

Search history

Search IC=(B01D19/00) (Results 16001)

1:

Search 1 and eductors (Results 34)

2:

Search 1 and eductor* (Results 102)

3:

Search 3 and PD<20150325 (Results 92)

4:

Search 4 and mix* (Results 80)

5:

Search 5 and strip* (Results 28)

6:

Search 6 and (eductor* near mix*) (Results 9)

7:

Search PN=(WO2016154164) and IC=(B01D19/00) (Results 1)

8:

Search [SP]: degasser and method of stripping gas from a liquid a degasser includes a vessel having a series of chambers. liquid containing a gas is directed through the vessel and the chambers therein. a stripping gas is injected into the vessel and moves through the vessel in a counter-current direction relative to the flow of liquid. more particularly, the stripping gas moves from one chamber to another chamber in an upstream direction (relative to the flow of the liquid) and is mixed with the liquid in each chamber, causing gas in the liquid to be displaced. displaced gas is vented from the vessel at a location near where the liquid enters the vessel. (Results 163)

Search 9 and eductor* (Results 13)

10:

Search 10 and PD<20150325 (Results 12)

11:

Search 3 and (recycl*) (Results 55)

12:

Search 12 and PD<20150325 (Results 47)

13:

Search 3 and (recycl* near eductor*) (Results 7)

14:

Search 14 and PD<20150325 (Results 5)

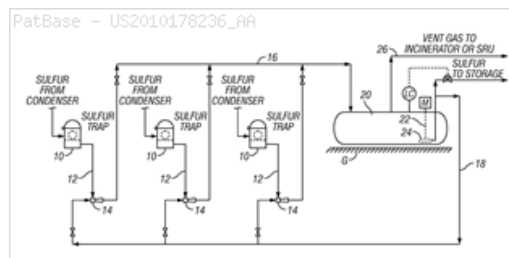
15:

Search RF=(eductor) (Results 9)

16:

Abstract: Systems and methods for the collection of liquid sulfur with integrated degassing are described, wherein the system and methods include the use of one or more liquid jet pumps or ejectors employing a pumped liquid sulfur recycle stream as motive fluid to boost sulfur rundown pressure. The new invention eliminates piping constraints inherent with conventional gravity flow, thus permitting location of the sulfur collection vessel above ground and remote from the sulfur recovery unit. In addition, the described methods provide entrainment and enough agitation in the liquid sulfur such that simultaneously degassing occurs within the sulfur collection piping and associated systems described herein. The instant systems and methods are integrated with the degassing system, meaning that the sulfur will be initially degassed during the collection process, and then further degassing occurs by the methods described herein.

US: 423/567.1 423/578.1 423/578.4 423/578.400P 95/260 95/260S



Publication number	Publication date	Application number	Application date
US2010178236 AA	20100715	US20100686346	20100112
US7927577 BB	20110419	US20100686346	20100112

US20090143989P 20090112 US20100686346 20100112

Agent(s): LOCKE LORD BISSELL AND LIDDELL LLP,ATTN: IP DOCKETING; LOCKE LORD BISSELL AND LIDDELL LLP
ATTN IP DOCKETING; LOCKE LORD BISSELL AND LIDDELL LLP

Title: WATER CLARIFICATION METHOD AND APPARATUS

Abstract: This invention pertains to a multi-stage separator vessel through which the to-be-cleaned fluid flows. Aeration assemblies within the inner cells disperse micro-fine gas bubbles into the fluid for cleaning purposes. Additionally, the inlet piping contains a separator that begins the separation process before this fluid is discharged into the first cell. An L-shaped passageway interconnects the various flotation cells of this separator with the entrance of each such passageway being at an elevation below its exit. A weir is located within each flotation cell that is adjustable as needed. This weir empties into a channel alongside the separator vessel that collects the separated contaminants flowing over the weir for later disposal.

