

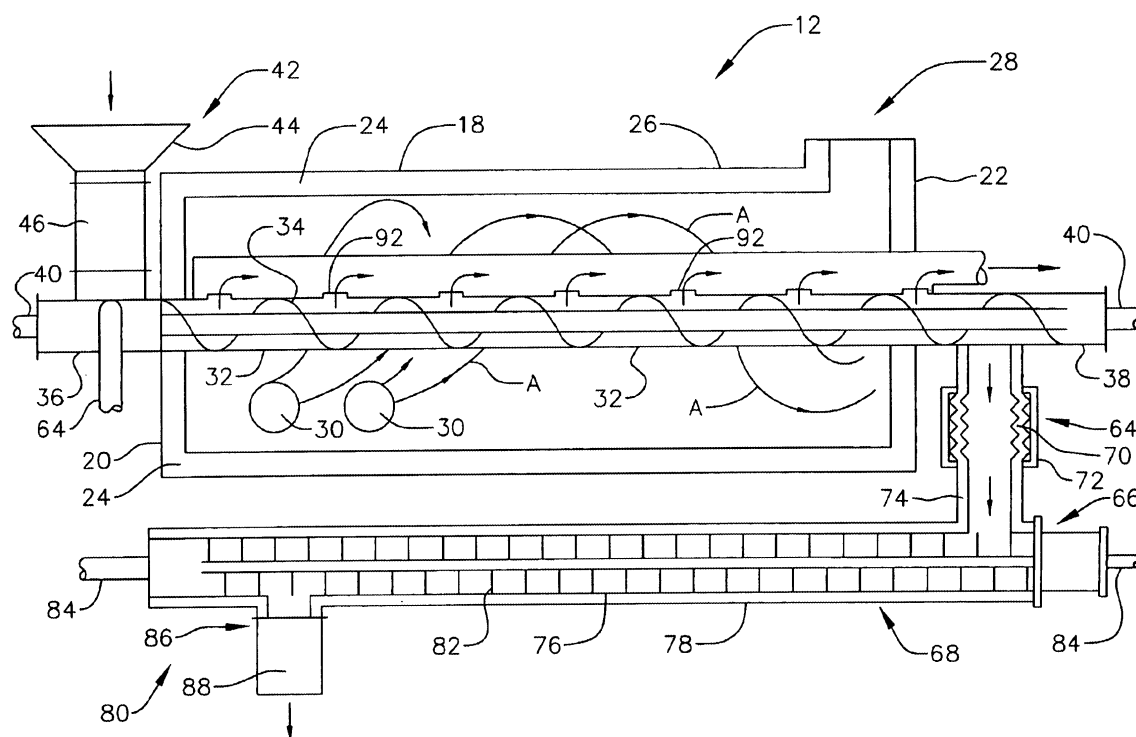
7 Documents

Publication numbers	Title	Current assignees
WO200308861 A1	Pyrolysis system and method for reducing waste	ENERGY INTERNATIONAL
EP3627050 A1	Pyrolysis plant	CARREIRA GERMANO ARAUJO
EP-635114 A1	Thermal conversion pyrolysis reactor system.	ARTHUR CHENG HSIN WU FOSTER CITY, ...
EP1078698 A1	Method and apparatus for thermolytic treatment of polymer- and cellulose containing materials, especially light shredder residues	MATRMAWI RADWAN
WO2014164296 A1	Multiple temperature control zone pyrolyzer and methods of use	FUNK KIP W
EP2379673 A1	System and method for biomass fractioning	COOL PLANET ENERGY SYSTEMS
EP3356498 A1	Pyrolysis system	BORER JOSEF

Family 1/7 - FAMPAT - ©Questel

Title

(WO200308861)

Pyrolysis system and method for reducing waste**Images****Publication numbers with kind code & date**[US6758150](#)

B2

2004-07-06

US6758150

[WO03/008861](#)

A1

2003-01-30

WO200308861

[US20030010266](#)

A1

2003-01-16

US20030010266

**Abstract**

(WO03/008861)

A system and method are set for **pyrolysis** of waste feed material including a first retort segment disposed through a combustion chamber and a second retort segment disposed outside of the combustion chamber (12). The combustion chamber supplies the heat for **pyrolysis** to the material conveyed through the first retort segment, which **pyrolysis** is completed as it is conveyed through the second retort segment. A thermal oxidizer (14) oxidizes off gases and a stack unit (16) provides a draft to move the gases from **pyrolysis** from the retort segments and through the thermal oxidizer.

