

25 Documents

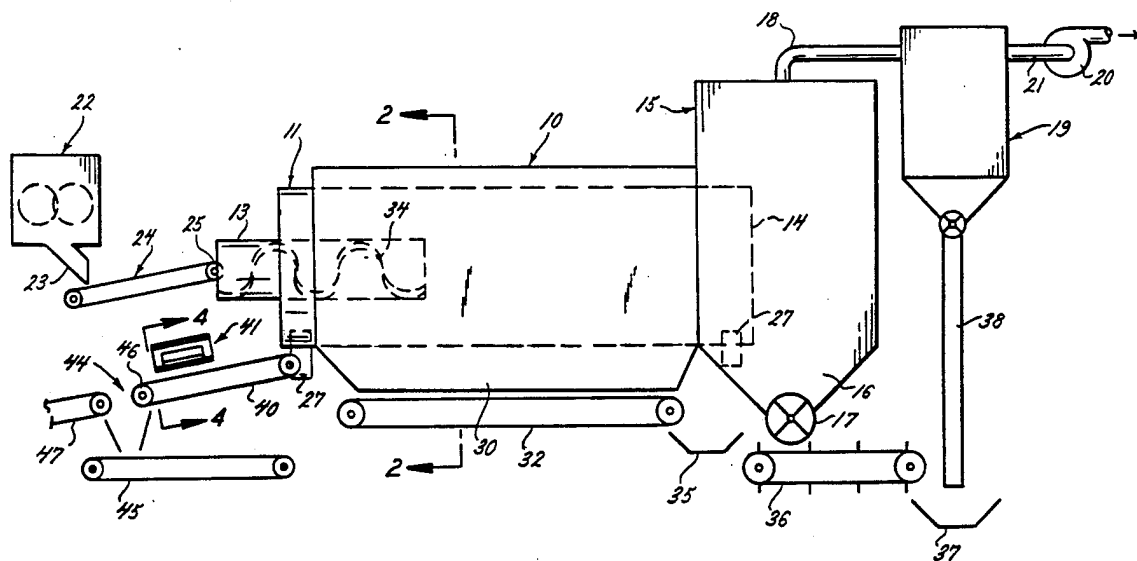
Publication numbers	Title	Current assignees
US5091077 A	Trommel material air classifier	WILLIAMS PATENT CRUSHER & PULVERIZER
US5009370 A	Municipal solid waste material sorting trommel system	NEW LIFE FOUNDATION
US5022982 A	Rotary drum solid waste air classifier	CPM ENERGY SYSTEMS
WO2014143975 A1	System and method for separation of fiber and plastics in municipal solid waste	WM INTELLECTUAL PROPERTY HOLDINGS
IL-116280 A	Municipal solid waste processing facility and commercial lactic acid production process	MASADA RESOURCE, ...
WO2009158486 A1	Method for integrated waste storage	ACCORDANT ENERGY
ES2565555 A1	Systems and methods for forming cellulosic biowaste from mixed solid waste	ABENGOA
KR20120111469 A	Method and System for Treating Contaminated Soil, Trommel for Sorting Contaminated Soil	KOLON GLOBAL, ...
ES2298094 A1	Trommel classifier for rotating recovery of municipal solid waste , has two engines that drive rollers of double or triple tire through bearings, and bearings are mounted with floating system to antivibrant type bobbin mounted to chassis	JOAR
US4874134 A	Solid waste disposal	RECYCLING INDUSTRIES
US5184780 A	Solid waste disposal	RECYCLING INDUSTRIES
WO9720643 A2	Apparatus and method for waste recycling and conversion	EASTERN POWER
WO200335970 A1	A method for preparing a homogenous cellulosic product from cellulosic waste materials	UNIVERSITY OF ALABAMA
US5407817 A	Commercial ethanol production process	MASADA RESOURCE, ...
WO9100795 A2	Polystyrene recycling process	WTE
US20120048974 A1	Systems and methods for processing mixed solid waste	ROLLIN HOLDINGS
CN202683453U U	Roller-type rotary spiral vibrating screen classifier	WANG SONGZHENG
US9700896 B1	Systems and methods for processing mixed solid waste	ROLLIN HOLDINGS, ...
GB200412216 D0	Process and apparatus for the treatment of municipal solid waste and biomass material obtained thereby	ORCHID IP
US20120018548 A1	Production of clean glass particles from post-consumer waste	GLASS PROC SOLUTIONS
US20120190102 A1	Systems and methods for processing mixed solid waste	ROLLIN HOLDINGS
US20140134694 A1	Systems and methods for processing mixed solid waste	ORGANIC ENERGY
BE-845068 A	IMPROVEMENTS TO METHODS AND DEVICES FOR RECOVERING MINERAL SUBSTANCES IN SOLID WASTE AND PYROLIZE THE ORGANIC CONSTITUENTS	OCCIDENTAL PETROLEUM
WO9749953 A1	Methods for fusion treating a solid waste for gasification	EBARA

Publication numbers	Title	Current assignees
US6024226 A	System and process for separating and recovering/recycling solid wastes and waste streams	OLIVIER; PAUL A.

Family 1/25 - FAMPAT - ©Questel

Title

(US5091077)

Trommel material air **classifier****Images****Publication data including kind & date**[US5091077](#)

A 1992-02-25 US5091077

**Abstract**

(US5091077)

A **waste** material **classifier** apparatus which employs a rotary **trommel** for stirring up the **waste** material in an air stream so that the conglomeration of **waste** is easily sorted into dirt and small particles easily sifted through the **trommel** pores, with air sensitive paper and plastic carried out to a collection zone and large, heavy metallic objects thrust out of the **trommel** and run through both a magnetic separator and an induction conveyor head stock to sort out the metallic trash according to its magnetic and non-magnetic characteristics.

Inventors

WILLIAMS ROBERT M

Latest standardized assignees - inventors removed

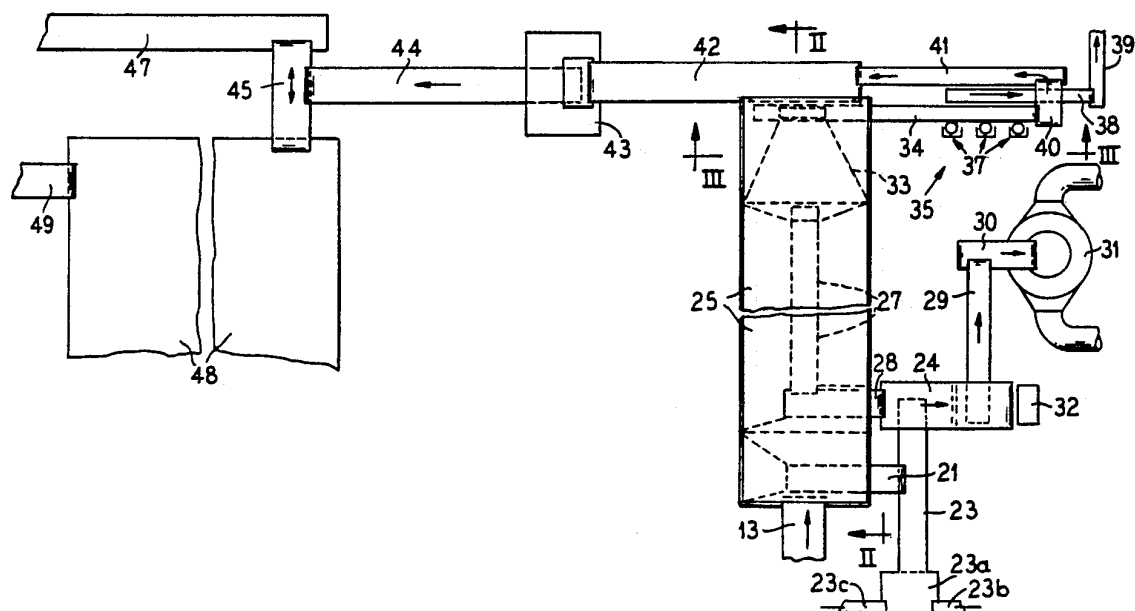
WILLIAMS PATENT CRUSHER & PULVERIZER

Family 2/25 - FAMPAT - ©Questel

Title

(US5009370)

Municipal **solid waste** material sorting **trommel** system**Images**



Publication data including kind & date

US5009370

A 1991-04-23 US5009370



Abstract

(US5009370)

A municipal **solid waste** material sorting system comprises a multi-stage **trommel** having a relatively short first stage section with relatively small holes for screening out grit, dirt, coins, small stones and the like, a second substantially longer second stage section for screening out beverage bottles, metal cans, and other **waste** materials of similar size and a third stage relatively short section for screening out large objects such as half gallon and gallon plastic, metal and glass containers. The respective screened municipal **solid waste** fractions from each of the three **trommel** sections are advantageously handled in respective handling streams. Materials screened in the first stage section of the **trommel** may be further classified as by a vibrative air table-specific gravity device to recover useful materials, such as glass cullet and coins. Materials screened in the second stage of the **trommel** may be further screened in a two-section disk screening and air classification arrangement. Materials screened in the third section of the **trommel** are further classified by manually sorting large size objects, particularly half-gallon and gallon size metal, glass and plastic containers to a take-away conveyor for further processing. Unsorted materials from the third **trommel** section are directed by a U-turn conveyor system to a larger conveyor which also receives the largest oversize materials discharged from the low, discharge end of the **trommel**. This large conveyor feeds to a shredder from which the shredded material may be directed to a point of use or a reserve discrete storage facility.

Inventors

MACKENZIE HAROLD B

Latest standardized assignees - inventors removed

NEW LIFE FOUNDATION

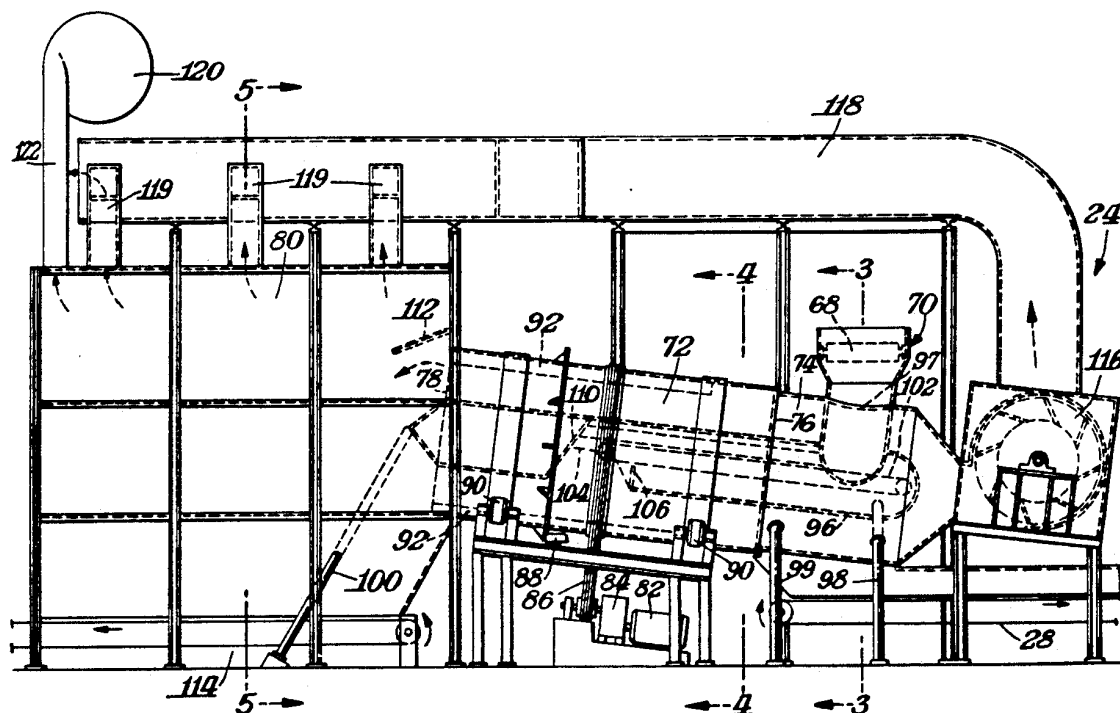
Family 3/25 - FAMPAT - ©Questel

Title

(US5022982)

Rotary drum solid waste air classifier

Images

**Publication data including kind & date**

US5022982

A 1991-06-11 US5022982

**Abstract**

(US5022982)

A rotary drum **solid waste** air **classifier** includes an inclined drum in which is mounted a non-rotatable separation enhancing tube which extends longitudinally completely through the drum. A **waste** conveyor is longitudinally mounted within the tube. The feed end of the **waste** conveyor is located outwardly of the lower end of the tube for receiving **solid waste** and conveying it through the **rotating** drum. The tube has a delivery cut-out at and below the discharge end of the **waste** conveyor so that the **waste** may fall from the discharge end of the **waste** conveyor and the discharge from the lower end of the drum while the light fraction flows up the drum and into a plenum downstream from the drum.

