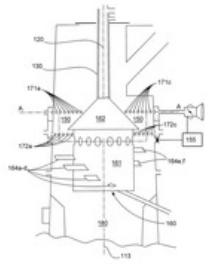
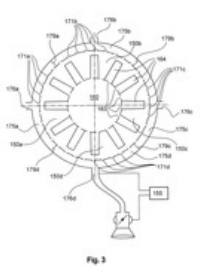
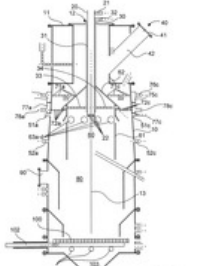
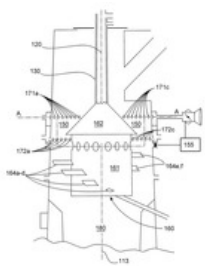


128 results for (gasification and rotating and grating and multiple)/TI/AB/IW/TX AND (C10J or C10L or B01D)/IPC - Collection: FAMPAT

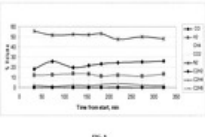
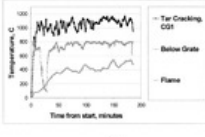
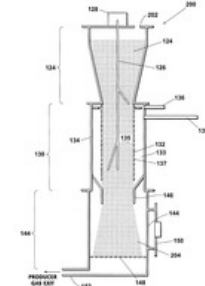
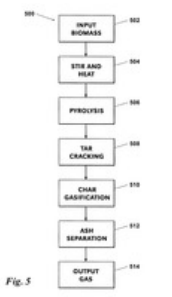
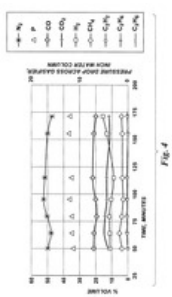
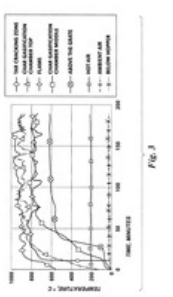
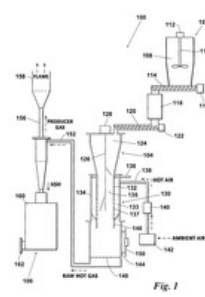
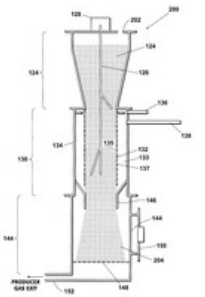
#	Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
1.	Gasification device and gasification method	WO2011101022	2010-02-16	BIG DACHMAN INTERNEHSNL BIG DUTCHMAN*	2011-08-25	2011-08-25

The invention relates to a **gasification** device for producing an ignitable gas from a solid substance, comprising a **gasification** zone into which the solid substance can be filled via a filling opening, and an oxidation zone for the oxidation of the gas produced, which oxidation zone is connected to the **gasification** zone for the conduction of the gas produced into the oxidation zone. According to the invention, the efficiency of the **gasification** device is improved in that the **gasification** zone is divided into a plurality of mutually adjacent **gasification** sectors, a temperature measuring unit is provided which is designed to measure the temperature prevailing in each **gasification** sector, and the temperature measuring unit is coupled in signal-transmitting fashion to a control unit which is coupled in signal-transmitting fashion to an air supply device designed to supply air individually to each **gasification** sector, wherein the respective amount of air supplied to each **gasification** sector per unit time is dependent on the temperature measured in said **gasification** sector.

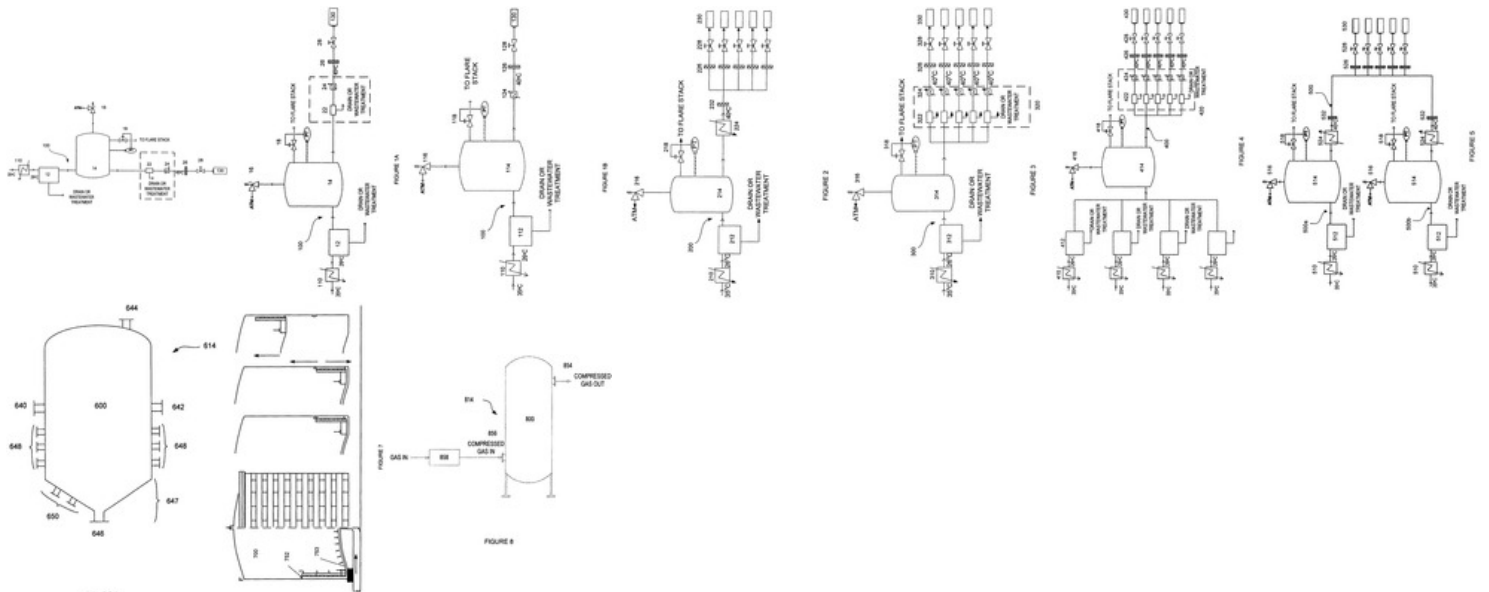


2.	Downdraft gasifier with internal cyclonic combustion chamber	WO2008006049	2007-07-05	OKLAHOMA STATE UNIVERSITY*	2008-01-10	2008-01-10
----	---	--------------	------------	----------------------------	------------	------------

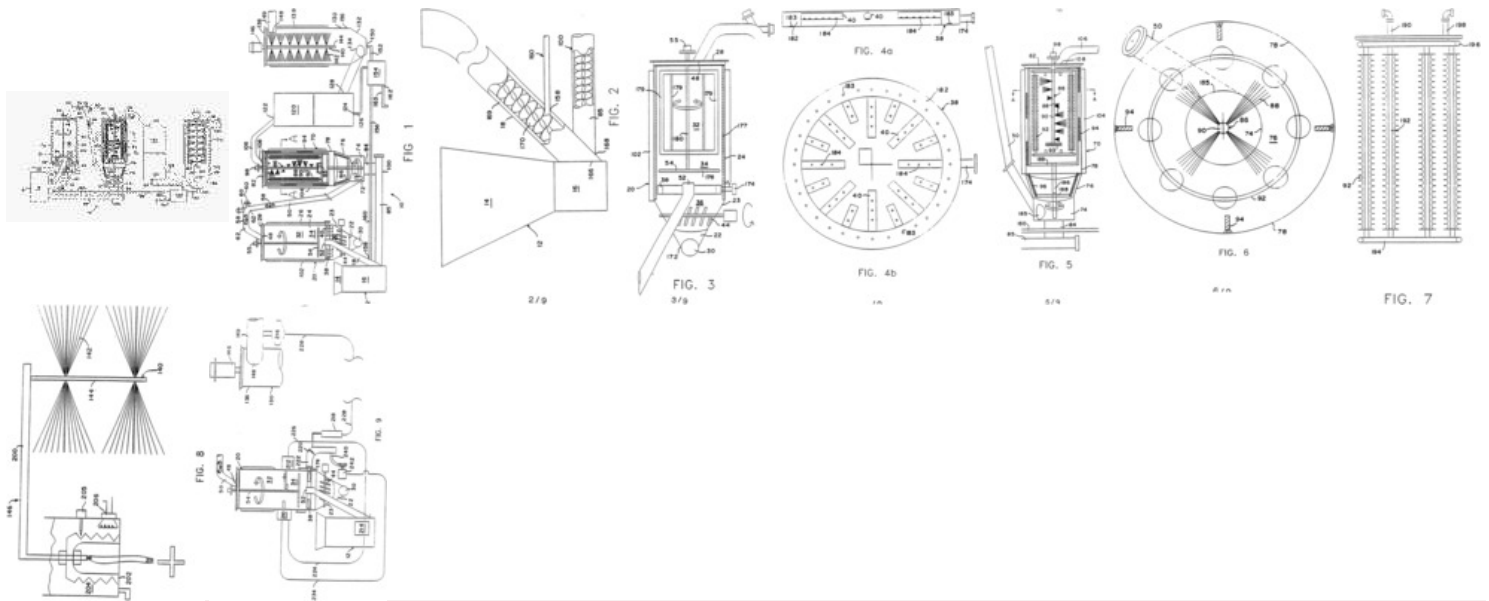
A downdraft gasifier is disclosed. The gasifier has a biomass feeding unit, a combustion chamber, and a separator unit. The biomass feeding unit accepts raw biomass materials and selectively feeds the materials into the combustion chamber. The combustion chamber provides means to induce pyrolysis, tar cracking, and char **gasification** of the raw biomass materials to produce gases and ash. The separator unit accepts the gases and ash from the combustion chamber and separates the gases from the ash.