Inventors

BALLANTINE MIKE

REED FRANK

STAMMEL EDWARD III

Latest standardized assignees - inventors removed

ENERGY INTERNATIONAL

Family 2/7 - FAMPAT - ©Questel

Title

(EP3627050)

Pyrolysis plant**Images**

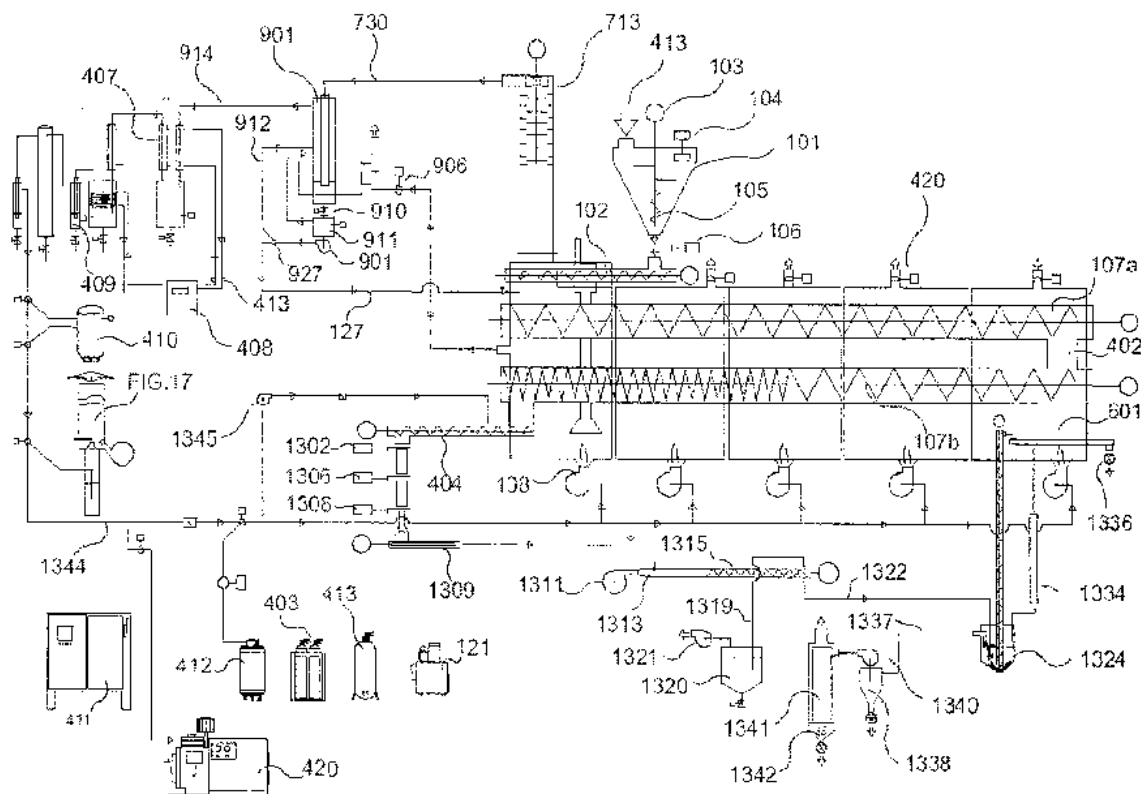


FIG. 4

Publication numbers with kind code & date

WO2020/057774

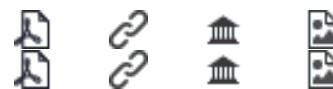
A1 2020-03-26

WO202057774

EP3627050

A1 2020-03-25

EP3627050

**Abstract**

(EP3627050)

