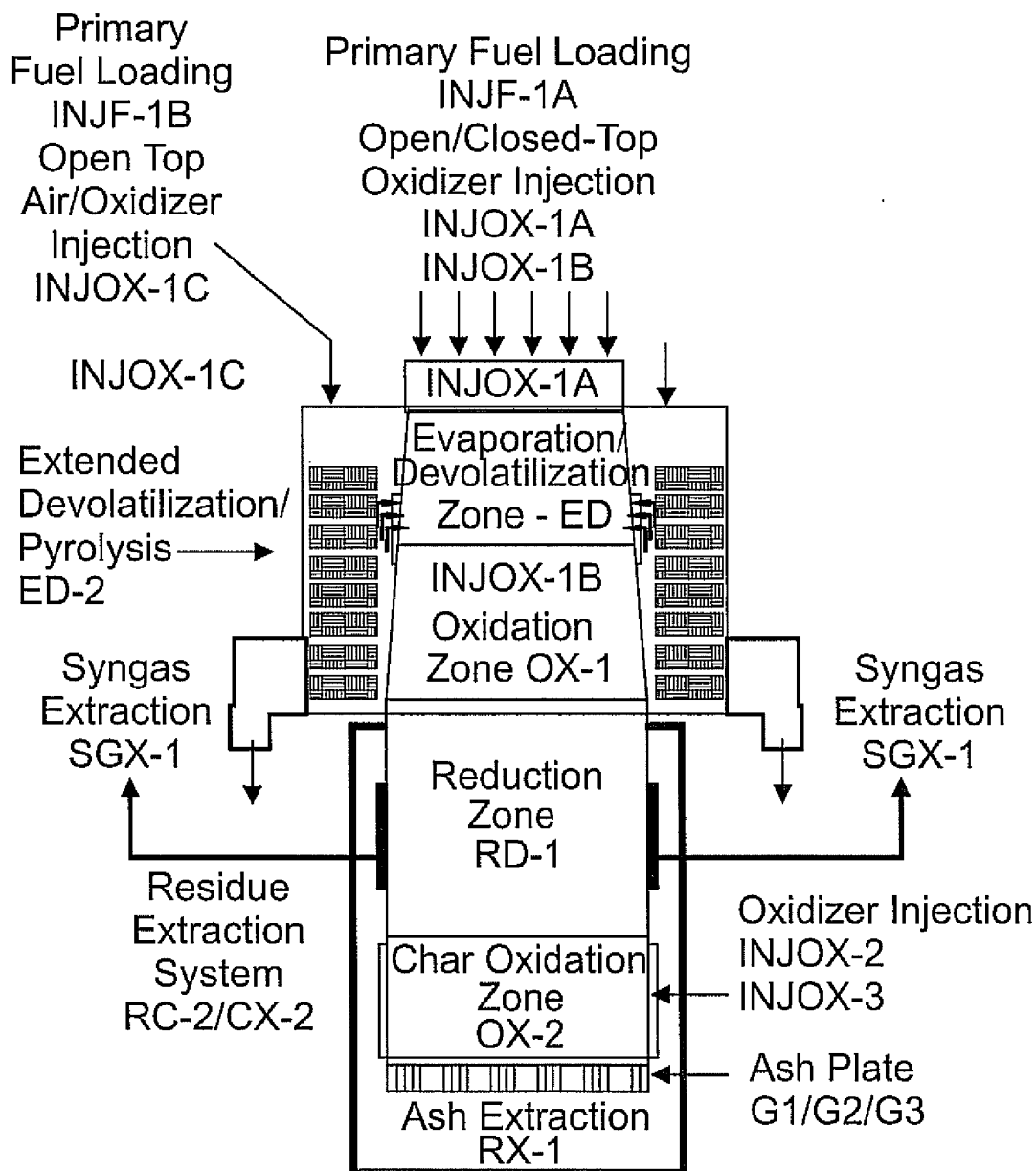
Title

(EP2606105)

Sandwich gasification process for high-efficiency conversion of carbonaceous fuels to clean syngas with zero residual carbon discharge