3.	A low temperature gasification facility with a horizontally oriented gasifier	WO2006128286	2006-06-05	ENERGY HOLDINGS PLASCO ENERGY* PLUS PURASUKOENAJI AIPI HOLDINGS	2006-12-07 2006-12-07
A low-temperature gasification system comprising a horizontally oriented gasifier is provided that optimizes the extraction of gaseous molecules from carbonaceous feedstock while minimizing waste heat. The system comprises a plurality of integrated subsystems that work together to convert municipal solid water (MSW) into electricity. The subsystems comprised by the low-temperature gasification system are: a Municipal Solid Waste Handling System; a Plastics Handling System; a Horizontally Oriented Gasifier with Lateral Transfer Units System; a Gas Reformulating System; a Heat Recycling System; a Gas Conditioning System; a Residue Conditioning System; a Gas Homogenization System and a Control System.					

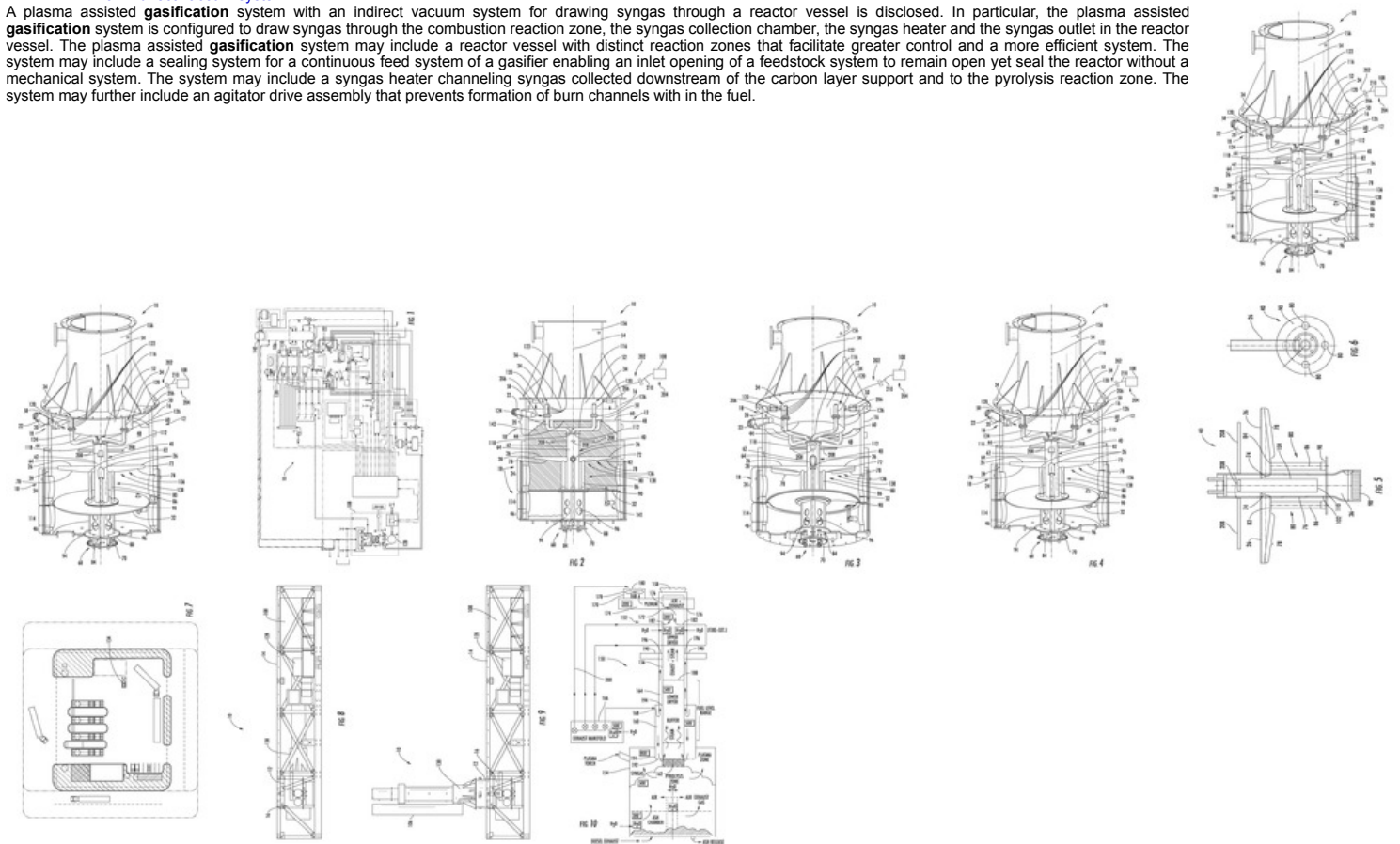


4.	Bottom feed - updraft gasification system	WO9421750	1994-03-17	LELAND T TAYLOR;TAYLOR LELAND T	1994-09-29 1994-09-29
A gasification system for solid wastes having a thermal reactor (20) and a mechanical gas cleaner (70), an indirect heat exchange cooler (120), and an electrostatic precipitator (130) for cleaning and cooling the produced gas. Feed material is continuously fed to the central section of the thermal reactor (20) above an air introduction manifold (38) and nozzles (40) in an upward direction, forming a stratified charge. As feed material moves upward and outward from the reactor center, it is reduced to ash. An agitator (54) assures contact between the hot particulate product and hot gases resulting in gasification of the feed material and net movement to the sidewall of the thermal reactor (20) forming an ash. The air introduction nozzles (40) serve as a grate. Ash descends along the sidewall to the reactor base for removal.					



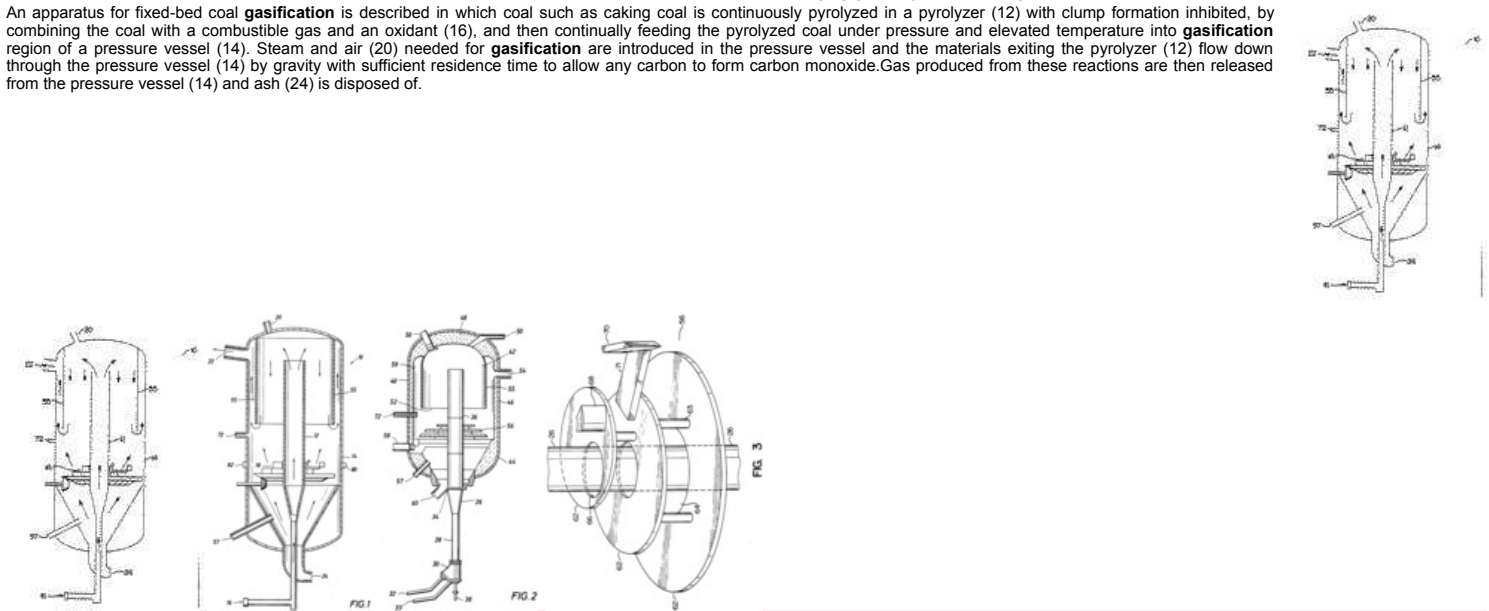
5.	Plasma assisted gasification system with an indirect vacuum system	WO2014051637	2014-09-28	ADAPTIVEARC*	2014-04-03 2014-04-03
----	---	--------------	------------	--------------	-----------------------

A plasma assisted **gasification** system with an indirect vacuum system for drawing syngas through a reactor vessel is disclosed. In particular, the plasma assisted **gasification** system is configured to draw syngas through the combustion reaction zone, the syngas collection chamber, the syngas heater and the syngas outlet in the reactor vessel. The plasma assisted **gasification** system may include a reactor vessel with distinct reaction zones that facilitate greater control and a more efficient system. The system may include a sealing system for a continuous feed system of a gasifier enabling an inlet opening of a feedstock system to remain open yet seal the reactor without a mechanical system. The system may include a syngas heater channeling syngas collected downstream of the carbon layer support and to the pyrolysis reaction zone. The system may further include an agitator drive assembly that prevents formation of burn channels with in the fuel.