The invention refers to a **pyrolysis** plant comprised inter alia by: a) an exhaust **heated** feeder comprised at least by: a receiver hopper (101); a drive (103); a photo eye sensor or paddle switch (104); a slide gate (106); a twin screws feeder (102); a pneumatic or a hydraulic power system (121); a **heated** collar (111); b) a reactor comprised at least by: an upper reactor tube (107a) and lower reactor screw (107b) with double flight screws; wrapped heater boxes (601) having one burner (108) per box; a tube steel frame (608) having flat bar landings (606) for the carts (605); c) a rotary screen cleaning tower comprised at least by: fan wheel (705); spinning paddles (704); screen plates (703); a cleaner tower housing (713); a main shaft (727); and an electric motor (714) with a gear box (706); d) an exhaust heat fuel cleaner comprised at least by: a main cleaner housing (1004); an inlet tube (1003); a split insulated metal enclosure (1005); duct connections (1008 and 1009); a discharge valve (1010); a discharge tank (1011); a pump (1001); a diverter valve (1027); a vent pipe (1013); a condenser (1015); an holding tank (1021); a actuator valve (1006); sensors (1016/1017); and a check valve (1028); e) a carbon refiner comprised at least by: a screw auger (107b); a gated **airlock** arrangement, an upper gate (1302); an ash discharge auger (1301); a first hopper (1303); a level indicator (1304); a drive (1305); a middle gate (1306); an hopper (1307); a lower gate (1308); a metering screw (1309) rotating in a housing (1310); matching air openings; a duct (1316); a burner blower (1311); a combustion chamber (1312); a pilot flame (1314); a discharge opening (1322); a motor drive (1317) inverter; an extended packing seal (1318); a burner blower (1311); a vent line (1319); a water bubbler (1320); a vacuum source (1321); a separator tank (1323); a level switch (1325); a vertical lift auger (1328); an opening (1329); openings (1330) in the lift tube (1331); an horizontal screw auger (1335); a **pyrolysis** burner box (601); a condenser inline (1334); an auger (1335); an **airlock** (1336); a cyclone (1338); an **airlock** (1339); a blower (1340); an exhaust (1346) into a bag filter (1341); and an **airlock** (1343); f) a safety burner tower comprised at least by: a control valve (1701); a pipe (1702) and a safety burner housing base (1703); a blower (1708); a venturi nozzle (1707); a pilot light (1714); a bubbler chamber (1719); having an insulated area (1711); a computer (1718); a stack (1709); a battery backup (1717); a level control (1705).

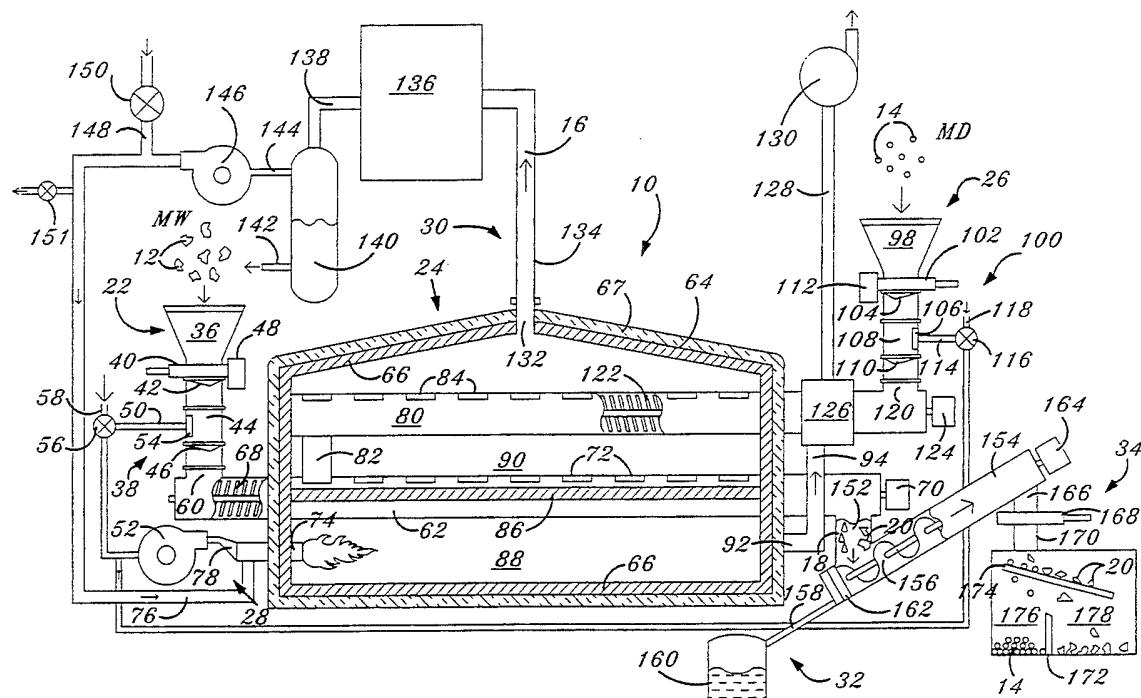
Inventors

CARREIRA GERMANO ARAÚJO

Family 3/7 - FAMPAT - ©Questel

Title

(EP-635114)

Thermal conversion **pyrolysis** reactor system.**Images****Publication numbers with kind code & date**