Inventors

GREELEY ROBERT H

Latest standardized assignees - inventors removed

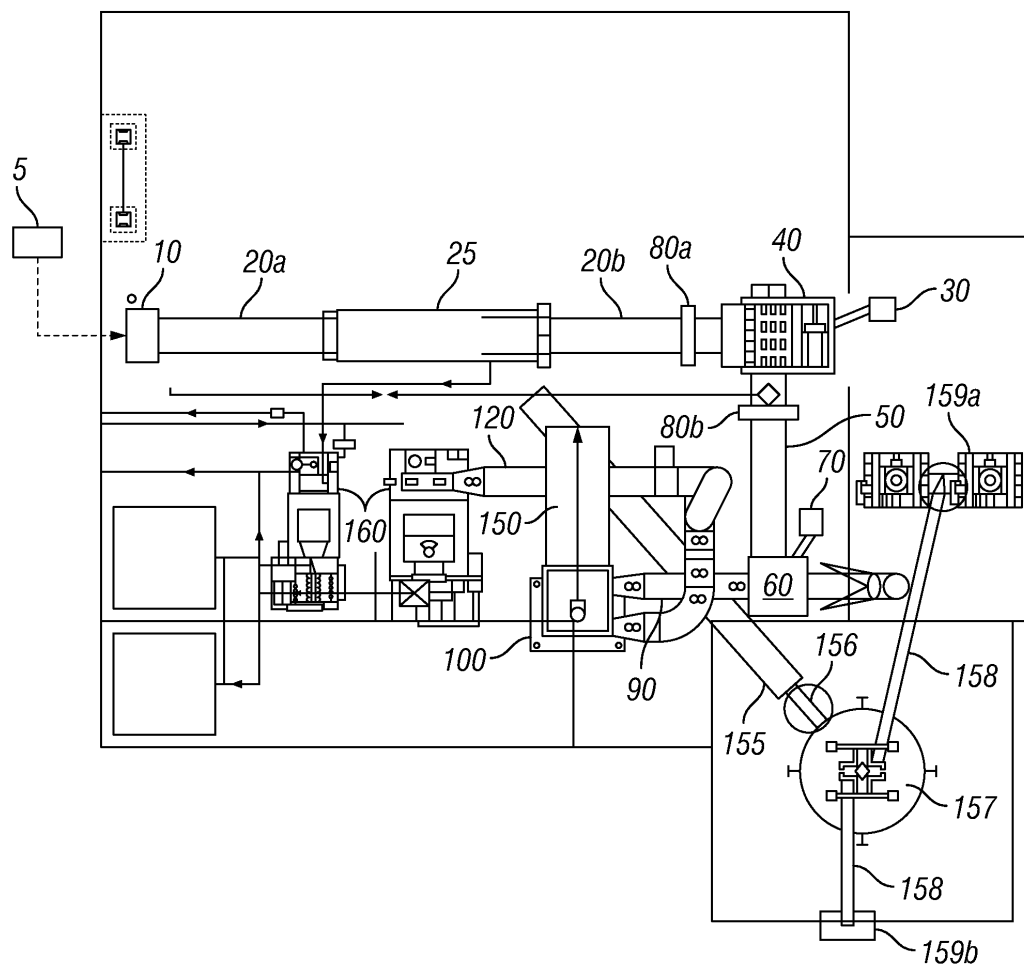
CPM ENERGY SYSTEMS

Family 4/25 - FAMPAT - ©Questel

Title

(WO2014143975)

System and method for separation of fiber and plastics in municipal **solid waste****Images**



Publication data including kind & date

WO2014143975	A1	2014-09-18	WO2014143975
US20140299684	A1	2014-10-09	US20140299684
US20140306037	A1	2014-10-16	US20140306037



Abstract

(WO2014143975)

A system and method for separating fiber and plastics in a municipal **solid waste** stream. The municipal **solid waste** stream is size reduced in one or more hammer mills. The municipal **solid waste** stream is pneumatically conveyed to a separator unit whereby the municipal **solid waste** stream is separated into a medium weight material substantially comprising fibers and a light weight material substantially comprising plastics.

Inventors

SHIDELER JOHN

HALLENBECK ROBERT

Latest standardized assignees - inventors removed

WM INTELLECTUAL PROPERTY HOLDINGS

Family 5/25 - FAMPAT - ©Questel

Title

(EP-795022)

Municipal **solid waste** processing facility and commercial lactic acid production process

Images



A	1996-03-31	IL-116280
A	1996-04-09	US5506123
B	1996-05-07	ZA9510368
A1	1996-06-13	WO9617949
A1	1996-06-13	CA2207054
A	1996-06-26	AU9647382



FI972372	A0	1997-06-04	FI9702372				
NO972557	D0	1997-06-05	NO9702557				
NO972557	A	1997-07-25	NO9702557				
FI972372	A	1997-08-06	FI9702372				
BR9509900	A	1997-09-16	BR9509900				
BRPI9509900	A1	1997-09-16	BRPI9509900				
EP0795022	A1	1997-09-17	EP-795022				
PL320663	A1	1997-10-13	PL95320663				
CZ9701759	A3	1997-11-12	CZ9701759				
CN1173205	A	1998-02-11	CN1173205				
KR19987000425	A	1998-03-30	KR19987000425				
AU691399	B2	1998-05-14	AU-691399				
HUT77583	A	1998-06-29	HU-T77583				
JPH10510154	A	1998-10-06	JP10510154				
EP0795022	A4	1998-10-28	EP-795022				
NZ301864	A	1999-01-28	NZ-301864				
IL116280	B	2000-07-26	IL-116280				
VN0001529	B	2000-11-27	VN---1529B				
EP0795022	B1	2001-08-22	EP-795022				
AT204609	T	2001-09-15	ATE204609				
DE69522341	D1	2001-09-27	DE69522341				
PL182114	B1	2001-11-30	PL-182114				
DK0795022	T3	2001-12-10	DK-795022T				
RU2177036	C2	2001-12-20	RU2177036				
ES2162952	T3	2002-01-16	ES2162952				
CN1079834	C	2002-02-27	CN1079834C				
PT795022	E	2002-02-28	PT-795022				
HK1002458	A1	2002-04-19	HK1002458				
DE69522341	T2	2002-05-08	DE69522341				
CZ291732	B6	2003-05-14	CZ-291732				
HU222511	B1	2003-08-28	HU-222511				
BRPI9509900	B1	2004-02-03	BR9509900				
JP3532572	B2	2004-05-31	JP3532572				

Abstract

(EP-795022)

A method of processing **waste** is disclosed wherein the municipal **solid waste** is segregated and processed to recover reusable rubber, metal, plastic, glass and the remaining organic portion of the **waste** stream is used to make lactic acid and other chemicals. One process utilizes a pretreatment step with dilute sulfuric acid to reduce the heavy metal content of the cellulosic component of the municipal **solid waste** which may contaminate the produced lactic acid or inhibit the fermentation of the sugars obtained from such **waste**. In another, the heavy metal content of the cellulosic component of municipal **solid waste** is removed via an ionic exchange process, after hydrolysis with sulfuric acid. A process for an economical, energy efficient production of lactic acid from municipal **solid waste** is also disclosed.

Inventors

CHIEFFALO RODGER

LIGHTSEY GEORGE R

Latest standardized assignees - inventors removed

MASADA RESOURCE

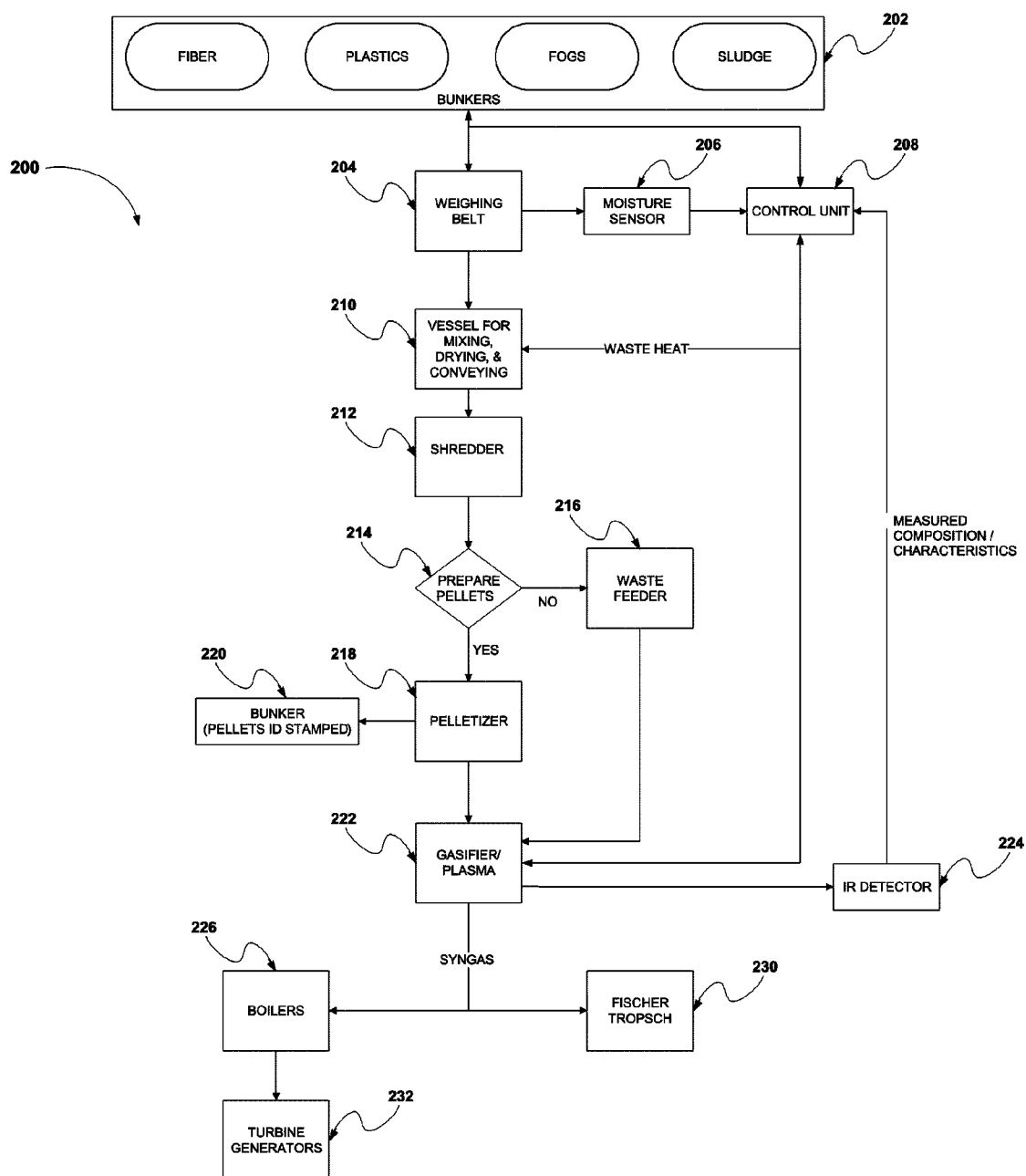
CONTROLLED ENVIRONMENTAL SYSTEMS

Family 6/25 - FAMPAT - ©Questel

Title

(EP2321104)