Images

MULTIFUEL SANDWICH GASIFICATION PROCESS



Publication data including kind & date

US20120036777	A1	2012-02-16	US20120036777
CA2808893	A1	2012-02-23	CA2808893
WO2012024274	A2	2012-02-23	WO201224274
WO2012024274	A3	2012-05-24	WO201224274
CN103154210	A	2013-06-12	CN103154210
EP2606105	A2	2013-06-26	EP2606105
EP2606105	A4	2014-08-27	EP2606105
CN103154210	B	2015-07-22	CN103154210B
CA2808893	C	2018-06-05	CA2808893
US10011792	B2	2018-07-03	US10011792
US20180327679	A1	2018-11-15	US20180327679



Abstract

(EP2606105)

The present invention discloses a gasifier and/or a gasification process that provides a long, uniform temperature zone in the gasifier, regardless of the particle size, chemical composition, and moisture content of the fuel by sandwiching a reduction zones between two oxidation zones. The gasifier and/or gasification process has a char that is more energy-dense and almost devoid of moisture that affords for an additional (or char) oxidation zone with a temperature that is higher than a first oxidation zone which is closer to a evaporation and de volatilization zone. As such, the additional (or char) oxidation zone contributes to augmenting the reduction zone temperature, thereby providing a favorable dual impact in improving syngas composition and near-complete conversion of the tar.