CN1048088	C	2000-01-05	CN1048088C
JPH07505824	A	1995-06-29	JP07505824
EP0635114	A4	1995-05-31	EP-635114
US5411714	A	1995-05-02	US5411714
KR957001059	A	1995-02-20	KR19957001059
EP0635114	A1	1995-01-25	EP-635114
TW221485	B	1994-03-01	TW-221485
CA2133222	A1	1993-10-14	CA2133222
WO93/20396	A1	1993-10-14	WO9320396
CN1077266	A	1993-10-13	CN1077266

**Abstract**

(EP0635114)

A thermal conversion **pyrolysis** reactor system (10) is provided for use in providing a continuous flow type **pyrolysis** reaction for conversion of carbonizable input materials (12). The reactor system (10) utilizes a diffusion material (14) which is preheated and admixed with the input material (12) in order to facilitate **pyrolysis** and to partially catalyze reactions. Subsystems are provided to receive gaseous (30), liquid (32) and solid (34) outputs, the system (10) is particularly adapted for use with tire chips, medical waste and industrial plastic waste input materials. Carbon black and pelletized metallic and alloy materials are preferred diffusion materials (14).

Inventors

WU ARTHUR CHENG-HSIN

CHEN SABRINA CHIOU-CHAR

Latest standardized assignees - inventors removed

ARTHUR CHENG HSIN WU FOSTER CITY

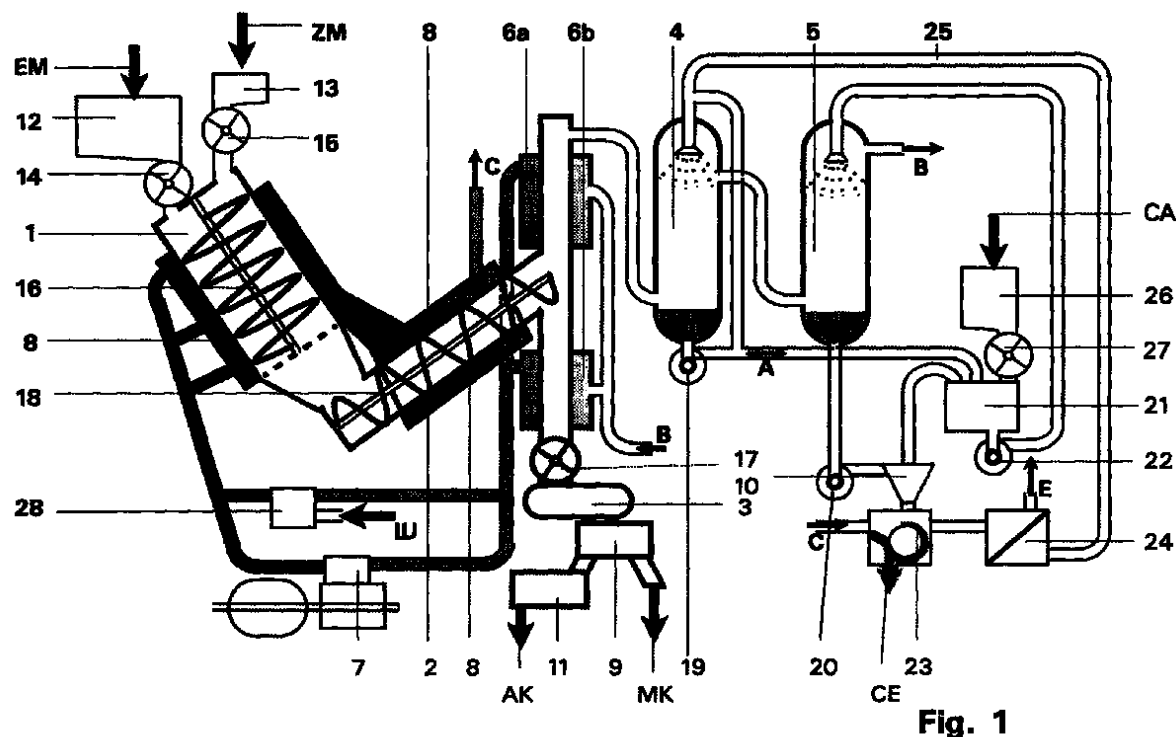
SABRINA CHIOU CHAR CHEN

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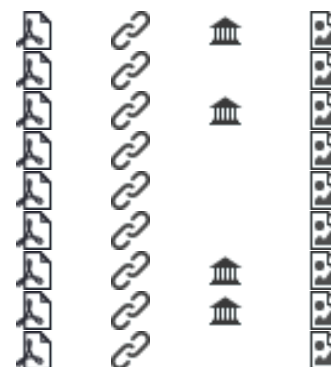
Title