Method for integrated waste storage

Images**Publication data including kind & date**

WO2009158486	A1	2009-12-30	WO2009158486
CA2728705	A1	2009-12-30	CA2728705
US20100038594	A1	2010-02-18	US20100038594
EP2321104	A1	2011-05-18	EP2321104
CN102083601	A	2011-06-01	CN102083601
JP2011526320	A	2011-10-06	JP2011526320
IN0415/CHENP/2011	A	2011-11-11	IN2011CN00415
EP2321104	A4	2012-05-16	EP2321104
EP2321104	B1	2013-10-09	EP2321104



US9217188	B2	2015-12-22	US9217188
US20160090540	A1	2016-03-31	US20160090540
CN106079159	A	2016-11-09	CN106079159
US9765269	B2	2017-09-19	US9765269
US20180037830	A1	2018-02-08	US20180037830



Abstract

(EP2321104)

The present invention provides integrated bunker storage systems for **waste** streams based on the composition and characteristics of **waste** streams. In particular, the present invention provides a process for generating individual **waste** streams based on a set of material characteristics. According to the system and method of the present invention, individual **waste** streams from wastes stored in bunkers are mixed in a given feed ratio to generate a feed stock that will produce a desired output from a chemical conversion process, e.g., gasification. Optionally, composition data regarding the feed stock can be certified to a third party.

Inventors

BOHLIG JAMES W

CASELLA DOUGLAS R

Latest standardized assignees - inventors removed

ACCORDANT ENERGY

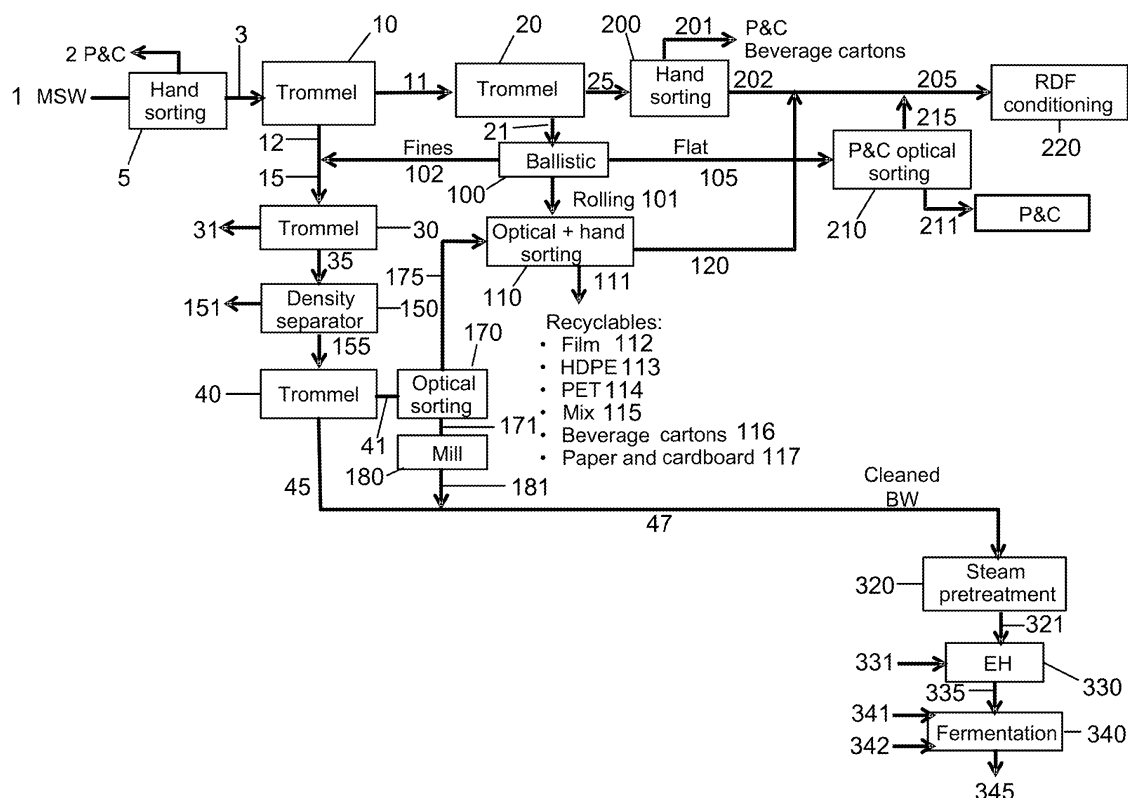
Family 7/25 - FAMPAT - ©Questel

Title

(EP3200934)

Systems and methods for forming cellulosic biowaste from mixed **solid waste**

Images



Publication data including kind & date

ES2565555	A1	2016-04-05	ES2565555
CA2963117	A1	2016-04-07	CA2963117
WO2016054078	A1	2016-04-07	WO2016054078



ES2565555	B1	2017-01-18	ES2565555				
EP3200934	A1	2017-08-09	EP3200934				
US20170226439	A1	2017-08-10	US20170226439				

Abstract

(EP3200934)

The present disclosure generally relates to systems and methods for fractionating and sorting mixed **solid waste** comprising cellulosic biowaste (e.g., food and yard **waste**), inorganics, mixed plastics (e.g., HDPE and PET), metals, fiber (e.g., paper and cardboard), glass and wood to form various product streams including a purified cellulosic stream, an HDPE stream and a PET stream, and a **waste** stream enriched in inorganic compounds.

Inventors

NGUYEN QUANG A
CARVAJO LUCENA IGNACIO
RAMOS GARCES VANESA
CABETA PEREZ PABLO
VICENTE GARCIA ANA ISABEL
MONTEJO MENDEZ CRISTINA

Latest standardized assignees - inventors removed

ABENGOA

Family 8/25 - FAMPAT - ©Questel

Title

(KR101276400)

Method and System for Treating Contaminated Soil, **Trommel** for Sorting Contaminated Soil**Images****Publication data including kind & date**

KR20120111469	A	2012-10-10	KR20120111469				
KR101276400	B1	2013-06-19	KR101276400				

Abstract

(KR101276400)

PURPOSE: A polluted soil treatment method, a polluted soil treatment system, and a polluted soil classifying **trommel** are provided to improve the treatment efficiency of soil polluted with heavy metals.CONSTITUTION: A polluted soil treatment method includes the following: middle sized materials and small sized materials are sorted from polluted soil in a clay-pigeon hooting place using a **trommel**(20); sorted middle-sized materials are fed into a first jig; overflown materials from the first jig is fed into a second spiral distributing **classifier** to classify clay-pigeon pieces; sorted small sized materials are fed into a second jig; and underflown materials from the second jig is fed into a third spiral **classifier** to classify buckshot. [Reference numerals] (AA) Large-sized materials(more than or equal to 10mm); (BB) Middle-sized materials(3-10mm); (CC) Small-sized materials(less than or equal to 3mm); (DD, KK) Purified soil; (EE, LL) Clay-pigeon pieces; (FF) Buckshot(lead ammunition), heavy minerals; (GG) Fine grain materials(less than or equal to 1mm); (HH) Middle grain materials(1-3mm); (II) Particle materials(less than or equal to 0.075mm); (JJ) Fine materials(0.075-1mm); (MM) Polluted soil

Inventors

BAE JONG HYUN
KIM IN TAE
SHIN JUNG YEOB
KONG JUN
KANG YOUN SIK
SHIN HYUN SOO

Latest standardized assignees - inventors removed

KOLON GLOBAL
KOLON WATER & ENERGY
DONGMYUNG ENTPR

Family 9/25 - FAMPAT - ©Questel

Title

(ES2298094)

Trommel classifier for **rotating** recovery of municipal **solid waste**, has two engines that drive rollers of double or triple tire through bearings, and bearings are mounted with floating system to antivibrant type bobbin mounted to chassis

Publication data including kind & date

ES2298094	A1	2008-05-01	ES2298094
ES2298094	B1	2009-02-16	ES2298094



Abstract

(ES2298094)

The **trommel classifier** has two engines that drive rollers of double or triple tire through bearings. The bearings are mounted with a floating system to antivibrant type bobbin mounted to the chassis. The exterior fairing is coupled with a unit. The fairing has some windows for cleaning and observation, which is provided for the extreme anti-plate driven by the rollers. The engines are mounted about arms reaction in the form of crank, which leads the **trommel** for entry and exit of the product to recycle.