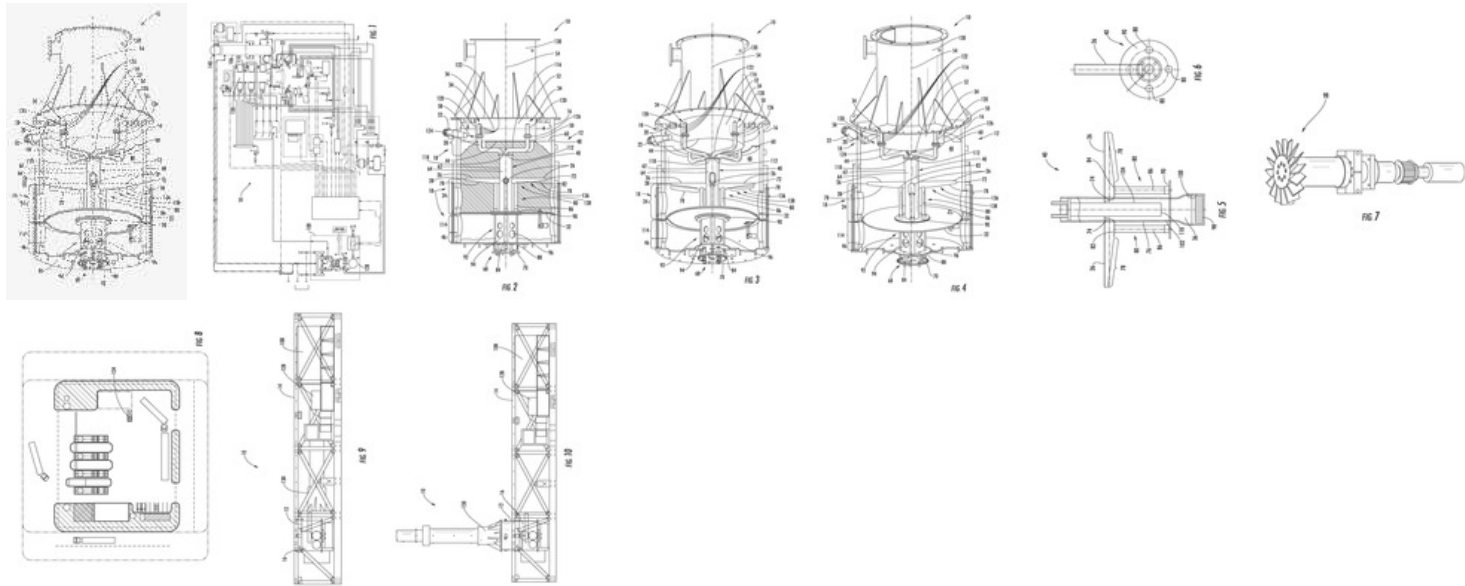
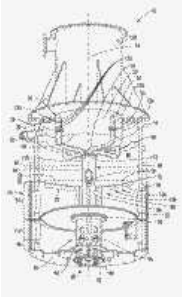


6.	Process and apparatus for fixed bed coal gasification	CN1058801	1990-08-09	CRS SIRRINE ENGINEERS RILEY STOKER* TSRS SERRAJN INZHINIEHS INK	1992-02-19 1992-02-19
----	--	-----------	------------	---	-----------------------

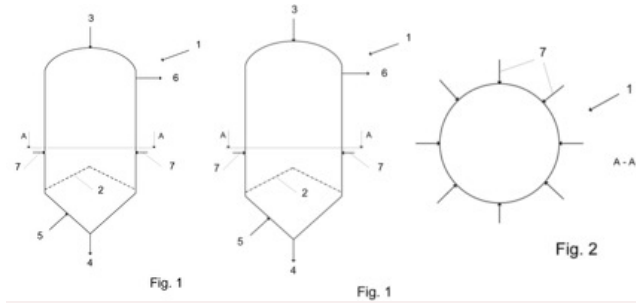
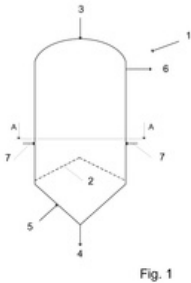
An apparatus for fixed-bed coal **gasification** is described in which coal such as caking coal is continuously pyrolyzed in a pyrolyzer (12) with clump formation inhibited, by combining the coal with a combustible gas and an oxidant (16), and then continually feeding the pyrolyzed coal under pressure and elevated temperature into **gasification** region of a pressure vessel (14). Steam and air (20) needed for **gasification** are introduced in the pressure vessel and the materials exiting the pyrolyzer (12) flow down through the pressure vessel (14) by gravity with sufficient residence time to allow any carbon to form carbon monoxide. Gas produced from these reactions are then released from the pressure vessel (14) and ash (24) is disposed of.



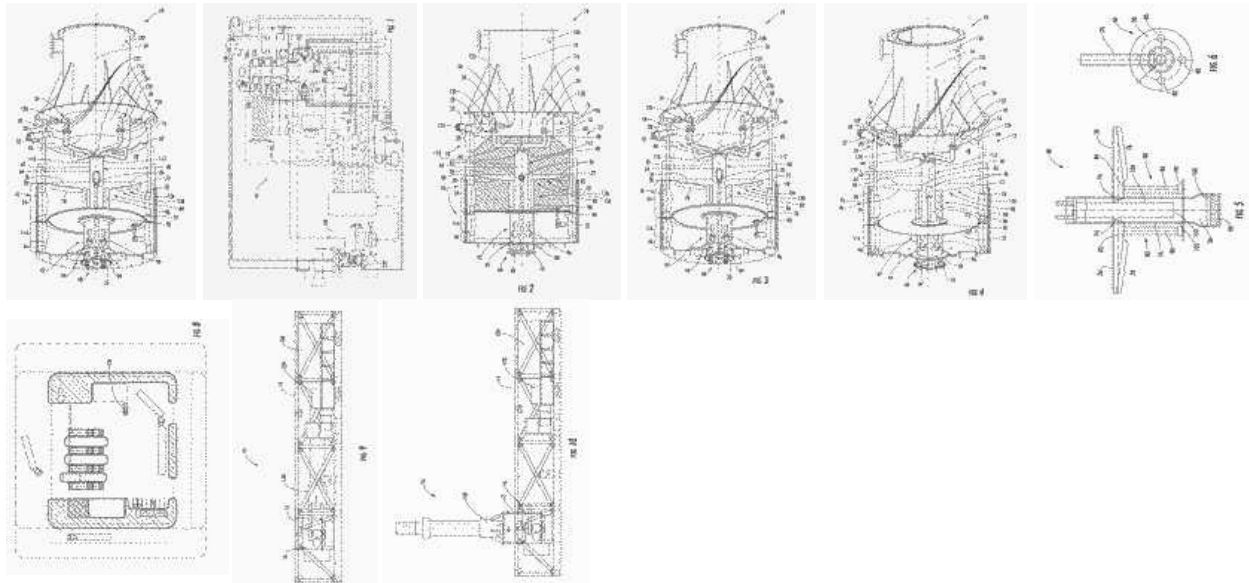
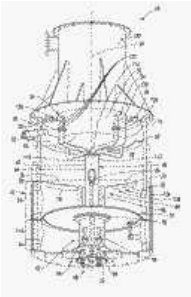
A controlled zone **gasification** reactor for a plasma assisted **gasification** reaction system is disclosed for converting fuel, such as, but not limited to, biomass, to syngas to replace petroleum based fuels used in power generation. The system may be a modular system housed within a frame facilitating relatively easy transportation. The system may include a reactor vessel with distinct reaction zones that facilitate greater control and a more efficient system. The system may include a syngas heater channeling syngas collected downstream of the carbon layer support and to the pyrolysis reaction zone. The system may also include a syngas separation chamber configured to produce clean syngas, thereby requiring less filtering. The system may further include an agitator drive assembly that prevents formation of burn channels with in the fuel.



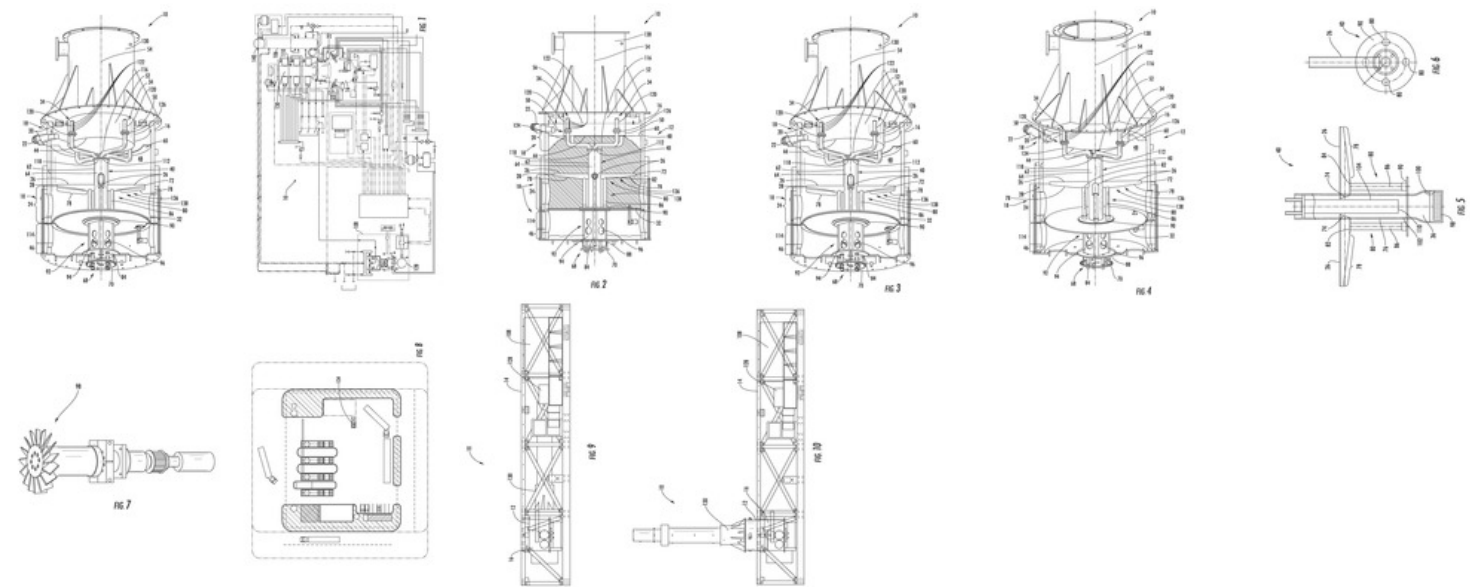
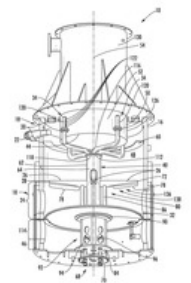
A method for heating the fuel bed during start-up of a fixed-bed pressure **gasification** reactor, wherein the thermal energy necessary for heating the fuel bed is introduced into the fuel bed by flue gas generated outside the reactor as heat carrier.