(EP1078698)

Method and apparatus for thermolytic treatment of polymer- and cellulose containing materials, especially light shredder residues

Images**Fig. 1****Publication numbers with kind code & date**

DE50000278	D1	2002-08-22	DE50000278
AT220577	T	2002-08-15	ATE220577
EP1078698	B1	2002-07-17	EP1078698
HU0003036	A3	2001-07-30	HU200003036
SK163799	A3	2001-05-10	SK9901637
HU0003036	A2	2001-03-28	HU200003036
EP1078698	A1	2001-02-28	EP1078698
DE19936524	A1	2001-02-15	DE19936524
HU0003036	D0	2000-10-28	HU200003036

**Abstract**

(EP1078698)

Thermal processing of shredded plastic articles comprises heating with nitrogen-containing additive/catalyst mixture at to 350 - 600 degrees C in two stages. The gases produced in the first stage of carbonization are used to activate the carbon produced, after which they are burnt to heat the reactors used in the two stages. Method for thermal processing of materials containing polymers and cellulose, especially shredded articles, comprises mixing shredded waste plastic with a nitrogen-containing additive/catalyst mixture in an indirectly **heated** main reactor (1). Mixing is carried out using a mixing screw (13) while heating to 350 - 600 degrees C, so that carbonized material and gas are produced. The carbonized material is fed to a post-treatment reactor (2) where it is treated at the same temperature with the gas produced, further degassed, activated by the hydrogen in the gases, and fed via a perforated screw to a grinder (3). Here it is ground to the desired particle size, fed to a magnetic separator (9) to remove metal and then molded into active carbon pellets in a pelletizer (11). The gases are fed to a first washer (4), which uses water, and then to a second (5) which uses a calcium-containing solution. The purified gas is **heated** by heat exchangers (6a, 6b) and burnt in a burner (28) and/or pressure/heat coupling device to heat the main and post-treatment reactors. An Independent claim is included for apparatus for carrying

out the above process.