Inventors

PATEL NIKHIL MANUBHAI

Latest standardized assignees - inventors removed

ENERGY & ENVIRON RESEARCH CENTER FOUND

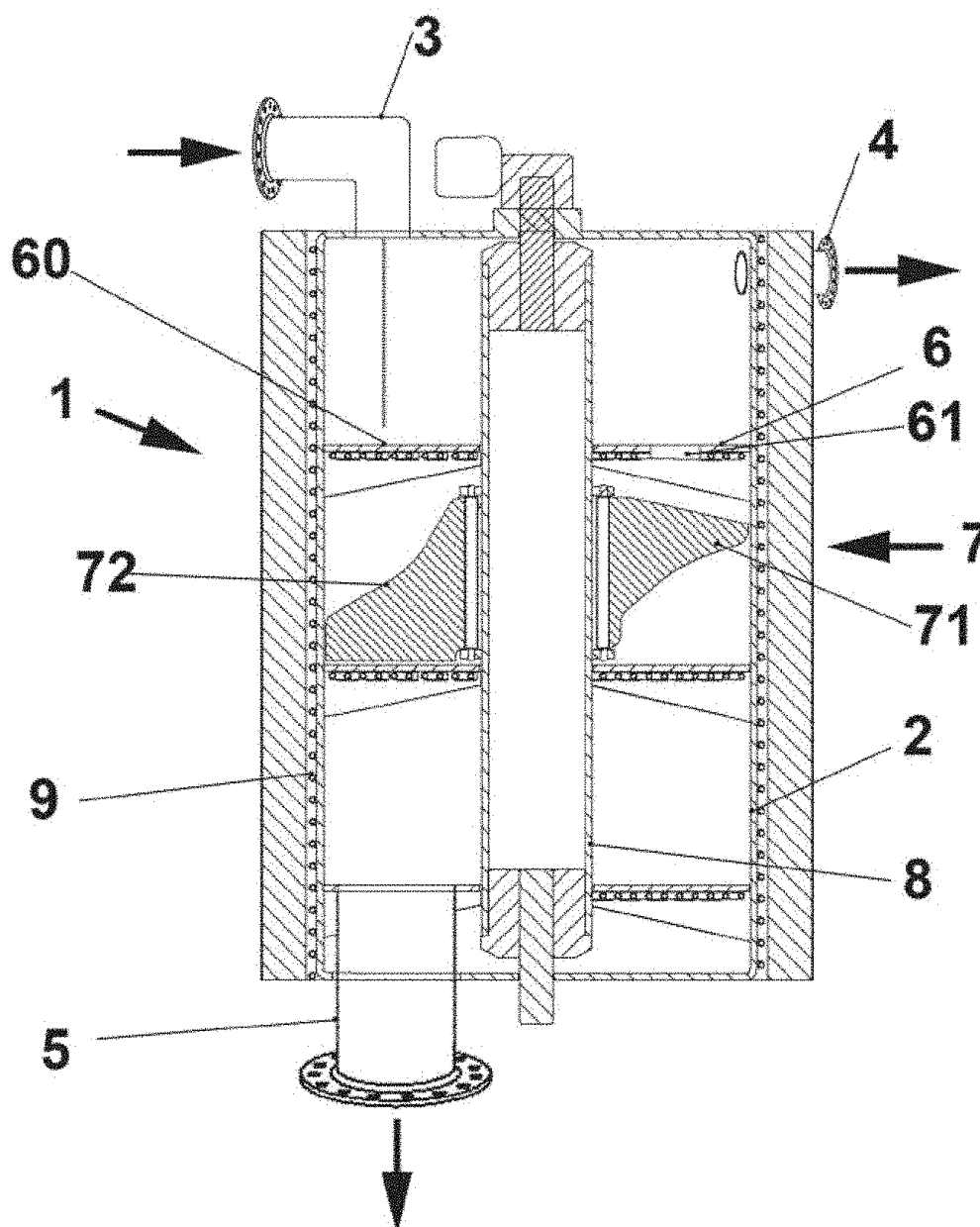
Family 6/11 - FAMPAT - ©Questel

Title

(EP3371276)

Device for thermolysis in stages

Images



Publication data including kind & date

FR3043088	A1	2017-05-05	FR3043088
WO2017/077243	A1	2017-05-11	WO201777243
FR3043088	B1	2017-11-17	FR3043088
CN108431182	A	2018-08-21	CN108431182
EP3371276	A1	2018-09-12	EP3371276
IN201817020250	A	2018-09-28	IN201817020250
US20180312759	A1	2018-11-01	US20180312759



Abstract

(EP3371276)

The invention relates to a thermolysis device (1) including a means (9) for supplying heat energy at a temperature of between 80°C and 700°C and capable of adjusting the temperature inside a chamber (2) including a raw material supply inlet (3), a thermolysis gas outlet (4), and an outlet for the solid or liquid materials from the thermolysis reaction. Said chamber encloses at least one plate (6), separating said chamber (2) into a top portion and a bottom portion, and at least one transfer element (7). Said invention is characterized in that said transfer element (7) and/or the plate (6) is mounted so as to rotate about an axis, said raw material supply inlet (3) is placed above said plate, thus defining a first point (60) for a

raw material to drop onto said plate, and said plate comprises an emptying hole (61) in communication between said top portion and said bottom portion and angularly placed after the first raw material drop point (60) in the direction of relative rotation. Said invention is also characterized in that said transfer element (7) radially extends from the center of said plate towards the wall of said chamber (2), above said plate, in that said device (1) also includes at least one pressing element (73) extending over said plate (6), between the center of said plate (6) and the wall of said chamber (2), and in that said pressing element (73) defines an **air** gap that decreases from the front to the back of said **air** gap.