Classifications:

International (IPC 8-9): B01D17/00 B01D17/02 B01D17/025 B01D17/028 B01D17/035 B01D17/038 B01D21/00 B03D1/14 B03D1/24

C02F1/24 (Advanced/Invention);
B01D17/02 B01D21/00 B03D1/14 (Core/Invention)

International (IPC 1-7): B01D17/02 B01D17/035 B01D17/038 B01D21/02 B01D36/04 B01D50/00 B03D1/14 B03D1/24 B04C5/14 B04C9/00 C02F1/20 C02F1/24 C02F1/40

CPC: Y10S261/75 B03D1/1468 B01D17/00 B01D21/0006 B01D21/0042 B01D21/26 B03D1/028 B03D1/1406 B03D1/1412 B03D1/082 B03D1/1456 B01D21/0093 B01D21/2433 B03D1/1475 B03D1/1493 B03D1/1418 B01D17/0205 B01D21/003 B01D21/2411 B01D21/0003 B01D21/0045 B01D21/0087 B01D21/267 B01D2221/06 C02F1/24 B01D21/0084 B01D21/2427 B01D17/0214 B01D17/0211 B01D17/0217 B01D21/0027 B01D21/0039

European: B01D17/00 B01D17/02D B01D21/00 B01D21/00B B01D21/00C B01D21/00L B01D21/00M B01D21/00N B01D21/00N2 B01D21/00N4 B01D21/00S B01D21/00W B01D21/24A2 B01D21/24D B01D21/26 B01D21/26Y B03D1/14C C02F1/24 L01D221/06

US: 209/170 209/728 210/194 210/195.1 210/197 210/201 210/202 210/207 210/219 210/221.1 210/221.2 210/256 210/294 210/295 210/320 210/322 210/512.1 210/512.2 210/703 210/706 210/708 210/709 210/712 210/718 210/744 210/787 210/788 210/789 210/804 210/805 210/806 261/DIG.75 95/261

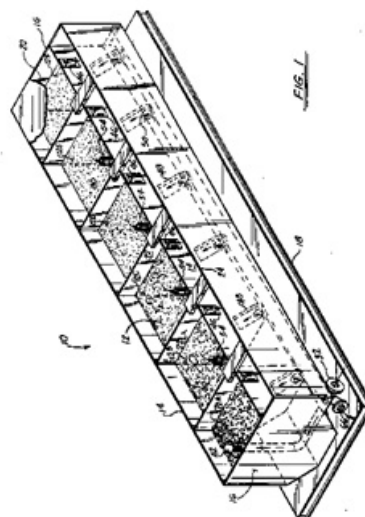
JP F-Term: 4D014 4D014/AB02 4D014/CA11 4D014/CA15 4D014/CB01 4D014/CD01 4D037 4D037/AA11 4D037/AB06 4D037/BA01 4D037/BA28 4D037/BB01 4D037/BB04 4D068

JP F-Index: B01D17/00/503/B B01D17/025/502/D B01D17/025/504 B01D17/028/A B01D17/035 B01D17/035/A B03D1/02 B03D1/14/100 B03D1/14/118 B03D1/24 B03D1/24/100 C02F1/24/C C02F1/24/CCK/D

JP Facet: CCK

PatBase - US5158678_R

U.S. Patent Oct. 27, 1992 Sheet 1 of 5 5,158,678



Family:

Publication number	Publication date	Application number	Application date
BRPI9104143 A	19920602	BR1991PI04143	19910926
EP0483524 A1	19920506	EP19910116580	19910927
JP4247283 A2	19920903	JP19910249667	19910927
NO302017 B1	19980112	NO19910003807	19910927
NO913807 A	19920330	NO19910003807	19910927
NO913807 A0	19910927	NO19910003807	19910927
NO913807 L	19920330	NO19910003807	19910927
US5158678 A	19921027	US19900589471	19900928
US5277803 A	19940111	US19920965888	19921023
US5300222 A	19940405	US19930026877	19930308
US5376266 A	19941227	US19940179042	19940107
US5407584 A	19950418	US19930123231	19930920
US5492622 A	19960220	US19940359406	19941220
US5522999 A	19960604	US19950444908	19950518
US5707530 A	19980113	US19960677504	19960710
US5725764 A	19980310	US19960657672	19960531
US5942111 A	19990824	US19980006257	19980113

Priority:

US19900589471 19900928	US19920965888 19921023	US19930026877 19930308
US19930123231 19930920	US19940179042 19940107	US19940359406 19941220
US19950444908 19950518	US19960657672 19960531	US19960677504 19960710
US19980006257 19980113		

Probable Assignee: SIEMENS ENERGY INC

Assignee(s): (std): BROUSSARD PAUL C ; BROUSSARD SR PAUL C ; POORU SHII BUROUSAADO SHINIAA ; BROUSSARD PAUL C SR

Assignee(s): SIEMENS ENERGY INC ; BROUSSARD SR ; PAUL C BROUSSARD SR ; SIEMENS WATER TECHNOLOGIES CORP ; SIEMENS WATER TECHNOLOGIES HOLDING CORP ; SIEMENS IND INC ; EMPI CORP ; MONOSEP CORP ; US FILTER ZIMPRO INC ; BROUSSARD PAUL C JR ; BROUSSARD SR PAUL C JR PO BOX SA

Inventor(s): (std): BROUSSARD JR PAUL C ; BROUSSARD PAUL C ; POORU SHII BUROUSAADO SHINIAA ; BROUSSARD SR PAUL C ; BROUSSARD PAUL C SR

Inventor(s): PAUL C BROUSSARD SR ; BROUSSARD SR

Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

Title: UPFLOW GAS EDUCTOR INDUCED AIR FLOATATION SEPARATOR

Abstract: An upflow eductor induced air separator providing a main separator tank receiving a continuous fluid flow divided into a plurality of aeration chambers with each aeration chamber providing eductor means wherein gas is educted into an upflow water stream with contaminants of suspended oil and solids in the continuous fluid flow adhering to the gas bubbles for collection in a froth layer on the top portion of the tank. There is further provided a V-shaped collection channel extending substantially the length of the tank for removal of collected oil following the sensing activation of a valve allowing the fluid level within the tank to rise, with oil and solids ladened froth being removed through the valve. There is further provided a recirculation pump for recirculating the effluent which exits the tank following the aeration process, and a chemical injection mechanism for injecting a mixture of chemical flocculating agent entering the main separating tank.

Classifications:

International (IPC 8-9): B01D17/02 B03D1/00 B03D1/02 B03D1/14 B03D1/24 C02F1/24 (Advanced/Invention);

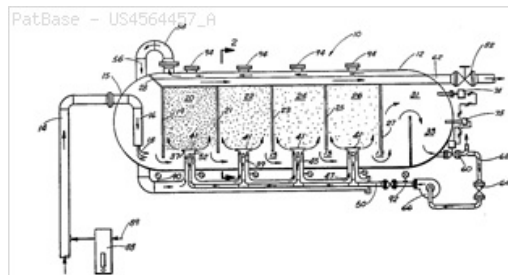
B01D17/02 B03D1/00 B03D1/14 C02F1/24 (Core/Invention)

International (IPC 1-7): B01D17/035 B03D1/00 B03D1/02 B03D1/14 B03D1/24 C02F1/24

CPC: B03D1/028 B03D1/1406 B03D1/1412 B03D1/1456 B03D1/24 C02F1/24 B01D17/0205 C02F1/40 C02F1/52 C02F2101/32 C02F2301/046 B03D1/1462 B03D1/1475 B03D1/242 B01D17/0214

European: B01D17/02D B03D1/14 B03D1/24 C02F1/24 C02F1/52 M02F1/40 M02F101/32 M02F301/04D

US: 209/170 210/221.2 210/704 210/709 210/744 210/96.1

**Family:**

Publication number	Publication date	Application number	Application date
BRPI8504487 A	19870422	BR1985PI04487	19850916
CN85109079 A	19870311	CN19851009079	19850912
EP0211982 A1	19870304	EP19850110325	19850819
US4564457 A	19860114	US19830548282	19831103

Priority:

US19830548282 19831103 EP19850110325 19850819 CN19851009079 19850912
BR1985PI04487 19850916

Probable Assignee: EAU CLAIRE SYSTEMS INC

Assignee(s): (std): EAU CLAIRE SYSTEMS INC ; LEAU CLAIRE SYSTEMS INC

Assignee(s): L'EAU CLAIRE SYSTEMS INC ; L'EAU CLAIRE SYSTEMS INC 2611 SHARON STREET KENNER ; L'EAU CLAIRE SYSTEMS INC 2611 SHARON STREET KENNER LOUISIANA 70062 A CORP OF LA ; JAHN CHRISTOPHER A ; L EAU CLAIRE SYSTEMS INC ; L EAU CLAIRE SYSTEMS INC 2611 SHARON STREET KENNER LOUISIANA 70062 A CORP OF LA ; CAIRO JOHN A

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Inventor(s): CHRISTOPHER A JAHN ; JOHN A CAIRO ; JOHN A CAIRO JR ; JR CHRISTOPHER A JAHN

Designated states: BE CH DE FR GB IT LI NL SE

Title: IN-LINE DEVICE FOR GAS-LIQUID CONTACTING, AND GAS PROCESSING FACILITY EMPLOYING CO-CURRENT CONTACTORS

Abstract: Provided are gas processing facilities for the separation of components in a gas stream and methods of using the same. The facility includes one or more co-current contactors. Each contactor includes a mass transfer vessel having a mixing section. The mixing section receives a gas stream and a liquid contacting stream. The mixing section mixes these two streams and releases a two-phase flow. Each contactor also includes a separator that receives the two-phase fluid stream from the mass transfer vessel in-line, and then separates a vapor phase from a liquid phase. The separator has a gas-phase outlet configured to release the vapor phase as a treated gas stream, and a liquid-phase outlet configured to release the liquid phase as a loaded treating solution. The contactors may be used to remove water or other contaminant from a natural gas stream or other gas stream.

Classifications:

International (IPC 8-9): B01D19/00 B01D3/14 B01D47/00 B01D53/02
B01D53/14 B01D53/18 B01D53/22 B01F3/04

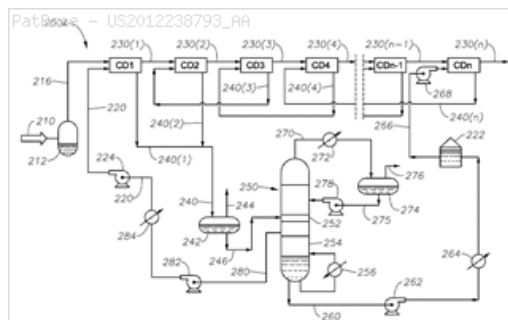
C07C 7/10 (Advanced/Invention);

B01D53/26 (Advanced/Non-invention)

CPC: C01L3/103 C01L3/106 B01D19/0036 B01D3/14 B01D53/18
B01D53/263 B01D2252/2023 B01D2256/24 B01D2257/80 C10L3/103
C10L3/106

European: B01D19/00H B01D53/18 L01D252/202D L01D256/24
L01D257/80 L01D53/26C

US: 261/76 585/833 95/169 95/223 96/118 96/234 96/355



Family:

Publication number	Publication date	Application number	Application date
GC4661 A	20170117	GC2012P021431	20120605
US2012238793 AA	20120920	US20110189201	20110722
US8899557 BB	20141202	US20110189201	20110722
WO13015861 A1	20130131	WO2012US37118	20120509

Priority:

US20110119356 20110316 US20110189201 20110722

Probable Assignee: EXXON MOBIL CORP

Assignee(s): (std): CULLINANE J TIM ; CULLINANE JOHN T ; EXXONMOBIL UPSTREAM RES CO ; NORTHROP PAUL S ; GRAVE
EDWARD I

Assignee(s): EXXONMOBIL UPSTREAM RESEARCH COMPANY ; CULLINANE J ; EXXONMOBIL UPSTREAM RESEARCH CO ;
EXXON MOBIL CORP

Inventor(s): (std): CULLINANE J TIM ; GRAVE EDWARD J ; NORTHROP PAUL S ; CULLINANE JOHN T

Inventor(s): CULLINANE J ; PAUL S NORTHROP ; EDWARD J GRAVE ; JOHN T CULLINANE

Agent(s): SAUD M A SHAWWAF LAW OFFICE; EXXONMOBIL UPSTREAM RESEARCH CO LAW DEPARTMENT; TIMMINS STEPHEN ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: LIQUID DECONTAMINATION METHOD