Inventors

MATRMAWI RADWAN

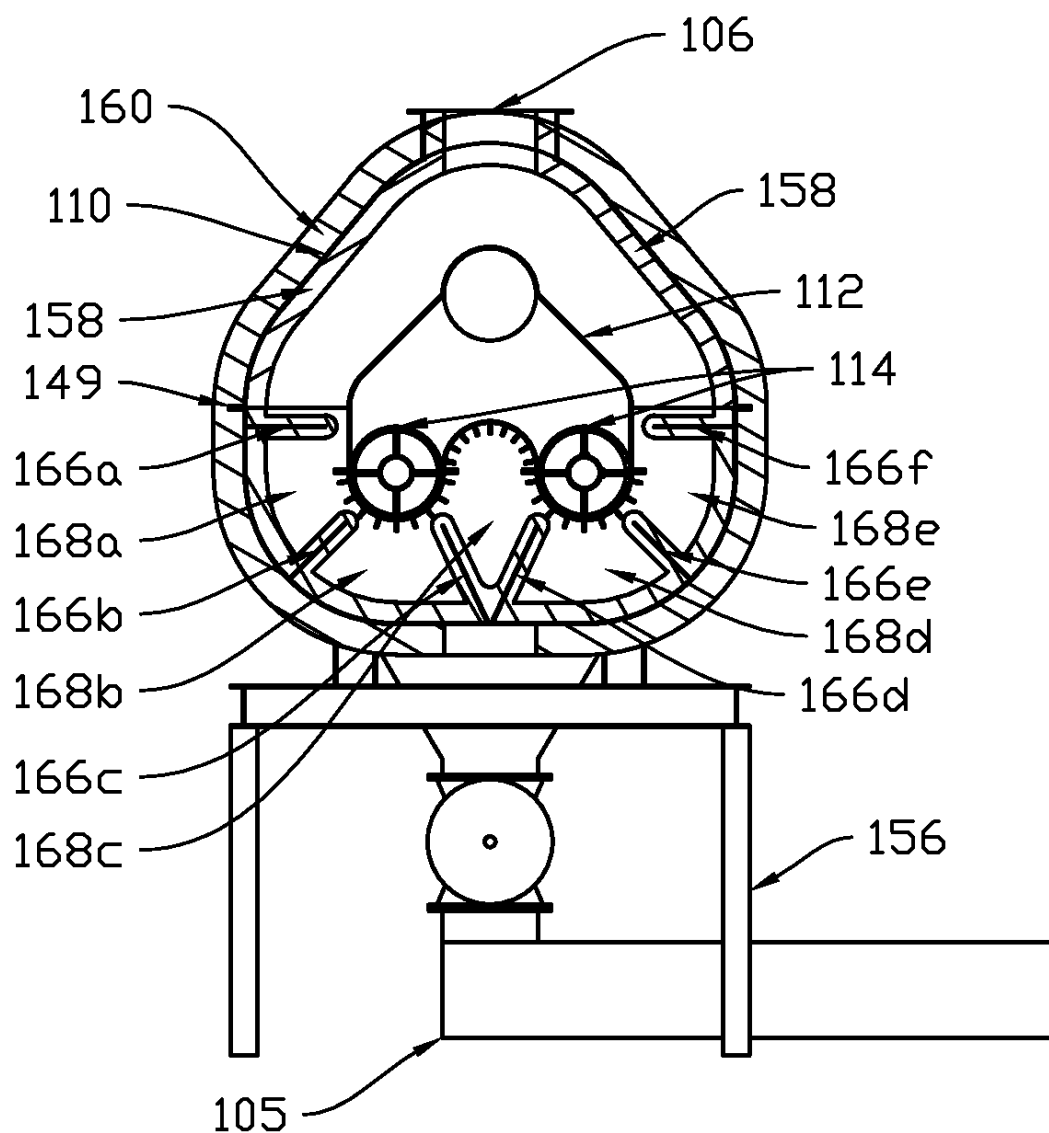
Family 5/7 - FAMPAT - ©Questel

Title

(WO2014164296)

Multiple temperature control zone pyrolyzer and methods of use

Images



Publication numbers with kind code & date

US9422480	B2	2016-08-23	US9422480
US20150368563	A1	2015-12-24	US20150368563
WO2014/164296	A1	2014-10-09	WO2014164296



Abstract

(WO2014/164296)

A continuous-feed pyrolyzer for converting waste material (feedstock) into ash or char and a combustible gas (syngas) is described. The pyrolyzer can be integrated with subsystems that make use of the syngas to generate energy. In operation, the pyrolytic thermal converter processes the waste through indirect heating of a retort oven.