Inventors

ARNANDIS MERINO INDALECIO

Latest standardized assignees - inventors removed

JOAR

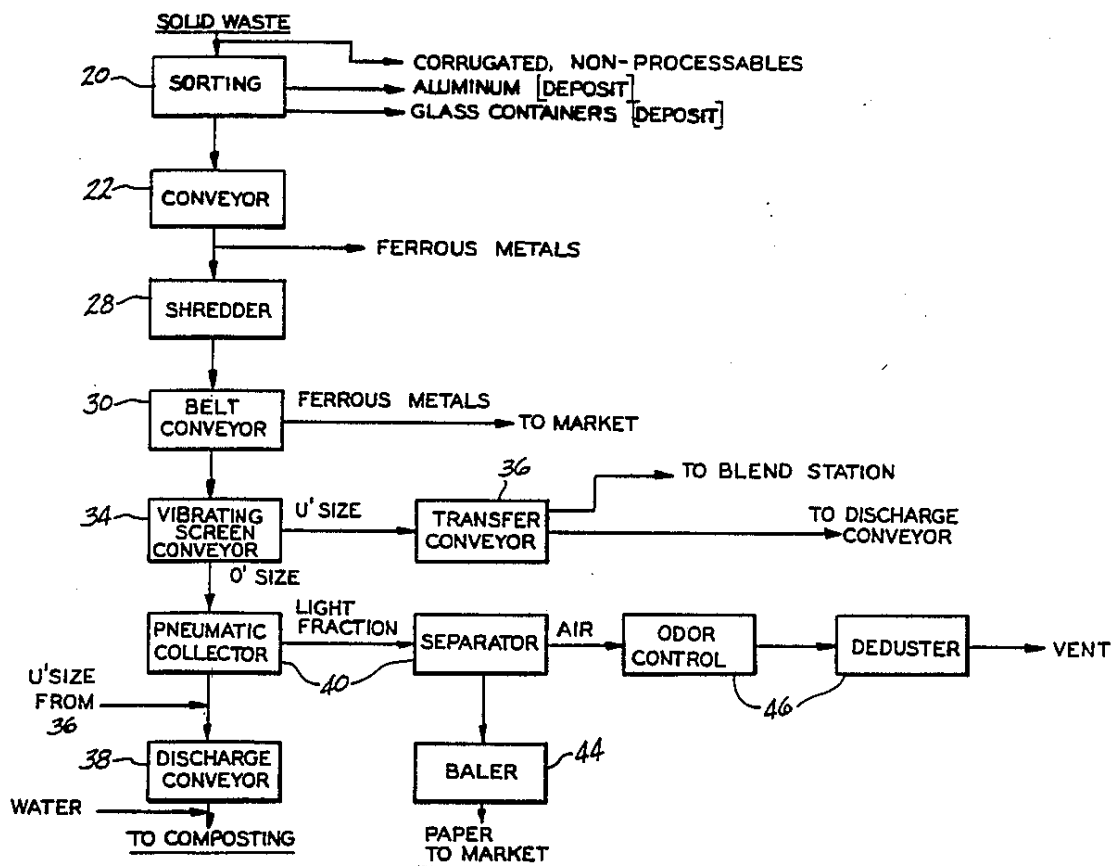
Family 10/25 - FAMPAT - ©Questel

Title

(US5071075)

Solid waste disposal

Images



Publication data including kind & date

US4874134	A	1989-10-17	US4874134
US5071075	A	1991-12-10	US5071075



Abstract

(US5071075)

A system and a process for treating **solid waste** are disclosed. The system includes a facility having one or more treatment lines for processing the **solid waste** to recover recyclable and useful materials such as corrugated paper, ferrous metals, plastic products, paper, and glass and to form various fractions which can be converted to a compost material. The facility is a substantially zero discharge facility having a minimal environmental impact.

Inventors

WIENS THOMAS J

Latest standardized assignees - inventors removed

RECYCLING INDUSTRIES

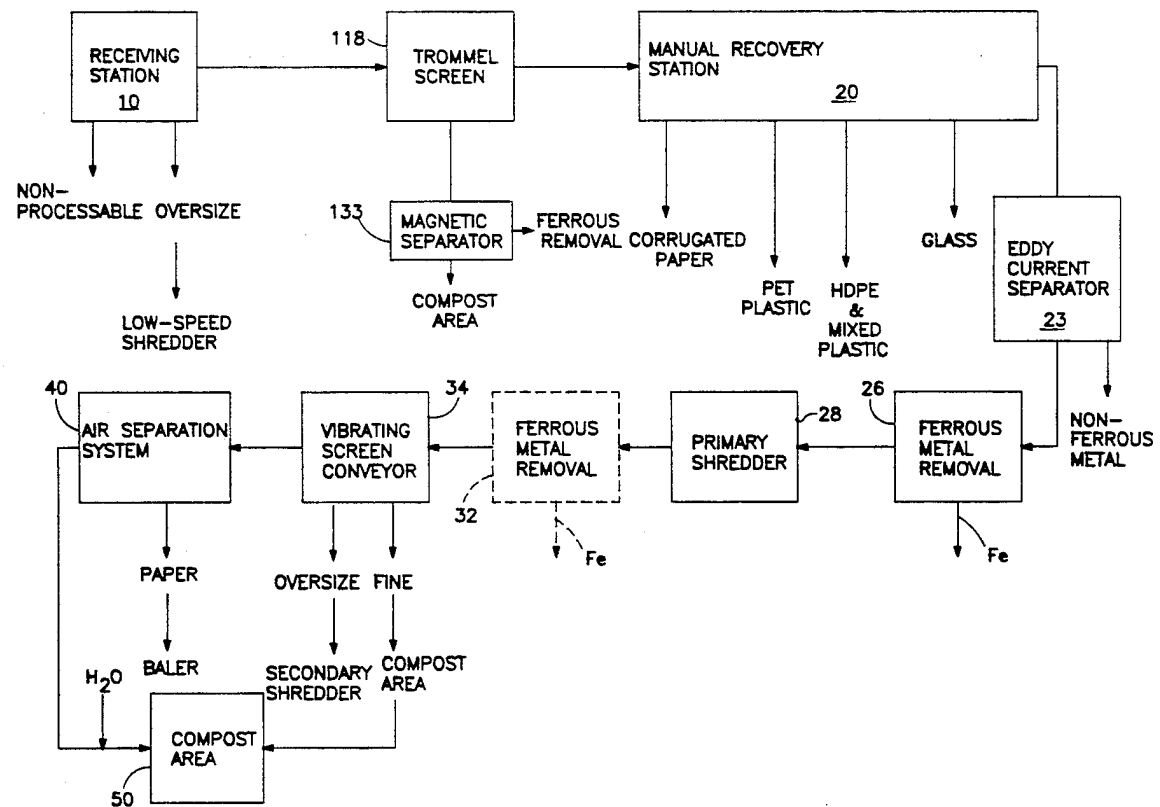
Family 11/25 - FAMPAT - ©Questel

Title

(US5184780)

Solid waste disposal

Images



Publication data including kind & date

US5184780

A

1993-02-09

US5184780



Abstract

(US5184780)

A system and a process for treating **solid waste** are disclosed. The system includes a facility having one or more treatment lines for processing the **solid waste** to recover recyclable and useful materials such as corrugated paper, ferrous metals, plastic products, paper, and glass and to form various fractions which can be converted to a compost material. The facility is a substantially zero discharge facility having a minimal environmental impact.

Inventors

WIENS THOMAS J

Latest standardized assignees - inventors removed

RECYCLING INDUSTRIES

Family 12/25 - FAMPAT - ©Questel

Title

(EP-868226)

Apparatus and method for **waste** recycling and conversion

Images

ES2165529	T3	2002-03-16	ES2165529
DK0868226	T3	2002-04-02	DK-868226T
HK1011530	A1	2002-04-04	HK1011530
US6379527	B1	2002-04-30	US6379527
PT868226	E	2002-05-31	PT-868226
DE69617458	T2	2002-06-06	DE69617458
CA2237173	C	2002-12-10	CA2237173
JP3820271	B2	2006-09-13	JP3820271



Abstract

(EP-868226)

Municipal **solid waste** is classified as to density as well as size in a perforated inclined **tromme** through which a gas stream is flowed inwardly through the perforations and downwardly to entrain and remove paper and plastics through the lower end. Ferrous and non-ferrous metals are removed from the residue which is digested anaerobically in two stages with an intermediate steam explosion treatment to expose cellulose fibers coated with lignin. Mercury is removed as a vapor phase in an initial stage of the steam heating and is condensed and collected. The solids phase of the anaerobic digestate is acidified to solubilize heavy metals which are recovered by electrodeposition from the solution. The depleted residue is neutralized and disposed of.

Inventors

VOGT GREGORY M

VOGT HUBERT S

WALTER HERMAN K

Latest standardized assignees - inventors removed

EASTERN POWER

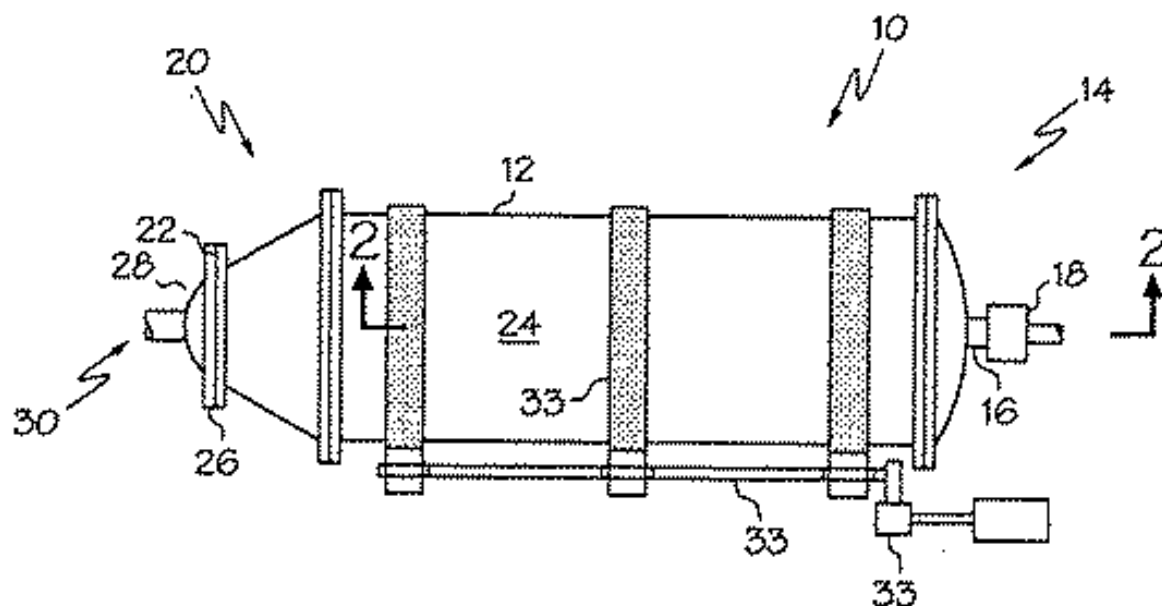
Family 13/25 - FAMPAT - ©Questel

Title

(EP1438459)

A method for preparing a homogenous cellulosic product from cellulosic **waste** materials

Images



Publication data including kind & date

WO03035970	A1	2003-05-01	WO200335970				
CA2464090	A1	2003-05-01	CA2464090				
GB0327498	D0	2003-12-31	GB200327498				
GB2392677	A	2004-03-10	GB2392677				
KR20040045879	A	2004-06-02	KR20040045879				
EP1438459	A1	2004-07-21	EP1438459				
NZ533075	A	2004-08-27	NZ-533075				
CN1541291	A	2004-10-27	CN1541291				
GB2392677	B	2004-12-01	GB2392677				
JP2005506471	A	2005-03-03	JP2005506471				
KR100711659	B1	2007-04-27	KR100711659				
JP4061268	B2	2008-03-12	JP4061268				
AU2009200412	A1	2009-03-05	AU2009200412				
CN100489191	C	2009-05-20	CN100489191C				
CA2464090	C	2010-06-15	CA2464090				

Abstract

(EP1438459)

A method for treating diverse pulp and paper materials, including such products contained in municipal **solid waste** and biohazardous wastes, to produce a homogenous cellulosic product comprises the steps of feeding diverse pulp and paper materials into a vessel, introducing steam into the vessel while agitating the materials, purging the gases from the vessel while agitating the materials, sealing the vessel so that the vessel is pressure tight, saturating the materials with steam at sufficient temperature and pressure to expand the physical and chemical structure of the materials, while agitating the materials, depressurizing the vessel to further enhance the physical and chemical expansion of the materials, and discharging the processed products. Alternatively, the method can be performed without purging the gases, if the temperature in the range of about 140 DEG C to about 160 DEG C, and the pressure is in the range of about 275 to 450 kPa. During the optional purging step, during the depressurization step, and during the optional evacuation step, volatile organic compounds and other air pollutants can be captured and treated. The temperature, pressure, and process time is more than sufficient to decontaminate and sterilize biohazardous laboratory and medical wastes.