Abstract: In a multi-pass system for purifying oil or other liquids, an improved apparatus and method for mixing air with the contaminated liquid for separation after a phase change from liquid to gas. The contaminated liquid is drawn from a reservoir by a pump, filtered, and heated, and atmospheric air is induced into the contaminated liquid downstream of the heater by an eductor, which promotes the phase change from liquid to vapor. The liquid/contaminant mix, which now includes entrained air, is passed immediately through a second eductor, the compressibility of the air in the mix, followed by expansion of the compressed air as the mix exits the second eductor, causing intimate contact of air and contaminant, thereby promoting the stripping of the contaminant from the liquid. The air/liquid/contaminant mix is then routed to a level controlled separation tank, water vapor, contaminants, and condensate being released from the tank in the space above the pooled liquid. Purified, dry liquid is drawn from the tank by a second pump and delivered back to the reservoir.

Classifications:

International (IPC 8-9): B01D19/00 B01F5/04

C10M175/00 (Advanced/Invention);

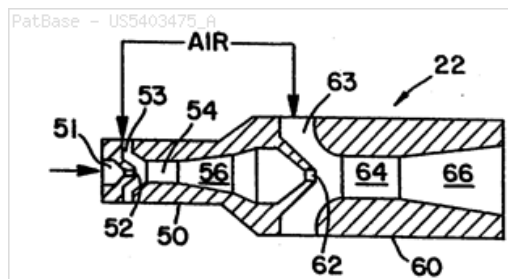
B01D19/00 B01F5/04 C10M175/00 (Core/Invention)

International (IPC 1-7): B01D19/00 B01D3/06 B01F5/04 C10M175/00
C10M175/02

CPC: Y10S261/75 B01F5/0428 B01D19/0005 B01D19/0042 B01F5/0415
B01F5/0418 B01F5/0423 B01F5/043 C10M175/005

European: B01D19/00B B01D19/00P B01F5/04C12B B01F5/04C12M
B01F5/04C12M6 B01F5/04C12S4 B01F5/04C12S6 C10M175/00E

US: 159/47.1 203/91 208/185 208/188 208/208R 210/167.07 210/167.28
210/168 210/177 210/180 210/199 210/774 210/808 261/DIG.75 95/246
95/249 95/263 96/194 96/202



Family:

Publication number	Publication date	Application number	Application date
AT145933 E	19961215	AT19940909491T	19940121
AU199462319 A1	19940815	AU19940062319	19940121
CA2149428 AA	19950515	CA19942149428	19940121
CA2149428 C	19990112	CA19942149428	19940121
DE69401053 D1	19970116	DE19946001053	19940121
EP0680509 A1	19951108	EP19940909491	19940121
EP0680509 B1	19961204	EP19940909491	19940121
US5403475 A	19950404	US19930007676	19930122
US5423979 A	19950613	US19940318988	19941006
WO9417165 A1	19940804	WO1994US00883	19940121

Priority:

US19930007676 19930122 WO1994US00883 19940121 US19940318988 19941006

Probable Assignee: TOTAL LUBRICATION MANAGEMENT CO

Assignee(s): (std): LUBRICATION SYST CO TEXAS INC ; ALLEN JUDITH L ; JUDITH L ALLEN

Assignee(s): NUVISION SYSTEMS LC ; LUBRICATION SYSTEMS CO OF TEXAS INC ; LUBRICATION SYSTEMS CO ;
ALCOTEC WIRE CORP ; ALLEN JUDITH L HOUSTON TEX US ; ALLOY RODS GLOBAL INC ; ANDERSON GROUP
INC ; BANK OF NOVA SCOTIA ; BANK OF AMERICA NA ; COLFAX CORP ; CONSTELLATION PUMPS CORP ;
DEUTSCHE BANK NEW YORK BRANCH AG ; CLARUS FLUID INTELLIGENCE LLC ; DISTRIBUTION MINING
AND EQUIPMENT CO LLC ; EMSA HOLDINGS INC ; ESAB AB ; COLFAX FLUID HANDLING RELIABILITY
SERVICES CO ; FAIRMOUNT AUTOMATION INC ; IMO HOLDINGS INC ; PORTLAND VALVE LLC ; TOTAL
LUBRICATION MANAGEMENT CO ; LUBRICATION SYSTEMS CO OF TEXAS ; ESAB GROUP INC ; HOWDEN
AMERICAN FAN CO ; HOWDEN COMPRESSORS INC ; HOWDEN GROUP LTD ; HOWDEN NORTH AMERICA INC
; IMO IND INC ; SHAWBONE HOLDINGS INC ; STOODY CO ; VICTOR EQUIPMENT CO ; VICTOR
TECHNOLOGIES INT INC ; WARREN PUMPS LLC