Inventors

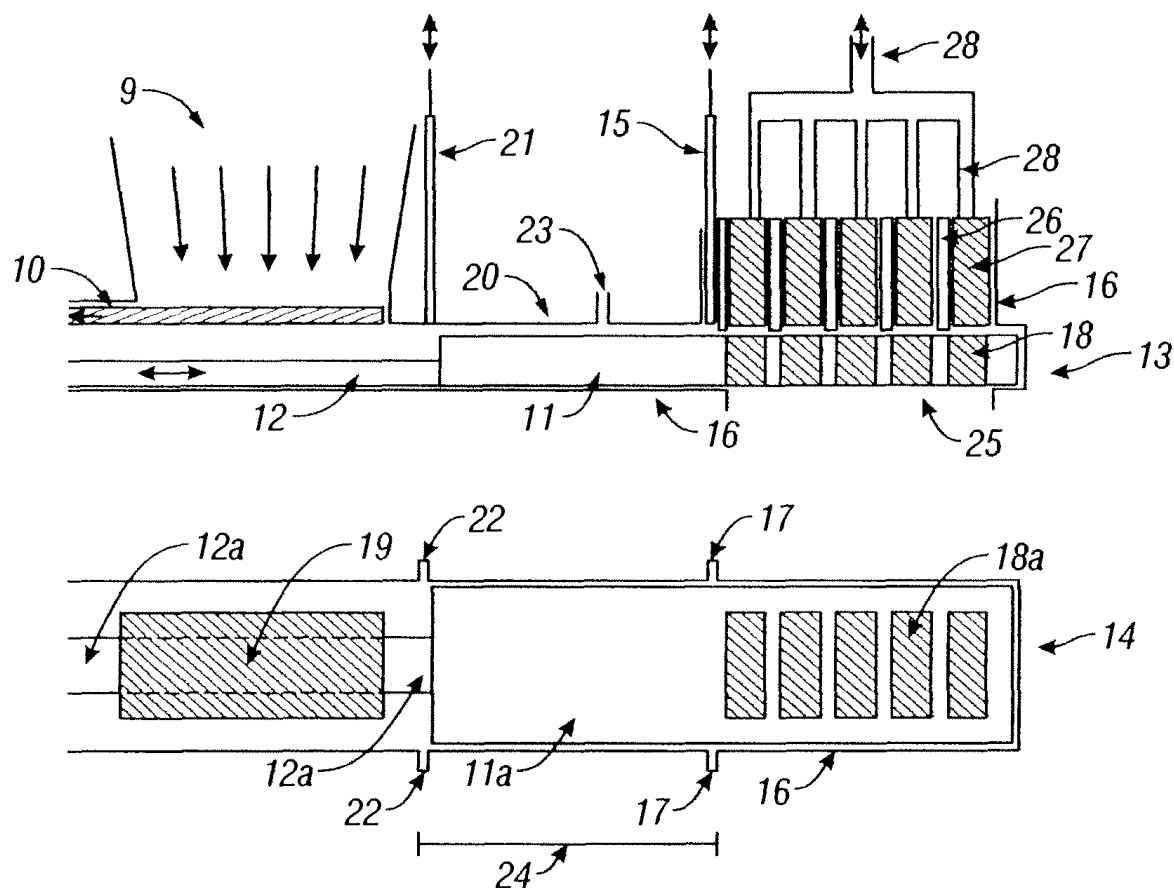
FUNK KIP W

Family 6/7 - FAMPAT - ©Questel

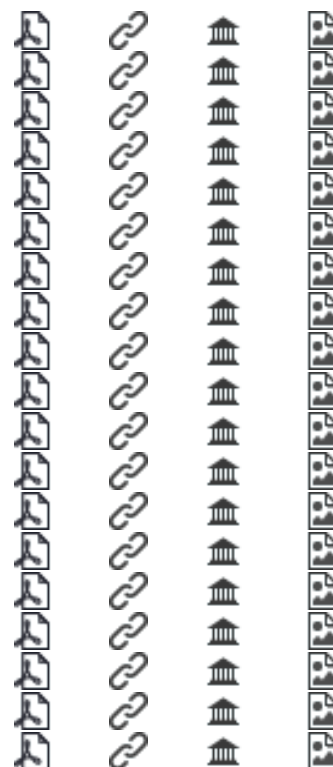
Title

(EP2379673)

System and method for biomass fractioning

Images**Publication numbers with kind code & date**

US9909067	B2	2018-03-06	US9909067
CA2749982	C	2017-11-14	CA2749982
AU2010206956	B2	2016-07-14	AU2010206956
CN105209577	A	2015-12-30	CN105209577
WO2014/164751	A1	2014-10-09	WO2014164751
US20140183022	A1	2014-07-03	US20140183022
EP2379673	A4	2014-06-18	EP2379673
US20130192971	A1	2013-08-01	US20130192971
US8293958	B2	2012-10-23	US8293958
US20120205006	A1	2012-08-16	US20120205006
US20120205228	A1	2012-08-16	US20120205228
US20120205229	A1	2012-08-16	US20120205229
US20120205230	A1	2012-08-16	US20120205230
JP2012515807	A	2012-07-12	JP2012515807
US8216430	B2	2012-07-10	US8216430
CN102292414	A	2011-12-21	CN102292414
EP2379673	A1	2011-10-26	EP2379673
US20110177466	A1	2011-07-21	US20110177466
AU2010206956	A1	2011-07-14	AU2010206956



[CA2749982](#)

A1 2010-07-29

CA2749982

[WO2010/085430](#)

A1 2010-07-29

WO201085430

[US20100180805](#)

A1 2010-07-22

US20100180805

**Abstract**

(EP2379673)

A biomass fractionator and method are described for inputting ground biomass and outputting several vapor streams of bio-intermediate compounds along with syngas and biochar. In one embodiment, a method for biomass fractioning, comprises dispensing biomass into thin sheets of ground biomass; subjecting the thin sheets to ramps of temperature; and selectively collecting various groups of compounds as they are released from the thin sheets.