Inventors

FERNANDEZ DE GRADO ALAIN

HAFFNER PHILIPPE

Latest standardized assignees - inventors removed

HAFNER ENERGY

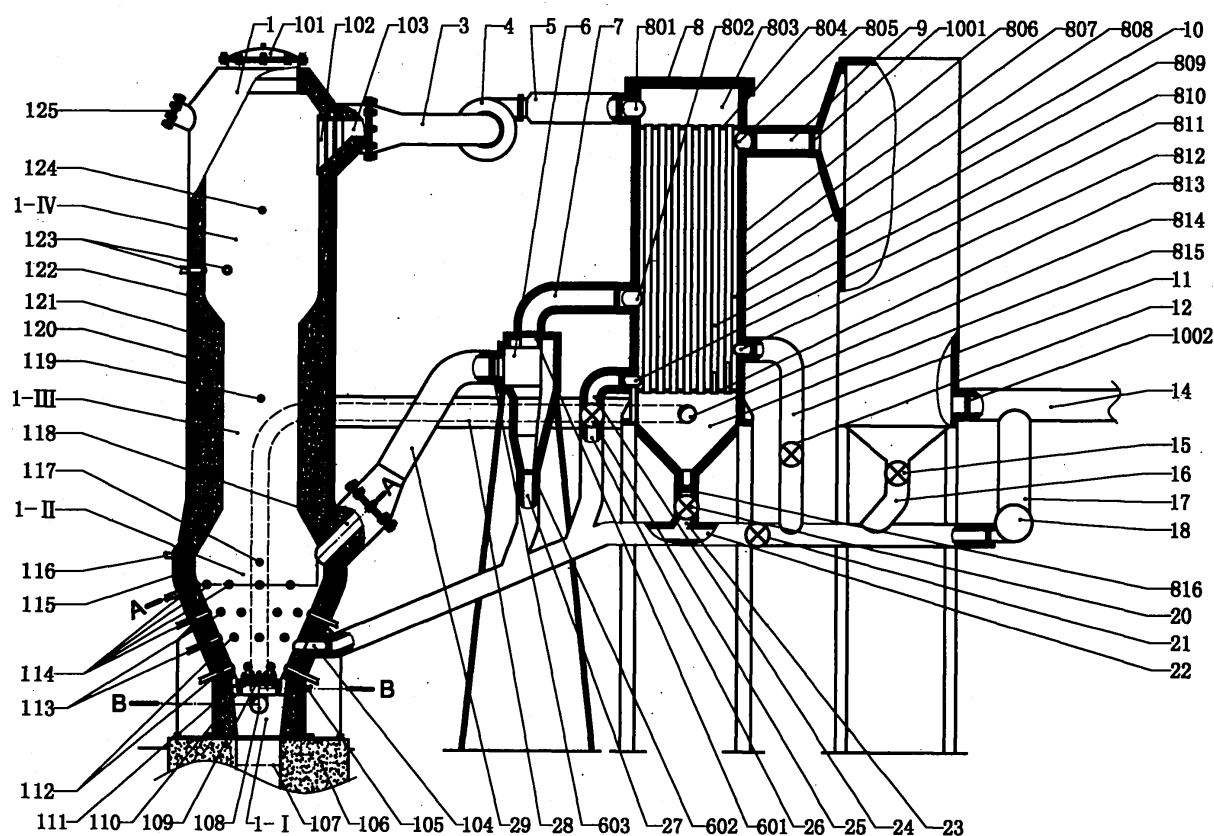
Family 7/11 - FAMPAT - ©Questel

Title

(CN101781584B)

Method and equipment for gasifying coal by using plasma

Images



Publication data including kind & date

CN101781584	A	2010-07-21	CN101781584
CN101781584	B	2012-09-26	CN101781584B



Abstract

(CN101781584B)

The invention provides method and equipment for gasifying coal, relating to a coal chemical industry technique and gasification furnace equipment. The invention is characterized in that a fluidized bed gasification furnace is designed into a three-section working mode, the upper section is a suspended preheating section, the middle section is a turbulent flow pyrolyzing section, the lower section is a bubbled gasifying section, a plasma torch is arranged at the bubbled gasifying section, and water vapor is heated to be greater than 4000 DEG C in the plasma torch, is decomposed into active chemicals H., O., H₂., HO., O₂. and then is directly sprayed to carbon coke of the bubbled gasifying section for chemical

reaction to generate synthesis gas of CO and H₂ and release heat; and pyrolysis gas, the water vapor and fluidized gas in the furnace are mixed, are discharged out of the furnace through an outlet of the suspended preheating section and then return the bubbled gasifying section of the gasification furnace through a fluidized air pipe and a fluidized fan, and soot, gaseous tar, CmHn and CH₄ in the pyrolysis gas react with the water vapor to generate the synthesis gas of the CO and the H₂. Compared with the conventional coal gasification technique, the invention reduces the consumption of coal resources and the discharge of greenhouse gases.