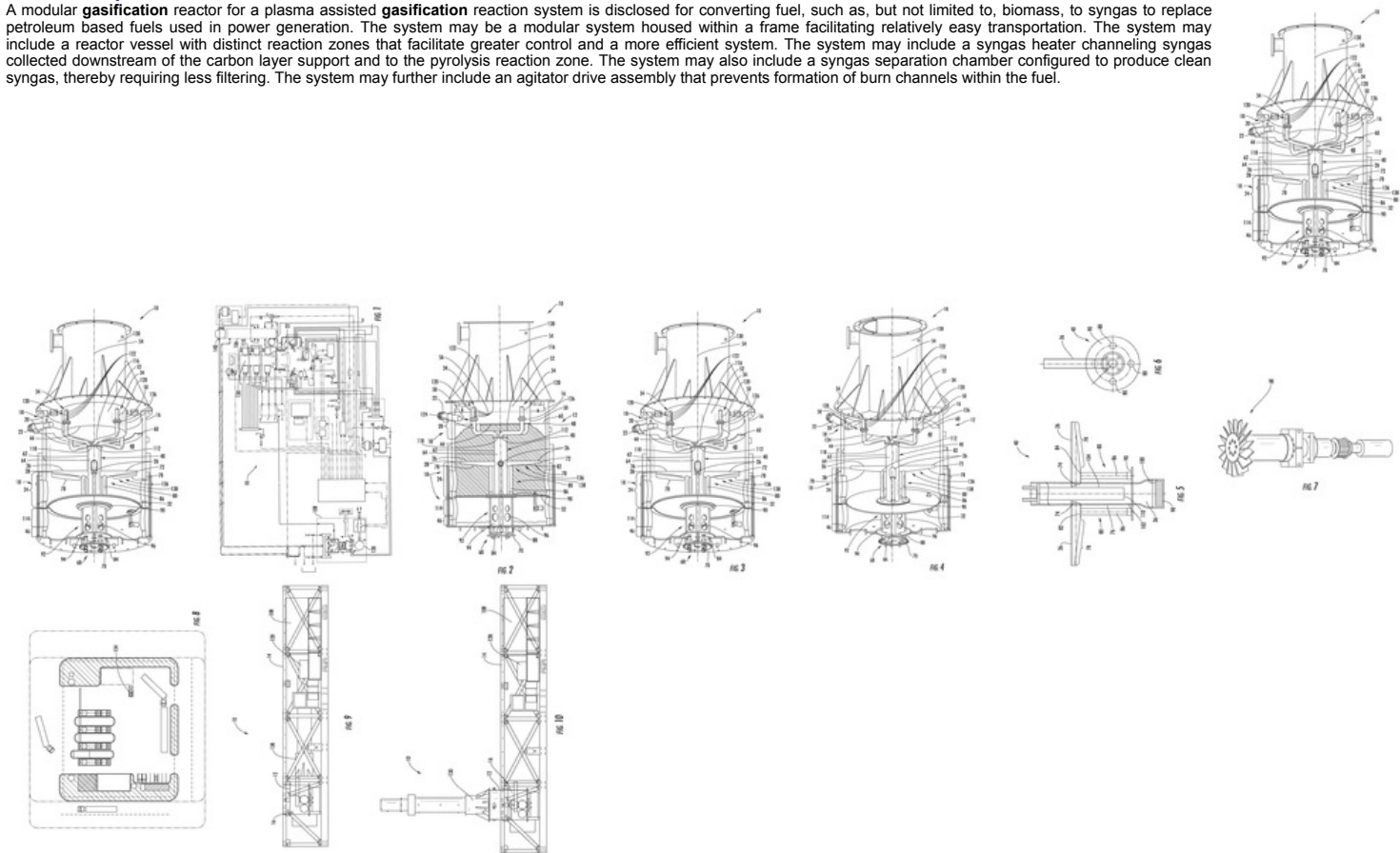
A controlled zone **gasification** reactor with an agitor drive assembly for a plasma assisted **gasification** reaction system is disclosed for converting fuel, such as, but not limited to, biomass, to syngas to replace petroleum based fuels used in power generation. The agitor drive assembly that prevents formation of burn channels with in the fuel. The agitor drive assembly may include a syngas separation chamber configured to produce clean syngas, thereby requiring less filtering. The syngas separation chamber may feed syngas downstream to a syngas heater in a pyrolysis reaction zone in the reactor vessel.



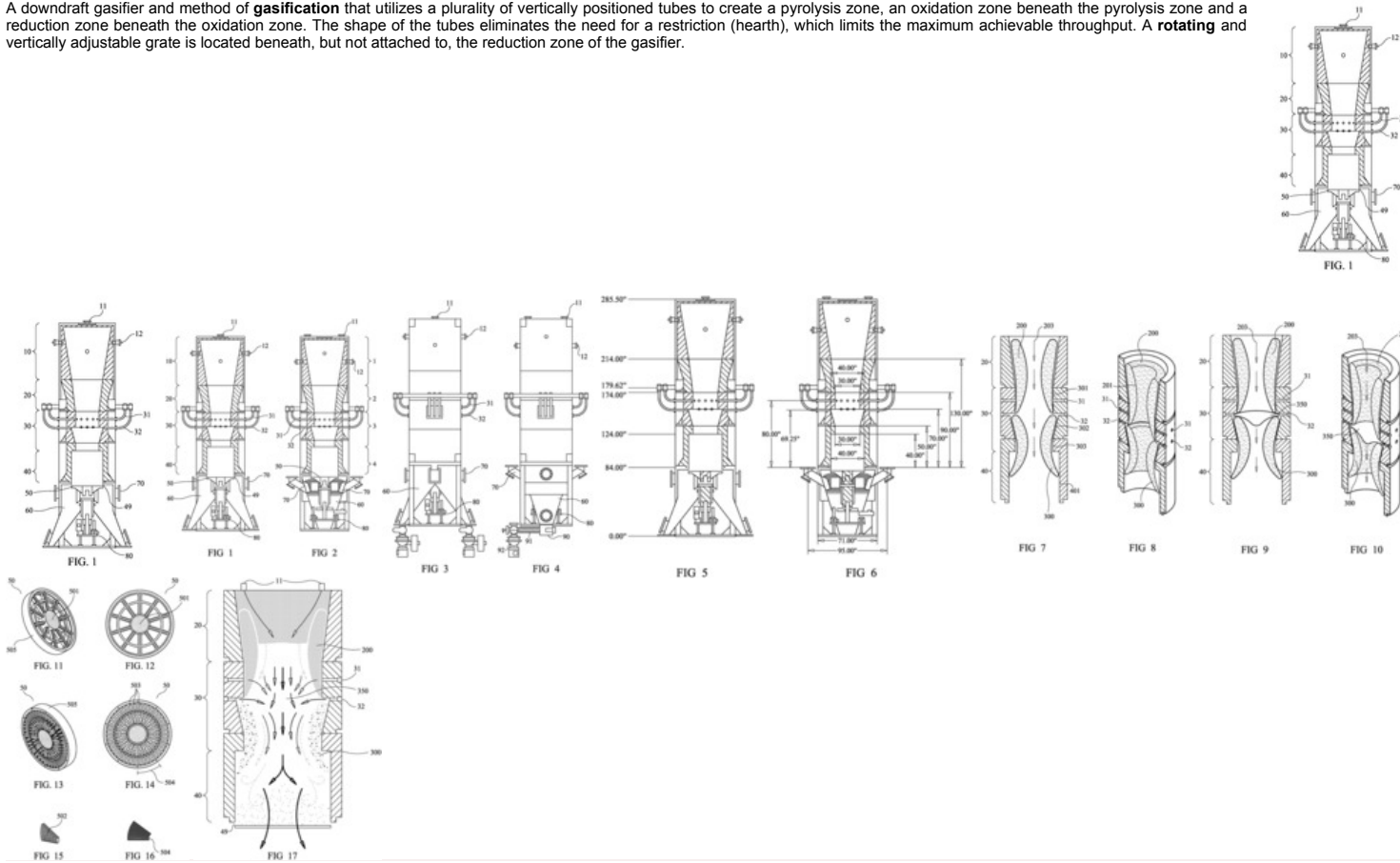
A controlled zone **gasification** reactor for a plasma assisted **gasification** reaction system is disclosed for converting fuel, such as, but not limited to, biomass, to syngas to replace petroleum based fuels used in power generation. The system may be a modular system housed within a frame facilitating relatively easy transportation. The system may include a reactor vessel with distinct reaction zones that facilitate greater control and a more efficient system. The system may include a syngas heater channeling syngas collected downstream of the carbon layer support and to the pyrolysis reaction zone. The system may also include a syngas separation chamber configured to produce clean syngas, thereby requiring less filtering. The system may further include an agitor drive assembly that prevents formation of burn channels with in the fuel.



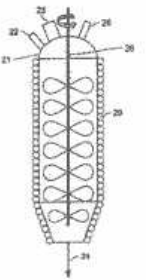
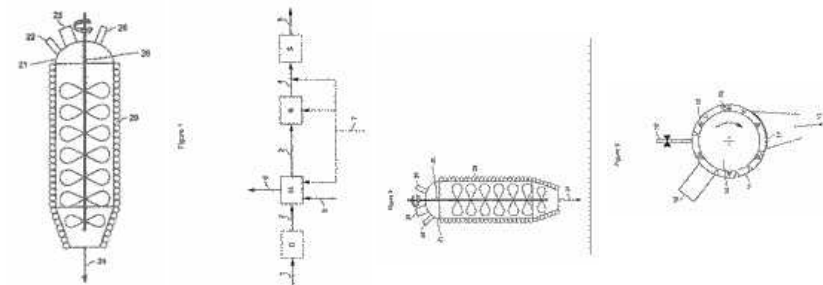
A modular **gasification** reactor for a plasma assisted **gasification** reaction system is disclosed for converting fuel, such as, but not limited to, biomass, to syngas to replace petroleum based fuels used in power generation. The system may be a modular system housed within a frame facilitating relatively easy transportation. The system may include a reactor vessel with distinct reaction zones that facilitate greater control and a more efficient system. The system may include a syngas heater channeling syngas collected downstream of the carbon layer support and to the pyrolysis reaction zone. The system may also include a syngas separation chamber configured to produce clean syngas, thereby requiring less filtering. The system may further include an agitator drive assembly that prevents formation of burn channels within the fuel.