Inventors

CHEIKY MICHAEL C

Latest standardized assignees - inventors removed

COOL PLANET ENERGY SYSTEMS

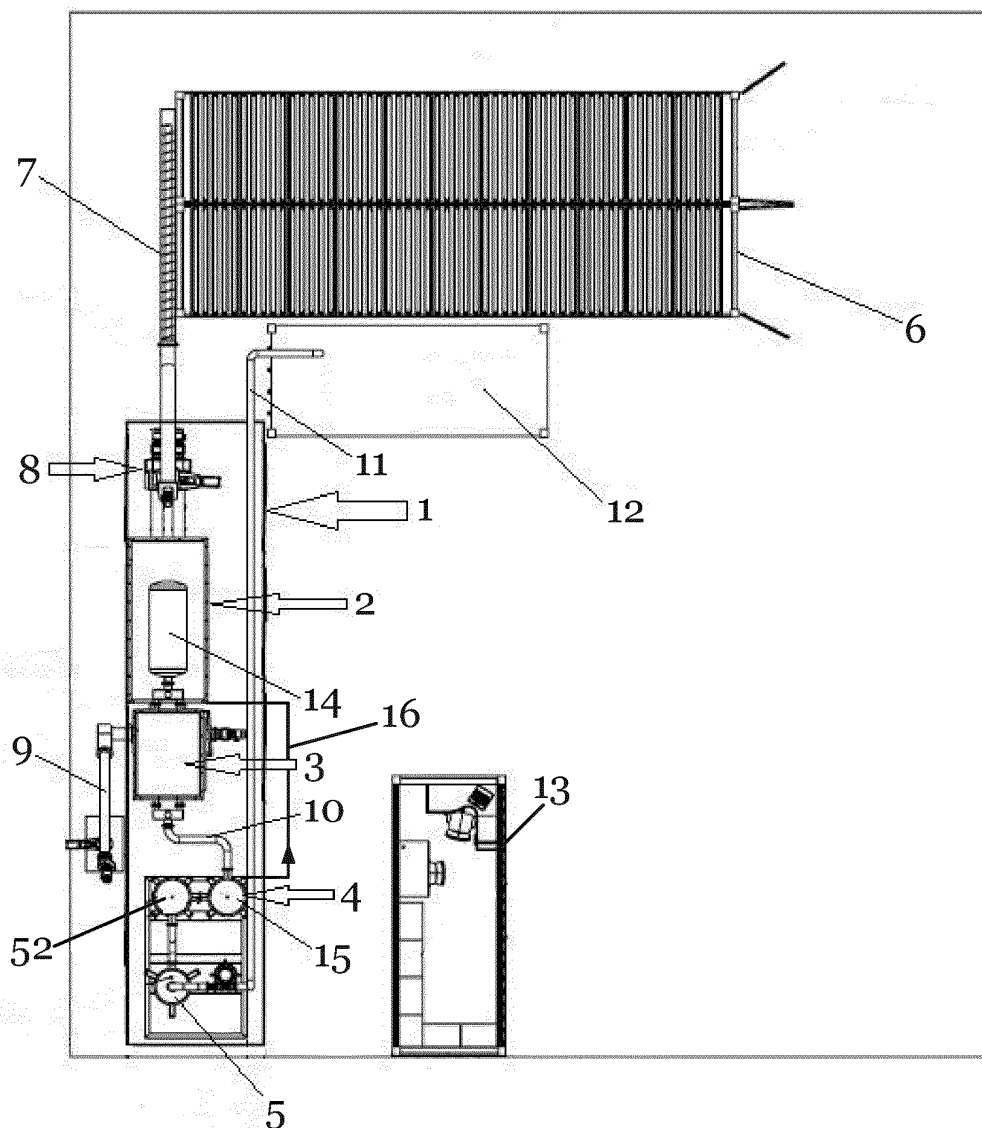
Family 7/7 - FAMPAT - ©Questel

Title

(EP3356498)

Pyrolysis system**Images**

Fig.1



Publication numbers with kind code & date

EP3356498	A1	2018-08-08	EP3356498
AT517016	B1	2018-01-15	AT-517016
AT517016	A1	2016-10-15	AT-517016
WO2016/162355	A1	2016-10-13	WO2016162355



Abstract

(EP3356498)

The invention relates to a **pyrolysis** plant for the gasification of a mass to be gasified, such as biomass and energetic waste substances, comprising an electrically **heated pyrolysis** reactor (2) in which a number of guide pipes fitted with conveying devices (18) are arranged horizontally or at a slight inclination, wherein a feed unit (8) is provided to feed an inlet guide pipe (19) with the mass to be gasified, and a gas outlet for conducting away the **pyrolysis** gas and a conveying device (49) for the discharge of the degassed residue mass are arranged at the discharge end (24) of the outlet guide pipe (23), wherein at least two, preferably three, guide pipes (19, 21, 23), each comprising a conveying device (18), are arranged one above the other and connected via connection shafts (20, 22), such that the guide pipes can be individually **heated**, the feed unit (8) comprises an **airlock** (50) that reduces or prevents the access of incoming air, and the **pyrolysis** reactor (2) is surrounded by a heat insulating jacket (51) that prevents the influx of external air on all sides.

Inventors

HUBER NORBERT WERNER

Latest standardized assignees - inventors removed

BORER JOSEF