Inventors

ZHOU KAIGEN

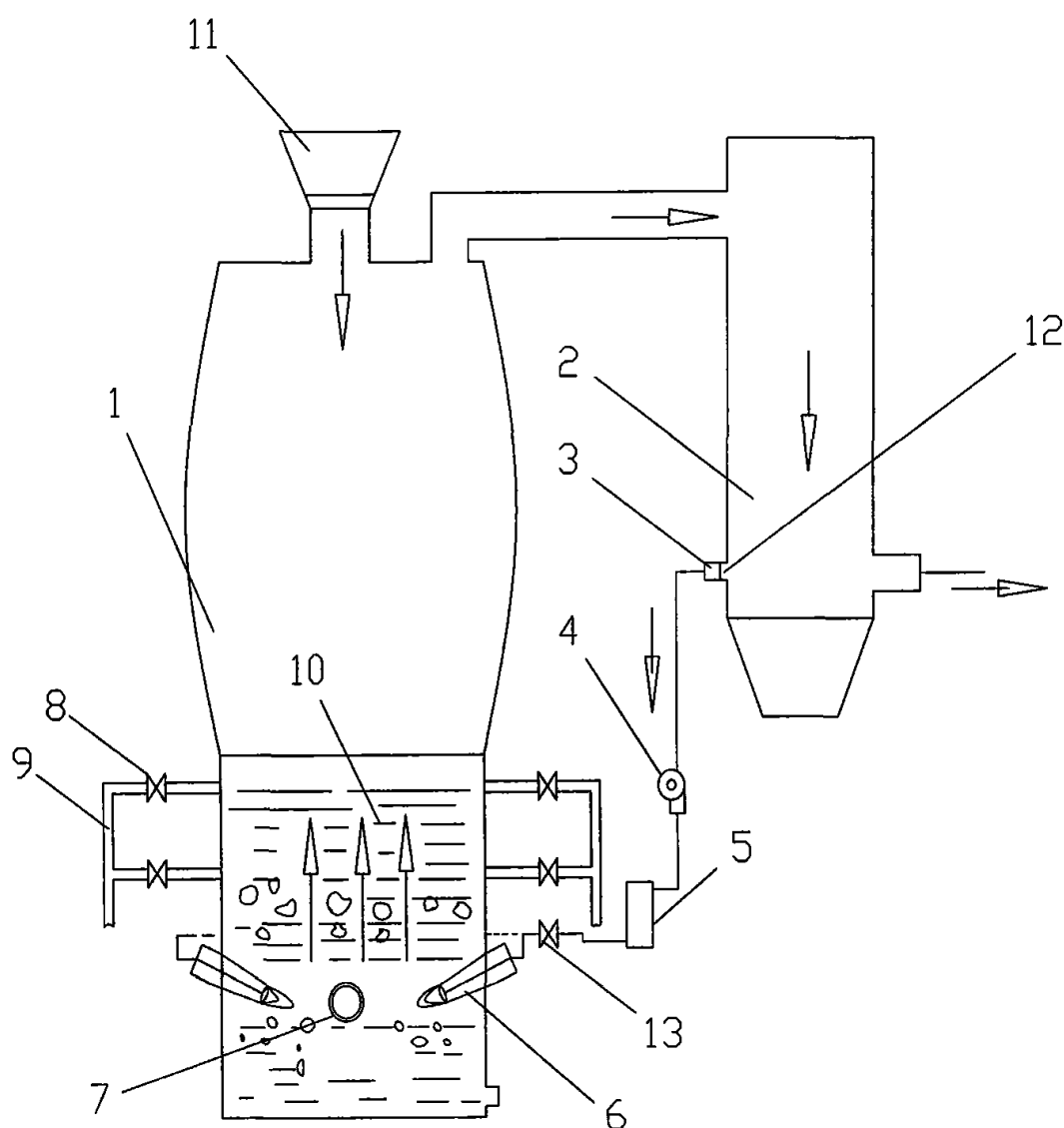
Family 8/11 - FAMPAT - ©Questel

Title

(CN201530801U)

Auxiliary gasification device using synthesis gas for return burning

Images



Publication data including kind & date

CN201530801

U 2010-07-21 CN201530801U



Abstract

(CN201530801U)

The utility model discloses auxiliary gasification process and device using synthesis gas for return burning, which mainly

solve the difficult problem that an existing gasification furnace has poor adaptability to fuel characteristic fluctuation. The process includes that part of outputted synthesis gas is extracted, retransferred into a combustion chamber on the lower portion of the gasification furnace, has violent combustion reaction with injected oxygen, and produces high-temperature high-heat flue gas to assist circulation of the process of fuel gasification above the combustion chamber when a gasification furnace is in normal running state that the generated synthesis gas is continuously outputted from the upper portion of the gasification furnace. The device comprises the gasification furnace and a follow-up treatment device; a synthesis gas extraction nozzle arranged on the follow-up treatment device is connected with a synthesis gas spray nozzle through a circulating **fan** pressure-stabilizing gas storage tank; and the synthesis gas spray nozzle and an oxygen spray nozzle are arranged on the wall surface of the combustion on the lower portion of the gasification furnace. The auxiliary gasification process and device have the advantages of fine load adjustability, good combustion stability, high gasification temperature, wide fuel adaptability and high product quality.