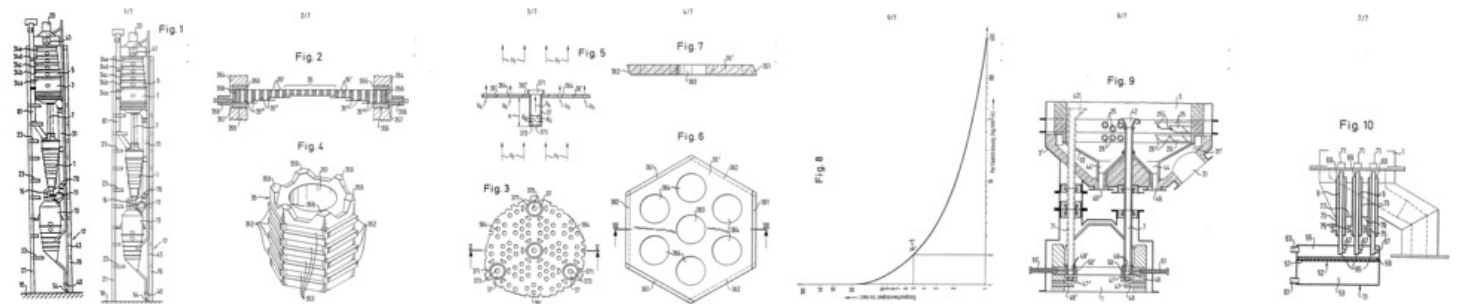
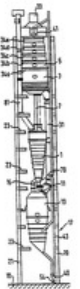
A downdraft gasifier and method of **gasification** that utilizes a plurality of vertically positioned tubes to create a pyrolysis zone, an oxidation zone beneath the pyrolysis zone and a reduction zone beneath the oxidation zone. The shape of the tubes eliminates the need for a restriction (hearth), which limits the maximum achievable throughput. A **rotating** and vertically adjustable grate is located beneath, but not attached to, the reduction zone of the gasifier.

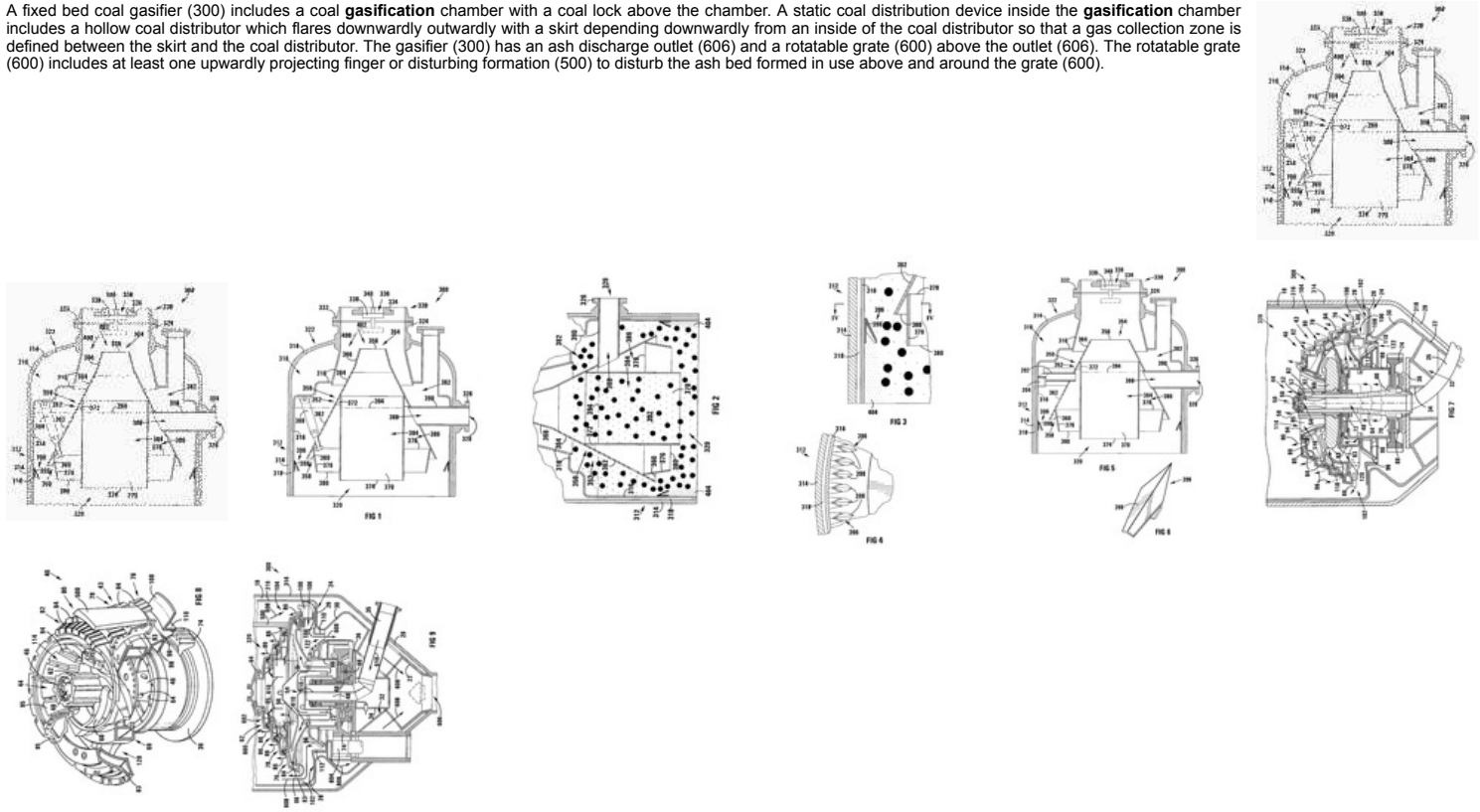


13.	Method of preparing a mixed load containing biomass and a heavy hydrocarbon fraction with a view to subsequent gasification	EP2009353	2007-06-28	IFP ENERGIES NOUVELLES*	2008-12-31 2008-12-31
Pretreating lignocellulosic biomass material in platelet forms with a maximum size of 0.5-5 cm, to feed a gasification unit, comprises mixing the biomass with a heavy hydrocarbon cut (8) at an initial boiling point of above 350[deg] C to obtain biomass particles (2) with a moisture content of less than 10 (preferably less than 5) wt.%, where the mixture temperature is 200-300[deg] C, grinding the obtained mixture to reduce the particle size to less than 500 microns, where the formed suspension has a biomass content of less than 30 wt.%; and feeding the gasification unit with the suspension at 200-300[deg] C. An independent claim is included for entrained bed gasification using the suspension of biomass particles as charge in a heavy hydrocarbon cut, where the biomass particles are obtained from the pretreatment procedure.					

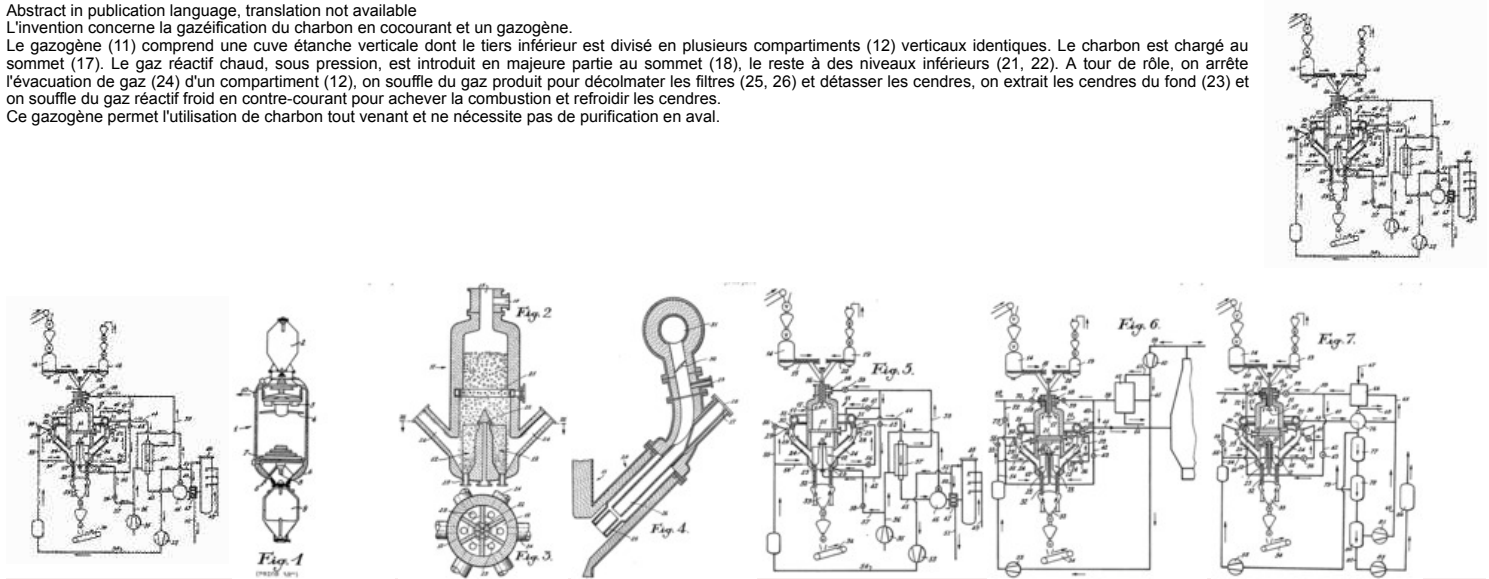


14.	Process and device for the gasification of materials and/or for reforming a gas, plus a high-temperature heat-exchanger for carrying out the process.	CA2073013	1990-09-10	JAN HOORU UANDENHOTSUKU KORTEC*	1992-03-12 1992-03-12
The invention concerns a process and device for gasifying liquid and/or fine-particulate solid materials and/or for reforming a gas, with the addition of a gasification agent, in a reactor (1). In this process, the heat is supplied by heat-carrier particles which are heated in a heater (5) by combustion gases produced in a combustion chamber (3), then passed, flowing in the opposite direction to the material being gasified/gas being reformed plus gasification agent, through the reactor (1), and subsequently fed back in an essentially closed circuit to the heater (5) for reheating. The invention calls for the particles and the combustion gas to form a fluidized bed above at least one grid (34, 34a, 34b, 34c, 34d, 34e) fitted in the heater (5). The particles flow out of the heater (5) into the combustion chamber (3) next to it where they form, together with the combustion gas, a fluidized bed, subsequently passing out of the combustion chamber (3) through an overflow pipe (7, 7') which carries them into the upper zone of the reactor (1). The passage of the particles through the overflow pipe (7, 7') compresses the particles, which prevents the gaseous products produced in the reactor (1) from escaping through the pipe. In the reactor (1), the particles form one or more fluidized beds together with the material being gasified and/or gas being reformed.					