Inventors

ELEY MICHAEL H

Latest standardized assignees - inventors removed

UNIVERSITY OF ALABAMA

Family 14/25 - FAMPAT - ©Questel

Title

(EP-741794)

Commercial ethanol production process

Images

HU9601722	D0	1996-08-28	HU9601722				
PL315171	A1	1996-10-14	PL94315171				
CZ9601830	A3	1996-10-16	CZ9601830				
US5571703	A	1996-11-05	US5571703				
EP0741794	A1	1996-11-13	EP-741794				
KR19977000774	A	1997-02-12	KR19977000774				
CN1142857	A	1997-02-12	CN1142857				
MX9500128	A	1997-06-28	MX9500128				
AU679828	B2	1997-07-10	AU-679828				
JPH09507386	A	1997-07-29	JP09507386				
BR9408408	A	1997-08-05	BR9408408				
BRPI9408408	A1	1997-08-05	BRPI9408408				
HUT76708	A	1997-10-28	HU-T76708				
NZ278230	A	1997-11-24	NZ-278230				
VN0001151	B	2000-04-25	VN---1151B				
EP0741794	A4	2000-08-30	EP-741794				
RU2159816	C2	2000-11-27	RU2159816				
PL182075	B1	2001-11-30	PL-182075				
CN1085730	C	2002-05-29	CN1085730C				
RO117804	B	2002-07-30	RO-117804				
CN1397561	A	2003-02-19	CN1397561				
HU222009	B1	2003-03-28	HU-222009				
EP0741794	B1	2004-08-11	EP-741794				
CN1161366	C	2004-08-11	CN1161366C				
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PT741794	E	2004-10-29	PT-741794				
HK1053660	A1	2005-05-13	HK1053660				

Abstract

(EP-741794)

A method of processing **waste** is disclosed wherein the municipal **solid waste** is segregated and processed to recover reusable rubber, metal, plastic, glass and the remaining organic portion of the **waste** stream is used to make ethanol and other chemicals. One process utilizes a pretreatment step with dilute sulfuric acid to reduce the heavy metal content of the cellulosic component of the municipal **solid waste** which can inhibit the fermentation of the sugars obtained from such **waste**. In another, the heavy metal content of the cellulosic component of municipal **solid waste** is removed via an ionic exchange process, after hydrolysis with sulfuric acid. A process for an economical, energy efficient production of ethanol from municipal **solid waste** is also disclosed.

Inventors

CHIEFFALO RODGER

LIGHTSEY GEORGE R

Latest standardized assignees - inventors removed

MASADA RESOURCE

CONTROLLED ENVIRONMENTAL SYSTEMS

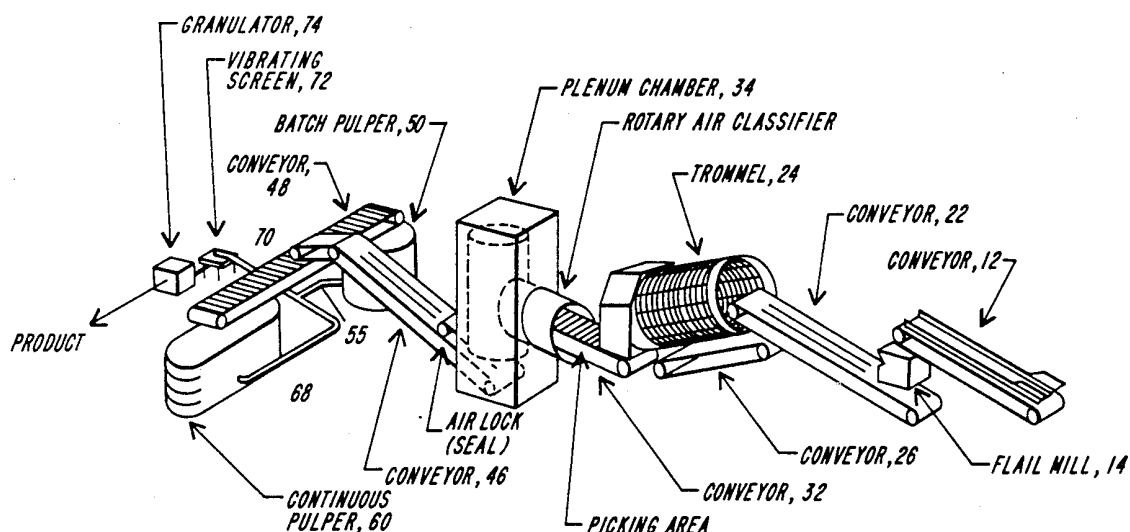
Family 15/25 - FAMPAT - ©Questel

Title

(WO9100795)

Polystyrene recycling process

Images



Publication data including kind & date

WO9100795	A2	1991-01-24	WO9100795
US5060870	A	1991-10-29	US5060870
WO9100795	A3	1992-05-14	WO9100795



Abstract

(WO9100795)

The invention comprises a method and apparatus for recycling foamed polystyrene from municipal **solid waste** and more particularly from fast food restaurant **waste**. A steady stream of **waste** is delivered to a flail mill for reducing particle size, a rotary **trommel** for eliminating undersized **waste** and a rotary air **classifier** for removing "heavy" **waste** from the stream. At this point, the **waste** stream comprises mostly paper and foamed polystyrene. The paper and foamed polystyrene are delivered to a water pulper which fiberizes the paper so that it can then be separated from the foamed polystyrene by passing it through a screen of selected mesh size to allow the water and paper pulp to pass through while retaining the foamed polystyrene.

Inventors

TREZEK GEORGE
STANCZYK MARTIN
GRUBBS MICHAEL

Latest standardized assignees - inventors removed

WTE

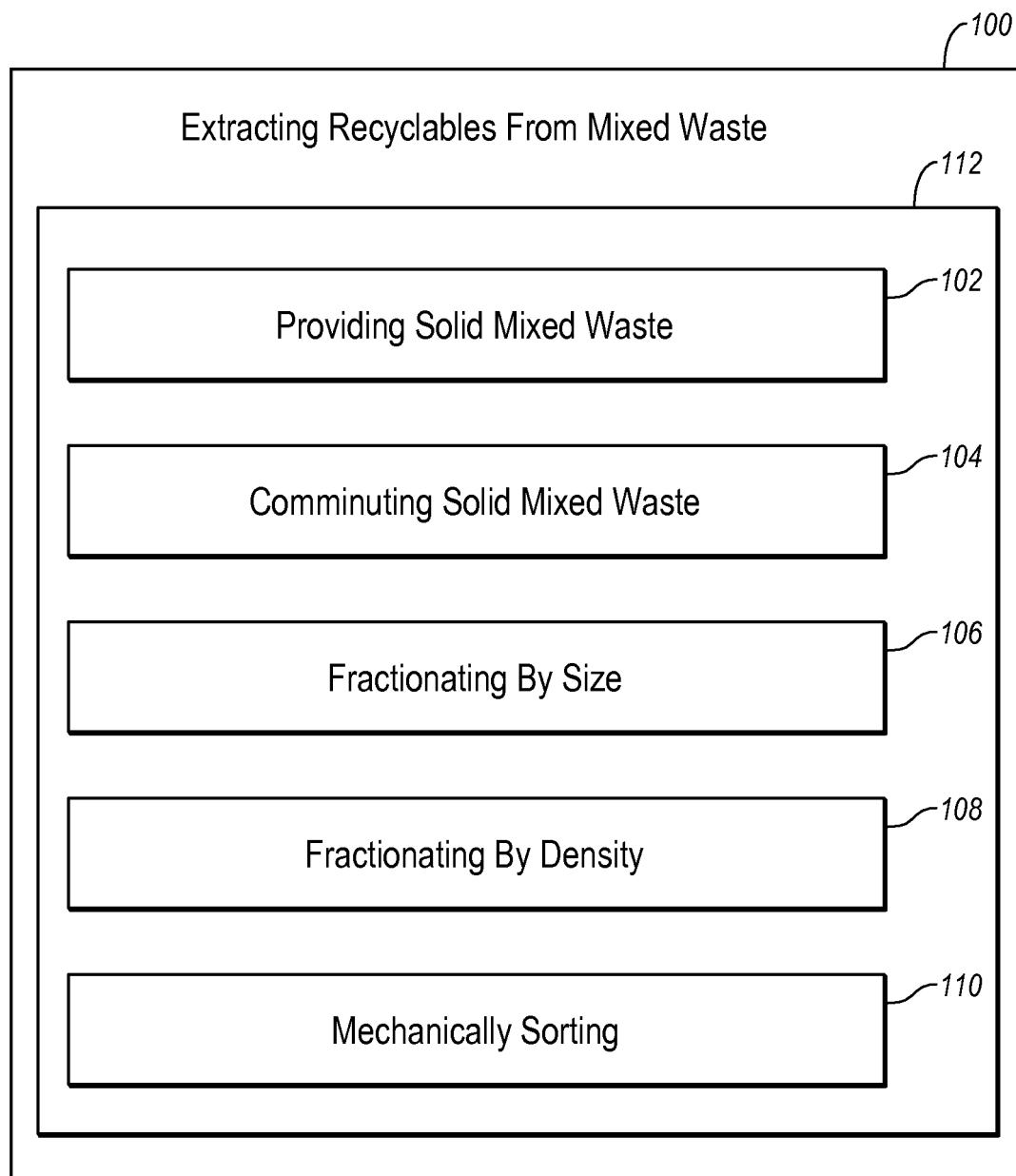
Family 16/25 - FAMPAT - ©Questel

Title

(EP2750812)

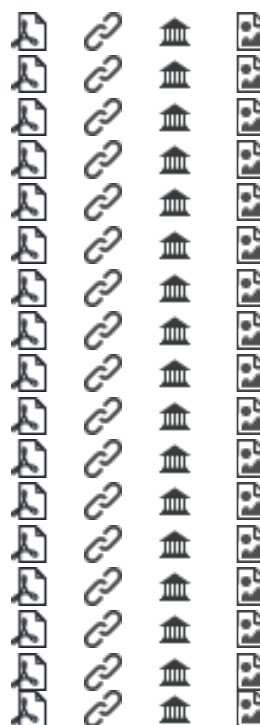
Systems and methods for processing mixed solid waste

Images



Publication data including kind & date

US20120048974	A1	2012-03-01	US20120048974
US20120048975	A1	2012-03-01	US20120048975
WO2012071060	A2	2012-05-31	WO201271060
CA2818937	A1	2012-05-31	CA2818937
WO2012071113	A1	2012-05-31	WO201271113
CA2818920	A1	2012-05-31	CA2818920
WO2012071112	A1	2012-05-31	WO201271112
WO2012071060	A3	2012-08-16	WO201271060
US8322639	B2	2012-12-04	US8322639
CA2847289	A1	2013-03-07	CA2847289
WO2013032516	A1	2013-03-07	WO201332516
US8398006	B2	2013-03-19	US8398006
US20130092770	A1	2013-04-18	US20130092770
EP2643101	A1	2013-10-02	EP2643101
EP2643102	A1	2013-10-02	EP2643102
CN103476515	A	2013-12-25	CN103476515