Inventors

LIN WEN

ZHANG LIANG

ZHANG YANFENG

XIA MINGGUI

Latest standardized assignees - inventors removed

WUHAN KAIDI HOLDING INVESTMENT

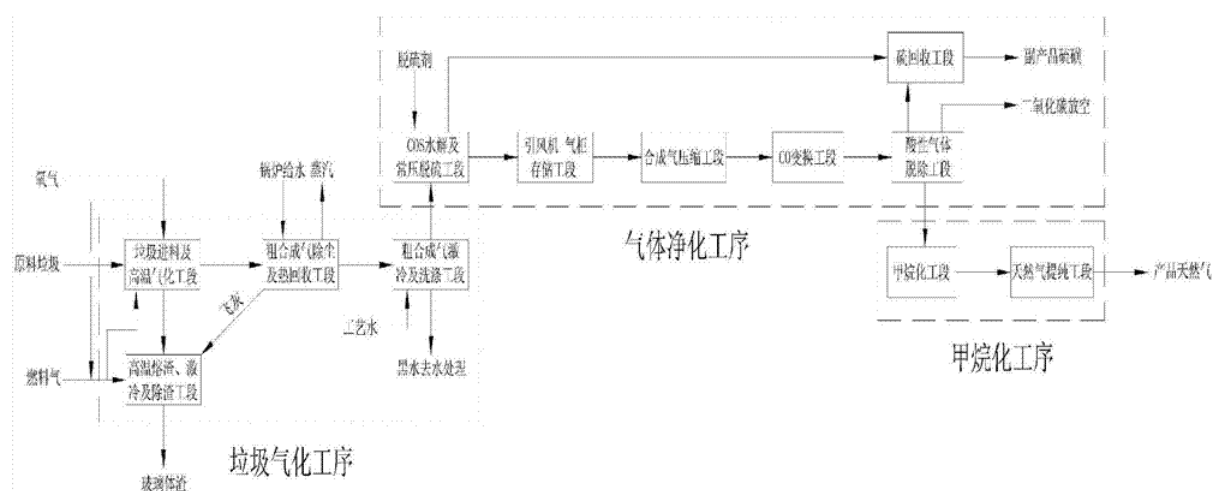
Family 9/11 - FAMPAT - ©Questel

Title

(CN106244239)

Process method of producing and synthesizing natural gas by gasifying garbage

Images



Publication data including kind & date

CN106244239	A	2016-12-21	CN106244239
CN106244239	B	2018-11-30	CN106244239B



Abstract

(CN106244239B)

The invention discloses a process method of producing and synthesizing natural gas by gasifying garbage and solves the problem that there is no natural gas producing and synthesizing process based on the garbage gasification technology up to now. The process method includes the steps of garbage gasification, gas purification, and methanation. The garbage gasification step includes a garbage feeding and high-temperature gasification section, a coarse synthetic gas dust removal and heat recovery section, a coarse synthetic gas chilling and washing section, and a high-temperature slag chilling and slag removal section; the gas purification step includes a COS hydrolysis and normal pressure desulfurization section, an induced draft **fan** and gas holder storage section, a synthetic gas compression section, a CO shift conversion section and an acidic gas removal section; and the methanation step includes a methanation section and a natural purifying section.

The method finally produces the qualified natural gas that satisfies requirement in national quality standard. The method is simple, has high energy utilization rate and good recovery effect, and is energy-saving, emission-reducing and environment-friendly.