Inventor(s): (std): ALLEN JUDITH L

Inventor(s): JUDITH L ALLEN

Agent(s): FINLAYSON AND SINGLEHURST

Designated states: AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK ES FI FR GA GB GN GR HU IE IT JP KP KR
KZ LI LK LU LV MC MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SK SN TD TG UA US UZ VN

Abstract: The invention provides a process and system for regenerating a solvent used to remove carbon dioxide from feed gases, such as natural gas and synthesis gas. The process and system employs an eductor or ejector as an alternative to the prior art's vacuum compressor that is placed on the vapor stream from a vapor flash. This process and system saves substantial capital and operating costs over the prior art.

International (IPC 8-9): B01D19/00 B01D53/14 B01D53/18 B01D53/40
B01D53/62 B01D53/77 B01D53/78 (Advanced/Invention);
B01D19/00 B01D53/14 B01D53/18 B01D53/62
B01D53/78 (Core/Invention);

B01D53/76 (Core/Invention),
B01D53/18 B01D53/40 B01D53/77 (Core/Non-invention)
CPC: Y02A50/2342 B01D53/1425 B01D53/1475 B01D2257/504
Y02C10/04 Y02C10/06

European: B01D53/14E B01D53/14H6 L01D257/504 Y02C10/04
Y02C10/06

Publication number	Publication date	Application number	Application date
TW200940152 A	20091001	TW20090105154	20090218
US2009241778 AA	20091001	US20080055909	20080326
WO09120415 A2	20091001	WO2009US33633	20090210
WO09120415 A3	20100204	WO2009US33633	20090210

US20080055909 20080326

Probable Assignee: UOP LLC

Assignee(s): (std): BRADY JOHN P ; DAVIS LAMAR A ; DAVIS LAMAR A UOP LLC ; LECHNICK WILLIAM J ; UOP LLC ; VAN DE COTTE MICHAEL R

Inventor(s): (std): BRADY JOHN P ; BRADY JOHN PATRICK ; DAVIS LAMAR A UOP LLC ; DAVIS LAMAR ALLEN ; LECHNICK WILLIAM J ; LECHNICK WILLIAM JAY ; VAN DE COTTE MICHAEL R ; VAN DE COTTE MICHAEL ROBERT ; DAVIS LAMAR A

Agent(s): HONEYWELL/UOP,PATENT SERVICES; HONEYWELL UOP PATENT SERVICES; UOP LLC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

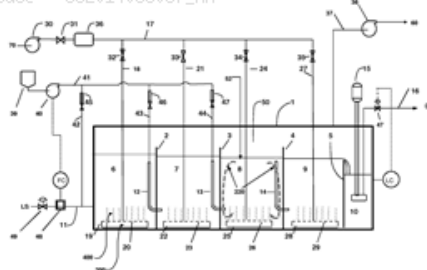
Title: SULFUR DEGASSER APPARATUS AND METHOD

Abstract: A novel system and method for degassing H₂S and H₂S_x from liquid sulfur (sulphur) is disclosed. The system includes a degassing vessel with a plurality of cells. The cells include a sparging gas mat with a perforated surface at the bottom of the cell to allow the release of air bubbles (or sparging gas) into the cells. A catalyst may be used during the process. As a result, hydrogen sulfide and hydrogen polysulfide are efficiently and effectively removed from the liquid sulfur.