CN103476516	A	2013-12-25	CN103476516				
JP2014500140	A	2014-01-09	JP2014500140				
JP2014501608	A	2014-01-23	JP2014501608				
US8684288	B2	2014-04-01	US8684288				
MX2013005899	A	2014-04-25	MX2013005899				
IN4551/CHENP/2013	A	2014-07-04	IN2013CN04551				
EP2750812	A1	2014-07-09	EP2750812				
US20140209514	A1	2014-07-31	US20140209514				
CN104023863	A	2014-09-03	CN104023863				
BR112014004919	A1	2014-10-21	BR112014004919				
MX2014002376	A	2014-10-24	MX2014002376				
EP2750812	A4	2015-04-08	EP2750812				
US20150108042	A1	2015-04-23	US20150108042				
HK1201491	A1	2015-09-04	HK1201491				
IN4547/CHENP/2013	A	2016-06-10	IN2013CN04547				
IN2396/CHENP/2014	A	2016-07-01	IN2014CN02396				
MX341670	B	2016-08-30	MX-341670				
JP6001550	B2	2016-10-05	JP6001550				
CN104023863	B	2016-10-19	CN104023863B				
JP6023070	B2	2016-11-09	JP6023070				
BR112014004919	A2	2017-04-04	BR112014004919				
US9649666	B2	2017-05-16	US9649666				
CN103476516	B	2017-07-18	CN103476516B				
BR112013012860	A1	2017-09-05	BR112013012860				
CN103476515	B	2017-09-15	CN103476515B				
BR112013012860	A2	2017-09-19	BR112013012860				
EP2643101	A4	2017-11-15	EP2643101				
EP2643102	A4	2017-12-27	EP2643102				
US9884324	B2	2018-02-06	US9884324				

Abstract

(EP2750812)

Solid waste that includes a mixture of wet organic material and dry organic material can be separated using mechanical separation to produce a wet organic stream enriched in wet organics and a dry organic stream enriched in dry organics. The separated wet organic stream and dry organic stream are separately converted to renewable or recyclable products using different conversion techniques particularly suited for the separated wet and dry organic streams.

Inventors

GITSCHER GEORGE

Latest standardized assignees - inventors removed

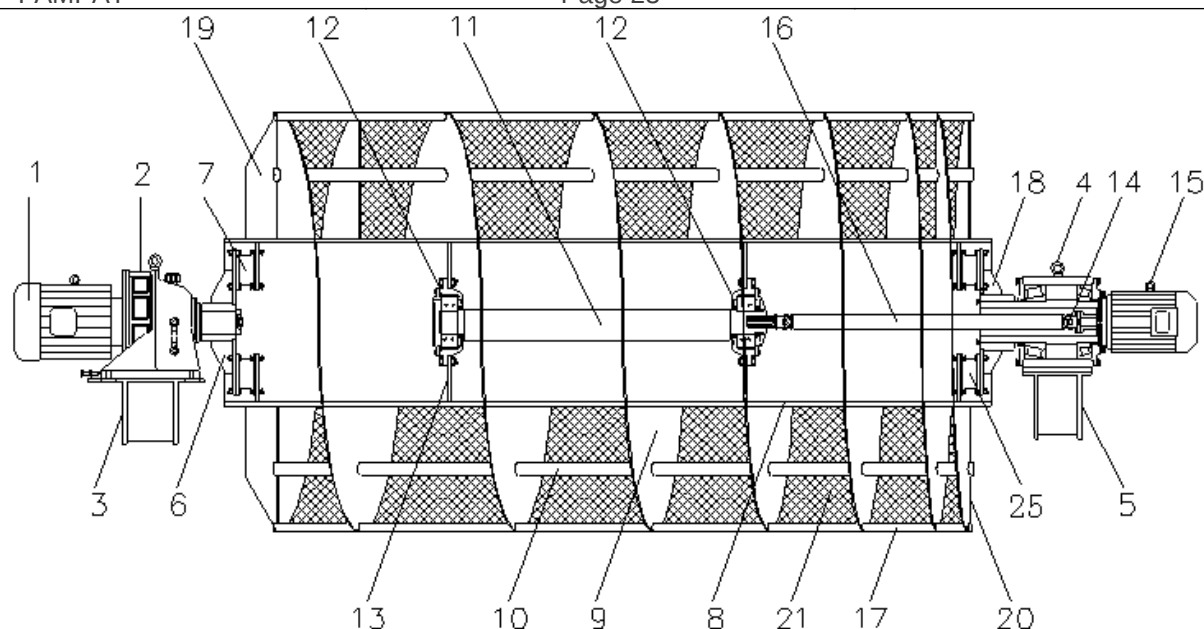
ROLLIN HOLDINGS

Family 17/25 - FAMPAT - ©Questel

Title

(CN202683453U)

Roller-type rotary spiral vibrating screen **classifier****Images**



Publication data including kind & date

CN202683453

U

2013-01-23

CN202683453U



Abstract

(CN202683453U)

The utility model relates to a roller-type rotary spiral vibrating screen **classifier**. A **rotating** shaft connecting plate is connected with a rotary set vibration shaft tube of a rotary screen through a first rubber absorber; an eccentric set vibration shaft is arranged inside the rotary set vibration shaft tube of the rotary screen; two sides of the eccentric set vibration shaft are connected with a bearing block of the eccentric set vibration shaft; the bearing block of the eccentric set vibration shaft is connected with the rotary set vibration shaft tube of the rotary screen; a helical blade is arranged outside the rotary set vibration shaft tube of the rotary screen; a transverse support beam of a screen, which connected with the screen is fixedly arranged at the outer side of the helical blade; the eccentric set vibration shaft is connected with a universal joint transmission shaft; the universal joint transmission shaft is connected with a set vibration shaft motor fixedly arranged on a hollow shaft seat bracket beam of the rotary screen; a hollow shaft seat is arranged on the hollow shaft seat bracket beam of the rotary screen; the hollow shaft seat is connected with a hollow shaft connecting plate; and the hollow shaft connecting plate is connected with the rotary set vibration shaft tube of the rotary screen through the second rubber absorber. The roller-type rotary spiral vibrating screen **classifier** is large in screening energy, and the screen is not frequently cleaned when in screening.

Inventors

WANG SONGLU

WANG XIAODONG

WANG SONGZHENG

PEI XIAOHONG

DONG WENHUI

WANG SHIHAO

WANG BO

WANG YUE

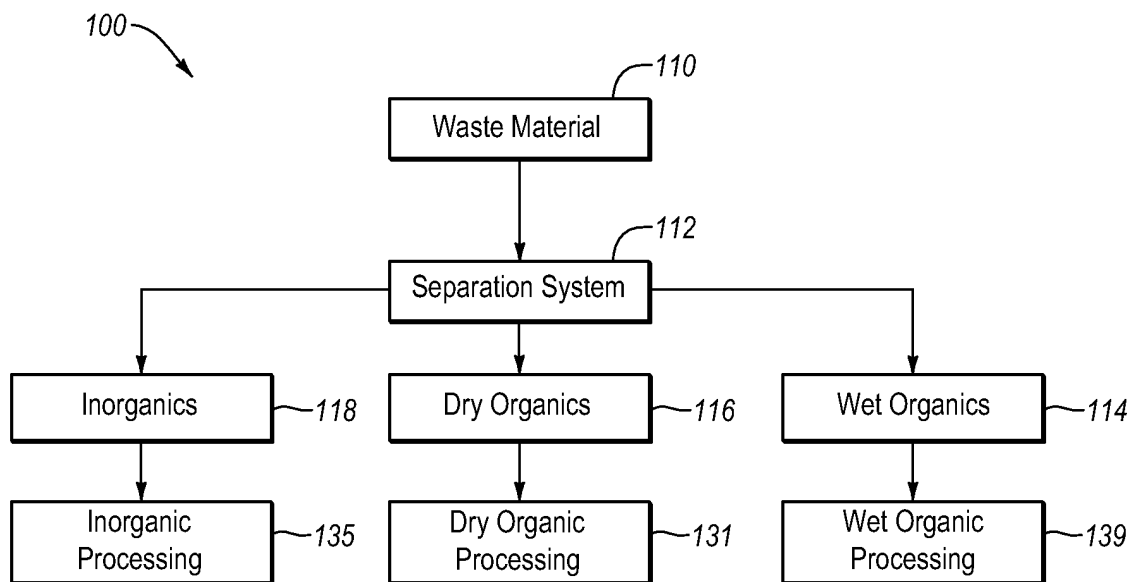
Family 18/25 - FAMPAT - ©Questel

Title

(US9700896)

Systems and methods for processing mixed **solid waste**

Images

**Publication data including kind & date**

US9700896

B1 2017-07-11

US9700896

**Abstract**

(US9700896)

Described are methods for processing mixed **solid waste**. The method includes providing a mixed **solid waste** stream including dry organic material comingled with wet organic and/or inorganic material. The mixed **waste** is shredded and then separated using size separation and density separation. The shredder has a cut size and rotation speed that produces less than 20% by mass of particles smaller than 2 inches from the mixed **solid waste**. The shredded mix **solid waste** is then separated by density and a portion of the stream is recovered as a recyclable or converted to a high value product.

Inventors

GITSCHER GEORGE K

Latest standardized assignees - inventors removed

ROLLIN HOLDINGS

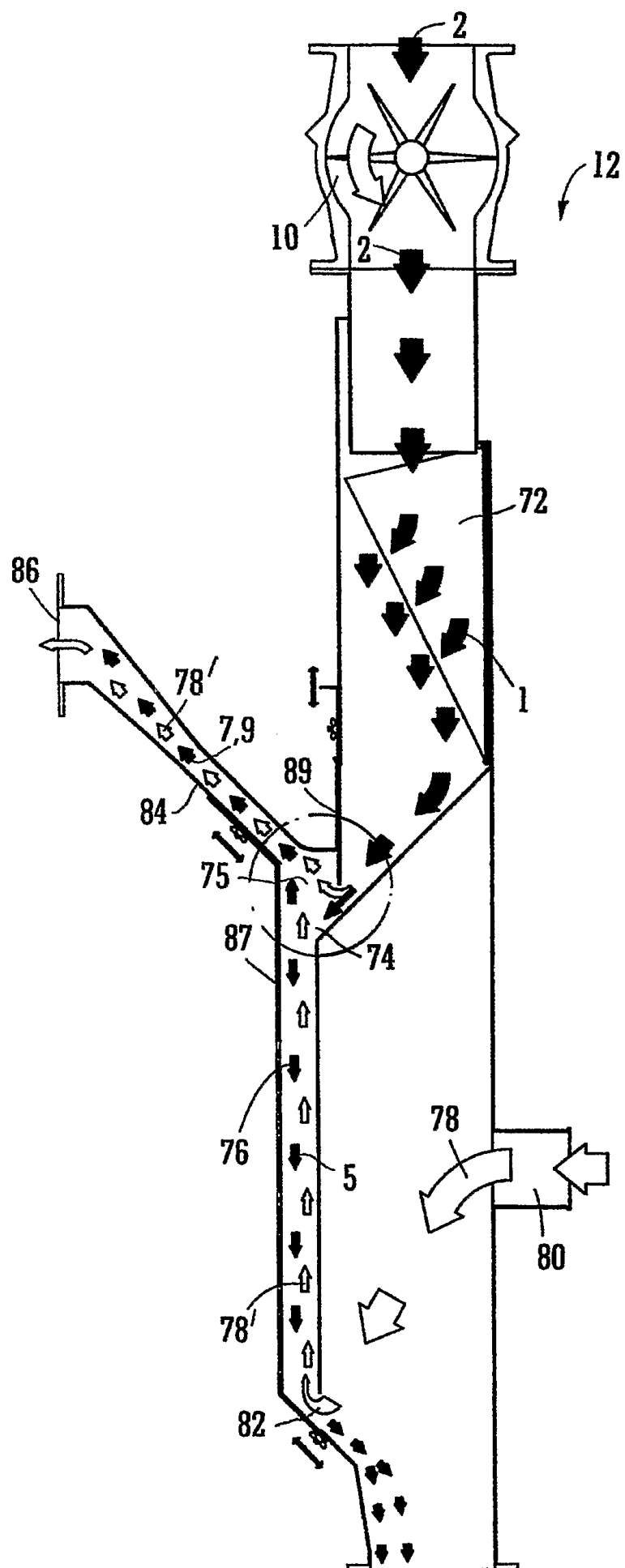
ORGANIC ENERGY

Family 19/25 - FAMPAT - ©Questel

Title

(EP1763407)