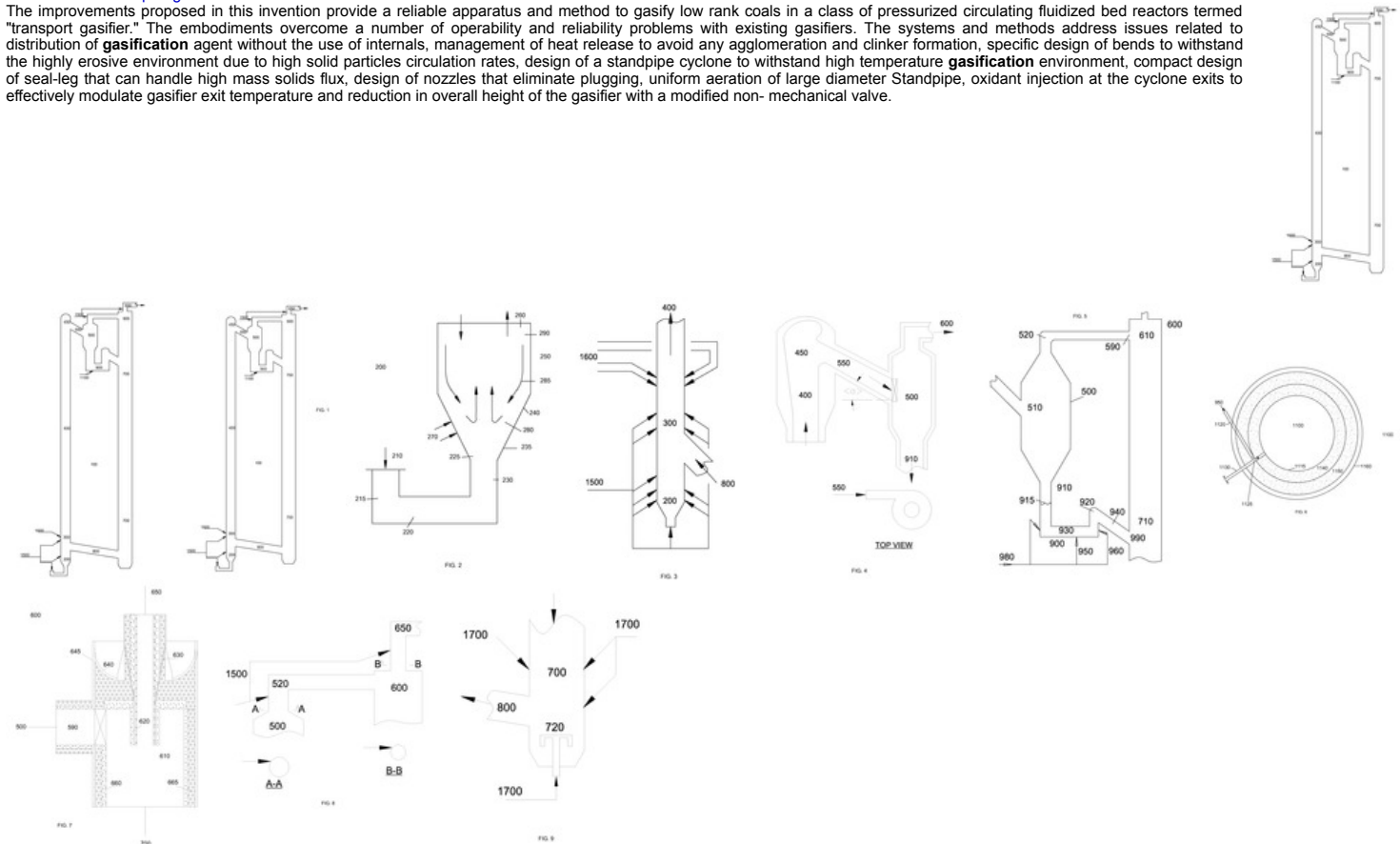
15.	Fixed bed coal gasifier	WO2006061738	2005-11-30	SASOL* SASOL LURGI TECHNOLOGY	2006-06-15 2006-06-15
A fixed bed coal gasifier (300) includes a coal gasification chamber with a coal lock above the chamber. A static coal distribution device inside the gasification chamber includes a hollow coal distributor which flares downwardly outwardly with a skirt depending downwardly from an inside of the coal distributor so that a gas collection zone is defined between the skirt and the coal distributor. The gasifier (300) has an ash discharge outlet (606) and a rotatable grate (600) above the outlet (606). The rotatable grate (600) includes at least one upwardly projecting finger or disturbing formation (500) to disturb the ash bed formed in use above and around the grate (600).					
					
16.	Process and apparatus for the concurrent gasification of coal.	FR2596409	1986-04-01	DEISUTORIGAATSU DISTRIGAZ* DISTRIGAZ S A	1987-10-02 1987-10-02

Abstract in publication language, translation not available
L'invention concerne la gazéification du charbon en cocourant et un gazogène.
Le gazogène (11) comprend une cuve étanche verticale dont le tiers inférieur est divisé en plusieurs compartiments (12) verticaux identiques. Le charbon est chargé au sommet (17). Le gaz réactif chaud, sous pression, est introduit en majeure partie au sommet (18), le reste à des niveaux inférieurs (21, 22). A tour de rôle, on arrête l'évacuation de gaz (24) d'un compartiment (12), on souffle du gaz produit pour décolmater les filtres (25, 26) et détasser les cendres, on extrait les cendres du fond (23) et on souffle du gaz réactif froid en contre-courant pour achever la combustion et refroidir les cendres.
Ce gazogène permet l'utilisation de charbon tout venant et ne nécessite pas de purification en aval.



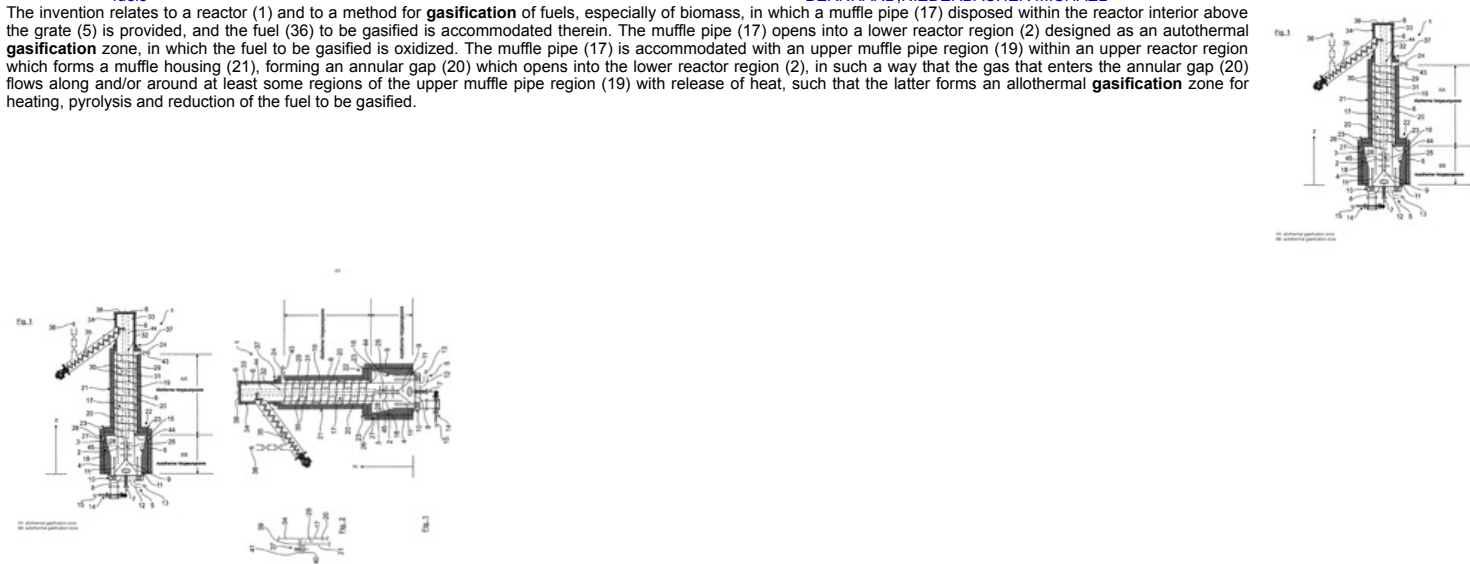
17.	An apparatus, components and operating methods for circulating fluidized bed transport gasifiers and reactors	US2011146152	2010-12-16	SOUTHERN*	2011-06-23	2011-06-23
-----	---	--------------	------------	-----------	------------	------------

The improvements proposed in this invention provide a reliable apparatus and method to gasify low rank coals in a class of pressurized circulating fluidized bed reactors termed "transport gasifier." The embodiments overcome a number of operability and reliability problems with existing gasifiers. The systems and methods address issues related to distribution of **gasification** agent without the use of internals, management of heat release to avoid any agglomeration and clinker formation, specific design of bends to withstand the highly erosive environment due to high solid particles circulation rates, design of a standpipe cyclone to withstand high temperature **gasification** environment, compact design of seal-leg that can handle high mass solids flux, design of nozzles that eliminate plugging, uniform aeration of large diameter Standpipe, oxidant injection at the cyclone exits to effectively modulate gasifier exit temperature and reduction in overall height of the gasifier with a modified non- mechanical valve.