Inventors

LIANG YONGHUANG

WEI TAO

Latest standardized assignees - inventors removed

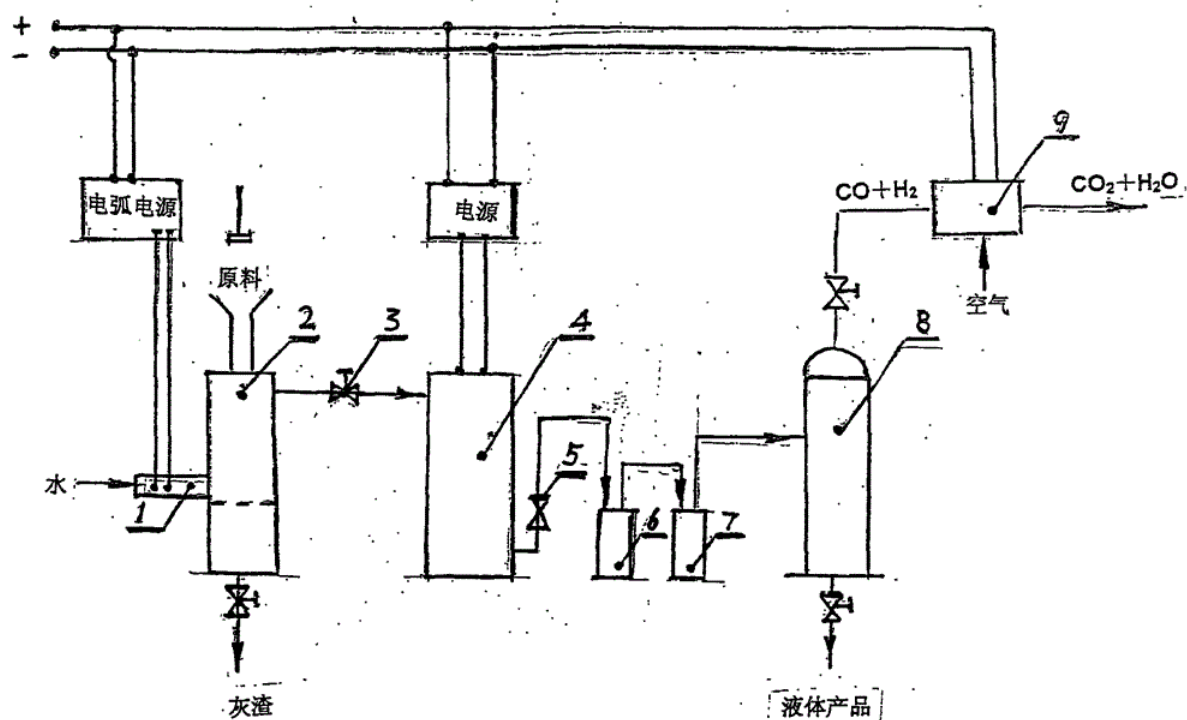
WUHUAN ENGINEERING

Family 10/11 - FAMPAT - ©Questel

Title

(CN106701198)

Process for converting biomass and combustible matters in garbage into liquid fuel or gas fuel

Images**Publication data including kind & date**

CN106701198

A 2017-05-24 CN106701198

**Abstract**

(CN106701198)

The invention provides a process for converting solid biomass and combustible matters in garbage into liquid fuel or gas fuel. The process is mainly characterized in that the process is finished by two grades of continuous plasma reactions. At the first grade, the solid biomass is degraded, gasified and deashed through plasmas of water under relatively high temperature; at the second grade, chemical components of a first-grade gas-state product are reconstructed and modified by utilizing a low-temperature plasma physical technology so as to obtain a liquid product; control conditions of second-grade plasma equipment, such as air pressure, temperature of a macroscopic system, outlet temperature of a product and current, are changed, so that the gas-state product entering a second-grade reactor can be converted into a liquid product, and can be partially or wholly converted into mixed gas (synthetic gas) of carbon monoxide and hydrogen so that the output ratio of a final gas product to the liquid product can be changed.

Inventors

DU XINGUO

Family 11/11 - FAMPAT - ©Questel

Title

(CN106831327)

Methanol production process combining pressure-controlled high-speed gasification and microreactor

Publication data including kind & date

[CN106831327](#)

A

2017-06-13

CN106831327

**Abstract**

(CN106831327)

The invention discloses a methanol production process combining pressure-controlled high-speed gasification and a microreactor, and relates to a synthesizer for preparing methanol in the mode that carbonaceous materials pass through a prefabricated pellet local fluidized bed and subjected to superhigh-speed heating and pressure-controlled gasification, and a process for synthesizing the methanol through a micro-channel reactor. Particularly, a local fluidized bed gasification process is achieved through prefabricated pellets, generation of liquid-phase hydrocarbon compounds is inhibited through superhigh-speed heating, proportions of carbon monoxide and methane in synthesis gas are adjusted in a pressure control mode, and methanol synthesis reaction is obviously accelerated through the microreactor. By adoption of the local fluidized bed, a temperature and speed of soot particles can be effectively lowered, and dedusting and heat energy circulating devices outside a furnace are omitted or simplified.

Inventors

THE INVENTOR HAS WAIVED THE RIGHT TO BE MENTIONED

Latest standardized assignees - inventors removed

WANG YUDONG