Process and apparatus for the treatment of municipal **solid waste** and biomass material obtained thereby**Images**



Publication data including kind & date

GB0412216	D0	2004-07-07	GB200412216				
GB0505323	D0	2005-04-20	GB200505323				
GB2412889	A	2005-10-12	GB2412889				
GB2414427	A	2005-11-30	GB2414427				
WO2005118165	A1	2005-12-15	WO2005118165				
CA2568863	A1	2005-12-15	CA2568863				
AU2005249773	A1	2005-12-15	AU2005249773				
GB2412889	B	2006-06-07	GB2412889				
HK1083324	A1	2006-11-24	HK1083324				
EP1763407	A1	2007-03-21	EP1763407				
MXPA06013708	A	2007-05-16	MX2006PA013708				
CN1984725	A	2007-06-20	CN1984725				
US20070209974	A1	2007-09-13	US20070209974				
BRPI0511672	A	2008-01-08	BR200511672				
BRPI0511672	A1	2008-01-08	BRPI0511672				
RU2006147279	A	2008-07-10	RU2006147279				
NZ551268	A	2009-06-26	NZ-551268				
RU2374009	C2	2009-11-27	RU2374009				
AU2005249773	B2	2010-06-24	AU2005249773				
CA2568863	C	2010-11-23	CA2568863				
US8051986	B2	2011-11-08	US8051986				
CN1984725	B	2011-12-14	CN1984725B				
EP1763407	B1	2012-08-15	EP1763407				
DK1763407	T3	2012-11-26	DK1763407T				
ES2393399	T3	2012-12-21	ES2393399				
SI1763407	T1	2012-12-31	SI1763407T				
BRPI0511672	A2	2016-09-20	BR200511672				

Abstract

(EP1763407)

A process for the production of a range of improved biomass material products suitable for use as a fuel and which have been derived from municipal **solid waste** (MSW). The process comprises the steps of delivering a stream of mixed, MSW derived biomass material (2) into a separator (12) which operates under negative pressure enabling the biomass material (1) to fall down the separator (12) whilst inducing a sole air stream (78) through the falling material to create a vortex (75) of spinning material within the turbo chamber to separate out by centrifugal action selected denser components (5) of the biomass material (1) enabling such to continue falling to an outlet for collection whilst redirecting by entrainment in the air stream (78) the remaining biomass material (7, 9) to a second outlet (86) for subsequent processing or for collection.

Inventors

LEES TONY

Latest standardized assignees - inventors removed

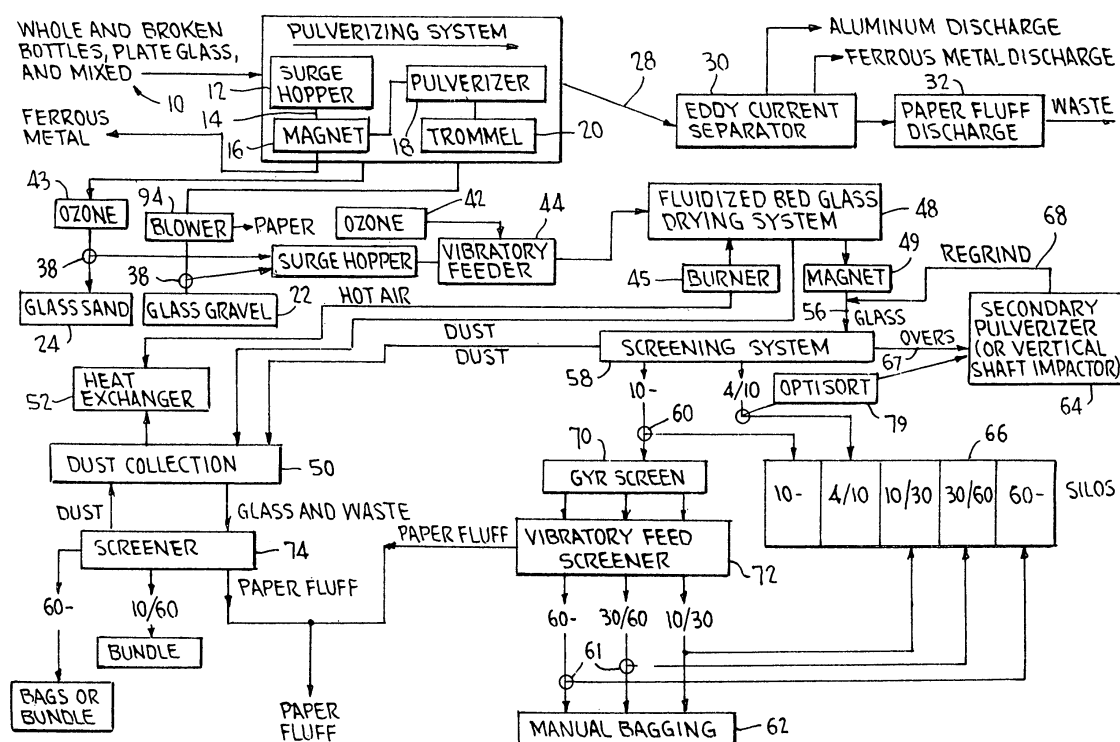
ORCHID IP

Family 20/25 - FAMPAT - ©Questel

Title

(WO201218551)

Production of clean glass particles from post-consumer **waste****Images**



Publication data including kind & date

US20120018548	A1	2012-01-26	US20120018548
WO2012018551	A2	2012-02-09	WO201218551
CA2806280	A1	2012-02-09	CA2806280
US8146841	B2	2012-04-03	US8146841
WO2012018551	A3	2014-03-27	WO201218551
USRE45290	E1	2014-12-16	USRE45290
CA2806280	C	2015-02-10	CA2806280



Abstract

(WO201218551)

Clean glass particles are produced from post-consumer mixed glass and like **waste** streams by a series of pulverizing, size- and material-based separation, ozonation, drying, sizing, and paper fluff removal steps. The system may comprise a pulverizing system, for breaking the glass into relatively small fragments; a magnet for removing ferrous metals from the **waste** stream; a **trommel** separator, for separating the glass fragments by size; an air classification system for removing paper and other light materials; an ozone sterilization system; a fluidized bed dryer; a first screening system; a gyratory screening device; and a vibratory conveyor comprising a pan for receiving a layer of glass particles from the gyratory screening device.

Inventors

ANDELA CYNTHIA

Latest standardized assignees - inventors removed

GLASS PROC SOLUTIONS

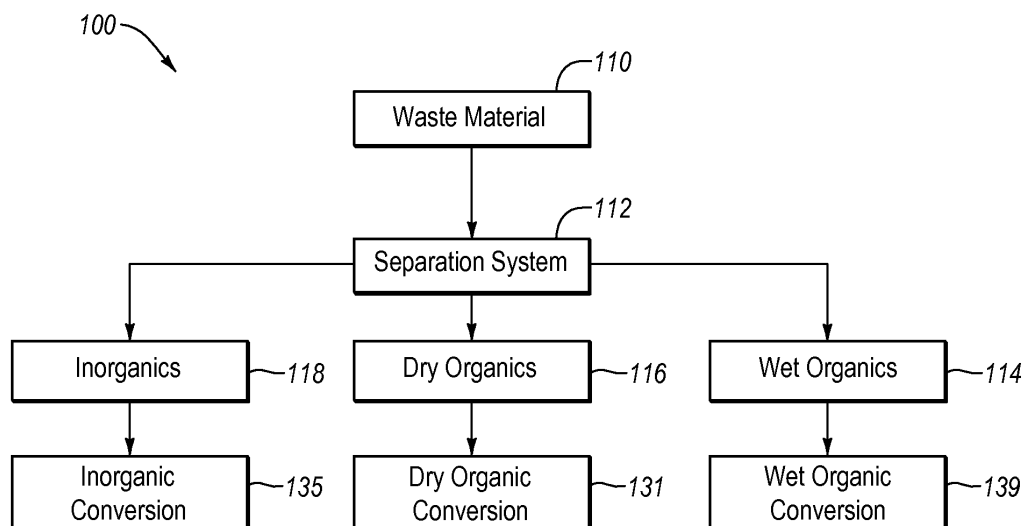
Family 21/25 - FAMPAT - ©Questel

Title

(US8632024)

Systems and methods for processing mixed **solid waste**

Images

**Publication data including kind & date**

[US20120190102](#) A1 2012-07-26 US20120190102
[US8632024](#) B2 2014-01-21 US8632024

**Abstract**

(US8632024)

Solid waste that includes a mixture of wet organic material and dry organic material can be separated using mechanical separation to produce a wet organic stream enriched in wet organics and a dry organic stream enriched in dry organics. The separated wet organic stream and dry organic stream are separately converted to renewable or recyclable products using different conversion techniques particularly suited for the separated wet and dry organic streams.