18.	Reactor and method for gasification of fuels	DE102013017854	2013-10-26	BÖCKER-RIESE BERNHARD NIEDERBACHER MICHAEL	2015-04-30	2015-04-30
-----	--	----------------	------------	---	------------	------------

The invention relates to a reactor (1) and to a method for **gasification** of fuels, especially of biomass, in which a muffle pipe (17) disposed within the reactor interior above the grate (5) is provided, and the fuel (36) to be gasified is accommodated therein. The muffle pipe (17) opens into a lower reactor region (2) designed as an autothermal **gasification** zone, in which the fuel to be gasified is oxidized. The muffle pipe (17) is accommodated with an upper muffle pipe region (19) within an upper reactor region which forms a muffle housing (21), forming an annular gap (20) which opens into the lower reactor region (2), in such a way that the gas that enters the annular gap (20) flows along and/or around at least some regions of the upper muffle pipe region (19) with release of heat, such that the latter forms an allothermal **gasification** zone for heating, pyrolysis and reduction of the fuel to be gasified.

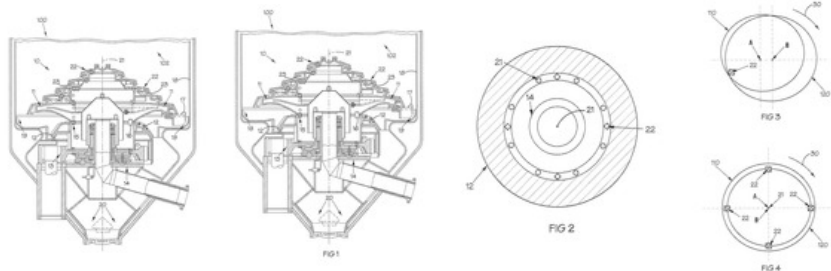


The diagram illustrates a chemical process flow. On the left, 'COAL' and 'AIR' enter a 'COAL GASIFIER' (labeled 10). The gasifier produces 'COAL GAS' (labeled 12), 'SULFUR' (labeled 14), and 'COMBUSTIBLE GAS'. The 'COAL GAS' flows into a 'SULFUR RECOVERY' unit (labeled 12). The 'SULFUR' is then sent to a 'STRONG SO₂-CONTAINING GAS' unit (labeled 14). The 'COMBUSTIBLE GAS' is also sent to this unit. Additionally, 'COAL GAS' is sent to a 'COPPER DESULFURIZATION' unit (labeled 14). This unit also receives 'WASTE SO₂-CONTAINING GAS', 'COPPER', 'SLAY / SULFIDE', and 'PYRITE'. The 'COPPER DESULFURIZATION' unit produces 'COPPER' and 'SLAY / SULFIDE'. The 'STRONG SO₂-CONTAINING GAS' unit produces 'STRONG SO₂-CONTAINING GAS' and 'AIR'.

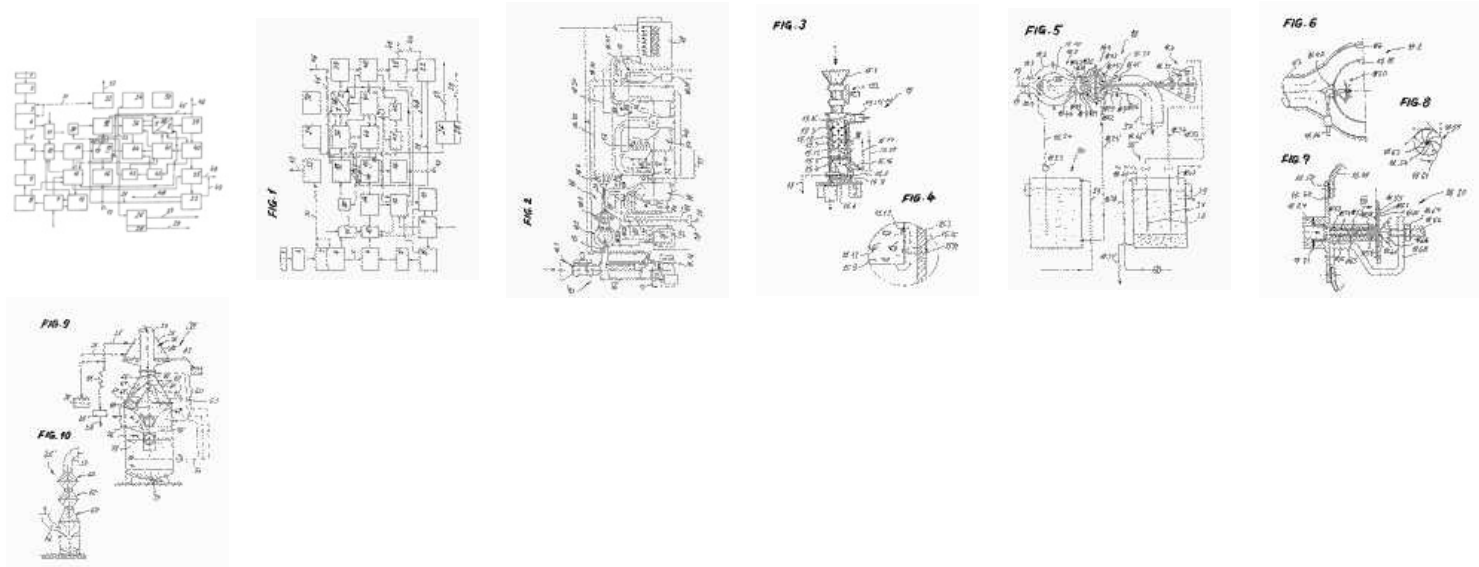
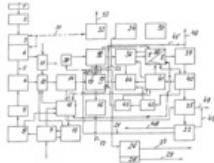
FIG. 1 is a schematic diagram of a sulfur recovery process. It shows a coal gasifier (10) receiving coal and air, producing coal gas (12) and sulfur. The coal gas (12) is then processed in a sulfur recovery unit (12) to produce sulfur. The sulfur is then used in a desulfurization unit (14) to produce a strong SO₂-containing gas. The desulfurization unit (14) also receives weak SO₂-containing gas, ash, slag, and a mixture of copper, clay, and silicate. The strong SO₂-containing gas is then used in a sulfur recovery unit (12) to produce sulfur. The sulfur is then used in a desulfurization unit (14) to produce a strong SO₂-containing gas. The desulfurization unit (14) also receives weak SO₂-containing gas, ash, slag, and a mixture of copper, clay, and silicate. The strong SO₂-containing gas is then used in a sulfur recovery unit (12) to produce sulfur. The sulfur is then used in a desulfurization unit (14) to produce a strong SO₂-containing gas. The desulfurization unit (14) also receives weak SO₂-containing gas, ash, slag, and a mixture of copper, clay, and silicate.

FIG. 2 is a schematic diagram of a sulfur recovery process. It shows a coal gasifier (10) receiving coal and air, producing coal gas (12) and sulfur. The coal gas (12) is then processed in a sulfur recovery unit (12) to produce sulfur. The sulfur is then used in a desulfurization unit (14) to produce a strong SO₂-containing gas. The desulfurization unit (14) also receives weak SO₂-containing gas, ash, slag, and a mixture of copper, clay, and silicate. The strong SO₂-containing gas is then used in a sulfur recovery unit (12) to produce sulfur. The sulfur is then used in a desulfurization unit (14) to produce a strong SO₂-containing gas. The desulfurization unit (14) also receives weak SO₂-containing gas, ash, slag, and a mixture of copper, clay, and silicate. The strong SO₂-containing gas is then used in a sulfur recovery unit (12) to produce sulfur. The sulfur is then used in a desulfurization unit (14) to produce a strong SO₂-containing gas. The desulfurization unit (14) also receives weak SO₂-containing gas, ash, slag, and a mixture of copper, clay, and silicate.