Classifications:

International (IPC 8-9): B01D11/04 B01D19/00 B01D53/48 B01D53/52 B01D53/86 B01F3/04 B01J10/00 C01B17/02 C01B17/027 C01B17/04 C02F1/20 (Advanced/Invention); B01D11/00 (Advanced/Non-invention); B01D19/00 (Core/Invention)
CPC: C01B17/0232 B01D11/04 B01D2011/007 B01J4/004 B01J19/006 B01J19/245 B01J19/248 B01J2219/00164 B01J2219/00182 B01J2219/00768
US: 1/1 261/102 261/127 261/72.1 422/187 423/578.1 95/245

PatBase - US2014065057_AA

**Family:**

Publication number	Publication date	Application number	Application date
CA2828242 AA	20130911	CA20132828242	20130805
CA2828242 C	20180814	CA20132828242	20130805
CN106163992 A	20161123	CN201380045755	20130805
DE602013049226 D1	20190124	DE201360049226T	20130805
EP2890644 A1	20150708	EP20130765614	20130805
EP2890644 A4	20160720	EP20130765614	20130805
EP2890644 B1	20190102	EP20130765614	20130805
ID201701572 A	20170303	ID2015P0001194	20130805
IN00483KN2015 A	20151218	IN2015KN00483	20150224
MX2013010010 A1	20140828	MX20130010010	20130805
MX2016016273 A1	20170425	MX20160016273	20161208
MX352593 B	20171130	MX20130010010	20130805
TR201901152 T4	20190221	TR20190001152T	20130805
US2014065057 AA	20140306	US20120598516	20120829
US2016236935 AA	20160818	US20160134970	20160421
US9346677 BB	20160524	US20120598516	20120829
US9586821 BB	20170307	US20160134970	20160421
WO14035614 A1	20140306	WO2013US53637	20130805

Priority:

US20120598516 20120829 EP20130765614 20130805 WO2013US53637 20130805
US20160134970 20160421

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Title: SEPARATING IMPURITIES FROM A GAS STREAM USING A VERTICALLY ORIENTED CO-CURRENT CONTACTING SYSTEM

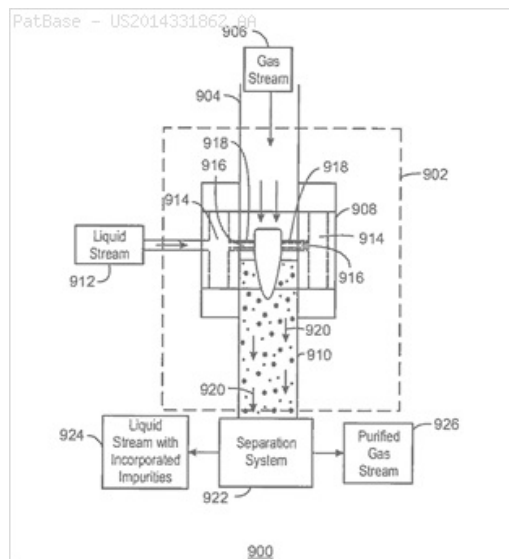
Abstract: A vertically oriented co-current contacting system and methods for separating impurities from a gas stream including a vertically oriented co-current contactor (VOCC) located in-line within a pipe, a vertically oriented mixer (VOM) including an annular support ring configured to maintain the VOM within the pipe, a number of radial blades configured to allow a liquid stream to flow into the VOM, and a central gas entry cone configured to allow a gas stream to flow through a hollow section within the VOM, a vertically oriented mass transfer section downstream of the VOM. The VOM and the vertically oriented mass transfer section provide for efficient incorporation of liquid droplets including impurities from the gas stream formed from the liquid stream into the gas stream. The vertically oriented co-current contacting system also includes a separation system configured to remove the liquid droplets.

Classifications:

International (IPC 8-9): B01D53/14 B01D53/18 B01F3/04 B01F5/04 (Advanced/Invention)

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US: 261/89 95/186 95/219 95/223 96/320



Family:

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AR096078 AA	20151202	AR2014P101699	20140424
AU2014263002 AA	20151029	AU20140263002	20140502
AU2014263002 AA	20141113	AU20140263002	20140502
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CA2907953 C	20180116	CA20142907953	20140502
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