Inventors

GITSCHER GEORGE
BUCKLE LARRY T

Latest standardized assignees - inventors removed

ROLLIN HOLDINGS

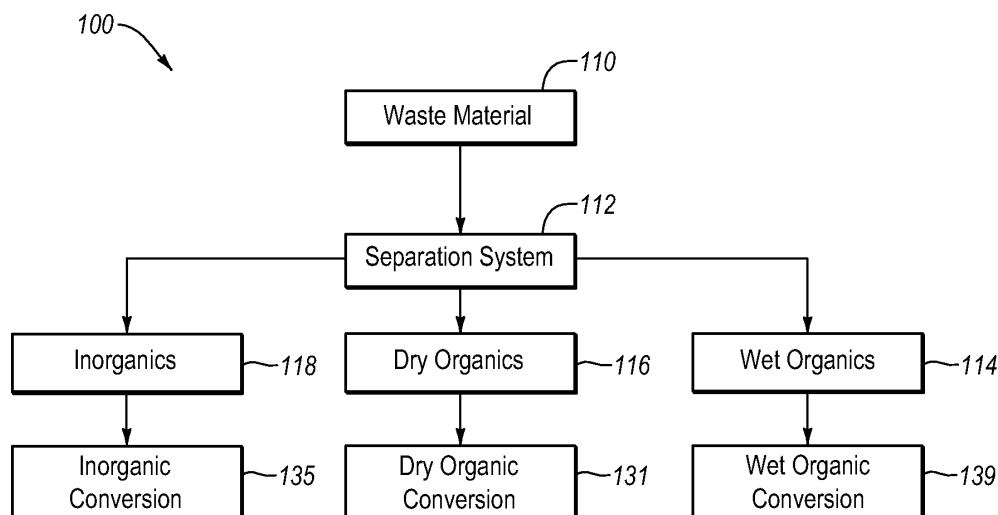
Family 22/25 - FAMPAT - ©Questel

Title

(US9650650)

Systems and methods for processing mixed **solid waste**

Images

**Publication data including kind & date**

US20140134694	A1	2014-05-15	US20140134694
US9650650	B2	2017-05-16	US9650650
US20170253891	A1	2017-09-07	US20170253891

**Abstract**

(US9650650)

Solid waste that includes a mixture of wet organic material and dry organic material can be separated using mechanical separation to produce a wet organic stream enriched in wet organics and a dry organic stream enriched in dry organics. The separated wet organic stream and dry organic stream are separately converted to renewable or recyclable products using different conversion techniques particularly suited for the separated wet and dry organic streams.

Inventors

GITSCHER GEORGE

Latest standardized assignees - inventors removed

ORGANIC ENERGY

Family 23/25 - FAMPAT - ©Questel

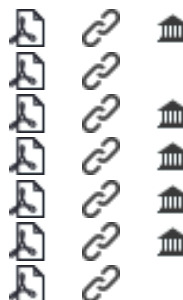
Title

(FR2410669)

IMPROVEMENTS TO METHODS AND DEVICES FOR RECOVERING MINERAL SUBSTANCES IN **SOLID WASTE** AND PYROLIZE THE ORGANIC CONSTITUENTS

Publication data including kind & date

BE845068	A	1976-12-01	BE-845068
NL7608945	A	1977-02-15	NL7608945
DE2635920	A1	1977-03-03	DE2635920
FR2406476	A1	1979-05-18	FR2406476
FR2410669	A1	1979-06-29	FR2410669
GB1553381	A	1979-09-26	GB1553381
IT1066068	B	1985-03-04	IT1066068

**Abstract**

(FR2410669)

RECOVERY OF MATERIALS IN THE **WASTE**. AFTER PHYSICAL SEPARATION OF METALS AND OTHER MINERAL SUBSTANCES, PYROLYZING THE ORGANIC MATERIALS IN A PYROLYSIS REACTOR 354 BY CONTACT WITH HOT ASH PARTICLES IN A HOT INERT CARRIER GAS. RECOVERY OF FERROUS AND NONFERROUS METAL, GLASS, AND HAS GAS PYROLYTIC OILS FROM INDUSTRIAL OR MUNICIPAL **SOLID WASTE**.

Inventors

CHOI CHARLES

MOREY BOOKER W

FRISCHMUTH ROBERT

TASSONEY JOSEPH

GUNDZIK RICHARD

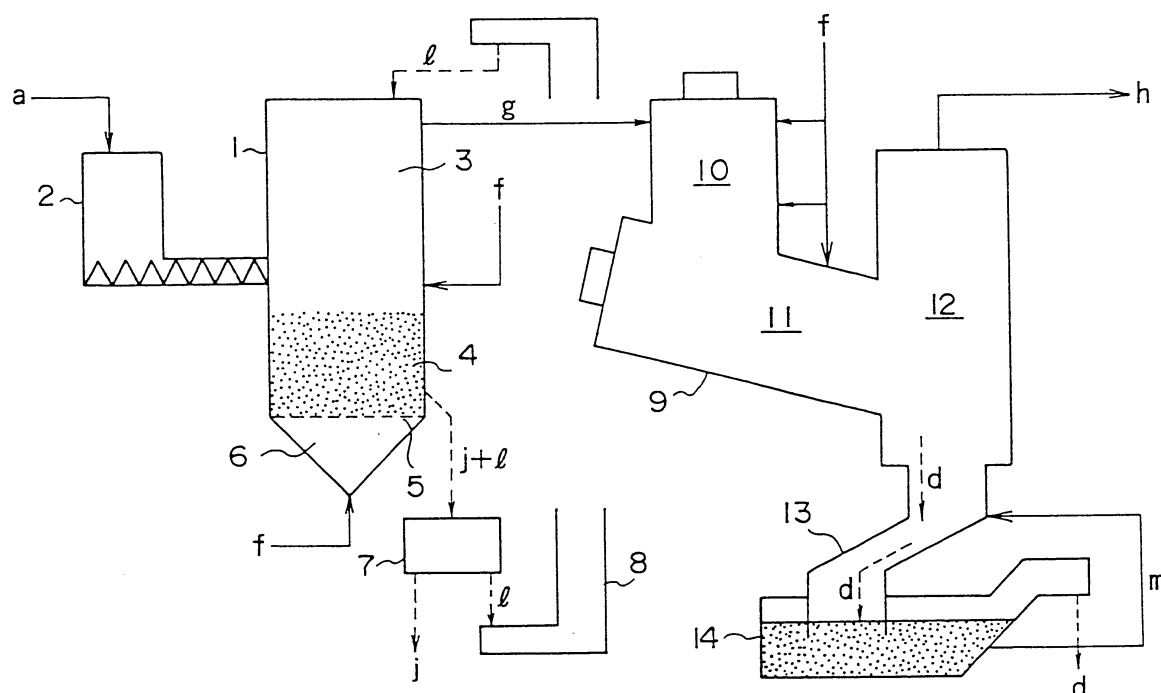
Latest standardized assignees - inventors removed

OCCIDENTAL PETROLEUM

Family 24/25 - FAMPAT - ©Questel

Title

(EP-908672)

Methods for fusion treating a **solid waste** for gasification**Images****Publication data including kind & date**

WO9749953	A1	1997-12-31	WO9749953
EP0908672	A1	1999-04-14	EP-908672
CN1223715	A	1999-07-21	CN1223715
EP0908672	A4	2000-02-23	EP-908672
US6168425	A	2001-01-02	US6168425
US6168425	B1	2001-01-02	US6168425
EP0908672	B1	2003-09-03	EP-908672
DE69724617	D1	2003-10-09	DE69724617
CN1133040	C	2003-12-31	CN1133040C
DE69724617	T2	2004-08-12	DE69724617
JP4076233	B2	2008-04-16	JP4076233

**Abstract**

(EP-908672)

The present invention relates to a method for treating **solid** wastes such as refuse-derived fuel or biomass wastes by pyrolysis gasification in a fluidized-bed gasification furnace 1, and then high-temperature combustion in a melting furnace 9. A primary combustion in a fluidized-bed 4 of the gasification furnace is carried out at a temperature of 600 +/- 50 DEG C,

a secondary combustion in a freeboard 3 of the gasification furnace is carried out at a temperature of 725 +/- 75 DEG C, and a tertiary combustion in the melting furnace 9 is carried out at a temperature higher than a fusion temperature of ashes by 50 to 100 DEG C. An oxygen ratio (a ratio of an amount of oxygen supplied for combustion to a theoretical amount of oxygen for combustion) in the primary combustion is in the range of 0.1 to 0.3, an oxygen ratio in the secondary combustion is in the range of 0.05 to 0.1, an oxygen ratio in the tertiary combustion is in the range of 0.9 to 1.1, and a total oxygen ratio is about 1.3. <IMAGE>

Inventors

FUJINAMI SHOSAKU

TAKANO KAZUO

IRIE MASAACKI

HIROSE TETSUHISA

OSHITA TAKAHIRO

Latest standardized assignees - inventors removed

EBARA

Family 25/25 - FAMPAT - ©Questel

Title

(US6024226)

System and process for separating and recovering/recycling **solid** wastes and **waste** streams**Images**

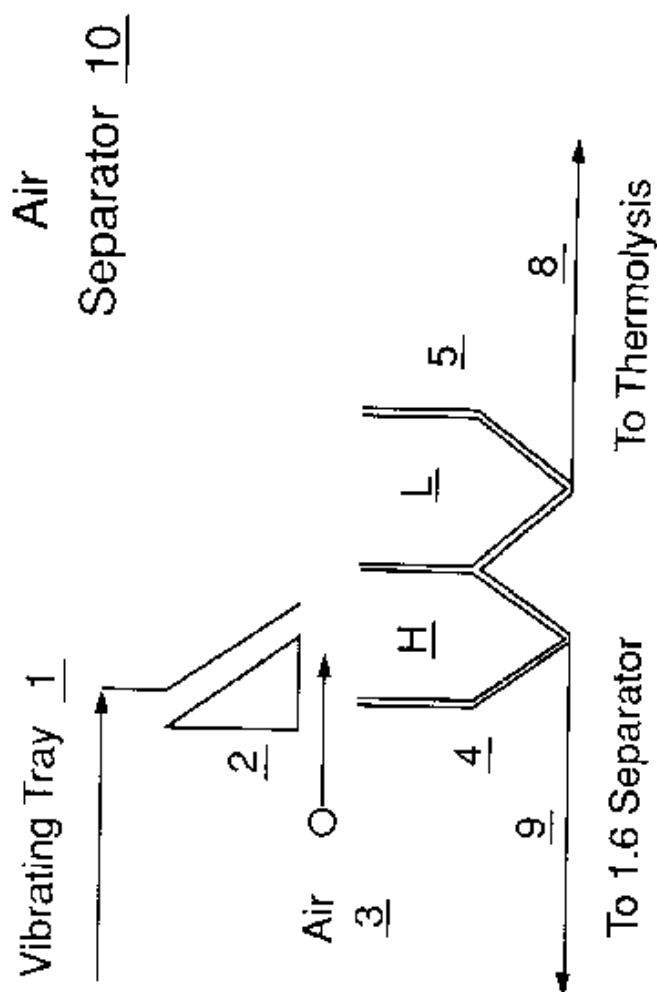


Figure 1

Publication data including kind & date

US6024226

A 2000-02-15 US6024226

**Abstract**

(US6024226)

A system and process for continuously separating and recovering materials from a heterogeneous mixture of particulate solids, from a **solid waste** or **waste** stream source, which uses a plurality of liquid media of different specific gravity to effect the separations, the solids having a plurality of different specific gravities and the recovered fractions each having a different specific gravity, wherein a first separation vessel receives the heterogeneous mixture, contacts the material with a first liquid medium having a first specific gravity of about 1.0, thereby causing a first part of the mixture to rise in the liquid medium as float particles, the remaining part to settle as sink particles, removing the separated float particles and sink particles without intermixture, then providing a second separation vessel, which receives the sink part from the first

separation vessel contacts the material with a second liquid medium having a second specific gravity different from that of the first liquid medium, thereby causing a first particle of the material to rise in the liquid medium as float particles, the remaining part to settle as sink particles, and removing the separated float particles as a substantially organic particulate mixture, and the separated sink particles as a substantially inorganic particulate mixture, without intermixture between the product streams.

Inventors

OLIVIER PAUL A