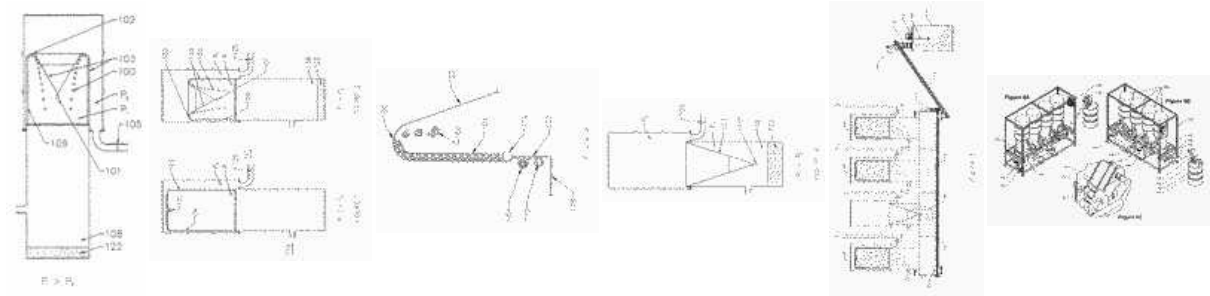
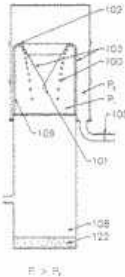
2011-10-12 2011-10-12



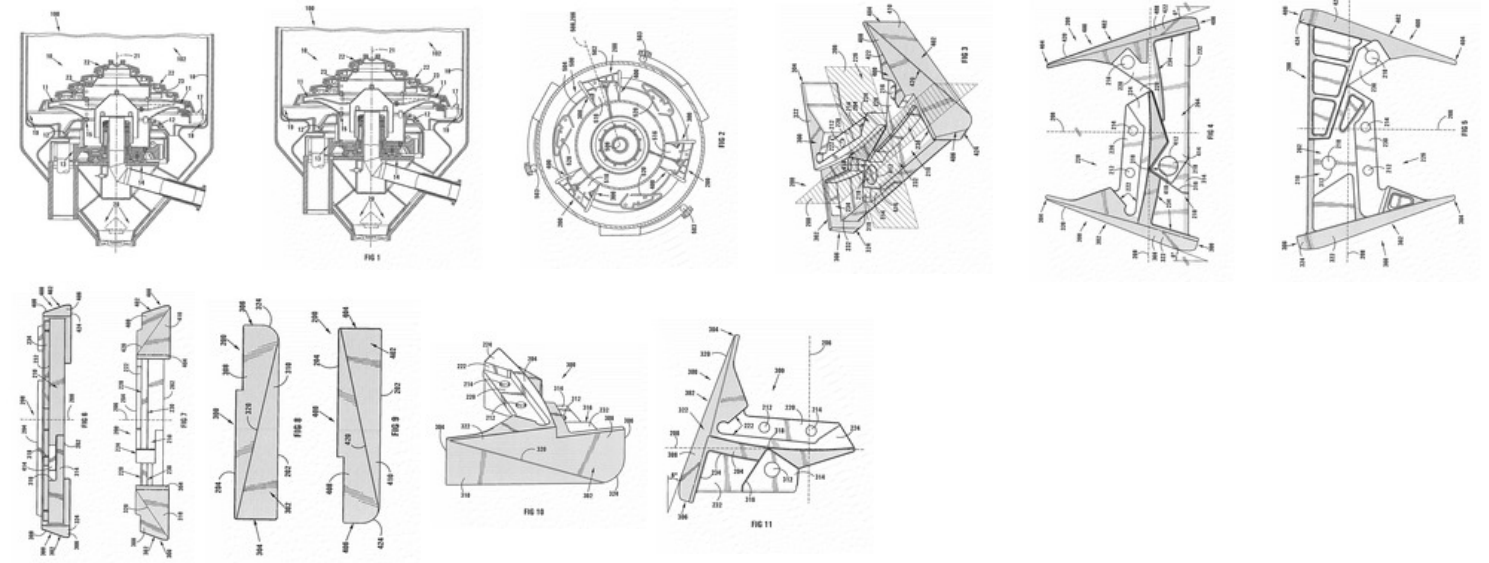
Disclosed are a method and an installation for generating effective energy by gasifying waste. In said method and installation, waste such as garbage is introduced into a shaft-type melting gasifier, is dried in a reverse flow, is degassed, and is gasified while the solid residue is melted. The hot crude gases that are withdrawn from the melting gasifier (15) are fed to a hot gas steam generator (18) in which steam is admixed to the hot gas and said hot gas-steam mixture is conducted across the double turbine rotor (18.13) of a turbine (18.3) that drives a power generator (18.4), a preliminary reaction taking place at the same time. The pre-purified hot gas-steam mixture is then introduced into a downflow device (38) in which the mixture is cooled and pre-purified using sprayed water mixed with reactant and by repeatedly expanding, compressing, and foaming the mixture, the pre-purified gas being withdrawn and the liquid being collected. The pre-purified gas is fed to a gas purification process (40) in which the pre-purified gas is foamed with reactant and is defoamed again. The purified gases are finally further utilized for generating power, e.g. by being burned in an engine (41).



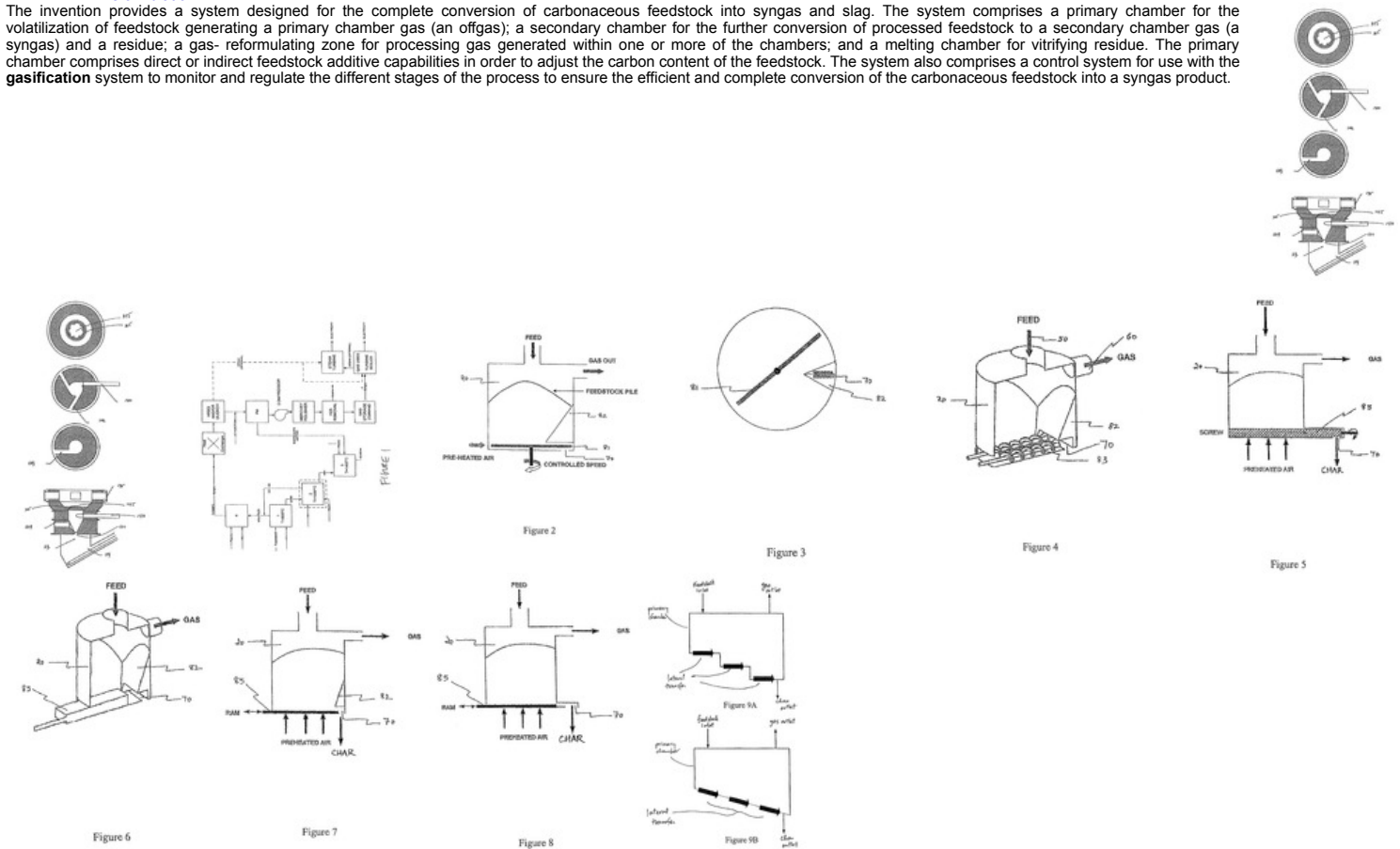
Method and apparatus for generating a low tar, renewable fuel gas from biomass and using it in other energy conversion devices, many of which were designed for use with gaseous and liquid fossil fuels. An automated, downdraft gasifier incorporates extensive air injection into the char bed to maintain the conditions that promote the destruction of residual tars. The resulting fuel gas and entrained char and ash are cooled in a special heat exchanger, and then continuously cleaned in a filter prior to usage in standalone as well as networked power systems.



A solids handling equipment rotary plough includes a metal body defining a pair of opposed spaced non-parallel elongate faces extending between a bottom and a top and from a first end to a second end of each opposed elongate face, the first end and the second end being spaced further from each other than the top and the bottom are spaced from each other providing each opposed elongate face with a length greater than a height. The opposed elongate faces are on opposite sides and facing away from a first imaginary vertical plane, each of said opposed elongate faces having at least two elongate major surfaces which are not co-planar, an upper, elongate, non-vertical, major surface being angled towards the first imaginary vertical plane to slope upwardly and a lower, elongate, vertical, major surface being angled in a horizontal plane so that the first ends of the opposed elongate faces are closer to each other than the second ends. The elongate faces are joined by a connector defining mounting means to mount the rotary plough to a rotatable grate component.



The invention provides a system designed for the complete conversion of carbonaceous feedstock into syngas and slag. The system comprises a primary chamber for the volatilization of feedstock generating a primary chamber gas (an offgas); a secondary chamber for the further conversion of processed feedstock to a secondary chamber gas (a syngas) and a residue; a gas- reformulating zone for processing gas generated within one or more of the chambers; and a melting chamber for vitrifying residue. The primary chamber comprises direct or indirect feedstock additive capabilities in order to adjust the carbon content of the feedstock. The system also comprises a control system for use with the **gasification** system to monitor and regulate the different stages of the process to ensure the efficient and complete conversion of the carbonaceous feedstock into a syngas product.



The object of the invention is a **gasification** reactor (1) for gasifying organic solids of high ash content and tending to form slags. The reactor comprises a solids storage chamber (4) bounded at the base by a grate (18), and a product gas line (22) for discharging the product gas. The solids storage chamber (4) has an oxidation zone (12) with an air and/or oxygen feed. To create a continuously operating **gasification** reactor (1), it is proposed that the reactor (1) should be provided with a slag-separation device and a discharge mechanism with which the separated slag can be removed from the reactor, and with a ring duct (32) around the periphery for the oxygen supply. The invention is also directed at advantageous uses of the **gasification** reactor (1).

